Knowledge, Understanding and Perception of Parents Towards the Utilization of Chiropractic Treatment For Paediatric Patients in the Durban Metropolitan Area

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I, Hughnique Cawood, declare that this dissertation is representative of

my own work in both conception and execution, except where indicated via references

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DEDICATION

To my fiancé, thank you for all your love, support and encouragement. To my parents, Hugh and Wanda, thank you for setting me in the right direction and providing me with what I needed and not what I wanted.

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All glory to God

ABSTRACT

KNOWLEDGE, UNDERSTANDING AND PERCEPTION OF PARENTS TOWARDS THE UTILIZATION OF CHIROPRACTIC TREATMENT FOR PAEDIATRIC PATIENTS IN THE DURBAN METROPOLITAN AREA

INTRODUCTION: The utilization of complementary and alternative medicine (CAM) in the treatment of paediatric patients is increasing, especially the utilization of chiropractic treatment for children. However controversy exists regarding the reasons why parents may or may not choose to utilize chiropractic treatment for children. Parents are the gatekeepers to care as they consent to all treatment that is given to their children. Parents that have a lack of knowledge and understanding regarding chiropractic, as well as a negative perception regarding chiropractic treatment for children may be reluctant to choose chiropractic treatment as a treatment option. Both positive and negative opinions regarding chiropractic treatment have been identified in other populations in South Africa which emphasizes the need to explore the way parents feel about chiropractic treatment for children. A lack of knowledge and understanding of CAM has been identified as a reason for underutilization. Insight into the status of knowledge, understanding and perception of parents regarding chiropractic treatment for paediatric patients in the Durban Metropolitan Area equips the profession to better understand how parents view chiropractic treatment for children.

AIMS AND OBJECTIVES: The main aim of this research was to explore and describe the knowledge, understanding and perception of parents regarding chiropractic treatment for paediatric patients. The outcomes of such a study can provide useful information which can serve as a baseline from which education and chiropractic treatment awareness can be built, as well as dispelling any misconceptions and myths regarding chiropractic treatment for children.

RESEARCH DESIGN: An explorative, descriptive, qualitative research design was followed in this research. This research design was chosen in order to evaluate the knowledge, understanding and perception of parents regarding the utilization of chiropractic treatment for paediatric patients, within the Durban Metropolitan area.

RESEARCH METHODOLOGY: Semi-structured interviews were conducted with participants of the Durban Metropolitan Area in order to determine the current knowledge, understanding and perception of parents regarding chiropractic treatment for paediatric patients within this area. Interviews were conducted with the participants until saturation was met, after which an additional five interviews were conducted. A total of 13 interviews were analyzed. The data was transcribed and coded by the researcher as well as a co-coder. NVivo software was utilized for the coding process.

RESULTS: It was found that the participants had a lack of knowledge and understanding regarding chiropractic treatment for children. The participants felt that this lack of knowledge and understanding of chiropractic treatment for children left them unsure, resulting in the non-use of this form of treatment for their children. The participants were however not opposed to the utilization of chiropractic treatment for children; they felt fear and concern regarding chiropractic treatment as they felt they were uneducated regarding the outcome of the treatment, what the treatment would involve and the reasons why chiropractic treatment should be utilized for children. The participants mentioned that if they had increased knowledge and understanding they would feel more comfortable in utilizing chiropractic treatment for their children. The participants felt that they did not have the resources to learn more about chiropractic treatment and they showed interest in learning more about chiropractic treatment for children.

Recommendations were made for further research and for the chiropractic profession regarding increasing the knowledge and understanding of parents regarding chiropractic treatment.

Key concepts: Chiropractic treatment, knowledge, understanding, perception, parents, children, paediatric patients, utilization, explorative, descriptive, qualitative research, saturation of data.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDIXES

GLOSSARY

Chiropractic: For the purpose of this study, chiropractic will be defined as per the World Federation of Chiropractic (2001): “a health profession specializing in the diagnosis, treatment and prevention of disorders of the musculoskeletal system and the effects of these disorders on the function of the nervous system and general health.”

Diagnosis: The recognition and classification of illness though the examination of symptoms.

Treatment: Medical care or therapy given to a patient for the purpose of achieving therapeutic effects.

Prevention: The hindrance of disease before it occurs.

Disorder/Disease: An abnormality present in a person’s physical or mental state that negatively affects their overall wellbeing resulting in the presentation of signs and symptoms.

Musculoskeletal System: A combination of muscles, tendons, ligaments and fascia (soft tissue structures) and bones and joints and related structures within the body.

Nervous System: A physiological system in the body that manages internal body functions and both receives, interprets, and responds to stimuli. The nervous system is constituted of nerves, brain and spinal cord and sensory organs.

Paediatric: In this study a paediatric patient refers to a patient that is 13 years or younger.

Parent(s): A parent is someone who takes care of a minor. They take responsibly of the under aged. This includes legal guardians that are either legally or biologically related to the paediatric patient.

Complementary and Alternative Medicine (CAM): A spectrum of medical treatment that falls beyond the scope of conventional medicine but forms part of treatment of disease, including conservative care. Complementary and alternative medicine is a term used to describe health care practices and professions that are not integrated into the primary health care system of a country.

Vertebral Subluxation: In chiropractic a vertebral subluxation refers to a state of change within the body whereby there is an altered neurological afferent input, which over time may lead to signs and symptoms and inability of adaption (Taylor *et al.,* 2010). A subluxation results in a change of kinesiology, myopathy, neurology and histology eventually resulting in pathophysiology. Also known as the a restriction or immobilization of a joint in a certain position that may have an effect on physiological function (WHO, 2005).

Manipulation/Adjustment: A technique utilized by chiropractors that involves the deliverance of a controlled force to a joint that is of high velocity and low amplitude in order to achieve a neurophysiological, therapeutic effect (WHO, 2005).

National: Relating to a specific country, in this case South Africa.

Local: Relating to a specific region or neighborhood within a country. For the purpose of this study this will refer to KwaZulu-Natal.

Knowledge: The knowing of information related to a subject. Being well informed regarding a topic. Can be acquired via education or gained through experience.

Perception: Related to the way a person feels about something, can be connected to opinions and emotions. Perceptions are individual specific and can neither be right or wrong.

Utilization: To use, apply, exercise or, make practical use of something.

Understanding: To comprehend and grasp a concept as well as know the meaning of something, and to be thoroughly familiar with it.

Saturation of data: This is a common phrase used in qualitative research that depicts the point of data collection when no new or relevant information emerges. This represents the point at which no further data collection needs to done.

ABBREVIATIONS USED IN THIS DISSERTATION

AHPCSA:	Allied Health Professions Council of South Africa
BHF:	Board of Healthcare Funders
CAM:	Complementary and Alternative Medicine
CASA:	Chiropractic Association of South Africa
NHRPL:	Health Reference Price List and Medical Scheme Rates
SMT:	Spinal Manipulative Therapy
WFC:	World Federation of Chiropractic
WHO:	World Health Organization

CHAPTER 1 : INTRODUCTION

This chapter serves as an introduction to the research. A brief overview of the research is given below as well as a basic outline of the chapters to follow. At the end of this chapter there is a brief discussion regarding the ethical considerations, limitations and conclusion of the research.

1.1 Background to the Research

The use of complementary and alternative medicine (CAM) has become increasingly popular (Gleberzon *et al.,* 2012: 128-141). Chiropractic treatment is the most commonly used form of CAM or complementary therapy. It is a form of treatment which can be used to treat people from all walks of life ranging from paediatric to geriatric patients (WFC, 2001; Blum *et al.,* 2008: 175-185). Chiropractic treatment does not make use of medication and is non-invasive. Although chiropractic care is drug and surgery-free (Clare, 2005), chiropractic treatment of paediatric patients remains a controversial topic.

Chiropractic treatment originated in the United States of America (USA) in 1895 and has since evolved and been internationally recognized by the World Health Organization (WHO) as a CAM (CASA, 2015: WHO, 2005). The largest population of chiropractors is situated in the USA (75 000), followed by Canada (7250), Australia (4250) and the United Kingdom (3000). Other countries such within Europe, Norway, Japan and New Zealand also contain a steady population of practitioners (WHO, 2013). The utilization of CAM has risen from 34% to 42% in the 1990's and the use of paediatric specific rose from 11% to 20% (Alcantara *et al.,* 2010: 621-626). An international study by Gleberzon *et al.* (2012: 128-141) revealed that the utilization of chiropractic treatment by children was between 8% and 11,8% and it was confirmed by a Danish study that the fear of adverse effects and a lack of knowledge affected the utilization rate.

There is currently a lack of statistics regarding the utilization of chiropractic treatment in Africa, possibly due to the variation of governing bodies within Africa. With regards to South Africa the use of chiropractic treatment has increased so much so that chiropractic treatment has been integrated and recognized as a primary health care

profession and not just as a CAM. Chiropractors involve themselves in the diagnosis, treatment and prevention of musculoskeletal conditions (CASA, 2015: WHO, 2005).

Positive and negative opinions regarding chiropractic treatment exist amongst peadiatricians and the general population at large (Heslop, 2008). Negative or misunderstood opinions may affect the choice of health care selected by parents for their child. Opinions may have an effect on how perceptions are formed, thus having an influence on the utilization or non-utilization of chiropractic treatment by parents for their children (Laurent, 2000: 1; Jean and Cyr, 2007: 138-141; Brown *et al.,* 2010: 1645-1657). Furthermore, a lack of knowledge and understanding regarding a subject/topic will also impact an individuals' perception regarding the topic. Negative perceptions and a lack of knowledge and understanding could in turn prevent the usage of chiropractic treatment (Laurent, 2000: 1).

At present there is a lack of research internationally, nationally and locally regarding the perception, knowledge and understanding of parents regarding the utilization of chiropractic treatment for paediatric patients (Gleberzon *et al.,* 2012: 128-141). This leaves the professional uninformed as to why parents may or may not utilize chiropractic treatment for their child. The aim of this study is to determine the knowledge, understanding and perceptions of parents regarding the utilization of chiropractic treatment in paediatric patients in the Durban Metropolitan Area.

As parents are the gatekeepers to consent of treatment for their child, this research provides an insight to the perception, knowledge and understanding of the gatekeepers to paediatric chiropractic care.

1.2 Research Problem

Literature related to the knowledge, understanding and perception of guardians regarding the utilization of chiropractic treatment is inadequate internationally and locally. There is thus an expected deficit of knowledge regarding this population within the Durban Metropolitan Area in KwaZulu-Natal. Guardians who do not make use of chiropractic in treatment of paediatrics may have a false perception of chiropractic treatment or have a lack of knowledge or understanding of chiropractic treatment (Pohlman *et al.,* 2010: 26). This lack of information will limit the development and utilization of chiropractic treatment for children.

1.3 Aim of the Research

The aim of the research is to explore the knowledge, understanding, and perception of parents regarding the utilization of chiropractic treatment in paediatric patients in the Durban Metropolitan Area.

1.4 Objectives:

The objectives of this research are to determine the:

- level of knowledge of parents regarding chiropractic treatment for children;
- understanding of parents regarding chiropractic treatment for children; and
- perception of parents regarding the utilization of chiropractic treatment for children.

1.5 Research Question

What is the knowledge, understanding, and perception of parents regarding the utilization of chiropractic treatment for paediatric patients in the Durban Metropolitan Area?

1.6 Context and Rationale

Paediatric patients undergo a different measure and sequence of injury compared to their adult counterparts, due to anatomical differences in the musculoskeletal system (MSK). Therefore the dissipation of forces during loading of the spine increases the incidence of multilevel spinal injuries in paediatrics (Mortazavi *et al.,* 2011: 1095-1100). According to Gleberzon *et al.* (2012: 128-141) the use of Spinal Manipulative Therapy (SMT) by chiropractors is a form of CAM which is enhancing the management and prevention of paediatric health conditions and spinal injuries.

Controversy exists regarding parental concerns involving adverse effects of chiropractic treatment in paediatric patients (Jean and Cyr, 2007: 138-141). A systematic review of the literature shows that paediatric patients benefit from chiropractic treatment with more than 50% experiencing positive effects (Madsen *et al.,* 2003: 334-341; *Alcantara et al., 2010: 621-626*; Gleberzon *et al.,* 2012: 128-141). It would be beneficial to determine the current knowledge, understanding, utilization and perception of parents regarding the use of chiropractic treatment in paediatrics in

the Durban Metropolitan Area, as parents are the gatekeepers to consent for any form of treatment for their child.

Studies have shown that utilization of chiropractic treatment commonly occurs due to “word of mouth” leaving room for development of myths regarding chiropractic care for paediatric patients (Jean and Cyr, 2007: 138-141). Myths may have a negative outcome on the utilization of chiropractic treatment in paediatrics (Laurent, 2000: 1). Determining the knowledge, understanding and perception of parents regarding chiropractic treatment may provide insight into this population regarding utilization of this treatment form, thus possibly increasing the profession’s knowledge regarding the gatekeepers to paediatric treatment (Cambron *et al.,* 2007: 11-16; Jean and Cyr, 2007: 138-141).

Literature relating to the knowledge, understanding and perceptions of parents regarding the utilization of chiropractic treatment is inadequate internationally and locally. There is thus a deficit of knowledge regarding this population within the Durban Metropolitan area. According to Phillips (2008) South African mothers may have a lack of knowledge regarding chiropractic treatment for themselves during pregnancy as well as for children. Phillips (2008) emphasized the need for further research into the knowledge, understanding and perception of parents regarding chiropractic treatment. Parents who do not make use of chiropractic treatment for their child may have a negative perception of chiropractic treatment or have a lack of knowledge or understanding of chiropractic treatment (Pohlman *et al.,* 2010: 26). This lack of information may limit the development and utilization of chiropractic treatment for paediatric patients.

Increased knowledge and understanding of parental perceptions regarding chiropractic treatment for their children in the Durban Metropolitan area might give insight into the status of perceptions locally as local scientific published literature is lacking. Doyle (2011: 97-105) proposed that a possible correlation may exist between the knowledge, perception, understanding and utilization of a certain treatment. This research might assist in determining whether a correlation exists between these factors and the utilization of chiropractic treatment by parents for their children within the Durban metropolitan area. Using the results of the research may lead to education of parents and thus possibly increase the utilization of chiropractic treatment in paediatrics.

1.7 Brief Summary of Research Methodology

1.7.1 Research Design

Explorative, qualitative, descriptive, research design will be used in this research, as well as the literature study, collection and analysis of data.

1.8 Research Procedure

After the approval of the Department of Education, randomised selection of registered junior and senior primary schools in the Durban Metropolitan Area was performed. The selected schools were contacted via telephone and via a permission letter (Appendix A), requesting that they allow the researcher to undergo interviews with parents at the relevant schools. Once permission was granted, invitations were sent home addressed to the parents requesting voluntary participation. Each invitation had a tear off reply slip (Appendix B) for interested parents. These reply slips were returned to the school. The researcher collected all the replies and contacted all volunteers via telephone to ensure that they complied with the inclusion criteria of the interview and to confirm the venue of the interview. The semi-structured research interviews were performed with parents of the Durban Metropolitan Area with at least one child under the age of 13 that had not yet utilized paediatric chiropractic treatment. The interviews were performed in a calm, safe and private environment of the participants' choice. The interviews were continued until saturation of data was met. The data was coded using NVivo software (QSR International Ltd., 2012) then manually analysed.

A pilot study was conducted before the interviews in order to test the interview questions. This assisted in determining if the questions to be used in the interviews were appropriate and relevant to meet the aims and objectives of the study.

1.9 Ethical Considerations

The research proposal was approved by the Durban University of Technology Faculty of Health's Ethics Committee. The provincial Department of Education granted the researcher permission to perform research at schools before the schools were contacted (Appendix H).

Permission was sought from the randomly selected schools for the researcher to make contact with the parents. The researcher did not interfere with the children attending

the school or with their school activities. The researcher did not make contact with any minor at the school during the process of the research.

Each interviewee/participant granted written informed consent to the conduction of the interview, voice recording of the interview and the utilization of information gathered in the interview for research purposes. The venue of the interview was be agreed upon by the participant and the researcher to ensure that the participant felt safe and comfortable during the progression of the interview. Participant's details were omitted to ensure that the confidentiality of participants were maintained. The name of the schools involved were be kept confidential. This was done to ensure confidentiality of both the schools and the participants.

The voice recordings and raw transcripts were accessed only by the researcher, supervisor and co-supervisor. The transcripts were re-checked in conjunction with the voice recorded interviews to ensure that participant's views and opinions were correctly analysed. The voice recordings were placed into storage. Storage occurred in a safe environment, free from exposure to anyone other than the researcher, research supervisor and research co-supervisor. These items were to be stored for 15 years before being destroyed permanently. The interviews were only attended by the research participant and the researcher.

1.10 Limitations of the Study

Due to the nature of the study, most of the participants were females. This is due to mothers being more involved in school activities than fathers. This could have affected the results.

The study took place in the Durban Metropolitan Area. This limits this study focused only on a certain demographic area that might have included people with similar amounts of exposure and experiences with chiropractic treatment. If the study were to be redone with people from different areas, it might affect the results.

1.11 Brief Outline of the Chapters to Follow

Chapter one:

This chapter serves to introduce the research to the reader and provide a brief summary of research procedures followed in the research as well as present the research aims and objective and outline the chapters to follow.

Chapter Two:

This chapter is made up of an extensive literature review of the study. Here the components of the study will be explained and discussed in detail.

Chapter Three:

In this chapter the research methodology is explained in meticulous detail, outlining the steps taken from the beginning of the research until the end. In this chapter the research model and design will be discussed.

Chapter Four:

The results of the study are presented in this chapter. The results are then discussed and interpreted. The relevance of these results are highlighted and related back to the study aims and objectives.

Chapter Five:

This is the final chapter and comprises the conclusion. In this chapter the research is summarized and conclusions drawn. Recommendations and limitations of the study are also discussed in further detail.

Chapter Six:

This chapter includes all appendices.

1.12 Conclusion

This chapter was an introductory chapter to the research. Emphasis was made on areas of interest, including the background to the research, study aims and objectives, context and rationale, brief outline of methodology and upcoming chapters. Ethical considerations as well as limitations of the study were also mentioned. In the next chapter, the literature related to the study will be discussed.

CHAPTER 2 : LITERATURE REVIEW

In this chapter all literature related to the topic of chiropractic treatment techniques of paediatric patients is discussed. The sources used in this literature study were accessed from EBSCOHost, DUT Summon search, Google and Google Scholar.

2.1 Complementary and Alternative Medicine

As the South African Health Care Model is rapidly changing, there is greater interest in alternative therapies in conjunction with conventional medicine. Complementary and alternative medicine (CAM) has been described as a form of health care that does not form part of main stream/conventional medicine, but still forms a functional role in the diagnosis and management of conditions (Blum *et al.,* 2008: 175-184). Chiropractic treatment is the most commonly used form of complementary and alternative medicine (CAM) therapy, treating patients ranging from paediatric to geriatric patients (World Federation of Chiropractic, 2001; Blum *et al.,* 2008: 175-184).

Chiropractic is "a health profession concerned with the diagnosis, treatment and prevention of mechanical disorders of the musculoskeletal system, and the effects of these disorders on the function of the nervous system and general health. There is an emphasis on manual treatments including spinal adjustment and other joint and soft-tissue manipulation" (World Federation of Chiropractic, 2001). Chiropractors make use of specific joint manipulation achieved by applying a controlled force that is of high velocity and low amplitude, to a body segment (Lisa and Bhaedaj, 2003: 574-578; Picker, 2012).

There has been a shift in the health care treatment model from mechanistic to more holistic methods (Blum *et al.,* 2008: 175-184). Chiropractic treatment compliments this approach as treatment is non-intrusive and drug free, approaching care in a bio-psychosocial manner allowing a person to be treated as a whole. In numerous countries chiropractors are referred to as specialists of spinal health and musculoskeletal care (Clare, 2005; WFC, 2015).

