

Exploring communication as a means to deliver patient education for musculoskeletal care by chiropractors in the eThekweni Municipality

By

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I, Frances Cowley Chapman, do declare that this dissertation is entirely my own work in both conception and execution (except where acknowledgements indicate to the contrary)

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ABSTRACT

Background: Communication is a fundamental tool used by all healthcare practitioners, as well as chiropractors, in delivering care. Practitioners use communication to connect with their patients to form trusting relationships and obtain clinically relevant information to reach a diagnosis. It is also used to deliver important healthcare information to the patient regarding their condition, relevant lifestyle changes, interventions and outcomes.

The way a practitioner has utilized communication, their ability to deliver succinct patient education that is empathetic and relevant to the patients' life, and preferences are important factors in the success of the treatment and management delivered. Despite this, communication is still considered a complex phenomenon with little concordance on its success experienced by both the patient and the practitioner.

Patient education has been identified as a key factor in delivering optimal management and care of musculoskeletal disease, which is a central component of chiropractic scope of practice. It has also been identified as an important component of chronic care management and encouraging self-management, which is a fundamental part of managing risk factors for both musculoskeletal disease and chronic disease.

The eThekweni Municipality, the study location, is a socioeconomically diverse region, which historically suffers from language and social disparities, which affect the delivery and success of healthcare. This research adds a unique insight into how chiropractors in eThekweni utilize communication to deliver patient education to their patients.

Methodology: A qualitative research methodology was utilized to collect data through semi-structured interviews. The data were analyzed using thematic analysis to extract the meaning and understanding of the interviews. Eight interviews were conducted before data saturation was reached.

Results: Three main themes, namely communication skills, communication barriers and communication techniques, emerged from the data with a number of sub-themes.

Conclusion: The results revealed that all the participants thought communication skills and patient education were fundamental to how they delivered care. Their perception on the acquisition of these skills were varied and ranged from passive time in practice, foundational at a university level, and necessitating further studies.

When exploring the barriers, it was thought that although patient perception was an important factor, this could be as a result of a consumeristic medical system, poor communication on the practitioners part and a lack of a unified profession identity of chiropractic.

Socioeconomic, language and cultural issues still affect the delivery of care and adequate patient education, even though South Africa has been a democracy for 29 years. Communication techniques have evolved, including the utilization of communication technologies, which can contribute to patient-centeredness. Paternalistic and disease-centered communication techniques still underpin manual therapy but patient-centered techniques are emerging.

DEDICATION

I would like to dedicate this research dissertation to the not so little fig (baby boy) that grows inside my belly. It was never part of my plan to start my family before I completed this master's degree but without your conception and your ever closing due date, I am not sure if I would have ever completed this process. The joy and excitement I have for your arrival kept me going each day. I look forward to meeting you and spending my time directing my energy to you only, with this research process behind me.

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TABLE OF CONTENTS

ABSTRACT	II
DEDICATION	IV
ACKNOWLEDGMENTS	V
TABLE OF CONTENTS	VI
LIST OF TABLES	X
LIST OF APPENDICES	XI
CHAPTER 1 INTRODUCTION	1
1.1 BACKGROUND AND CONTEXT	1
1.2 RESEARCH PROBLEM	3
1.3 AIM OF THE STUDY	4
1.4 OBJECTIVES OF THE STUDY	4
1.5 OUTLINE OF THE DISSERTATION	4
CHAPTER 2 LITERATURE REVIEW	6
2.1 INTRODUCTION	6
2.2 HISTORICAL DEVELOPMENT	9
2.3 COMMUNICATION MODELS IN HEALTHCARE	13
2.4 THE LEGISLATION CONTRIBUTING TO PATIENT-CENTERED COMMUNICATION	18
2.5 PATIENT-CENTERED COMMUNICATION AND THE PATIENT-CENTERED APPROACH	21
2.6 THE BENEFITS OF PATIENT-CENTERED COMMUNICATION	23

2.7 CHRONIC DISEASE, CHRONIC MUSCULOSKELETAL PAIN, AND RISK FACTORS	27
2.8 BARRIERS TO COMMUNICATION	30
2.9 LIMITING FACTORS IN COMMUNICATIONS RESEARCH	33
2.10 MOTIVATIONAL INTERVIEWING:	36
2.11 THERAPEUTIC NEUROSCIENCE EDUCATION (TNE)	40
2.12 CONCLUSION	43
CHAPTER 3 METHODOLOGY	44
3.1 STUDY DESIGN	44
3.2 LOCATION OF THE STUDY	44
3.3 POPULATION	45
3.4 PARTICIPANT RECRUITMENT	46
3.5 SAMPLING STRATEGY	47
3.5.1 Inclusion Criteria	47
3.5.2 Exclusion Criteria	47
3.6 SAMPLE SIZE	48
3.7 DATA COLLECTION INSTRUMENT	48
3.8 STUDY PROCEDURE	48
3.9 DATA REDUCTION AND ANALYSIS	50
3.10 ETHICAL CONSIDERATION	50
3.11 RIGOR	52
3.11.1 Credibility	52
3.11.2 Dependability	53
3.11.3 Confirmability	53