Over the last decade the utilization of chiropractic treatment has increased and gained popularity, providing patients with more treatment options and thus chiropractic treatment is progressively being incorporated into mainstream medicine. Chiropractic

as a profession was birthed in the United States of America (USA) in 1895. In the last century it has grown and evolved into a CAM recognized by the World Health Organization (WHO) (CASA, 2015: WHO, 2001). The USA is home to the largest population of chiropractic treatment users and chiropractors (75 000) followed by Canada (7 250), Australia (4 250) and the United Kingdom (3 000). Other places like Europe, New Zealand and Norway and Japan are also known to have a large population of chiropractors (WHO, 2013). Figure 2.1 shows the vast difference in the population of chiropractors around the world. Figure 2.1 also compares the population of chiropractors from different geographic regions, including countries like the USA, Canada, and the UK in relation to the continents of Australia and Africa.

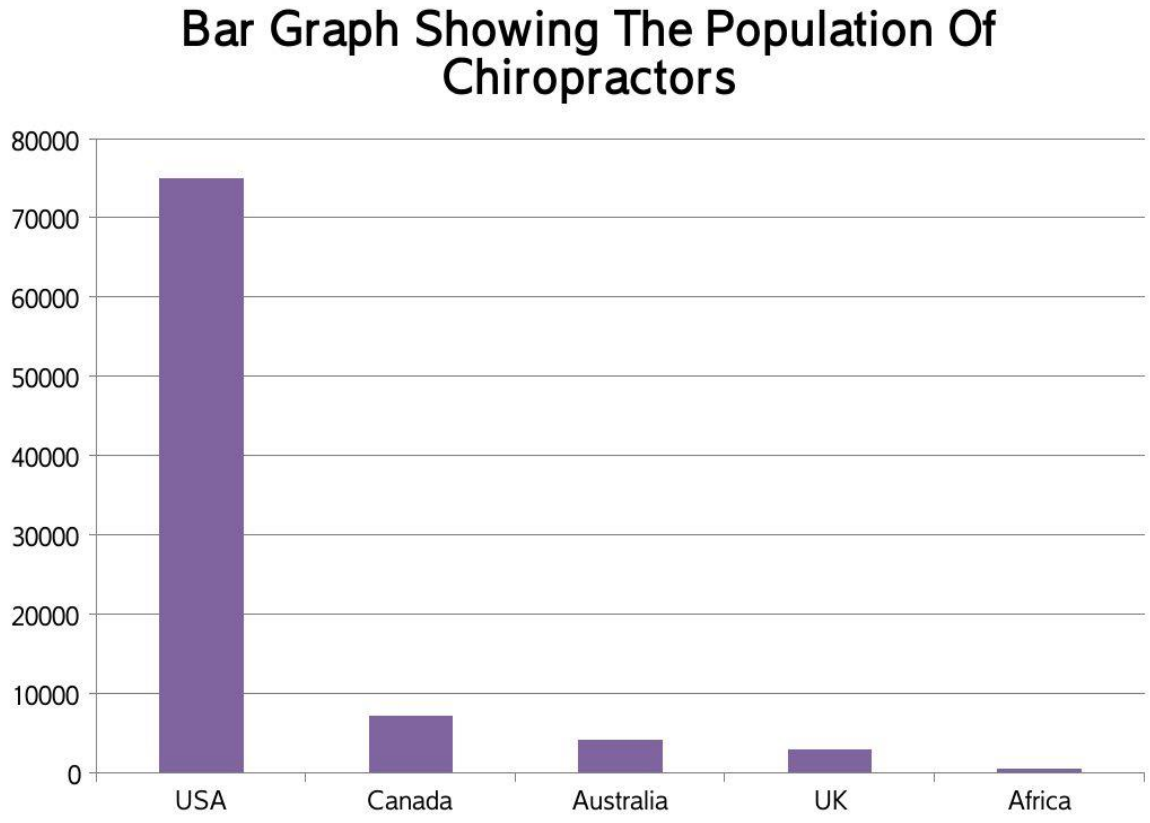

Figure 2.1: Bar Graph Showing the Population of Chiropractors
Source: Adapted from WHO, 2013 and Korporaal, 2015

In Africa the number of chiropractors is small and there is a lack of data bases available to monitor these practitioners. It is known that there are 510 chiropractors in South Africa, 10 in Namibia, 10 in Zimbabwe, 8 in Kenya, 4 in Egypt, 3 in Ethiopia, 3 in Ghana, 3 in Nigeria, 10 in Botswana, 2 in Mauritius, 2 in Morocco, 2 in the Congo, 1 in Burkina Faso, 1 in Mozambique, 1 in Uganda and 1 in Zambia (Korporaal, 2015). In most of

these countries the most common types of practices are family practices. This method of practice allows a greater range of age groups to be treated. In these areas the lack of chiropractors does not make it feasible for practitioners to specialize in only one group of patients or one specific target market (Korporaal, 2015; Mullinder, 2015).

Globally the utilization of chiropractic treatment has grown, showing an 8% increase in utilization in the 1990s; chiropractic treatment specific for paediatrics rose from 11% to 20% in Washington DC alone (Alcantara *et al.,* 2010: 621-626; Ottolini *et al.,* 2001: 122-125). In Denmark the utilization of chiropractic treatment for paediatrics ranged between eight to 11%. Further studies conducted in Denmark have revealed that a lack of knowledge and fear of the treatment outcome may affect the rate of utilization (Gleberzon *et al.,* 2012: 128-141). Overall the literature shows an increase in the utilization of chiropractic treatment internationally but not enough is known about the factors that influence the utilization. There is a lack of research in Africa in general, in South Africa in particular that explores the knowledge, understanding and perception of parents regarding the utilization of chiropractic treatment for paediatric patients.

2.2 Chiropractic Treatment of Paediatric Patients

Paediatric patients differ from adults in many ways. Not only have their musculoskeletal systems not yet matured, but they are undergoing constant dynamic changes within their bodies and they are also often unable to communicate the area of pain. Thus their mechanisms of injury and presenting complaints differ to those of their adult counterparts (Mortazavi *et al.,* 2001: 1095-1100).

A greater range of joint motion is noted in paediatrics due to the increased elasticity of their joint capsules and ligaments. Within the cervical spine the uncinate process is underdeveloped and the facet joints have reduced depth. The annulus fibrosis has increased expansive properties and it can undergo increased tensile forces. Due to the fact that the anterior column of the vertebrae is still undergoing growth, the vertebrae appear wedge shaped. The immature articulating processes along with the weight of an oversized head predisposes the spine of a paediatric patient to injury (Columbia Neurosurgeons, 2015). The young spine does not have the capability of dealing with loading forces as effectively as adults and thus they are prone to developing multilevel spinal injuries (Mortazavi *et al.,* 2011: 1095-1100).

Children are exposed to many internal and external stimulants as they grow. All these stimulants may have an effect on the developing nervous system. While still in the mother's womb the neonate undergoes constraints and restrictions as the space becomes limited with the foetus's growth and development (Mortazavi *et al.,* 2011: 1095-1100; Columbia Neurosurgeons, 2015). This not only has an effect on the muscles, joints and spine but also on the nervous system. The birthing process itself may be traumatic and this may cause biomechanical changes. As the neonate grows other factors come into play including sleeping positions, feeding positions and maternal and environmental stress (Columbia Neurosurgeons, 2015; Hubbard *et al.,* 2007: 51). Any disease or medication utilized is also seen as a stimulant to the nervous system. As the infant grows and eventually becomes an active toddler, accidents and injuries may occur (Figure 2.2). All these factors along with a developing musculoskeletal system may contribute to multilevel spinal injuries (Barham-Floreani, 2015).

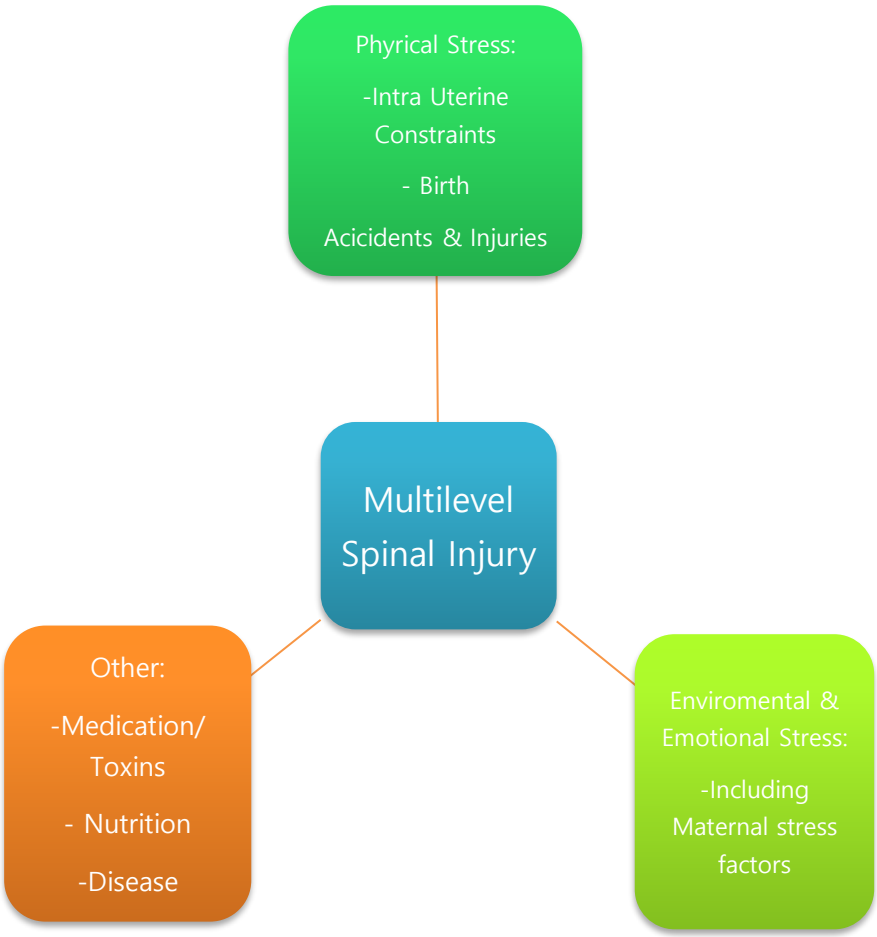

Figure 2.2: Diagram Depicting the Causes of Multilevel Spinal Injuries

Source: Adapted from Hubbard *et al.,* 2007; Columbia Neurosurgeons, 2015 and Barham-Floreani, 2015

A large component of CAM is made up of chiropractic treatment for children. In the treatment of children, chiropractors treat conditions that are both musculoskeletal and non-musculoskeletal related (Alcantara and Mayer, 2008: 25). Gleberzon *et al.* (2012: 1) stated that chiropractic treatment enhances paediatric health care by helping to prevent and manage spinal injuries and health conditions. It is estimated that in 2007 11.8% of American children utilized CAM (Barnes *et al.,* 2008). In Switzerland 91% of chiropractors treated paediatric patients, ranging from six years to 17 years of age. More than three quarters of these patients were younger than 5 years old (Humphreys

et al., 2009: 519-535). From an international perspective, in 1997 the rate of utilization of chiropractic treatment for children were an estimated 30 million and it is postulated that this figure has since been increasing at a steady rate (Kemper *et al.,* 2008: 662-668; Barnes *et al.,* 2008).

Chiropractors are recognized as musculoskeletal specialists by the general public. According to the Centers of Disease Control and Prevention, chiropractic treatment was the most popular form of CAM in the treatment of paediatrics (Barnes and Bloom, 2008: 1-13). The frequency of musculoskeletal complaints was higher than any other reported complaints in children and teenagers (Barnes *et al.,* 2008; Miller, 2007: 139-146). Other childhood conditions treated by chiropractors were asthma, otitis media, postural conditions, enuresis, gastrointestinal complaints, hyperactivity, and colic (Gleberzon *et al.,* 2012: 128-141). For children under two the most common reason for treatment was prevention (31.3%), colic (16.1%) and otitis media (16.1%). For children up to about four years of age the most common reasons for treatment were prevention (42.1%), musculoskeletal (21%) and otitis media (7.1%). At 11 years of age and older, musculoskeletal complaints were highest at (52.5%) followed by prevention (17.6%) and headaches (11.4%) (Verhoef and Papadopoulos, 1999). Recent studies revealed prolonged crying previously known as colic (62.3%) and musculoskeletal (35%) were the most common reasons for treatment under 12 weeks (Miller, 2010: 18-33).

Spinal manipulative therapy (SMT) is the most common modality used by chiropractors in treating paediatric patients. They also make use of supportive treatment such as advice on lifestyle, posture, sleeping habits, exercise, stretching, soft tissue manipulation, diet and ergonomic education. A study performed by Alcantara *et al.* (2010: 621-626) in the United States of America, Europe and Canada revealed that chiropractors use different techniques to treat children, ranging from Diversified technique (87%), Activator methods (67%), Thompson technique (60%), Cranial-Sacral technique (40%) Gonstead (32%), Sacro-occipital (29%) and Chiropractic Biophysics technique (13%). Some practitioners use more than one technique in a consultation (Alcantara *et al.,* 2010: 621-626).

In Africa there are only two institutions, both situated in South Africa, which provide chiropractic training. These institutions train students to utilize Diversified Technique; it can thus be assumed that most of the chiropractors in South Africa use Diversified Technique in the treatment of paediatric patients. A few chiropractors practising in

South Africa make use of Neuro-Impulse Technique in the treatment of paediatrics. There practitioners attended external courses that are not currently available in South Africa (Korporaal, 2015).

Table 2.1: A Table Describing the Different Chiropractic Techniques

Diversified	Spinal manipulative therapy by applying a high velocity, low amplitude thrust to a joint.
Activator	A low amplitude thrust delivered to a joint or articulation with the aid of a recoiling instrument.
Thompson	This technique is used in conjunction with Diversified Technique. The practitioner makes use of a bed with drop pieces that are used during an adjustment.
Craniosacral	A force is delivered over a sustained period to correct cranial irregularities.
Gonstead	This method of practice makes use of radiographs and temperature analysis to aid in clinical evaluation before and after treatment takes place.
Sacro-Occipital	Use of categories and analysis in treatment to remove dysfunctions.
Chiropractic Biophysics	Use of drop pieces, instruments, exercises and traction.
Neuro-Impulse	Controlled force delivered to a specific area with the use of finger pressure and vectors in order to alleviate subluxations.

Source: Adapted from Alcantara *et al.,* 2010: 621-626

Doyle (2011: 97-105) addressed the fears of parents by concluding that no serious side effects occurred in paediatric patients that had chiropractic treatment since 1992. He added that only one out of every 100 to 200 children treated experienced minor side effects of post treatment discomfort and irritability. These effects subsided within one day. Due to the high rate of children treated by chiropractors and the low rate of adverse effects, it has been concluded that chiropractic treatment for paediatric patients is safe (Hewitt, 2012: 24). A single blinded randomized control study conducted by Miller *et al.* (2012: 600-607) revealed that babies with excessive crying were 20% less likely to cry post chiropractic treatment.

Although chiropractic care is both drug and surgery free (Clare, 2005), chiropractic treatment of paediatric patients remains a controversial topic as many varied opinions exist amongst paediatricians and the general population at large (Heslop, 2008). Negative opinions and perceptions may affect the choice of health care selected by parents for their child (Laurent, 2000: 1; Jean and Cyr, 2007: 138-141; Brown *et al.,* 2010: 1645-1657). These negative perceptions and a lack of knowledge and understanding could in turn prevent the usage of chiropractic treatment for paediatric patients (Laurent, 2000: 1).

A study done in Canada revealed that the predictors of CAM used by parents for their children were personal experience, referral from a medical practitioner, referral by other patients and seeking care after failure of conventional medicine (Jean and Cyr, 2007: 138-141).

2.3 The Concepts of Knowledge and Understanding

Knowledge has been described as being the belief that something is true and justified as well as what a person knows or does not know. Understanding has been defined as the ability to perceive the intended meaning, explanation or significance of information (Oxford, 2015). Knowledge and understanding are concepts as they are not tangible but can be indirectly observed through behaviour (Hunt and Hassmen, 1994: 129-160). It has been observed that knowledge may have an effect on behaviour, desires, goals and perceptions. Perception may be altered by the information we possess and how we understand this information. The ability to retain information and accumulate new information has been linked to memory and learning (Hunt and Hassmen, 1994: 129-160).

2.3.1 Knowledge and Understanding of Chiropractic Treatment

There has been a move from conventional medicine to alternative medicine, largely due to public demand (Visser and Peters, 1990: 28-31; Naidoo, 2008). Even though this branch of alternative medicine has been around for more than two decades in South Africa, general practitioners were found to have a lack of knowledge and understanding regarding chiropractic treatment (Louw, 2005). Flannery *et al.* (2006: 56-63) mentioned that medical practitioners who had knowledge and understanding of chiropractic treatment, commonly inquired of their patients regarding CAM use.

Research indicates that a higher level of knowledge and understanding may be linked to increased acceptance and change in attitudes within medical professionals and health care students (Langworthy and Smink, 2000: 437-443; Heslop, 2008, Rose and Ayad, 2008: 127). With regards to paediatricians, mixed perceptions regarding chiropractic treatment have been identified (Kemper and O'Connor, 2004: 482-487).

Some researchers have found a negative perception of CAM therapies. Sawni and Thomas (2007: 18) conducted a survey and found that paediatricians had a positive perception regarding chiropractic treatment. Paediatricians that had a positive

perception regarding chiropractic treatment for paediatric patients were more interested in the education of parents regarding CAM therapies (Pirotta *et al.,* 2000: 105-109). It was interesting to note that the paediatricians that had a negative perception of chiropractic treatment for paediatric patients admitted to also have a lack of knowledge and understanding regarding chiropractic treatment for paediatric patients (Kemper and O'Conner 2004: 482-487).

A direct relationship exists between the level of education and the utilization of CAM therapies. Education has been found to be a predictor of perception. Research performed in the USA revealed that individuals with higher tertiary education level showed increased utilization of CAM therapies. The understanding behind this was that these individuals had increased knowledge and understanding levels of disease processes, treatment procedures and options (Tatalias, 2006). Generally these individuals were also able to afford CAM therapies. These results were then reinforced by a study conducted by the National Centre for Complementary and Alternative medicine (NCCAM), which found that people with a higher level of education and income were more likely to make use of CAM therapies in America (Barnes *et al.,* 2008). From this it can be concluded that knowledge and understanding may have an effect on the utilization of a form of therapy. Likewise, the level of knowledge and understanding of parents regarding chiropractic treatment for paediatric patients may alter the rate of utilization of treatment.

Talmage (2007), Heslop (2008) and Taverner (2011) found that there is a lack of knowledge, understanding and perception regarding chiropractic treatment in South Africa in different populations. In order for parents to be able to make informed decisions regarding the utilization of treatment for their children they need to have knowledge and understanding of the treatment options. Doyle (2011: 97-105) proposed that a possible correlation may exist between the knowledge, perception, understanding and utilization of a certain treatments. A South African study revealed that mothers may have a lack of knowledge and understanding regarding chiropractic treatment for themselves during pregnancy and for children (Phillips, 2008). There is a lack of research in South Africa exploring the knowledge, understanding and perception of parents regarding chiropractic treatment for paediatric patients, thus there is a lack of insight into the reasons why parents may or may not utilize chiropractic treatment for their children. According to Phillips (2008) further research needs to be

conducted in South Africa to explore the knowledge, understanding and perception of parents regarding chiropractic treatment for paediatric patients.

2.4 The Concept of Perception

Perception has been described as a personal psychological process that occurs as a result of interpretation of stimuli. These are organized and processed with the aid of five senses known as sight, hearing, smell, touch and taste. As this information is processed along with emotions, personality and experiences, the individual forms perceptions that may affect the way he/she views certain concepts (Hayes, 1994; Maund, 1999; Atkinson *et al.,* 2000). As perceptions are specific to a person, different individuals may view the same thing as different entities and interpret the same stimulus in different ways.

Perceptions may be different to reality as the individual may have misunderstood or misinterpreted information or stimuli or been irrational in formulating their conclusion. Individuals tend to re-access their perceptions when they compare their point standing with other individuals; this is called selection and organization. This psychological process may be influenced by an array of factors (Bergh and Theron, 1999; Robbins, 1996 and Hayes; 1994).

Parents acknowledge consent to all forms treatment for their children. The parent, as the gate keeper is thus responsible for making the decision of whether a child may or may not receive treatment. According to the literature, some parents that allow chiropractors to treat their children do not report this information to their pediatricians for fear of being looked down upon. This indicates that varied perceptions exist regarding chiropractic treatment of children (Crawford *et al.,* 2006: 16; Lim *et al.,* 2006: 424-427; Vlieger *et al.,* 2006: 625-630). It is for this reason that the perception of parents regarding chiropractic treatment is important and needs to be explored, as this may have an effect on the utilization of chiropractic treatment for paediatric patients. As Burke *et al.* (2015) mentioned there is a lack of research that explores why the public may or may not utilize chiropractic treatment. In South Africa possible factors that may influence the perception of parents of chiropractic treatment for paediatric patients may include:

- Experience, exposure and familiarity.
- Expectations, attitudes and feelings.

- Background (CASA, 2008).
- Integration of the profession into primary health care.
- Socio-economic factors and accessibility of treatment (Health, 2004; Gaumer *et al.,* 2002; Van As, 2005).
- Public relations (Gaumer *et al.,* 2002).

These factors will now be further explained.

2.4.1 Experience, Exposure and Familiarity

It is known that when an individual is exposed to something he/she is likely to be drawn to the object or subject. When the person is exposed to something more than just once, s/he start to develop a familiarity with it and this has a direct effect on how the object or subject is perceived (Moreland and Zajonc, 1982: 395-415). A local study revealed that patients who were exposed to chiropractic treatment either personally or via someone else's experience had developed a perception of chiropractic treatment. A person's (parent's) perception may change over time as they are exposed to certain circumstances and situations over time. Time is considered to have an effect on perception (Bergh and Theron, 1999; Robbins, 1996). Parents may have a different perception of chiropractic treatment at different times in their life as they live through experiences. Patients who had a previous consultation with a chiropractor had a positive association with chiropractic treatment in terms of their knowledge and perception (Talmage, 2007). Furthermore, Brussee *et al.* (2001: 12-16) concluded that medical practitioners had a positive perception of chiropractic treatment when their patients reported their positive chiropractic treatment experiences to them. General practitioners who had a greater amount of knowledge about chiropractic treatment were more willing to refer to chiropractors as well as accept their referrals (Louw and Myburgh, 2007: 221-224).

Familiarity has also been identified to have an effect on perception as familiarity forms a foundation upon which a perception is constructed (Maund, 1999). A single negative experience with chiropractic may result in a negative perception being formed and vice versa. If a person was exposed to chiropractic treatment on more than one occasion, their perception will then be formed from experience.

Patients who make use of private health care services may have been exposed to chiropractic treatment more than other patients as South African chiropractors function mostly within the private sector (CASA, 2008). It is not known how many chiropractic treatment patients know that chiropractic treatment can be used in the treatment of paediatrics and the fact that patients using private health care are more familiar with chiropractic may mean that they are more like.ly to know that chiropractic treatment can be used in the treatment of paediatrics.

2.4.2 Expectation, Attitudes and Feelings

Expectation is a strong belief as to of how something should be or how something should turn out. Numerous studies have shown that perception is not only formed by the interpretation of stimuli via senses, but are also largely affected by expectations as well as an individual's state of mind, attitude and feelings. The literature also indicates that attitudes may be affected by experience that may then affect one's perception (Ingle, 2005; Van Noordwyk, 2005; Wise, 2010).

A person's perception may be affected by prior expectations even after being introduced to a stimulus (Williams, 2007: 36-41). Bergh and Theron (1999) discussed the effect of expectations on the formation of perception and they found that expectations mould the way that perceptions are formed. People with high expectations of an object tend to have a positive perception of the object. Talmage (2007) found that many factors contribute to expectations, some of them being the experience, attitudes and feelings of prior chiropractic consultations.

It is important to note that people tend to categorize or label subjects, which is known as stereotyping and generalization. Chiropractors are often referred to as "back specialists". This immediately places the profession under the constraints of perception as it limits scope of practice to back related conditions (Louw and Myburgh, 2007: 221-224; Heslop, 2008). It can therefore be concluded that parents' expectations of chiropractic treatment and their perceived outcome and prior experiences may have an effect on the perception of chiropractic treatment of paediatric patients.

2.4.3 Background

The teaching and training of chiropractors has been debated from the time the chiropractic profession was introduced to the international health system. At times the

ability of chiropractors to treat musculoskeletal conditions and vicerosomatic conditions has been called into question, with some medical practitioners feeling that chiropractic treatment and other alternative therapies should be restricted and not introduced into primary health care (Homola, 2013: 89-94; Coulter *et al.,* 1996: 53-59). It may be felt that more research is needed to establish the appropriateness and effectiveness of spinal manipulative therapy in the treatment of both adults and paediatric patients. However other medical practitioners are impressed with the knowledge and scope of practice of chiropractors, mentioning that many people may not be aware of the extent and depth of knowledge that chiropractors possess in anatomy (Strkalj *et al.,* 2012: 141-144).

The status of chiropractic treatment has changed; in the past statements made by chiropractors may not have been supported with relevant research; however today the profession utilizes scientific, evidence-based techniques (Brantingham and Snyder, 1999: 53-59; van Tulder *et al.,*. 2005; Traverner, 2011). The rise of scientific evidence within the chiropractic profession has led to publication of articles in renowned journals of primary health care, and this has resulted in increased utilization of chiropractic treatment (Sullivan, 2008: 14-20; Taverner, 2011). This increase in utilization may be linked to increased awareness, knowledge, understanding and positive perceptions of chiropractic therapy (Talmage, 2007).

Talmage (2007) is of the view that, if the knowledge levels of the general population regarding chiropractic treatment are raised, this may positively affect the perception of chiropractic treatment and result in increased social acceptance of the profession.. According to Coulter (1992: 53-59), chiropractic treatment will receive more recognition if there is progress in providing a scientific explanation based on scientific evidence.

Chiropractic treatment is already known as the third most commonly used primary health care therapy following conventional medicine and dentistry (CASA, 2005). As discussed earlier in this chapter, the use of chiropractic treatment for paediatric patients is increasing almost to the same extent as adult utilization (Blum *et al.,* 2008; Gleberzon *et al.,* 2012: 128-141). Although the profession shows global development in treatment of paediatric patients there is not enough research to indicate the exact social and parental acceptance of chiropractic treatment in relation to the treatment of paediatric patients in South Africa.

2.4.4 Integration of the Profession into Primary Health Care

Integration of the chiropractic profession is an important factor to consider. There are six facets to integration. According to Myburgh *et al.* (2008: 392-395) integration involves education (knowledge, awareness and understanding), governing bodies, business and finance (medical aid and health care costs), and competitors (inter professional). As previously mentioned in this chapter, chiropractic treatment is recognized by WHO as a form of CAM but is slowly starting to be recognized as a primary health care profession in its own right with the South African context (WHO, 2001; CASA, 2015).

The profession has thus far met many challenges in order to have chiropractic treatment integrated into mainstream medicine and gain acceptance from other health care professionals. Although this integration has improved, the general public at large is still often left confused and frustrated (Myburgh and Mouton, 2007: 207-211). According to Korporaal (2015), as part of their curriculum chiropractic students have been performing government hospital visits since 2007 and this has been of benefit to the profession in South Africa as other medical professions have become exposed to chiropractors in the process.

It is important for chiropractors to establish inter-professional relationships for the benefit of both the profession and patients. In order to achieve optimum levels of patient care there needs to be interaction between all health care professionals (Brussee *et al.,* 2001: 12-16). A lack of communication between all health care workers may result in distortion of treatment protocols and patients may discontinue treatment regimens (Mainous *et al.,* 2000: 446-450). The public should be educated about the chiropractic scope of practice in order to avoid misconceptions. If the profession does not achieve this public awareness, its integration into the primary health care system of South Africa may be restricted (Myburgh and Mouton, 2007: 207-211).

2.4.5 Socio-economic Factors and Accessibility of treatment

South Africa is a diverse country comprising many different cultures, each of which influence perceptions (Kastanakis and Voyer, 2014: 425-435). This makes the environment in which a South African practitioner practices chiropractic very different to other countries. Health care in South Africa is divided into two sections. There is a public sector (larger) and a private sector (smaller). The majority of the South African

population utilizes, public health facilities, particularly in the rural areas, which is where the majority of the South African population resides (Peltzer *et al.,* 2008: 255). Chiropractic in South Africa functions within the urbanized private health care sector, making it inaccessible to most rural South African citizens (CASA, 2008). The inability to access chiropractic care due to geographic location may have an effect on the knowledge, perception and understanding of parents regarding chiropractic treatment, thus limiting the utilization of chiropractic treatment by paediatric patients.

2.4.6 Public Relations

An exploratory survey was conducted by Forese and Gooding (2013) in the United States to determine the general publics' opinions with regard to chiropractic treatment and the profession as a whole. The survey found that 84% of the respondents had either a neutral or positive feeling towards chiropractic treatment. They also noted that many respondents had limited knowledge and understanding of the chiropractic scope of practice which may be as a result of their limited utilization of chiropractic treatment. Forese and Gooding (2013) were alarmed that many people did not know what the benefits of chiropractic treatment were and also did not understand that chiropractic treatment was a drug free alternative therapy. This lack of knowledge may affect their choice of care as they are unaware of all the treatment options available to them.

The way the general public perceives chiropractic treatment may have an effect on the choice of a parent regarding whether to or not to utilize chiropractic treatment for their child (Bloom *et al.,* 2006: 49-55). It is important to address any misconceptions of the public in order to grow the profession. There is no research in South Africa that assists the profession in determining how they are perceived by the general public and there is no research to depict the specific perception of parents regarding the utilization of chiropractic treatment for paediatric patients in the Durban Metropolitan Area.

2.5 Conclusion

This chapter discussed the existing literature regarding chiropractic treatment for paediatric patients.

Parents are the gatekeepers of care for their child thus the knowledge, understanding and perception of chiropractic treatment for children is important as it will affect their utilization of chiropractic treatment for their child. Not enough is known about parental

knowledge, understanding and perception of chiropractic treatment for their children, specifically within the Durban Metropolitan Area.

CHAPTER 3 : METHODOLOGY

In the previous chapter the literature relevant to the topic was discussed. In this chapter the research methodology that was followed will be discussed. Techniques applied in data collection and data analysis will also be described.

3.1 Research Design

A qualitative, explorative, descriptive research design was used for this research. Qualitative research was chosen as it was best suited for the research, aims and objectives. Qualitative research is about exploring topics, understanding phenomena, and answering questions by analyzing, breaking down and making sense of unstructured raw data (Simon, 2011; Maxwell, 2012; Creswell, 2013; Adams *et al.,* 2008: 445-459). Qualitative research has shown increased credibility and value in health care research. It is pliable and reproduces dense, in-depth results (Houghton *et al.,* 2013: 12-17). According to Anderson (2010: 1-7) and Creswell (2013) the flexible nature of qualitative research produces results that are true to the participant and their experiences as they are not restricted to set questions. Qualitative research is not about representing a population but rather producing information that is dense and rich in nature (Hardon *et al.,* 2007: 658-665; Creswell, 2013).

The use of qualitative research has increased and has been shown to be useful in chiropractic research and other health care research. According to Adams *et al.* (2008) qualitative research may be just as important as clinical studies because qualitative research provides the profession with, “rich and highly complex data on participants’ experiences of treatment processes’’.

Qualitative research design was employed in this study so that “rich and highly complex data” could be retrieved from semi-structured interviews, performed with parents from the Durban Metropolitan Area. This flexible research design allowed the researcher to explore the participants’ true feelings and experiences in an in depth manner that best pertained to each participant. As the research aimed to identify the knowledge, understanding and perception of parents regarding chiropractic treatment for paediatric patients, it was concluded that it would be applicable to use qualitative semi-structured

interviews to explore these phenomena, as they are not concrete and that could not be measured in a quantitative manner.

Exploratory research occurs when the researcher identifies an idea of interest and attempts to investigate and delve into depths to further understand a concept or idea that was observed or identified. Explorative research often forms a network of ideas from which future research can occur (Maxwell, 2012). In explorative research all the facets of an idea, phenomena and or concept are examined (Polit and Beck, 2008).

Explorative design was utilized in this research study as the researcher had an interest in the motivation of why parents would or would not utilize chiropractic treatment for children. There was a need to explore, in depth, the knowledge, understanding and perception of parents regarding chiropractic treatment for paediatric patients. The ideas brought forward in the data collection can then be explored and dissected.

Descriptive research occurs in conjunction with explorative research. Descriptive research is about expanding a concept, determining meaning and using what is already known to understand other ideas and concepts that are related (Maxwell, 2012).

Descriptive research design was also utilized in this research in order to complement the qualitative, explorative research design. This design allowed the researcher to do more than simply explore phenomenon, but to interpret and identify relevance and meaning from the data.

According to Adams *et al.* (2008: 455-459) chiropractic as a profession has undergone many changes and qualitative research could be beneficial to determine the perception of its users. It is for this reason that a qualitative, explorative, descriptive research design was chosen and applied to this research study. In this case the perception of parents regarding the utilization of chiropractic treatment for paediatric patients was investigated.

3.2 Research Setting

Bhattacharya (2008: 91-101) explains that research setting refers to the location where the researcher conducts the research. A research setting should be one in which the participant feels safe and comfortable and refers to their natural environment. The setting of this research varied as it was adjusted to the participants' requirements. The

venues for each interview were chosen by the 13 participants themselves in order for them to feel comfortable, relaxed and safe. Participants chose to conduct the interviews in private or public settings, either at their home or work or at their child's school.

3.3 Research Population

Research population refers to an entire group of people, members or people from an organization from which participants will be selected (Kumar, 2014). The population for this research was comprised of parents with at least one child of 13 years or younger living in the Durban Metropolitan Area. The participants could have used or not used chiropractic treatment for themselves in the past but they had to have never used chiropractic treatment for their children. Thus they were chiropractic treatment paediatric non-users.

3.4 Sampling

Sampling is known as the selection of participants from a wider group and/or population (Kumar, 2014). Randomized selection is the selection of a sample from a population in a way that every participant that may have been selected had an equal chance of being selected (Frerichs, 2008). For this research a list was drawn up which included registered junior and senior primary schools within the Durban Metropolitan Area. Randomized selection of schools occurred via the use of Microsoft Excel computer software program using "RAND ()". This formula generated random order of schools. The first 10 schools selected were contacted via telephone and via a permission letter (Appendix A) requesting that they allow the researcher to conduct interviews with parents at their school. If a school declined the invitation the school was replaced with another school from the randomly selected Microsoft Excel spread sheet.

Once permission was granted, invitations to participate in this research (Appendix B) were sent to the parents requesting their voluntary participation in the study. Specific sampling of participants was not done at this point, as saturation of data was not yet met. Saturation of data is a term that is commonly referred to in qualitative research and depicts the point of data collection when no new or relevant rich data emerges. This represents the point at which no further data collection needs to done. It is for this

reason that a sample size could not have been pre-determined at this point in the research (Simon, 2011).

Out of the ten schools that granted the researcher permission to conduct the research, 20 parents volunteered to participate in the research. Sixteen out of the 20 participants met the inclusion criteria of the research. Saturation of data was met on the eighth interview and an additional five interviews were conducted. This resulted in a sample size of 13.

3.5 Participant Selection

After the random selection process for schools was completed and parents' positive response to the invitations were received, the parents were contacted by the researcher via telephone. The telephonic conversation served the purpose of establishing if the parent met the inclusion criteria. All parents who met the inclusion criteria were interviewed. The response rate varied from school to school. At some of the schools no parents volunteered to participate in the research and at other schools the response ranged from one to four parents.

3.6 Criteria of Selection

3.6.1 Inclusion Criteria

In order for participants to participate in the research they needed to comply with the following criteria:

- The participants had to be living in the Durban Metropolitan Area.
- Participants had to sign an informed consent and be aware that they were participating in a research project (Appendix C).
- Participants had to agree to have the interview voice-recorded.
- The participant needed to be a guardian of a child of 13 years old or younger.
- The participants could have used or not used chiropractic treatment for themselves in the past but they had to, have never used chiropractic treatment for their children. Thus they were chiropractic treatment paediatric non-users.

3.6.2 Exclusion Criteria:

Non-compliance with the inclusion criteria.

3.7 Data Collection

3.7.1 Pilot Study

A pilot study is a pre-research study done on a smaller scale in order to evaluate the research before committing to the extended research project (Shuttleworth, 2015).

A pilot study of semi-structured interviews were performed prior to starting the research in order to test the three sets of questions. This was done to evaluate their relevance and ability to produce information dense data. The questions were broad and focused on the participant's experiences, and allowed the participant to give a response that was not restricted. The pilot study was comprised of three participants. The pilot study interviews were conducted at the most convenient and private venue for the participant. The venues were secure; safe was situated in a calm environment. The interviews took place in the participants' place of choice. These participants were not included in the main study as these participants were not parents of the randomly selected schools thus they could not be concluded.

The pilot study was of benefit as it revealed that the three questions that were asked were adequate and produced data that was rich in nature. However the data was not included in the main study as the interviews were performed separately to the main study and the participants did not meet the inclusion criteria of the main study.

Questions that were used in the research study were:

1. What do you know about chiropractic treatment for children/paediatric patients?
2. What do you understand about chiropractic treatment for children/paediatric patients?
3. How do you feel about chiropractic treatment for children/paediatric?

Depending on the answer of the participants, probing questions were asked so that the participant could expand on their answers.

3.7.2 Research Procedure

a) The researcher phoned the randomly selected schools to request permission from the relevant principals. The researcher requested permission to contact parents in the school by handing out invitations addressed to the parents (Appendix B). The phone call was followed by an email to the principals to

explain the research procedure with an attached permission letter, principals' letter of information and adjoining consent and proof of research approval from the Department of Education (Appendix E, F and G).

b) The researcher collected the signed letters of information and consent forms from the schools. A meeting was scheduled with the headmaster if requested in order to answer any questions relating to the research.

c) Eighty invitation letters, addressed to the parents were delivered to each school. These were made available to the parents. Each invitation letter had a tear off slip where the parents could voluntarily reply and show willingness to be included in the research (Appendix B).

d) The researcher contacted the schools on a weekly basis to enquire about parental responses.

e) As the parents responded the researcher drove to the relevant school to collect the completed slips of the invitation letters.

f) The researcher phoned the parents (within working hours) to thank them for their response. The inclusion and exclusion criteria were then established and if the parent met the inclusion criteria a suitable time, date and venue where arraigned in order to conduct the interview.

g) Each participant decided on the time, date and venue of the interview. Venues selected included at work, at their home or at their child's schools. The venues were all quiet and private and the researcher ensured that each participant felt secure and comfortable.

The semi-structured interview was conducted as follows:

3.7.3 The interview format/schedule

a. The interviewer/researcher took time to first explain the research to the participant without showing any bias. The purpose and use of the interview and data were explained to the participant.

b. Before commencing the interview, the participants' letter of information with adjoining informed consent (Appendix C) form was handed to the participant. The participant was then asked to take their time to read through this and ask any questions if they wished to do so. Written consent (Appendix C) was then obtained from the participant. The participant was reminded that the interview was to be voice recorded. Although written consent was already obtained at this point, the participant was asked if they were comfortable with the voice recording process.

c. The participants were reassured of confidentiality and assured that they could withdraw from the research at any point.

d. The interview started with the interviewer/researcher thanking the interviewee/participant once again. Three questions where then asked. The participant was given a chance to answer each question. Due to the semi-structured nature of these interviews, the interviewer/researcher asked additional questions as the interview progressed. The interviewee/participant was then probed for more answers until no more new information was attainable.

e. After questioning, the interviewee/participant was thanked and once again reassured of confidentiality; this signified the end of the interview.

This form of interview produced data that was detailed and resembled the participant's beliefs and perceptions about the specific topic without them being limited or forced into a specific manner of answering. The participants were free to voice their opinions. This form of questioning allowed the interview to be conversational and not rigid allowing the participant to feel at ease, rather than anxious and feeling as if they were being tested.

Only the researcher, research supervisor and co-supervisor were granted access to these voice recorded interviews and notes.

3.8 Data Analysis

Burns and Grove (2005) and Creswell (2013) outlined that qualitative data is analyzed in three phases known as transcription (A), analysis (B) and interpretation(C). Figure 3.1 depicts the phases of data analysis that occurred in the research.

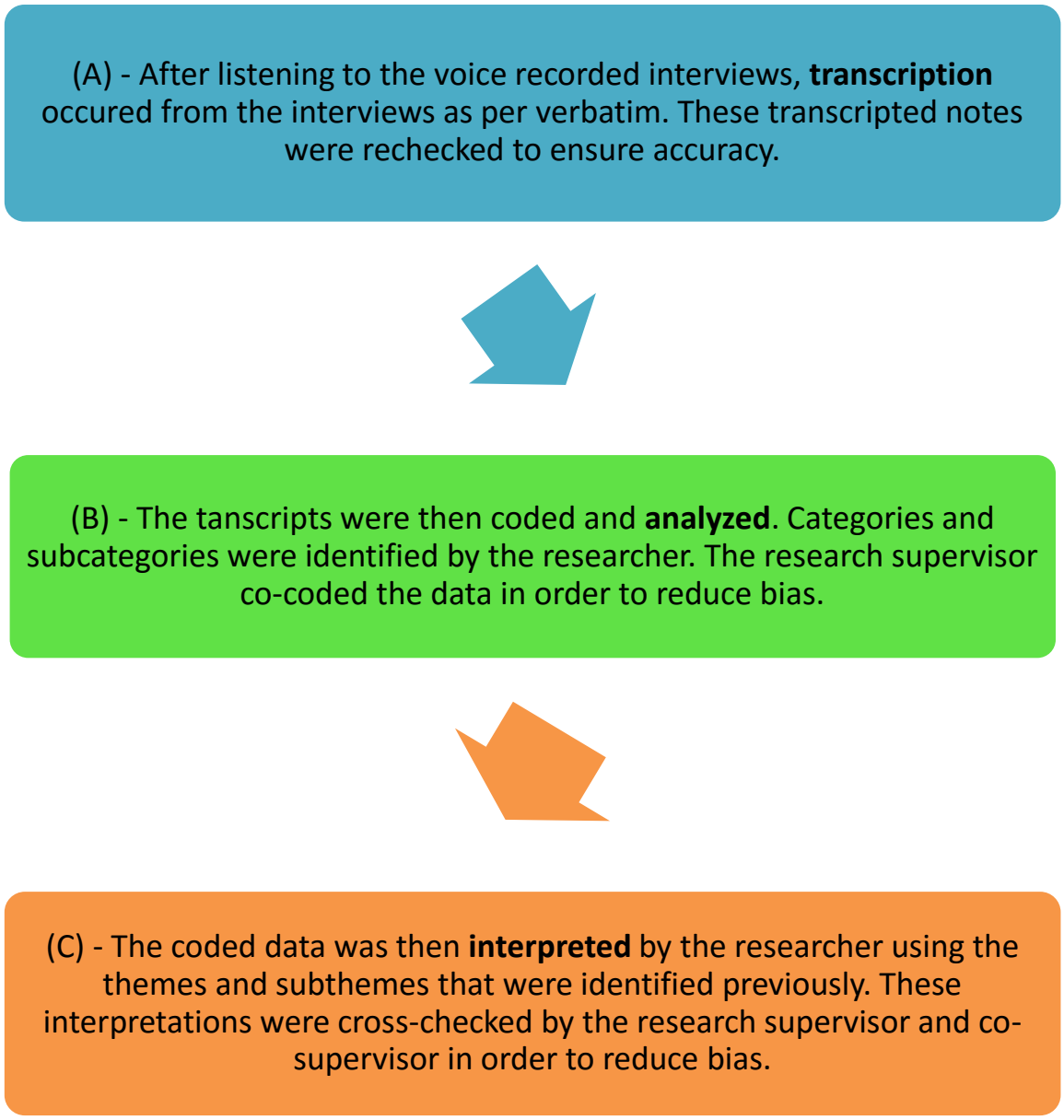

Figure 3.1: Flow diagram depicting phases of data analysis

The data collected were transcribed from the interviews as per verbatim. The transcripts were then checked for any mistakes that may have occurred in the transcription process. Transcripts and notes made during the interview were re-checked to ensure reliability (Kvale, 2009). An audit trail was maintained to ensure dependability and reliability of data (Adams *et al.,* 2008: 455-459). After transcription was completed the data was assigned codes and categorized by recognizing emerging themes. The coding process was initiated after the researcher read through the transcripts a number of times in order to gain familiarity with the interviews. The transcripts were then chosen one at a time and the content of the interview was questioned for meaning.

A list of themes was identified from the raw data throughout this process. These themes were assigned codes. The codes were re-evaluated to avoid errors and ensure reliability; this was done by comparing the data with the codes to ensure that the codes were consistent and defined in the same manner throughout analysis. Certain aspects of the data was analyzed in depth and cross related with other parts of the research to form categories and subcategories (Flick, 2009). Continuous comparison of data was done to avoid over generalization (Flick, 2009). Validity strategies were utilized as outlined by Creswell (2003; 2013) by having the codes checked by the research supervisor (member checker) to emphasize reliability and consistency (Houghton *et al.,* 2013: 12-17). The participant's personal details were omitted to ensure confidentiality.

The data was analyzed by the researcher under supervision of the research supervisor and co-supervisor. The researcher critically analyzed the data to avoid bias and increase validity of the research.

NVivo software was utilized to assist in the analysis of the data. Once the analysis of the data was complete the codes were related to one another and interpreted to provide meaning from these codes. This allowed the researcher to make conclusions from the data that was collected by doing 13 semi-structured interviews. Once again these conclusions were re-checked, this time including both the research supervisor and co-supervisor to ensure that the researcher did not apply bias so that reliability and validity was maintained.

3.9 Ethical Considerations

The research proposal was approved by the Durban University of Technology Faculty of Health's Ethics Committee (Appendix F). The provincial Department of Education granted the researcher permission to perform research at schools before the schools were contacted (Appendix H). The randomly selected schools were asked for permission in order for the researcher to have made contact with the parents. The researcher did not interfere with the children attending the school or with their school activities. The researcher did not make contact with any minor at the school during the process of the research.

Each interviewee/participant gave written informed consent to being interviewed, to voice recording of the interview and to the utilization of information gathered in the interview for research purposes. The venue of the interview was agreed upon by the participant and the researcher to ensure that the participant felt safe and comfortable during the progression of the interview. Participant's details were omitted to ensure that the confidentiality of participants were maintained. The name of the schools involved were kept confidential. This was done to ensure confidentiality of both the schools and the participants.

The voice recordings and raw transcripts were only accessed by the researcher, supervisor and co-supervisor. The transcripts were re-checked in conjunction with the voice recorded interviews to ensure that participant's views and opinions were correctly analysed. The voice recordings were placed into storage. Storage occurred in a safe environment, free from exposure to anyone other than the researcher, research supervisor and research co-supervisor. These items were to be stored for 15 years before being destroyed permanently. The interviews were only attended by research participant and the researcher.

3.10 Approach to rigour

Clear guidelines have been developed by Lincoln and Guba (1985) to help ensure validity and reliability in qualitative research. These guidelines consist of credibility; dependability; conformability; and transferability, as discussed in brief detail below.

Credibility refers to the value and authenticity of data. Credibility was applied to this research study by having the researcher receive assistance and direction from the

research supervisor and research co-supervisor (Adams *et al.,* 2008: 455-459). The research supervisor and research co-supervisor re-checked the data that was coded and categorized.

Dependability refers to how reliable or true data may be. This was ensured by an audit trail being maintained by the researcher (Adams *et al.,* 2008: 455-459). The voice recordings of the pilot study and main research were stored in a safe environment. The original transcripts were also stored. These items will remain in storage for 15 years.

Conformability and transferability applies to the correct, true and just representation of the data (Adams *et al.,* 2008: 455-459). The researcher assured that this was applied to the study by re-listening and re-checking the voice recordings and transcripts. The researcher also recoded the data to ensure consistency. This allowed the researcher the chance to review the raw data numerous times. The research supervisor and co-supervisor were involved in the coding and interpretation process in order to ensure conformability. Conformability also refers to the degree to which the findings and conclusions may be related to another situation or population (Adams *et al.,* 2008: 455-459). This will be further discussed in the discussion chapter to follow.

These guidelines presented by Lincoln and Guba (1985) and Houghton *et al.* (2013: 12-17) were incorporated into the research in order to increase reliability and validity of the research conclusions.

3.11 Conclusion

The research methodology used in this research was discussed in detail in this chapter. The ethical considerations as well as the methods used to ensure validity and reliability of the research were discussed together with how they applied to this research. In the next chapter the results are presented and discussed.

CHAPTER 4 : RESULTS AND DISCUSSION

In this chapter the results of the study are presented and discussed. The results were formulated from the analysis of 13 semi-structured interviews performed with participants from the Durban Metropolitan Area. The results seek to identify the knowledge, perception and understanding of participants regarding the utilization of chiropractic treatment for paediatric patients.

4.1 Participants' Knowledge of Chiropractic Treatment for Paediatric Patients

The participants involved in this study had different levels of knowledge of chiropractic treatment for paediatric patients. All 13 participants were asked what they knew about chiropractic treatment for children, from which responses were synonymous. During the interview procedure participants referred to what they knew about chiropractic treatment and this information was coded under knowledge. Four subcategories were identified with respect to knowledge. These were as follows:

- Level of knowledge;
- Knowledge regarding the utilization of chiropractic;
- Knowledge of what chiropractic involves; and
- Recommendations and education.

Table 4.1: Table depicting the responses of participants during the interviews

Category	Subcategory	Responses	Frequency
Knowledge	**Level of knowledge**	Admits lack of knowledge for paediatric chiropractic treatment	13
		Admits lack of knowledge for adult chiropractic treatment	2
		Not much	4
		Not clued up	1
		Nothing	3
		I am not sure	2
		Know the basics	1
		Chiropractors are bone doctors/specialists	2
		Chiropractors click bone / re-align bones / put bones back into place	8
		Chiropractic treatment is rough / uncomfortable / painful	5
		Chiropractors manipulate bones, arms, joints	6
		Unsure whether chiropractors operate / use anesthetic	2
	Knowledge regarding the utilization of chiropractic	Development and/or growth/walking problems etc.	4
		For the sick	1
		For the injured/hurt	8
		For aches and pains	2
		For back problems	5
		For limping	3
		For bone problems	4
		For people with pain (non-specific)	2
		Post motor vehicle accident	2
		Post-surgery	2
		When other manual therapies were unsuccessful / or the condition became worse	2
		For a checkup	1
		For posture	2
		For babies that have colic / that are windy	3
		Unaware that chiropractic could be used by children	3
	Knowledge of what chiropractic involves	A series of treatment	2
		Does not really know what chiropractic involves	8
		Movement/Stretches	4
		Muscle and bone treatment	5

		Nerve and spinal treatment	3
		Treatment of the spinal cord	2
		Treatment for children is similar to that of adults	5
	Recommendations and education	Admits lack of chiropractic awareness and education / give recommendations to increase awareness	9

4.1.1 Level of Knowledge

This subcategory was identified as many participants often referred to the amount of knowledge they had regarding chiropractic treatment for children. They used different phrases to describe their knowledge yet the meaning of these phrases was similar. The phrase “not much” was used by four participants, “nothing” was used by three participants, “I am not sure” was used by two participants and the phrases “not clued up” and “I know the basics” were used once each. All the participants acknowledged that they had a lack of knowledge regarding chiropractic treatment for children whereas only two reported a lack of knowledge regarding chiropractic treatment for adults (Table 4.1).

All 13 participants had a lack of knowledge regarding chiropractic treatment for paediatric patients. A retrospective study was performed by Burke *et al.* (2015), of the 2007 National Health Interview Survey (NHIS) of CAM in the United States which found similar results and recorded a high rate of lack of knowledge regarding CAM, reported by the participants themselves. Other studies conducted on other populations, including paediatricians, show that participants had a lack of knowledge or inadequate knowledge regarding chiropractic treatment overall (Kemper and O’Conner, 2004; Heslop, 2008).

The participants also described what they knew about chiropractic treatment for children and for adults. Eight participants mentioned that chiropractors “click, realign and put bones back into place”. Six participants used the word manipulation to describe what chiropractors do (Table 4.1).

Chiropractors make use of the words “adjustment” and “manipulation” to describe how they apply a specific, manual, low amplitude thrust, to a specific joint for the purposes of treatment (Haldeman, 2005; WHO, 2013). Although all the participants had a lack of

knowledge regarding chiropractic treatment for paediatric patients, the six participants who utilized the term “manipulation” had increased knowledge regarding chiropractic treatment; compared to the participants who made use of non-technical terms to describe what chiropractors do.

Two participants referred to chiropractors as “bone doctors or bone specialists”. Two participants were unsure whether chiropractors operate or use anesthetic which shows that these participants were confused with regards to the methods chiropractors utilized and questioned whether chiropractors utilize surgical procedures. Chiropractors offer care that is drug and surgery free (WFC, 2015; Clare, 2005). This information is important as participants who do not know whether chiropractors utilize surgical procedures in treatment have a lack of knowledge. A lack of knowledge regarding CAM has been linked to altered perceptions of CAM as well as underutilization (Pohlman *et al.,* 2010; Burke *et al.,* 2015) (Table 4.1).

Five participants referred to chiropractic as rough, painful or uncomfortable. This is important to take into account as chiropractic care for paediatric patients is gentle and participants that believe that chiropractic treatment is rough may be reluctant to utilize chiropractic treatment for children. This is understandable as participants would naturally want to be cautious. This is later discussed as participants explain that their motherly instincts are to protect their child. Burke *et al.* (2015) emphasized that insufficient knowledge about CAM may result in restricted use of such therapies. The participants may have reported on what they believe to know, but if participants, as gatekeepers to care for their children, do not have the correct information or have fears regarding chiropractic they may not be fully equipped to make an informed decision regarding treatment for their children Gleberzon *et al.* (2012: 128-141).

The lack of knowledge of the participants regarding chiropractic treatment for children in this research may be attributed to a lack of exposure, experience and familiarity with chiropractic treatment for children. The participants mentioned a lack of resources available to them to learn more about different types of therapies. This includes raw information, “word of mouth” and through inter-professional referral. More should be done in order to increase the participants’ knowledge regarding chiropractic. “Word of mouth” is an important aspect to consider as it has been identified as a positive contributor to CAM utilization rates. More than half of the participants reported that their lack of knowledge was the reason why they had not yet utilized chiropractic treatment

for their children. According to Jean and Cyr (2007: 138-141), “word of mouth” has been linked to increased rate of therapy utilization specific to chiropractic. It is for this reason that the level of knowledge regarding chiropractic needs to be addressed in order to increase the utilization. If people know about chiropractic treatment for children, more people may utilize chiropractic treatment for their children.

Although communication between users of chiropractic treatment may raise awareness and increase the rates of CAM utilization, it is important to note that “word of mouth” alone cannot achieve this (Jean and Cyr, 2007: 138-141). The participants need to have a greater level of knowledge regarding chiropractic treatment in order to successfully educate and refer other possible users. In the same manner ministration of incorrect information and myths regarding chiropractic treatment may have a negative effect on utilization rates of CAM, thus it is important that accurate information be made available to the public (Laurent, 2000: 1).

4.1.2 Knowledge Regarding the Utilization of Chiropractic Treatment

This subcategory was coded for when participants mentioned what they knew chiropractors could be used for both paediatric patients and adults (Table 4.1). The most common answer, from eight participants, was that chiropractors are utilized by the injured or hurt. This is not an incorrect view, as chiropractors often assist patients in pain management or provide treatment to patients after injury as well as rehabilitation; however treatment does not only occur when an individual is hurt or injured (Blum *et al.,* 2008: 175-184; Barnes *et al.,* 2008).

Five participants mentioned that chiropractic treatment may be utilized for back problems. Four participants mentioned that chiropractic treatment can be used for bone problems. Three participants mentioned that chiropractic treatment can be used for windy / colic babies. The reason these results are similar may be due to participants viewing the back and bone as one in the same, as the spine is made up of 33 vertebrae (cervical 7, thoracic 12, lumbar 5, sacral 5, coccyx 4) also known as “back bones” (Moore and Dalley, 2006). Chiropractors treat specific joints, and joints are comprised of two bony surfaces (Haldeman, 2005). Although these participants are not incorrect in mentioning that chiropractors treat “bone”, this view may restrict the scope of practice of chiropractors, as chiropractors treat the entire neuro-musculoskeletal

component and also assist in the diagnosis and management of these conditions (WFC 2015; Blum *et al.,* 2008: 175-184).

Three participants were completely unaware that chiropractic may be used in the treatment of paediatric patients. This displays a lack of knowledge regarding chiropractic treatment for children. Participants who do not know that these treatment options exist will not consider chiropractic treatment as an option for their children. A lack of knowledge and awareness of CAM therapies may result in underutilization of therapies such as chiropractic (Cambron *et al.,* 2007: 11-16; Burke *et al.,* 2015).

Two participants mentioned that chiropractic could be used for aches and pains, pain (non-specific), post motor vehicle accident, post-surgery, when other manual therapies were unsuccessful or the condition worsened as, well as for posture abnormalities. In the minority, one participant said that chiropractic is utilized for the sick and for check-ups (Table 4.1). According to Miller (2010: 18-33) and Glerbezon *et al.* (2012: 128-141) colic is one of the most common reasons that participants seek treatment for their children under the age of two. Only three of the participants mentioned that paediatric patients may receive chiropractic treatment for colic or windy babies. If participants do not know when to utilize a chiropractic treatment for their children they may underutilize this form of therapy. If participants have a restricted knowledge regarding when chiropractic could be utilized in children this may also lead to underutilization.

4.1.3 Knowledge of what Chiropractic Involves

This subcategory refers to what the participants knew about what chiropractic treatment involved (Table 4.1). Eight participants were unsure of what chiropractic treatment involved. Confusion and unawareness of what treatment involves may negatively affect the utilization of chiropractic treatment for paediatric patients. Five of the participants mentioned that chiropractic treatment for paediatric patients is similar to treatment for their adult counterparts; and that chiropractors may treat bone and muscle components of the body. Assuming that children may be treated in the same manner as adults is incorrect as, paediatric patients present differently to adults, due to anatomical differences; therefore, chiropractic treatment for paediatric patients is slightly different to treatment for adults (Gleberzon *et al.,* 2012: 128-141; Verhoef and Papadopoulos, 1999: 50-57; Columbia Neurosurgeons, 2015; Mortazavi *et al.,* 2011: 1095-1100). Treatment is safe, gentle with minimum side effects and beneficial to

paediatric patients (Doyle, 2011: 97-105, Hewitt, 2012: 24). Paediatric patients are growing and their spines are primarily cartilaginous. It is for this reason that chiropractic techniques applied to paediatric patients are modified. High velocity forces with large forces are not utilized, low velocity thrusts with recoil are utilized with modification, sustained forces and blocking techniques may be utilized under modification, manually assisted techniques may be utilized, cranial/sacral techniques may be utilized and soft tissue therapy is utilized. Modalities such as ultrasound, electrical stimulation, thermal and orthotics are all age and patient specific. Lifestyle, nutrition and prevention advice is also indicated (Chiropractic Child Care, 2015).

Four participants reported that chiropractic treatment may involve only movement and stretches for the treatment of both adults and children. This view is not entirely correct; chiropractors may assess the quality of movements and ranges of motion to determine which area needs to be treated. Chiropractors may also make use of stretches and prescribe stretches for their patients to do at home but treatment comprises more than just movements and stretches (Gleberzon *et al.,* 2012: 128-141; Verhoef and Papadopoulos, 1999: 50-57). Participants that have this view may have a restricted perception of the chiropractic scope of practice for paediatric patients which may lead to underutilization of this health care option.

Three participants mentioned that nerve and spinal treatment occurs when chiropractors treat individuals. Two of these participants went on to say that chiropractors treat the spinal cord. This, however, is not be directly possible as the spinal cord is surrounded by the spinal vertebrae, although chiropractic treatment may have an effect on the nervous system (WFC, 2015; Moore and Dalley, 2006). As chiropractors were described as “spinal specialists” by participants, the term “spinal cord” may have been utilized as a lay persons term to describe treatment affecting the nervous system. Two participants mentioned that a couple / series of treatments are needed in chiropractic therapy however the treatment protocol varies from patient to patient, at times one treatment may be sufficient and at other times more may be needed. It is also dependent on the condition (Spine-Health, 2015) (Table 4.1). Overall the participants were confused and unsure of what chiropractic treatment involved for paediatric patients. Burke *et al.* (2015) states that unawareness may be the biggest hurdle in the underutilization of CAM therapies.

4.1.4 Recommendations and Education (Relating to Participant's Responses)

Nine participants made it clear that they were unfamiliar regarding chiropractic treatment for paediatric patients and they admitted that this may negatively affected their utilization of chiropractic treatment. Recommendations were presented by some participants regarding future steps to increasing chiropractic awareness (Table 4.1). These participants felt that not enough is known about chiropractic and that there is a lack of resources available to educate the general public. It was recommended that a flier with information of what chiropractic involves and what chiropractors can treat be circulated to participants.

Some participants recommended that chiropractic awareness days might help to increase public knowledge regarding chiropractic and that education should occur of other health care practitioners to increase inter-professional referral. Other participants mentioned that flyers should be distributed to the public, especially parents, containing correct and relevant chiropractic information, especially chiropractic for paediatrics. One participant suggested that chiropractic should be spoken about at careers fairs so that students can learn about chiropractic and possibly increase the interest in chiropractic as a career. It was made clear that as long as participants did not know what chiropractic entailed and as long as they feel uneducated and have a lack of knowledge regarding chiropractic treatment for children, they would be hesitant to utilize chiropractic. This is in keeping with research conducted by Burke *et al.* (2015), Cambron *et al.* (2007: 11-16) and Jean and Cyr (2007: 138-141) which suggested that a lack of knowledge and understanding results in the underutilization of CAM therapies such as chiropractic treatment.

4.2 Participants Understanding Regarding Chiropractic Treatment of Paediatric Patients

The participants showed similarity in their understandings of chiropractic treatment for children yet they had various degrees of understanding regarding chiropractic treatment in general. The previous section identified what the participants felt they knew about chiropractic treatment; this section will identify how much they understood about chiropractic treatment for children.

The 13 participants' understanding regarding chiropractic treatment for paediatric patients, relating to what chiropractors do, the utilization of chiropractic treatment for paediatric patients and understanding of what chiropractic treatment involves for paediatric patients, will be described under the following headings:

- 4.2.1 Understanding of what chiropractors do
  - 4.2.1.1 Joint and muscle treatment
  - 4.2.1.2 Chiropractic treatment for paediatric patients
- 4.2.2 Understanding of the utilization of chiropractic treatment for paediatric patients -Treatment of posture
  - 4.2.2.1 Treatment of trauma, injury, overuse and nerves
  - 4.2.2.2 Dynamic change of the paediatric patient
  - 4.2.2.3 Treatment of the young
- 4.2.3 Understanding of what chiropractic treatment involves for paediatric patients
  - 4.2.3.1 Treatment protocol
  - 4.2.3.2 Movements and stretches

4.2.1 Participants' Understanding of what Chiropractors do

Although comparable, the thirteen participants that were interviewed had different levels of understanding regarding chiropractic treatment for paediatric patients.

4.2.1.1 Joint and Muscle Treatment

Eight participants mentioned that chiropractors would click bones, reposition, re-align or manipulate bones.

"I really don't understand a lot about it at all and I might even be wrong in what I do think or understand, but from what I have gathered is that manipulation of the bones, I don't know if it has anything to do with muscle, but I have heard that it is bone related, and a lot of it is spine related … spinal related and getting the vertebrae in alignment. That's about all that I think I know." [Participant Five]

"Basically what I understand is, it has something to do with the bones. …" [Participant Six]

“I imagine that they are manipulating the muscles and the bones and the child’s back.” [Participant Nine]

“I'm guessing that it is manipulation through the pressure, through your hands. You are putting pressure at certain areas in order … initially feel where the bones are supposed to be and if they're not in those positions then manipulating them back into the correct position.” [Participant Nine]

Four participants also mentioned that this change applied by the chiropractor may result in the alleviation of stress. The participants mentioned that chiropractic treatment rectified or relieved stress and tension that was in the muscles. It was also understood that the stress may be removed from one area and placed in another area, thereby removing tension off the spine.

“… help you to relieve the stress and best to relieve the pain and help you forward to accomplish your goals”. [Participant Six]

“… I have never been to a chiro practitioner. I don't really know if it is in their hands, whether they massage you or whether they give you treatment.” [Participant Six]

“… manipulation of the body, to relieve pressure and things like that.” [Participant Ten]

“… the way I understand it is the releasing of pressure points and putting pressure somewhere else where it is needed to relieve symptoms or aches and pains. …” [Participant Ten]

Chiropractors are unable to physically move stress around the body. The participants seem to view “stress” or “tension” in the body as a tangible object yet this is not true. It is unclear whether participants have formulated these understandings on their own or whether they have been insufficiently/incorrectly educated. Chiropractors are involved not only in the treatment of paediatric patients through spinal manipulation or adjustment but their treatment may complement conventional medicine by doing thorough history-taking, physical examination, diagnosis and management of conditions (Davies and Fallon, 2010). Manipulation is the most common technique employed by chiropractors and this is performed on joints that have abnormal movement patterns and loss of range of motion. The aim of the adjustment is to remove the fixation/restriction or subluxation that may be negatively affecting neurology, myology, kinesiology and histology. This technique aims to produce optimum joint

function as well as reduce inflammation and discomfort caused by the restriction/fixation/subluxation (Spine-Health, 2015). Studies have revealed that manipulation affects the muscle spindles and reflex pathways resulting in a reduced stretch reflex, causing mechanical de-sensitivity resulting in improvement of symptoms (Clark *et al.,* 2011: 1471-2474). Participant Three mentioned that chiropractors specialize in the placement and formation of bones and she thus referred to chiropractors as "bone doctors". She also mentioned that chiropractors may also treat limbs and other areas that may require treatment, other than the back.

"I think they will probably look at the formation of the bones inside the body that it is correctly situated in the right places and yes, I mean, they're the bone doctors. They will probably look and see if the bones are all in the right places." [Participant Three]

"I do know that they specialize in your bone structure and all of that and they are more specialized working with bones with your body. So I think, because they are specialists in their field that they assist you with your … whatever you need done or require help with your back or your knee or whatever the case may be." [Participant Three]

Although this participant understood that chiropractors may treat "bones" she is indirectly referring to joints. She did not limit her understanding of treatment to only the spine; she also acknowledged that chiropractors may also treat limbs, referring to joints in the extremities. If an individual limited their understanding of chiropractic treatment to the spine only it may limit the scope of practice for chiropractors as many of their other abilities may be overlooked and not utilized (Talmage, 2007).

Participant Five explained that she knew what the spine looked like and she could visualize it while explaining her understanding. She mentioned that the spine is supported by muscles bilaterally which would formally relate to the para-spinal muscle bulk providing support from both sides. She went on to explain that a temporary change in posture or the favoring of one side may change the alignment of the joints as the muscles pull the bone that it is be attached to. She explained that this may lead to neck stiffness or discomfort in the body for which she understood a chiropractor would be able to improve this by re-aligning the bones. During spinal manipulation of joints, there is a temporary, rapid, partial, separation of the joint surfaces; in the spine this is specific to the facet joints and a rapid muscle stretch causing relaxation. There is also a release

of pressure between the intervertebral discs; these effects have been found to be favorable in relieving of pain (Mainges and Vautravers, 2003: 336-341).

“Well, I am picturing the spine, I know exactly what the spine looks like and I know that it is all supported by muscle. A lot of me is thinking that, you know when you sit funny or something like that and your alignment … you sit and your muscles perhaps favor one side it can actually pull the bones. Not completely out of socket but, it can move your bones and that can cause discomfort or stiffness or a painful neck or something, so I'm assuming that it's got to do with literally like pushing the pieces back together after what your muscles have done to perhaps pull them a little bit apart.” [Participant Five]

It is clear that the participants believe that chiropractors are literally able to permanently to change the position of joints. The participants keep referring to individual bones rather than joints. Although their understanding carries some merit the participants do not adequately understand how chiropractic treatment works and what the effect may be.

4.2.1.2 Chiropractic Treatment of Paediatric patients

Chiropractic has been described as "A health profession concerned with the diagnosis, treatment and prevention of mechanical disorders of the musculoskeletal system, and the effects of these disorders on the function of the nervous system and general health. There is an emphasis on manual treatments including spinal adjustment and other joint and soft-tissue manipulation" (World Federation of Chiropractic, 2001). Chiropractors make use of specific joint manipulation achieved by applying a controlled force that is of high velocity and low amplitude, to a body segment (Lisa and Bhaedwaj, 2003: 574-578; Mainges and Vautravers, 2003: 336-341; Picker, 2013). Chiropractic treatment of paediatric patients is not a replacement of conventional care but can serve to complement care provided by other health care practitioners (Davies and Fallon, 2010; Gleberzon *et al.,* 2012: 128-141). Chiropractic treatment of paediatric patients includes a detailed patient history, physical examination, and diagnosis of paediatric conditions as well as the management of these conditions (Davies and Fallon, 2010).

Chiropractors also make use of other modalities such as, dry needling, and interferential current and transcutaneous electrical current to treat the myofascial component, which may be either directly or indirectly related to the cause of pain

(Spine-Health, 2015). Pain within the myofascial component, which is treated by a chiropractor, can be described as the feeling of tension within the muscle. This may be why the participants made use of the word, “tension” as it is a feeling that they were able to relate to. Myofascial pain is initiated through the formation of myofascial trigger points. Microscopically there are changes that occur in the myofascial component at a cellular level, but globally it results in decreased muscle extensibility causing reduced range of motion (Forst and Ingerhorst, 2005).

It is also important to note that chiropractic treatment for children is gentler and treatment is not aimed in achieving an audible pop when delivering the adjustment. Evicence suggests that paediatric patients benefit from chiropractic treatment with more than 50% experiencing positive effects (Madsen *et al.,* 2003: 334-341; Alcantara *et al.,* 2010: 621-626; Gleberzon *et al.,* 2012: 128-141; Grasmo, 2012). Many of the participants assumed that treatment for paediatrics is equivalent to that of adults. However this is not true. Chiropractic treatment for paediatric patients includes spinal manipulation among other elements such as nutrition, massage, exercise and parental advice (Alcantara *et al.,* 2010). Chiropractic treatment for children is preceded by a thorough medical history and physical examination. The spinal manipulation is also applied using softer and gentler pressure and treatment is only applied when it is indicated.

As previously explained chiropractors make use of manipulation or adjustment in order to treat patients. Manipulation is applied to a specific joint and a controlled force of high amplitude is applied. This is done in a gentle manner and is often accompanied by an audible popping sound, often confused with a joint that clicks (Lisa and Bhaedwaj*.,* 2003: 574-578; Mainges and Vautravers, 2003: 336-341; Picker, 2013). This is actually the release of nitrogen gas between two joint surfaces (Fawkes, 2012). This popping sound may be why participants described chiropractic treatment as the clicking of bones, however this concept is commonly misunderstood as bones grinding together.

There is research to support that this audible sound is not necessary in order for there to be a therapeutic effect after an adjustment. Other theories suggest that treatment is beneficial as trapped intra articular synovial folds and meniscoids are released during an adjustment (Fawkes, 2012). The reflex relaxation of hypertonic muscles that occur after an adjustment may also be a reason for therapeutic effects due to the initiation of the pain gate and mechanoreceptor stimulation. Breaking of adhesions between joint

surfaces may also be associated with therapeutic effects after an adjustment (Fawkes, 2012).

Chiropractors are able to do additional paediatric treatment training through KiroKids in Australia run by Neil Davies, as well as a course in the United Kingdom run by Joyce Miller. Although chiropractors may have done these courses they may or may not refer to themselves as paediatric chiropractors. These courses are additional and optional. At the Durban University of Technology, fifth year chiropractic students study the treatment and diagnosis of paediatric patients as part of their scheduled syllabus (Korporaal, 2015).

4.2.2 Understanding of the Utilization of Chiropractic Treatment of Paediatric Patients

4.2.2.1 Treatment of Posture

Participant Two explained that a child may develop postural problems after carrying a heavy object, for instance a school bag, for prolonged periods. She explained that this change in posture may result in the development of back and shoulder problems for which the child may require chiropractic treatment. She understood that chiropractors may thus be able to assist in the changes of posture; this view was supported by participant Three. She also acknowledged that a change in ergonomic factors may be useful in assisting in the treatment of such conditions.

"… like the bag she has to lunge around to all the different classrooms, up and down the stairs, is not good for her because the weight, and I have noticed already that her back seems to be like bending, and I am telling her that she mustn't use the bag on the one shoulder because she might need treatment of some kind of. … She might have back problems or shoulder problems, and we, my husband and I were talking about it. Maybe we must get her a bag that rolls, because in the long run. …" [Participant Two]

"… she might have to go for treatment then if she has problem with her back." [Participant Two]

"I think it could be very helpful. Maybe, if they are limping for some reason, or if their posture isn't very good, or maybe, not correct." [Participant Three]

Chiropractors have often been involved in assisting in the management of posture problems, in conjunction with changes in lifestyle and ergonomic factors (The National Bone and Joint decade, 2011). Participants are displaying more concern regarding the heavy luggage that children carry to and from school and research shows that heavy school bags are often associated with the development of back pain and musculoskeletal disorders in children (Hundekari *et al.,* 2013: 71-75). Children that carry heavy objects like school bags have been shown to have a change in shoulder level over a prolonged period, as well as to be predisposed to the development of scoliosis as their spines are growing and susceptible to injury (Lavigne, 2014: 1156-1158). Chiropractic treatment may be utilized in the treatment of scoliosis in children (The National Bone and Joint Decade, 2011).

4.2.2.2 Treatment of Trauma, Injury, Overuse and Nerves

Apart from the development of stress within the body, participants also discussed other causes of pain. The most common aspect mentioned was through trauma. Injury may occur in utero, through the birthing process as well as neonatal injury, falls, accidents, sports injuries, emotional dysfunction, chemical and toxin contact and overuse (Chiropractic Child Care, 2015). Participant Two mentioned that children are involved in sport at school and this may lead to excessive running. She related this overuse to the development of pain. She also mentioned that sport injuries may occur which may cause pain, e.g. knee pain, for which chiropractic treatment may be needed. Overall eight participants mentioned that chiropractic can be utilized once someone has been hurt or injured.

"… And for children, people that are involved with sport, that lead … like children now days, like in this school here we do a lot of hockey and netball and volleyball. My daughter, the one that is here now, she is always complaining of knees, knee problems. Because I think like they run around too much, she is only twelve but she is always. … I've had to buy knee guard for her because she is always paining, and I don't know whether children run around in bare feet if somewhere along the line, that I might be some kind of problem, that it gives a knee problem." [Participant Two]

"… a child maybe had a fall or and maybe hurt the bone in a certain way and the chiro practitioner will definitely put you in the right direction. …" [Participant Six]

Overuse has been linked to a source of pain, also known as shin splints and medial stress syndrome. The condition is initiated through overuse of the muscles in the lower limb. This may result in pain along the shin and be sensitive to touch. Children may be more prone to the development of shin splints as they are still growing and epiphyseal growth plates have not yet fused (Haymarket Physical Therapy & Chiropractic, 2015). Children may also develop growth pains which may also cause leg pain. Chiropractors may provide successful treatment for shin splints, overuse and growth pains (Hewitt, 2002: 14-17). Chiropractors may be able to assist in growth pains while they assist in the management of the muscular component of the pain.

Participant Three explained that pain may also be related to nerves that may be, “stuck” and chiropractic treatment will alleviate such pain. Formally this is known as nerve root entrapment, and radicular pain (Haldeman, 2005).

“Well there was a nerve that was stuck, in one of my. … Whatever, at the back, that caused my ankles to be numb every morning when I woke up. I went for about 3 or 4 treatments and it was resolved”. [Participant Two]

However, true radicular pain is not clinically common. Patients often speak about nerves being stuck but this is commonly misunderstood and patients are often left uninformed. It is important to note that radicular pain does not commonly occur in the young child and only becomes more prevalent as the adult ages and undergoes trauma and degeneration, informally known as “wear and tear”. This condition is not relevant to the treatment of paediatric patients.

Hewitt (2002) explained that new born babies may obtain subluxations through intrauterine positions and through traumatic birth whether natural or caesarean. A subluxation may have a negative effect on kinesiology, myopathy, neurology and histology. The nervous system is easily affected by changes in the system thus a subluxation may result in pathophysiology. Dysfunctions that occur in the spine may have an effect on the function of certain nerves which` may result in disease. According to Hewitt (2002) this may result in changes in the hypoglossal nerve, which results in changes in tongue motion which may in turn affect nursing. When the vagus nerve is affected it may result in changes to the digestive tract. This may thus lead to gastrointestinal changes, such as irritable bowel syndrome also known as colic (Hewitt, 2002).

Participant Nine explains that treatment for children would depend in the situation and the condition and the events that would have led up to the treatment. She mentions that chiropractic treatment may assist “windy, colicky” babies. Although she does not understand how it works.

“It would depend on the … the situation. If it was very stressful and if it is a windy baby, I mean that's from very little. It would obviously take me a couple of months to get to the point of actually realizing that there is a major problem. So, probably nine months, six months, nine months, yes, just depending on how bad it is. I mean if your kid is screaming all the time your nerves are a little shattered after a couple of months. Yes, it would really be determined by the situation.” [Participant Nine]

Hewitt (2002) and Kent (2002) explain that removal of the subluxation that may be negatively affecting the child’s pathophysiology may assist in the relief of these types of conditions.

Hewitt (2002) discussed that by correcting vertebral subluxations the neonate’s nervous system is able to function without disturbance. This is where wellness therapy is appreciated. Wellness care does not wait for full blown disease before care is given. Wellness care is given at intervals in order to reduce negative stimulants on the body. This is supported by Hewitt (2002): “Wellness chiropractic may be about removing any stress that may be on the nervous system in order to allow optimum function but does not correspond to alleviating a ‘stuck nerve’ as understood by the participant.”

Participant Seven, who had never had any experience or exposure to chiropractic, explained that chiropractic may have been able to assist her child in pain relief if she had taken her to a chiropractor after she was born with a broken clavicle. She also explains that chiropractic treatment could have assisted in pain relief of her eldest daughter after her motor vehicle accident in which she sustained a neck injury.

“… she is born with a broken bone, here by the clavicle bone. Maybe if I took my child to … to a chiropractor, maybe she could help to live a better life, to survive and to lose her pain. Although it would be removing the pain it will try to survive.” [Participant Seven]

“… like one of my child was involved in a car accident, she had a hard time. Sometimes she cried, she is crying with the cramps, pain, she can't walk a long distance. I think

when, if I took my child to the chiropractic treatment, maybe she can help." [Participant Seven]

Chiropractic treatment has been shown to be successful in the treatment of pain. Children may benefit from chiropractic treatment as children are exposed to many physical stresses and stimulants in the process of growing up. Whether it is from birth (congenital), falling or car accidents these incidents result in subluxations. Subluxations can result in myopathy, kinesiopathy, neuropathy and histopathy for which chiropractic treatment may be needed. Chiropractic treatment will assist in maintaining optimum function of the neuro-musculoskeletal system post trauma as well as managing pain. Chiropractors are not able to treat fractures however they are able to manage dysfunctions that may have arisen from conditions such as these. This view was supported by Kent (2002) who reviewed work done by McMullen (1991) who studied the stresses of childhood and the role of chiropractors in the treatment of children.

4.2.2.3 Dynamic Change of the Paediatric Patient

Participant Nine did not understand why a child might need chiropractic treatment other than after physical trauma as she did not understand why there would be any growth abnormalities for which treatment may be needed. Participant Three and Ten also make reference to the understanding that children may need treatment after they have sustained physical trauma, as they understood that physical trauma may result in mechanical change that they believed a chiropractor may be able to treat.

"I am just trying to think why they would use it for children, I mean that never … why would their bones the growing incorrectly, why would their … obviously if they are older, I can't imagine why a kid would need it. Unless they'd been in a car accident, or they've fallen off a jungle gym or they've through some kind of physical injury, they'd been through some kind of physical injury somehow. Yes." [Participant Nine]

"I think maybe in injuries, sport injuries or if they have taken a fall off a jungle gym or something, something like that and they need treatment. …" [Participant Three]

"… Well, I assume, like I just assume that if your child is hurt and you're referred to a doctor, to a chiropractor, that they could assist." [Participant Three]

"… I also know that their bones can take a lot more when they are younger because they are crawling and they fall easily and things like that." [Participant Ten]

Children undergo dynamic change as they grow starting from within the mother's womb, to neonate, toddler right up until adolescence and adulthood. As the fetus grows within the womb the space becomes restricted as the fetus is subjected to increased pressure forces. During birth, whether through the natural passage or caesarean birth, the neonate undergoes physical trauma. As the child grows the child undergoes dynamic changes as the spinal primary and secondary curves are formed, followed by falls and injuries. The child may also be affected by medication, nutrition as well as environmental factors, all of which stimulates the neuro-musculoskeletal system. It is also important to note that treatment for any patient is dependent on the situation and specific to the patients' needs (Hewitt, 2002; Mortazavi *et al.,* 2011).

Participant Five understood that one may undergo many changes in daily life which may result in the need for chiropractic treatment. She applies this analogy to children in order to motivate why children may need chiropractic treatment, as children undergo many changes while growing.

"… I will be quite prepared to send my child or whatever if it was necessary because I believe there is a place for it, otherwise there wouldn't so many of them out there, and I think with our daily life, our bones can move and you know, maybe need a bit of alignment every now and then." [Participant Five]

Chiropractic treatment is being used by more and more participants for the treatment of their children. Paediatric chiropractors are not there to replace the position of the paediatrition but rather to work in conjunction with the paediatrition to benefit the child. The paediatrition manages, coordinates and oversees paediatric care. Paediatricians are involved in the care of the paediatric patient from the diagnosis and all aspects of paediatric treatment (Shugerman *et al.,* 2013). Chiropractic for paediatric patients is used to complement such treatment to enforce wellness and optimum function (Hewitt, 2009).

4.2.2.4 Treatment of the Young

When the participants spoke about paediatric patients they referred to them as fragile, delicate, with brittle bones that are still in the process of growing and maturing. They

were unsure of how a chiropractor will treat a child that is fragile and delicate. They however explained that they understand that if a condition was treated earlier in childhood there may be a greater chance of success whereas, if treated later the condition may be harder to rectify. Participant Four explained that although she understood that babies are fragile that they are supple and easier to treat earlier on in their life.

"… because they are tiny and you think of them as being fragile, and you know. But, no because I do believe that if they are younger they are more supple and it's easier to treat earlier on than to later on because then it's probably a lot more treatments to it." [Participant Four]

This was supported by participant twelve who mentioned that the sooner the problem is dealt with the better, as according to her, a child's bones are not as strong as an adults' bones.

"When they're still kids, and young. The bones are not as hard as ours. …" [Participant Twelve]

"… I think because their bones are still young and not sore, compared to mine. Mine … I believe in children it can be treated." [Participant Twelve]

However participant Five and Nine mentioned that they would expect that the child would be in pain after the treatment and they viewed this as part of the process.

"Apparently that is half the objective. …" [Participant Five]

"I guess afterwards, there might be physical pain because your body has been adjusted and has been changed from what it has been in. Obviously, for quite some time. I think physically you'll feel very uncomfortable thereafter … after going for a treatment. But in time, I guess you'll feel better. So, no pain no gain, kind of thing." [Participant Nine]

Chiropractic treatment for children has been described as highly specialized and gentle. One of the major benefits of chiropractic treatment is that it is completely drug and surgery free (Hewitt 2012: 24; Clare 2005). Along with the high utilization rates of chiropractic treatment for children and the low rates of side effects, chiropractic has been described as safe (Hewitt, 2012: 24). Most side effects that occur are minor has and have been reported to resolve within 24 hours (Hewitt, 2012). More than 50% of

children that are treated by chiropractors experience positive effects, thus chiropractic may be of benefit to this population (Madsen *et al.,* 2003: 334-341; Wyatt, 2009; Gleberzon *et al.,* 2012: 128-141). Miller (2008) reported that 85% of paediatric patients treated improved, 15% showed no change and 1% had an adverse reaction. A Danish study revealed that a fear of adverse effects alters the rate of chiropractic treatment utilization for paediatric patients (Birdee *et al.,* 2010). Humphreys *et al.* (2009) reported no serious side effects of chiropractic treatment for paediatric patients; he does however mention that more research is needed in this field of study. Doyle (2011) mentioned that there have been no serious adverse effects reported from chiropractic care for children since 1992. The author explains that chiropractic care performed within the outlined framework is safe with one in 100/200 patients experiencing minor side effects of irritability, post treatment discomfort and crying which may resolve within a day with no need of further medical intervention.

Although most of the participants may lack complete understanding, Participant Eight and Thirteen explained that they needed further information as they felt that they had a lack of understanding. Participant Five suggested that the understanding of other health care workers needs to be increased, so that they can notify participants about all the treatment options available to them, like chiropractic treatment.

"… doctors need to understand more and I think doctors need to refer more people, more parents, talk to more parents about it. If they see a child that could perhaps benefit." [Participant Five]

4.2.3 Understanding of what Chiropractic Treatment Involves for Paediatric Patients

4.2.3.1 Treatment Protocol

Participant Three and Four mentioned that a series of treatments may be needed in order to rectify a problem, with participant Three explaining that treatment would depend on the situation.

"… if you have had an injury or if you have a bone problem and then they can sort you out with a couple of treatments." [Participant Three]

"… Yes, I don't know exactly what it involves but, I figure that it is more than one appointment. You've got to go for a series of them, you know. Depending, on what the situation is." [Participant Four]

Treatment protocols vary as per the patients' needs and situation. There is no one set treatment protocol or a set number of follow up treatments. These are altered to the patients' needs as well as their recovery and response to treatment (Spine-Health, 2015). These participants are correct in mentioning that more than one treatment may be needed in treatment, depending on the situation.

4.2.3.2 Movements and Stretches

Participant Four also understood that treatment would involve movements and stretches.

"Well obviously it is a lot of specific movements and stretches." [Participant Four]

As mentioned earlier in this chapter, chiropractors assess ranges of motion to determine which area needs to be treated. Chiropractors often make use of stretches and prescribe stretches for patients to do at home but treatment is comprised of more than just movements and stretches (Gleberzon *et al.,* 2012: 128-141; Verhoef and Papadopoulos, 1999: 50-57).

Participant eleven mentioned that chiropractic treatment may assist in increased mobility and also assist children in motor development.

"… when they little, often parents taking them if they … especially if they naturally born because often with the effects of that, they are often stiff, or they are slow and the find that that actually helps them with mobility; rather than anything else." [Participant Eleven]

As previously discussed chiropractors may assist in increasing joint range of motion as well as muscle extensibility by treating both the muscular and skeletal components (Forst and Ingerhorst, 2005; World Federation of Chiropractic, 2001).

All the participants reinforced that they did not have enough information regarding chiropractic treatment as well as a lack of understanding. One participant mentioned that she had no understanding of chiropractic treatment for children. A lack of understanding of chiropractic treatment by adults may lead to the underutilization of

chiropractic treatment by participants. This view is supported by Burke *et al.* (2015) who mentioned that a lack of knowledge and understanding of CAM therapies is one of the main causes of underutilization.

4.3 Participants' Perception of Chiropractic Treatment for Paediatric Patients

The participants had different perceptions of chiropractic treatment for children, The participants' perceptions were affected by what they had heard about chiropractic treatment and also their level of exposure to chiropractic. Their level of understanding and their knowledge about chiropractic treatment also affected the way they felt about chiropractic treatment for children and their overall attitude.

4.3.1 Participants' Perception of Chiropractic Treatment for Paediatric Patients

4.3.1.1 Parental perception regarding the utilization of chiropractic treatment for paediatric patients

4.3.1.1.1 Exposure, experience and familiarity

4.3.1.1.2 Concerns regarding treatment outcome

4.3.1.1.3 Cost factor

4.3.1.1 Parental Perception Regarding the Utilization of Chiropractic Treatment for Paediatric Patients

4.3.1.1.1 Exposure, Experience and Familiarity

All the participants that were interviewed had never used chiropractic treatment for their children before but the participants had different levels of exposure relating to chiropractic treatment. Exposure, prior experience and familiarity have been shown to have an effect on perception (Moreland and Zajonc, 1982: 395-415). Participant One and Two had a lack of exposure to chiropractic treatment for children. This led to these participants being unaware about chiropractic treatment for children as well as feeling unsure. Participant One mentioned that the interview was one of the first times that she had properly heard about chiropractic and also discussed chiropractic. She felt unsure and mentioned that she has heard that chiropractic may be beneficial to adults but she is unsure of the effect it may have on children.

"I've heard about the word chiropractic but I've never had the need for me to go to a chiropractor." [Participant One]

"Just people – basically talking, just talking and mentioning, but really they don't discuss it." [Participant One]

"Ok, so children I am not really sure but for adults I think it is really good. I mean I know some who go and get treated – you know they – after that they are much better, but in children I would suppose it is a bit dark, I mean I don't know." [Participant One]

"…personally, but for my children, I have not had any exposure or I didn't know that children could go for this kind of treatment. I thought it was only for like adults". [Participant Two]

"… I didn't think that children might need something like that. ..." [Participant Two]

Participant Four knew someone who was a chiropractor and she heard that chiropractic was beneficial.

"I know someone who is a chiropractor." [Participant Four]

"… apparently it is very good." [Participant Four]

Other participants that were exposed to chiropractic by either a friend, sibling or spouse mentioned that they heard chiropractic was beneficial and helpful for certain conditions but none the less would be hesitant to utilize chiropractic for their own children as they felt that they did not know enough about chiropractic, what the treatment would involve and the outcome of the treatment. Studies have shown that utilization of chiropractic treatment commonly occurs due to "word of mouth", leaving room for development of myths regarding chiropractic care for paediatric patients (Jean and Cyr 2007). Experience and familiarity has been shown to affect ones perception (Moreland and Zajonc, 1982: 395-415). It is for this reason that participants need to be exposed to chiropractic treatment, even if it is through information leaflets, talks and education. This could help to inform participants as well as have a positive effect on their perception. Pohlman *et al.* (2010) mentioned that participants who do not make use of chiropractors for themselves may have a lack of knowledge and understanding regarding chiropractic as well as a negative perception regarding chiropractic treatment for paediatric patients.

4.3.1.1.2 Concerns Regarding Treatment Outcome

Despite what the participants had heard about chiropractic, most of the participants were concerned about the outcome of the treatment. Some participants mentioned the fact the treatment is physical and they were concerned about the treatment being painful as well as the child feeling pain after the treatment. Participant Three was concerned about the amount of pressure that may be utilized during the adjustment, the "realignment of bones" and the adjustment itself. Participants Four, Eight, Nine, Ten and Eleven shared this concern.

"I don't know, maybe for a little child, the pressure that they use when they adjust, or something like that, with the bigger kids I don't think … I don't know, maybe I am unsure because of the adjustment." [Participant Three]

"… if too much pressure maybe was used on a child it could have negative influence or effect." [Participant Three]

"I don't know but I think the clicking of bones scares me. I don't know, yes and I don't know if it is good for my child and all that. I don't have much information about it." [Participant Eight]

"My concern would possibly be the strength of … the strength of the person that was working on my kid. So, if it was a big guy, with all these big muscles then on my little kid. Please don't apply too much pressure; that would be my greatest concern." [Participant Nine]

"Not to put too much effort into the manipulation." [Participant Nine]

"Clicking as in to what degree, click it's broken or. ... Yes, if it is just clicking the back in, type of thing; if that helps. But a new born baby I don't know. I might be a bit nervous about that." [Participant Ten]

Surveys conducted in Europe revealed that overall chiropractors reported to be using less pressure and speed when applying an adjustment to different age groups and children (Grasmo, 2012). They also reported that their pressure varied with the age of the children as well. It was reported that pressure equivalent to that applied to an adult was utilized with teenagers; however treatment was dependent on the patient and the specific situation (Grasmo, 2012).

All 13 participants showed concern regarding the outcome and effect of the treatment with two participants mentioning that they would fear that the child may suffer permanent side effects after the treatment. The words used to describe how they felt were “nervous”, “scared” and “concerned”. More than half of the participants felt that if they knew what the treatment involved and they knew the treatment may be beneficial for their children they would utilize chiropractic treatment. Controversy exists regarding parental concerns involving adverse effects of chiropractic treatment in paediatric patients (Jean and Cyr, 2007: 138-141). This is very important as research show that a fear of possible side effects is one of the main reasons that participants choose not to utilize chiropractic for their children (Gleberzon *et al.,* 2012: 128-141).

The participants explained how their parental instinct resulted in them only wanting the best for their child and this may affect their perception. This motherly instinct may be the cause of their concern and the need to want to know both the pros and cons of treatment before utilization. Participants that are unaware of the treatment, and have not been exposed to chiropractic treatment and do not have the resources to learn more about it, would rather refrain from utilization of chiropractic treatment rather than risk an unknown outcome. Participants were very interested in the outcome of the treatment and felt that if they knew what the outcome would be and what the treatment would involve they would be open minded about utilizing chiropractic for their child. Participant Four mentioned that she would be nervous to take her child to a chiropractor for treatment. She explained that if the situation was to present itself she would want as much information regarding what the treatment would involve and what the outcome may be. Once she understood what the treatment would be like and when it would be indicated then she would be willing to utilize chiropractic treatment for her child.

“... But I think you know, faced with a situation and I could get explained more about it on the particular treatment and the specific treatment needed for my particular child and find out everything I could. …” [Participant Four]

European studies reveal that although the incidence of paediatric chiropractic is increasing there is a low rate of negative side effects (Grasmo, 2012). This view was supported by Hewitt (2012: 24) who found that there is a low rate of side effects that occur in relation to the high frequency of chiropractic treatment utilization. Due to the

low rate of side effects chiropractic treatment is viewed as a safe and effective form of treatment.

“It's the outcome. The outcome is very important because as a mother you always … you want the best for your kids. So the outcome as a mother, you not sure about it. You have to know therefore the outcome, the reality is that you want so know. So I am scared of the effect that you will get, but you must be positive.” [Participant thirteen]

Although most of the participants expressed concern about chiropractic treatment and some were reluctant about the utilization of chiropractic treatment for paediatric patients, none of participants were against, or had anything negative to say about chiropractic treatment. Their statements were followed by the fact that they felt uninformed and thus cautious.

“Positive, like I said it is good for them, but negative I am not sure because I really don’t know if it harms or pains the children. …” [Participant One]

“Because I didn’t know that children could be sent to chiropractic treatment in the first place and I think with your children you always a bit over protective and thinking twice before you do something, unless you are referred to a specialist by another doctor. But I think if I was referred to a chiropractor by another doctor that would make me feel better but out of myself I wouldn’t normally have thought about going to a chiropractor.” [Participant Three]

“... But I think you know, faced with a situation and I could get explained more about it on the particular treatment and the specific treatment needed for my particular child and find out everything I could and you know, I get referrals and you know, people that have been. Sure. I am not saying that I am against it, but I would need to know a lot more about it.” [Participant Four]

“I don't have an issue with it or negativity towards it because I have never tried it and I have never heard anything about it. If it was suggested for my son to have it I would take him.” [Participant Ten]

More than half of the participants mentioned that they did not have negative feelings towards chiropractic and it was also mentioned that although some had heard positive feedback regarding chiropractic treatment for children they still felt unsure about chiropractic treatment as they did not have enough information regarding chiropractic

treatment for children. Phillip (2008) found similar results in pregnant mothers, although they mentioned that they were not against chiropractic treatment they wouldn't utilize the treatment in their pregnant state or for their children as they did not know enough about chiropractic treatment.

"Knowing as little as I do right now, yes, I'd definitely be hesitant." [Participant Four]

"Honestly, if it is a necessity and it can get your child back to where he or she should be, then yes. You know, as long as you have enough information on it. You know, as a parent you want to do everything you can to help your child." [Participant Four]

"I think it could be a bit of a controversial topic, because, I don't think people know too much about it. I think they know about what they hear about it and they have probably been there and their friends have had their necks done, or whatever, but I don't think … I don't think, I don't believe a lot of children have gone to a chiropractor because they don't really … or many adults have actually thought of that. As babies maybe, some of them might have taken them for colic in babies, but in young children I don't know. Maybe the parents don't feel that it could be anything muscular related at this age, or something, but there is definitely not enough talk about it. I don't know any of my friends who have taken their young children, twelve and under to a chiropractor. Physio, yes but never … I don't know anyone who have gone to a chiropractor." [Participant Five]

"I don't really know enough about chiropractic, you know; whether it would work for children or not. I would be reluctant to take a small baby because it sounds like it could be painful, and I can imagine it is painful for an adult that it would be very painful for a baby. But I don't really know much about … especially not about chiropractic for children." [Participant Ten]

Participant Eight mentioned that Zulu speaking communities may underutilize chiropractic treatment for paediatric patients due to a lack of knowledge, understanding and possibly a perception of fear regarding chiropractic treatment as well as lack of access to chiropractors. Taverner (2011) discussed that culture may have an effect on the utilization of CAM. Research indicates that the Black African community in South Africa underutilizes chiropractic treatment due to lack of exposure, knowledge, understanding and varied perceptions (Peltzer *et al.,* 2008). This population may also have a lack of access to chiropractic treatment as a large sector of this population

(80%) live in rural areas (Pelzer *et al.,* 2008; Taverner, 2011). It is thus important for the profession to address the knowledge, understanding and utilization of chiropractic treatment for children within this population in order to increase chiropractic awareness.

"Yes, they don't know much about the diseases because no one is talking about it, even in the community." [Participant Eight]

"Yes, they don't talk much about the diseases and all that. I don't if they are scared or what, I don't know. Only if we can get people to come; yes and tell us more about it." [Participant Eight]

The participants added that if they knew that the treatment was going to be beneficial and if the treatment was going to be efficient they would be willing to utilize it for their children.

"I think like I have said, I think it is good to go for that and it helps to have good health and maintain a healthy and fruitful life, you know what I mean, like I don't want to be paining and with pain all the time. If chiropractic treatment can help lead a better and longer life then I would by all means do it." [Participant Two]

"I feel that if a child has a problem and if the chiro practitioner is going to help the child then, hundred percent." [Participant Six]

Four participants felt that if they were referred by someone they trusted to go to a chiropractor they would be more willing to utilize chiropractic treatment for their children. They felt that referral by a friend, spouse or medical practitioner may increase parent's confidence in chiropractic treatment. One participant mentioned that she would prefer taking her child to an older practitioner with more experience compared to a newly qualified practitioner.

"If it was necessary, if the doctor had said you know … If it was absolutely necessary that my child had chiro. I would probably do the age from where I could probably explain." [Participant Five]

"When you take your child, it is better if there is maybe a family doctor unlike a person that … or a doctor that you have been with, said … or a relative or a friend so that it's someone that you don' know." [Participant Thirteen]

“I think the old one. The old one ... simply, because of the experience.” [Participant Thirteen]

Three participants felt that they would prefer taking their child to a chiropractor at an age that they would have more understanding and also be more aware of their surroundings. One participant mentioned that if the child was too young and did not understand what was going on, and possibly why the treatment felt uncomfortable then they would not want to go back to the chiropractor for follow up treatments or possibly develop a fear of chiropractic treatment.

Integration has been shown to have an effect on perception (Myburgh and Mouton, 2007: 207-211). Although many participants mentioned that there is not enough information available regarding chiropractic treatment thus causing them to not have a set opinion about chiropractic. Participant Five mentioned that medical practitioners may need to be educated regarding chiropractic to not only inform participants about alternative treatment options but also increase inter professional referral. Participant Thirteen also made reference to the lack of resources available in health care venues that educated participants. In order to change the perception of participants these points may need to be changed.

“I think doctors need to understand more and I think doctors need to refer more people, more parents, talk to more parents about it. If they see a child that could perhaps benefit. But I think the doctors need to be educated as to why they would refer a child to a chiropractor, but I think parents need to know what the benefit would be. Is it only for a car accident or is it only for a injury or a … I think definitely, get the word out there. Get doctors, get them educated to then educate us.” [Participant Five]

If participants can be given the information that they desire regarding treatment options, what treatment would entail as well as the outcome of the treatment they may be able to make an informed and educated decision regarding treatment options for their children. Participants should have perceptions that are based on knowledge and understanding rather than hearsay so that they are able to make informed decisions regarding the utilization of treatment options.

The profession has thus far met many challenges in order to have chiropractic treatment gain acceptance from other health care professionals. Although this integration has improved, the general public at large is often left confused and

frustrated (Myburgh and Mouton, 2007: 207-211). It is important for chiropractors to establish a set inter-professional relationships for the benefit of both the profession and patients. In order to achieve optimum levels of patient care there needs to be interaction between all health care professionals (Brussee *et al.,* 2001: 12-16). If there is a deficiency of communication between all health care workers it may result in distortion of treatment protocols and patients may also discontinue treatment regimens (Mainous *et al.,* 2000: 446-450). If the profession does not achieve this public awareness, its integration into the primary health care system of South Africa may be restricted (Myburgh and Mouton, 2007: 207-211).

4.3.1.1.3 Cost factor

Participant Two felt that the cost factor related to chiropractic treatment may restrict her from utilizing chiropractic for her children.

"I don't know, personally for me, with all the things I know that can be good for me, I would go for it. Obviously the cost factor might be a concern for some parents, because I don't know whether the medical aid covers that kind of treatment, but if they do then I think then we must take full advantage of it." [Participant Two]

"Also now with the medical aids as well, my husband's an educator and I am part of the school here, our medical aid is "omitted" medical aid, and, you know it is government subsidized, so they restrict us in certain things. So with the cost factor involved that has restricted me. I suffer a lot with like I said here on my shoulder, but I am not making it a priority to go because of the cost factor." [Participant Two]

Chiropractic has been shown to be more cost effective in the treatment of neuro-musculoskeletal conditions when compared to costs of treatment given by other medical practitioners (Manga, 2000: 118-122). A retrospective cost comparison study conducted in South Africa revealed that chiropractic treatment costs compared favourably to that of treatment provided by general practitioners and physiotherapists when treatment was applied in the early stages of a condition. Manga (2000: 188-122) also added that medical care costs were high as it often leads to specialist referral and medical investigations and hospitalization (Hawley, 2009). In South Africa chiropractic treatment is the most commonly used form of CAM. Chiropractors have developed professional relationships with medical schemes and are funded by most medical aids in South Africa, with the total expenditure of chiropractic treatment being R446 million

in 2006 (Gqaleni *et al.,* 2007). Chiropractors make use of diagnostic coding (ICD-10 codes) to claim funds from the medical aid schemes. The Board of Healthcare Funders (BHF) allocates practice numbers so that medical aid schemes can identify them as registered practioners and disburse funds accordingly (Maharaj, 2015) All South African chiropractors are required to be registered with the Allied Health Profession Council of South Africa (AHPCSA), a statutory council which serves to protect the public interest

4.4 Conclusion

This chapter was made up of the results and discussion of interviews from 13 participants and revealed their knowledge, understanding and perception regarding chiropractic treatment for children. This chapter revealed that participants have varied degrees of knowledge, understanding and perception of chiropractic treatment for paediatric patients. Overall the participants displayed a lack of knowledge, understanding and perception of chiropractic treatment for paediatric patients.

CHAPTER 5 : EVALUATION OF THE RESEARCH, LIMITATIONS, RESEARCHER'S REFLECTIONS AND RECOMMENDATIONS

In the previous chapter the results were presented and discussed. This is the final chapter and comprises the evaluation of the research, limitations and the researchers' reflections and recommendations for further research and recommendations for the chiropractic profession.

5.1 Evaluation of the Research

This research was aimed at determining the knowledge, understanding and perception of parents regarding the utilization of chiropractic treatment for paediatric patients, within the Durban Metropolitan Area. The researcher chose to utilize a qualitative, explorative, and descriptive research design. The research question, aims and objectives were identified and discussed in the previous chapters. In the evaluation of this research it will be demonstrated how these objectives were met in the research.

Objective 1 was to determine the knowledge of the parents regarding chiropractic treatment for children. The parents that made up the participants of this research were from the Durban Metropolitan Area, Kwa-Zulu Natal. All the participants displayed an overall lack of knowledge regarding chiropractic treatment for children. The participants admitted to a reduced level of knowledge regarding chiropractic treatment. They had a lack of knowledge regarding what chiropractic treatment would involve for children and the conditions chiropractic treatment could be utilized for.

Objective 2 was to determine the understanding of parents regarding chiropractic treatment for children. It was concluded from the interviews that the participants had a restricted understanding of what chiropractic treatment for children involves, the conditions that could be treated by a chiropractor as well as how the treatment works. This lack of understanding led to parents feeling unsure about chiropractic treatment for children, and thus they were not willing to utilize chiropractic treatment for their children.

Objective 3 was to determine the perception of parents regarding chiropractic treatment for children. It was concluded that the participants did not have any negative perceptions or feelings regarding chiropractic treatment for children. None of the participants were opposed to chiropractic treatment for children but the lack of utilization was due to their fears of the treatment outcome and general lack of knowledge and understanding of chiropractic treatment for children.

Although the utilization rates of chiropractic treatment, for paediatric patients are increasing globally, chiropractic treatment for children remains a controversial topic (Clare, 2005; Gleberzon *et al.,* 2012: 128-141). Parents are the gatekeepers to consent of treatment. If parents have a lack of knowledge and understanding regarding chiropractic treatment for children they may have an altered perception of chiropractic treatment for children (Pohlman *et al.,* 2010: 26). A lack of knowledge and understanding of chiropractic may lead to underutilization of chiropractic treatment (Burke *et al.,* 2015).

As suggested by Doyle (2011: 97-105), a correlation may exist between the knowledge, understanding, perception and utilization of a certain treatment. This research showed that a lack of knowledge and understanding regarding chiropractic treatment for children led to participants not utilizing chiropractic for their own children as they felt unsure and fearful of the outcome of treatment.

This research stands as a contribution to scientific research within the chiropractic profession as it explored and described the knowledge, understanding and perceptions of parents regarding chiropractic treatment. This research resulted in the formation of new knowledge in the chiropractic profession. Not many studies have been conducted to explore how parents feel about chiropractic treatment, especially within qualitative research design. This study was specific to the Durban Metropolitan Area.

5.2 Research Limitations

While embarking on the conduction of this research, the researcher encountered challenges. The first challenge was the low response rate of parents to the invitation letters. The parents took a long time to respond and even though a sufficient number of parents responded to the invitations letters in due course, the number of responses was less than expected.

The researcher encountered schools that were not willing to assist the researcher in accessing parents at their schools. A few schools responded by mentioning that they did not allow research to be conducted at their school. Their responses were respected but other schools that were accommodating highlighted the importance of research in order to increase interest and awareness in tertiary education and research procedures.

Due to the nature of the research, all of the participants were females. This was due to mothers being more involved in school activities than fathers. This research did not aim to focus on demographics of the participants; this may have affected the results and may warrant further research into the relationship of demographics and knowledge, understanding and perception.

The research took place in the Durban Metropolitan Area. This limits this study as it only focused on a certain demographic area that may include people with similar amounts of exposure and experiences with chiropractic treatment. If the study was redone with people from different areas it may affect the results.

This research was conducted in order for the researcher to acquire an academic qualification. This resulted in limitations to the study in terms of both budget and time.

5.3 The Researcher's Reflections

The research reflections that will be discussed are subjective specific to the researcher's thoughts and feelings that were encountered throughout the research process.

The Department of Education was very helpful and knowledgeable with regards to granting the researcher approval to perform research at schools within the Durban Metropolitan Area. The extended time it took to process the documentation needed to gain approval placed strain on the researcher's projected timeline.

The contrast of school attitudes towards research affects research within our community. There were schools that were welcoming and helpful and encouraged the process of research as they acknowledged the importance of research within youth development. A few schools did not allow the researcher to explain the research to them and denied assistance before understanding the purpose of this research. Some

principals highlighted that the school environment should be in favour of research to increase the publics' interest and awareness in all types of education.

The research process allowed the researcher to develop research skills in interviewing and working with participants that had varied interests in participation and research. The researcher appreciated every participant and was thankful to all participants who volunteered.

The research process may be stressful, challenges occur and unforeseen circumstances may affect the performance of the researcher. It is for this reason that sufficient research support should be available to assist the researcher through the process. Research support should be made available in the library whereby the student may receive assistance with relevant documentation as well as be assisted in contacting the relevant personnel should a research problem arise.

5.4 Recommendations for Further Research and Recommendations for the Chiropractic Profession

In this section recommendations will be made by the researcher for further research as well as recommendations for the profession.

5.4.1 Recommendations for Further Research

Follow up research could be done in a few years to evaluate whether there is a change in the knowledge, understanding and perception of parents regarding chiropractic treatment. Future research could include the demographics of participants to evaluate the effect it may have on knowledge, understand and perception. Future research could explore the effect of different cultures and traditions on knowledge, understanding and perception of chiropractic treatment. The literature that was reviewed and the conclusions that were made showed that there is potential for further qualitative research to occur within the chiropractic profession.

5.4.2 Recommendations for the Chiropractic Profession

Overall the participants had a lack of knowledge and understanding of chiropractic treatment for children. It is the profession's responsibility to address this lack of education. Practitioners should educate their patients as "word of mouth" had been associated with chiropractic treatment utilization. The participants revealed willingness

to learn about chiropractic treatment but they felt that they did not have access to resources to learn about the treatment.

Recommendations were proposed by the participants to increase the amount of information available to parents regarding chiropractic treatment for children. It was also suggested that the education of other health care workers regarding chiropractic treatment needs to be increased in order to increase inter professional referral rates. It is important to make the correct information available to the public in order to minimise the spread of incorrect information and myths via “word of mouth” about chiropractic treatment.

Recommendations were made to distribute fliers with the containing the necessary information that parents may need before utilizing chiropractic treatment for their participants. Wellness days were also recommended in order to increase the general public’s knowledge, understanding and familiarity pertaining to chiropractic treatment.

One participant mentioned that the youth should be informed at a school level about chiropractic treatment so that there is increased interest in chiropractic as a career option.

5.4.3 Conclusion

In this chapter the objectives of the study was discussed and how each objective was met in this research as well as what each objective concluded. The researchers’ reflections, research limitations and recommendations for further research and recommendations for the chiropractic profession were discussed in this chapter.

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APPENDIXES

Appendix A: Letter to Principals

Dear Principal

Request To Do Research And Contact Parents/Parents

My name is Hughnique Cawood, I am doing my Masters in Chiropractic at the Durban University Of Technology. One of the requirements is to complete a dissertation through the university. I have chosen to do my research on the knowledge, understanding and perceptions of parents regarding the utilisation of chiropractic treatment for paediatric patients in the Durban Metropolitan area.

In order to conduct the research I will need participants. Would it be possible for me to send out invitations to participants with learners at your school in their homework books? These will be given to the parent to complete and reply to via a reply slip which I will collect from the school and then individually contact each parent that is interested. This will not interfere with the school and no contact will be made with the children. The identity of the participants will be kept confidential. The participants will be required to do an interview with me for approximately 20 minutes.

Your assistance will be greatly appreciated.

Yours sincerely

Hughnique Cawood _____ Date: _____

HOD Chiropractic _____ Date: _____

Research supervisor _____ Date: _____

Appendix B: Invitation to Parent to Participate

Invitation to Participate In Local Research

Dear Parent/Guardian

My name is Hughnique Cawood and I am doing my Masters at the Durban University of Technology. I am in the process of doing my research on the knowledge, understanding and perception of Parents/parents towards the utilisation of chiropractic treatment for children within the Durban Metropolitan area.

I need Parents/parents to conduct interviews of plus minus 20 minutes and I am searching for volunteers. As a participant you will need to be a South African citizen, chiropractic non user, be able to talk and understand English and be the legal parent/ guardian of at least one child of 13 years or younger.

Please note no interaction will occur with any minor.

Kind Regards

Hughnique Cawood
(Researcher)
For more information contact Hughnique Cawood (researcher) on 0837887833.

If you are willing to participate please fill in the tear off slip below:

I _____(name and surname) am willing to voluntarily take part in research investigating the knowledge, understanding and perception of Parents/parents towards the use of chiropractic treatment for children within the Durban Metropolitan area.
Contact number: _____

<u>Appendix C</u>: Participant Letter of Information

LETTER OF INFORMATION (Participant's copy)

Title of the Research Study: Knowledge, Understanding and Perception of Parents towards the Utilisation of Chiropractic Treatment in Paediatric Patients in the Durban Metropolitan Area.

Principal Investigator/s/researcher:

Hughnique Cawood (B.Tech Chiropractic)

Supervisor: Dr. Petro Basson (PhD Nursing)

Co-Supervisor: Dr. Praveena Maharaj (M.Tech Chiropractic)

Brief Introduction and Purpose of the Study:

The aim of this study is to determine the knowledge, understanding and perception of parents towards the utilisation of chiropractic treatment in paediatric patients in the Durban Metropolitan area. Chiropractic is the most commonly used form of complementary and alternative medicine (CAM) therapy, treating patients ranging from paediatric to geriatric patients. Chiropractic treatment for children remains a controversial topic as many misunderstood opinions exist. Negative or misunderstood opinions may affect the choice of

health care selected by parents for their child. At present, a lack of research internationally, nationally and locally exists regarding the perception, knowledge and understanding of parents towards the utilisation of chiropractic for children. Voice recorded interviews will be done with parents from the Durban Metropolitan area who are chiropractic nonusers and have a child of 13 years or younger. Randomised sampling of schools will occur and parents from these schools will be interviewed. As parents are the gatekeepers to consent of treatment for their child, this research may provide an insight to the perception, knowledge and understanding of the gatekeepers to paediatric chiropractic care.

Outline of the Procedures: Participants of this study will need to be South African citizens living in the Durban Metropolitan area and be recognized as the legal guardian of at least one child of 13 years or younger. Participants should be chiropractic non-users be able to speak and understand English. Part takers will be required to undergo an interview with the researcher that is an estimated 30 minutes in duration. The interview will be voice recorded and only the researcher and the participant will be present. All raw data will only be reviewed by the researcher, research supervisor and co-supervisor. The personal details of each participant will be kept confidential and an informed consent form will be signed before commencement of the interview.

Time, date and venue for the interview will be discussed upon between the researcher and the participant and the convenience of the participant will take into account. The venue will need to be in a safe and calm environment. Each participant will be granted the option of having the interview commence at the Durban University of Technology Chiropractic day clinic.

If at any point the participant wishes to withdraw from the study they will have the ability to do so immediately and information gathered from the interview will not be included in the study. No financial and material gain will occur as a result of participation. Participants are found via randomized sampling of registered junior and primary schools in the Durban Metropolitan area, parents of these schools then voluntarily choose to take part in the study. No children will be involved in the research.

Risks or Discomforts to the Participant: No risks or discomforts exist.

Benefits: None

Reason/s why the Participant May Be Withdrawn from the Study: There should be no reason why the participant may need to withdraw from the study as no risk or discomfort exists. If the participant however wants to withdraw they may do so.

Remuneration: No financial or material gain will occur by being a participant.

Costs of the Study: The participant will be expected to cover travelling costs to and from the chosen venue.

Confidentiality: Raw data will only be reviewed by the researcher, research supervisor and co-supervisor. All personal details i.e. Name and age, will be kept confidential by being allocated a code.

Research-related Injury: None

Persons to Contact in the Event of Any Problems or Queries:

Research supervisor: Dr P. Basson

Researcher: 083 235 0931 (Hughnique Cawood)

Institutional Research Ethics administrator on 031 373 2900.

Complaints can be reported to the DVC: TIP, Prof F. Otieno on 031 373 2382 or dvctip@dut.ac.za.

CONSENT

Statement of Agreement to Participate in the Research Study:

- I hereby confirm that I have been informed by the researcher, _____ (name of researcher), about the nature, conduct, benefits and risks of this study - Research Ethics Clearance Number: IREC 085/14
- I have also received, read and understood the above written information (Participant Letter of Information) regarding the study.
- I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a study report.
- In view of the requirements of research, I agree that the data collected during this study can be processed in a computerised system by the researcher.
- I may, at any stage, without prejudice, withdraw my consent and participation in the study.
- I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.
- I understand that significant new findings developed during the course of this research which may relate to my participation will be made available to me.

_____ _____ _____ _____

Full Name of Participant Date Time Signature / Right Thumbprint

I, _____ (name of researcher) herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

_____ _____ _____

Full Name of Researcher Date Signature

_____ _____ _____

Full Name of Witness (If applicable) **Date** **Signature**

_____ _____ _____

Full Name of Legal Guardian (If applicable) **Date** **Signature**

<u>Appendix D</u>: Letter of Information Principal

LETTER OF INFORMATION (Principal's copy)

Title of the Research Study: Knowledge, Understanding and Perception of Parents towards the Utilisation of Chiropractic Treatment in Paediatric Patients in the Durban Metropolitan Area.

Principal Investigator/s/researcher: Co-Investigator/s/supervisor/s:

Hughnique Cawood (B.Tech Chiropractic)

Supervisor: Dr. Petro Basson (PHD Nursing)

Co-Supervisor: Dr. Praveena Maharaj (MTech Chiropractic)

Brief Introduction and Purpose of the Study:

The aim of this study is to determine the knowledge, understanding and perception of parents towards the utilisation of chiropractic treatment in paediatric patients in the Durban Metropolitan area. Chiropractic is the most commonly used form of complementary and alternative medicine (CAM) therapy, treating patients ranging from paediatric to geriatric patients. Chiropractic treatment for children remains a controversial topic as many misunderstood opinions exist. Negative or misunderstood opinions may affect the choice of

health care selected by parents for their child. At present, a lack of research internationally, nationally and locally exists regarding the perception, knowledge and understanding of parents towards the utilisation of chiropractic for children. Voice recorded interviews will be done with parents from the Durban Metropolitan area who are chiropractic nonusers and have a child of 13 years or younger. Randomised sampling of schools will occur and parents from these schools will be interviewed. As parents are the gatekeepers to consent of treatment for their child, this research may provide an insight to the perception, knowledge and understanding of the gatekeepers to paediatric chiropractic care.

Outline of the Procedures: As the headmaster of the school, you will not be expected to take part in the study as a participant. I hereby request permission to hand out “invitations to research” to the school that will be sent home with each child to give to their legal guardian. The researcher will then collect all replies to invitations and contact the interested parents/legal guardians to allocate a date and venue for an interview. The children will not be involved in the study and no interruption of school activities will occur.

Risks or Discomforts to the Participant: No risks or discomforts exist.

Benefits: None

Reason/s why the Participant May Be Withdrawn from the Study: There should be no reason why the participant may need to withdraw from the study as no risk or discomfort exists. If the participant however wants to withdraw they may do so.

Remuneration: No financial or material gain will occur by being a participant.

Costs of the Study: The participant will be expected to cover travelling costs to and from the chosen venue.

Confidentiality: Raw data will only be reviewed by the researcher, research supervisor and co-supervisor. All personal details i.e. Name and age, will be kept confidential by being allocated a code.

Research-related Injury: None

Research supervisor: Dr P. Basson

Researcher: 0832350931 (Hughnique Cawood)

Institutional Research Ethics administrator: 031 373 2900.

Complaints can be reported to the DVC: TIP, Prof F. Otieno on 031 373 2382 or dvctip@dut.ac.za.

CONSENT

Statement of Agreement to Allow Researcher to Hand Out Study Invitations and Make Contact With <u>Parents that are Interested in the Study:</u>

- I hereby confirm that I have been informed by the researcher, _____ (name of researcher), about the nature, conduct, benefits and risks of this study - Research Ethics Clearance Number: IREC 085/14
- I have also received, read and understood the above written information (Participant and headmaster letter of information) regarding the study.
- I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a study report.
- In view of the requirements of research, I agree that the data collected during this study can be processed in a computerized system by the researcher.
- I may, at any stage, without prejudice, withdraw my consent and participation in the study.
- I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.
- I understand that significant new findings developed during the course of this research which may relate to my participation will be made available to me.

_____ _____ _____ _____

Full Name of Headmaster and School Date Time Signature / Right Thumbprint

I, _____ (name of researcher) herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

_____	_____	_____
Full Name of Researcher	**Date**	**Signature**
_____	_____	_____
Full Name of Witness (If applicable)	**Date**	**Signature**

Appendix E: Department of Education Permission

education

Department:
Education
PROVINCE OF KWAZULU-NATAL

Enquiries: Nomangisi Ngubane Tel: 033 392 1004 Ref.:2/4/8/353

Miss H Cawood
Suite 201
Postnet New Germany X 8173620
NEW GERMANY

Dear Miss Cawood

PERMISSION TO CONDUCT RESEARCH IN THE KZN DoE INSTITUTIONS

Your application to conduct research entitled: **"KNOWLEDGE, UNDERSTANDING AND PERCEPTION OF PARENTS TOWARDS THE UTILISATION OF CHIROPRACTIC TREATMENT FOR PAEDIATRIC PATIENTS IN THE DURBAN METROPOLITAN AREA"**, in the KwaZulu-Natal Department of Education Institutions has been approved. The conditions of the approval are as follows:

1. The researcher will make all the arrangements concerning the research and interviews.
2. The researcher must ensure that Educator and learning programmes are not interrupted.
3. Interviews are not conducted during the time of writing examinations in schools.
4. Learners, Educators, Schools and Institutions are not identifiable in any way from the results of the research.
5. A copy of this letter is submitted to District Managers, Principals and Heads of Institutions where the intended research and interviews are to be conducted.
6. The period of investigation is limited to the period from 15 February 2015 to 15 February 2016.
7. Your research and interviews will be limited to the schools you have proposed and approved by the Head of Department. Please note that Principals, Educators, Departmental Officials and Learners are under no obligation to participate or assist you in your investigation.
8. Should you wish to extend the period of your survey at the school(s), please contact Miss Connie Kehologile at the contact numbers below.
9. Upon completion of the research, a brief summary of the findings, recommendations or a full report / dissertation / thesis must be submitted to the research office of the Department. Please address it to The Office of the HOD, Private Bag X9137, Pietermaritzburg, 3200.
10. Please note that your research and interviews will be limited to schools and institutions in KwaZulu-Natal Department of Education (See list attached).

[redacted]

Nkosinathi S.P. Sishi, PhD
Head of Department: Education
Date: 05 February 2015

KWAZULU-NATAL DEPARTMENT OF EDUCATION

POSTAL: Private Bag X 9137, Pietermaritzburg, 3200, KwaZulu-Natal, Republic of South Africa ...dedicated to service and performance
PHYSICAL: 247 Burger Street, Anton Lembede House, Pietermaritzburg, 3201. Tel. 033 392 1004beyond the call of duty
EMAIL ADDRESS: kehologile.connie@kzndoe.gov.za / Nomangisi.Ngubane@kzndoe.gov.za
CALL CENTRE: 0860 596 363; Fax: 033 392 1203 WEBSITE: WWW.kzneducation.gov.za

Appendix F: IREC Approval

Institutional Research Ethics Committee
Faculty of Health Sciences
Room MS 49, Mansfield School Site
Gate 8, Ritson Campus
Durban University of Technology

P O Box 1334, Durban, South Africa, 4001

Tel: 031 373 2900
Fax: 031 373 2407
Email: lavishad@dut.ac.za
http://www.dut.ac.za/research/institutional_research_ethics

www.dut.ac.za

25 November 2014

IREC Reference Number: **REC 78/14**

Ms H Cawood
Postnet Suite 201
X817
New Germany
3620

Dear Ms Cawood

Knowledge, Understanding and Perceptions of Parents Towards the Utilisation of Chiropractic Treatment for Paediatric Patients in the Durban Metropolitan area

I am pleased to inform you that Provisional Approval subject to piloting of the data collection tool has been granted to your proposal REC 72/14.

The Proposal has been allocated the following Ethical Clearance number **IREC 085/14**. Please use this number in all communication with this office.

Approval has been granted for a period of one year, before the expiry of which you are required to apply for safety monitoring and annual recertification. Please use the Safety Monitoring and Annual Recertification Report form which can be found in the Standard Operating Procedures [SOP's] of the IREC. This form must be submitted to the IREC at least 3 months before the ethics approval for the study expires.

Any adverse events [serious or minor] which occur in connection with this study and/or which may alter its ethical consideration must be reported to the IREC according to the IREC SOP's. In addition, you will be responsible to ensure gatekeeper permission.

Please note that any deviations from the approved proposal require the approval of the IREC as outlined in the IREC SOP's.

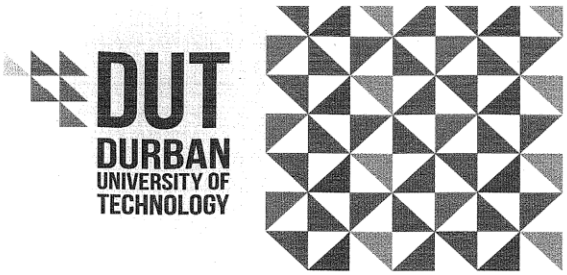
Please note that you may continue with validity testing and piloting of the data collection tool. Research on the proposed project may not proceed until IREC reviews and approves the final document. If there are no changes to the data collection tool, kindly notify IREC in writing.

Yours Sincerely

[redacted]

Professor M N Sibiya
Deputy Chairperson: IREC

Appendix G: IREC Permission to Proceed



Institutional Research Ethics Committee
Faculty of Health Sciences
Room MS 49, Mansfield School Site
Gate 8, Ritson Campus
Durban University of Technology

P O Box 1334, Durban, South Africa, 4001

Tel: 031 373 2900
Fax: 031 373 2407
Email: lavishad@dut.ac.za
http://www.dut.ac.za/research/institutional_research_ethics

www.dut.ac.za

12 January 2015

IREC Reference Number: **REC 78/14**

Ms H Cawood
Postnet Suite 201
X817
New Germany
3620

Dear Ms Cawood

Knowledge, Understanding and Perceptions of Parents Towards the Utilisation of Chiropractic Treatment for Paediatric Patients in the Durban Metropolitan area

The Institutional Research Ethics Committee acknowledges receipt of your notification regarding the piloting of your data collection tool.

Please note that you may now proceed with research on the proposed project.

Kindly ensure that participants used for the pilot study are not part of the main study.

Yours Sincerely,

[redacted]

Prof J K Adam
Chairperson: IREC

Appendix H: Interview 4

Interview 4

Date: 31/03/2015

Location: At the participant's work.

Time: 08: 30

The interview was set up via telephone, whereby a date, time and venue was decided upon.

Interviewer: Hello. May I take this opportunity to thank you once again for your time and your willingness to assist me. I really do appreciate it.

Interviewee: It is a pleasure. I don't know a lot about chiropractic though.

Interviewer: Don't worry. I would like you to tell me what you do and if that's not a lot, it is completely ok. There is no right or wrong answers.

Interviewee: Ok.

Interviewer: (Moment of silence)

As you know, I am researching the way parents feel about chiropractic treatment for their children, as well as what they know and understand. Before we start, please may you read this letter of information and bring your attention to the section called, ' brief introduction to the study', also may you read through the area of consent and sign if you are happy with what the interview entails. Take your time.

Interviewee: Ok.

Interviewer: (Gives the participant time to read and sign the letter of information. After the letter of information was signed the interview was interrupted as a work colleague asked her a question. Shortly after she signified that she was ready to continue.)

Ok, so the first question is what do you know about chiropractic treatment and chiropractic treatment for children.

Interviewee: Not very much at all. As far as I know it is about realigning bones and that, I could be way off base.

Interviewer: Ok...

Interviewee: ... I don't know much about it at all.

Interviewer: Ok. What have you heard by any chance?

Interviewee: Not very much. I know someone who is a chiropractor...

Interviewer: Ok...

Interviewee: ... so that is why I know that little bit about it, and apparently it is very good.

Interviewer: Ok...

Interviewee: ... I've never been, fortunately never needed to go to one. I think I'd be a bit nervous.

(Brief silence)

And I think I'd be a bit nervous if it was any of my kids.

Interviewer: Ok...

Interviewee: ... But I think if they needed, I'd go into it a lot more before I say, 'no, no way'. I would definitely need to know a lot more about it.

Interviewer: Ok, is there a reason why you might be a bit nervous?

Interviewee: Realignment of bones and stuff is a bit scary. (Both the participant and the interviewer laughs.) But not knowing enough about it. If I was going through this situation I would want to know absolutely everything I could.

Interviewee: Ok...

Interviewee: ... My pros, cons, what it involves you know etc.?

Interviewer: Ok. Is that why you have not gone for it as yet?

Interviewee: No, I haven't needed to go.

Interviewer: Ok. Alright. Ok, and specific to children, have you heard of any children going for treatment?

Interviewee: No. No, I haven't, not in my circle of friends.

Interviewer: Ok. You said that you might be a bit hesitant with children and taking them there.

Interviewee: Knowing as little as I do right now, yes, I'd definitely be hesitant.

Interviewer: Ok...

Interviewee: ... But I think you know, faced with a situation and I could get explained more about it on the particular treatment and the specific treatment needed for my particular child and find out everything I could and you know, I get referrals and you know, people that have been. Sure. I am not saying that I am against it, but I would need to know a lot more about it.

Interviewer: Would you feel better if you were referred by someone?

Interviewee: Yes, I think I would.

Interviewer: Ok...

Interviewee: ... Going with someone who has done it, been there, you know, yes, definitely.

Interviewee: Ok alright.

(Brief silence)

The next question is very similar and it's how do you feel about chiropractic treatment for children?

(Brief silence)

You've answered what you know.

Interviewee: Yes.

Interviewer: This is how you feel about it.

Interviewee: Honestly, if it is a necessity and it can get your child back to where he or she should be, then yes. You know, as long as you have enough information on it. You know, as a parent you want to do everything you can to help your child.

Interviewer: Yes...

Interviewee: ... Depending on the situation. So, yes I think it would be a good thing.

Interviewer: So you don't have a definite opinion about it?

Interviewee: No, based on the fact that I don't know much about it, I can't say, 'yes one hundred percent', or, 'no definitely against it.' No, that would not be fair to say.

Interviewer: And you mentioned the term "realigning of bones"… How does that make you feel?

Interviewee: A bit scared. A bit freaky, but I know there are instances where it needs to be done. I know chiropractors are trained in it, you know.

Interviewer: Yes...

Interviewee: ... So yes. It's kind of scary, but it is the not knowing.

Interviewer: Ok. So you said it's the not knowing that's scary. Is there anything else that scares you?

Interviewee: No, it is the not knowing. Not knowing a lot about it, exactly what the treatment entails and what they are going to do.

Interviewer: The unsurity of it all - -

Interviewee: (Interrupts) Correct.

Interviewer: Alright. And the last question is basically what do you understand about chiropractic treatment for children?

You mentioned already that you don't know a lot about it.

Interviewee: No, I don't.

Interviewer: So, if this is maybe the "realigning of bones" how would you, in your mind understand how it works?

Interviewee: Well obviously it is a lot of specific movements and stretches.

Interviewer: Ok.

Interviewee: Yes, I don't know exactly what it involves but, I figure that it is more than one appointment. You've got to go for a series of them, you know. Depending on what the situation is.

Interviewer: Ok.

(Period of silence)

Interviewee: Well, I have had both my kids and when they were six weeks old, they go to the paediatrician for a six week check-up and watching him, just the paediatrician, of what he had to check. How he makes them stand, and stretches their legs, you know to get the walking motion, you know it kind of scared me a little bit. You know, he was being a bit rough, but having saying that, at the back of my mind, I know he knows what he is doing, you know. My sons weren't harmed, they weren't crying, they were probably wandering what was going on themselves. (Both the interviewer and the participant giggled.)

Interviewer: Ok.

Interviewee: So, I think you know, in all honesty, if either of my kids had to for that I don't know if I would be the person in there with them. (Both the participant and the interviewer laughs.)

I would probably send their dad, you know, because I know it is a very rough treatment.

Interviewer: Ok...

Interviewee: ... But you know, you've got to trust the person that is doing it, you know that they know what they are doing and if they are doing it right and you know, it can help in the long run.

Interviewer: Would you be more reluctant verses with new borns than if they get older?

Interviewee: Yes and no. Yes because they are tiny and you think of then as being fragile, and you know. But, no because I do believe that if they are younger they are more supple and it's easier to treat earlier on than to later on because then it's probably a lot more treatments to it. So, no I wouldn't be against it.

Interviewer: Ok.

Interviewee: But, as I say I would want an in depth meeting to say, this is what we are going to do, why we are going to do it and how we are going to do it.

Interviewer: Ok.

Interviewee: As I said would I be in there or not, I might send my husband, but yes. So, no, I wouldn't be against it.

Interviewer: Ok, so would you feel that generally parents don't know enough?

Interviewee: I think generally yes, they don't know enough, there is not much out there for us.

Interviewer: Ok. Alright. So, it is not something you would of considered in the past?

Interviewee: No.

Interviewer: So, it wouldn't be your first thought?

Interviewee: No, not at all. I have never been in a situation where a pediatrician or a GP or whatever needs to refer myself or one of my kids to a chiropractor.

Interviewer: Ok.

Interviewee: But you know, if they say look, we need to take the next step, I would say, 'sure, let's go for an appointment.' I wouldn't be, 'no, sorry, or not interested,' because I would want to help.

Interviewer: Ok. And then one very last question, what kind of conditions do you think you can take a child to a chiropractor for?

Interviewee: Well…for their growth, for their walking, maybe in the function of their arms for writing, playing sport, that type of thing.

Interviewer: Ok.

Interviewee: Yes, if it is going to better them that they can have a normal life that they can run around with kids etc., then yes, definitely.

Interviewer: Alright. Thank you so much.

Interviewee: Not a problem.

Appendix I: Interview 5

Interview 5

Date: 31/03/2015

Location: Near the participant's home, in a public yet private setting. The time, date and venue of the interview were discussed via telephone.

Time: 9: 00

Interviewer: Hello. May I take this opportunity to thank you once again for your time and willingness to assist me. I really do appreciate it.

Interviewee: No, you are welcome. I am happy to help out.

Interviewer: As you know, I am researching the way parents feel about chiropractic treatment for their children, as well as what they know and understand. Before we start, please may you read this letter of information and bring your attention to the section called, 'brief introduction to the study,' also may you read through the area of consent and sign if you are happy with what the interview entails. Take your time.

(Period of silence as participant reads and signs the letter of information. After this is done the interviewee signifies that she is ready to start.)

So, what do you know about chiropractic treatment for children?

Interviewee: I don't know a hell of a lot about chiropractic treatment for children the only thing I have heard is it is good for babies with colic. That is pretty much the only time I have ever heard of chiropractic for children.

Interviewer: Do you know someone that has taken their baby?

Interviewee: You know, I can't think of a name like right now but I know in my line of friends or whatever that some people have taken their babies to a chiropractor.

Interviewer: And then what have you heard about the treatment for colic?

Interviewee: I've just heard that it works and nobody can actually say to me how it works, what was done, how all of a sudden it helped their colic, but some of them it has actually helped the babies colic but you know at other times no. There is not a lot spoken about it. There really isn't.

Interviewer: So, you don't really know what happens in a consultation?

Interviewee: Not at all, no idea, specifically in children?

Interviewer: Yes.

Interviewee: No, not at all.

Interviewer: And then treatment for adults, what do you know about chiro for adults?

Interviewee: Well, I have only ever been to a chiropractor once. I have major back pain, I went. From what I know and from what I have experienced, it is manipulation of bones, I don't know how accurate that is or how simplified that is. It was quite uncomfortable, it certainly wasn't 'day at the spa'. It was quite uncomfortable the session that I had. Apparently that is half the objective, to actually manipulate your bones into the correct alignment. I know of people who do it specifically to just get their back in alignment or something, but that's pretty much all that I know about.

Interviewer: Alright, and... (Duration of silence.) - - Alright...

Interviewee: When I had my session at the chiropractor, first obviously they wanted to know why I was there, what my problem was and at that stage I didn't really know what my problem was. I was just in tremendous pain and obviously they had to get that kind of background first and then there was a whole lot of manipulation. You know I had to lie on my side, on my knee, and it was kind of painful, it really was but I suppose I was there for that reason. I needed them to sort out whatever the problem was and then I did have some needling as

well, but that's - - You know, I hesitate to recommend it it to a child, if that is the way it is going to go because it was actually quite unpleasant, but I as an adult could see what the greater good was going to be. It might be painful now but if it is going to help me then I don't mind doing it. I would probably think twice if I had to take, I say my nine or ten year old to a chiropractor because then he will never want to go back, because it is actually painful.

Interviewer: At what age would you start to allow it as a parent?

Interviewee: If it was necessary, if the doctor had said you know - - If it was absolutely necessary that my child had chiro. I would probably do the age from where I could probably explain. So, yes... Maybe ten, eleven or whatever, say, 'look, it is not going to be pleasant, it is going to be uncomfortable but this is what is going to happen.'

Interviewer: Ok, what would stop you from using it?

Interviewee: If there was going to be - - What, as a adult or as a child?

Interviewer: As a child.

Interviewee: Look I wouldn't want my child to be in too much pain but if I was going there in the first place it would mean that my child had a problem. So, if this was the only course of action that was going to work, then you know, I would do it, it is like I am open to all sorts of things. You know, if it was going to help my child and the doctor said, 'well you know' or the chiro said this what we are going to do then I would definitely do it, if I could just explain to my child why it was going to be painful, I would do it, I am open to that.

Interviewer: Ok, so the next question is very similar and it is, how do you feel about chiropractic treatment for children?

(Period of silence.)

And you can also elaborate how you feel about chiropractic in general.

Interviewee: Ok, I don't really have too much of an opinion. I haven't had that much experience, but I am quite ok with whatever is going to work. If a chiropractor can say, well look this is out of alignment or that is out of alignment and we can rectify it, them I'm all for

that. Whether you are an adult or a child, whatever, I'm all for whatever avenue is going to help and I must admit when I did go for that session for myself, as an adult, it did help and the only reason why it wasn't a permanent solution was there was a lot more damage than he initially realized. But I will be quite prepared to send my child or whatever if it was necessary because I believe there is a place for it, otherwise there wouldn't so many of them out there, and I think with our daily life, our bones can move and you know, maybe need a bit of alignment every now and then.

Interviewer: Alright then. The last question is, what do you understand about chiropractic treatment for children?

Interviewee: Not a lot, I really don't understand a lot about it at all and i might even be wrong in what i do think or understand, but from what I have gathered is that manipulation of the bones, I don't know if it has anything to do with muscle, but I have heard that it is bone related, and a lot of it is spine related - - spinal related and getting the vertebrae in alignment. That's about all that I think I know.

Interviewer: You mentioned the words 'bone alignment', how do you understand that?

Interviewee: Well, I am picturing the spine, I know exactly what the spine looks like and I know that it is all supported by muscle. A lot of me is thinking that, you know when you sit funny or something like that and your alignment - - you sit and your muscles perhaps favour one side it can actually pull the bones. Not completely out of socket but, it can move your bones and that can cause discomfort or stiffness or a painful neck or something, so I'm assuming that it's got to do with literally like pushing the pieces back together after what your muscles have done to perhaps pull them a little bit apart.

(Moment of silence as the participant looks at the letter of information.)

I think it could be a bit of a controversial topic because, I don't think people know too much about it. I think they know about what they hear about it and they have probably been there and their friends have had their necks done, or whatever, but I don't think - - I don't think, I don't believe a lot of children have gone to a chiropractor because they don't really - - or many adults have actually thought of that. As babies maybe, some of them might have taken

them for colic in babies, but in young children I don't know. Maybe the parents don't feel that it could be anything muscular related at this age, or something, but there is definitely not enough talk about it. I don't know any of my friends who have taken their young children, twelve and under to a chiropractor. Physio, yes but never - - I don't know anyone who have gone to a chiropractor.

Interviewer: Ok, what conditions do you think you could take a child to a chiropractor for?

Interviewee: I don't know. I am thinking maybe - - maybe if the child has been in a motor vehicle collision, an injury like that. But I don't know what would possibly make a parent think first of going to the chiropractor and I think a lot of that has got to do with that there is not enough known about it. I don't think there is enough education out there for parents, you know, of the benefits of going to a chiropractor or the benefits of taking your child to a chiropractor. They would normally see it as a last resort like after a accident or after major surgery or something like that. I just don't think there is enough spoken about it, there is not enough information out there.

Interviewer: Alright, and how do you think we can better that? Better the education about it and the exposure about it?

Interviewee: I think doctors need to understand more and I think doctors need to refer more people, more parents, talk to more parents about it. If they see a child that could perhaps benefit. But I think the doctors need to be educated as to why they would refer a child to a chiropractor, but I think parents need to know what the benefit would be. Is it only for a car accident or is it only for an injury or a - - I think definitely, get the word out there. Get doctors, get them educated to then educate us.

Interviewer: Perfect, thank you for your time.