3.11.4 Transferability	54
3.12 CONCLUSION	54
CHAPTER 4 RESULTS	55
4.1 INTRODUCTION AND PARTICIPANT DEMOGRAPHICS	55
4.2 THEMES AND SUB-THEMES	57
4.2.1 Theme One: Communication Skills	57
4.2.1.1 Importance of Communication Skills	57
4.2.1.2 Acquisition of Communication Skills	58
4.2.2 Theme Two: Barriers to Communication	60
4.2.2.1 Patient Perception	61
4.2.2.2 Language, Culture, and Socioeconomic Status	64
4.2.2.3 Time Constraints	66
4.2.2.4 Practitioners as a Barrier	68
4.2.3 Theme Three: Communication Techniques	69
4.2.3.1 Using an Aid	69
4.2.3.2 Paternalistic/ Disease-Centered Techniques	72
4.2.3.3 Patient-Centered Techniques	73
4.3 CONCLUSION	79
CHAPTER 5 DISCUSSION	80
5.1 INTRODUCTION	80
5.2 THEME ONE: COMMUNICATION SKILLS	80
5.2.1 The Importance of Communication Skills	80
5.2.2 Acquisition of Communication Skills	81
5.3 THEME TWO: COMMUNICATION BARRIERS	82

5.3.1 Patient Perceptions	82
5.3.2 Language, Culture and Socioeconomic Status	87
5.3.3 Time Constraints	88
5.4 THEME THREE: COMMUNICATION TECHNIQUES	89
5.4.1 Using an Aid	89
5.4.2 Paternalistic and Disease-Centered Techniques	91
5.4.3 Patient-Centered Techniques	93
5.5 CONCLUSION	97
CHAPTER 6 CONCLUSION	98
6.1 CONCLUSION	98
6.2 LIMITATIONS OF THE STUDY	99
6.3 RECOMMENDATIONS FOR FURTHER RESEARCH	100
REFERENCE LIST	101
APPENDICES	120

LIST OF TABLES

Table 1: Participant information	55
Table 2: Themes and subthemes	56

LIST OF APPENDICES

Appendix A: Letter of Information	117
Appendix B: Letter of Consent	121
Appendix C: Demographic Information	123
Appendix D: Interview Agenda	124
Appendix E: Ethical Clearance Letter	126
Appendix F: Editor's Certificate	127
Appendix G: Plagiarism Report	128

CHAPTER 1 INTRODUCTION

1.1 BACKGROUND AND CONTEXT

Musculoskeletal (MSK) pain and disease is ranked sixth in the global burden of disease worldwide (Smith *et al.* 2014). It is estimated that 1 in 3 people worldwide suffer with chronic MSK pain (Briggs *et al.* 2018). It is a major contributor to years lived with disability, multi-morbidity, poor mental health and costs healthcare systems billions each year (Blyth *et al.* 2019; Briggs *et al.* 2018; March *et al.* 2014). The burden and impact from MSK disease is considered to have a growing impact in low-income regions in third world countries like South Africa due to an increase in the aging population and urbanization, leading to an increase in risk factors (Blyth *et al.* 2019; Jakovljevic and Milovanovic 2015). It is also known to be managed poorly by primary care facilities in South Africa (Major-Helsloot *et al.* 2015). Due to this, chiropractic practitioners find themselves at the forefront of treating and managing this world-wide epidemic, since MSK pain and disease is part of their main scope of practice in South Africa and worldwide (Chang 2014; Gíslason *et al.* 2019; Johl 2017).

These conditions of low back pain, osteoarthritis, rheumatoid arthritis, neck pain and gout, to name a few, have correlating risk factors with many other common chronic non communicable diseases which are also on the rise in low-income countries like South Africa (Blyth 2019). These risk factors include poor nutrition, obesity and sedentary lifestyle (Briggs *et al.* 2018). Many of these risk factors can be mitigated by patient empowerment and self-management (Brandy *et al.* 2018; Naughton 2018; Lin 2020).

Successful communication between patients and the chiropractor to educate patients on the nature and cause of their condition, to motivate lifestyle modifications that can treat and reduce their pain and suffering, as well as to address the psychosocial contributors, is a mechanism by which patient empowerment and self management can be achieved (Lin 2020; Wanless 2021; Hoving *et al.* 2010).

Successful communication has been linked in research to patient satisfaction, reduced healthcare costs, improved outcomes and being a fundamental component of managing MSK disease. These form part of the best practice guidelines for managing the conditions treated by chiropractors (Levinson, Lesser and Epstein 2010; Lin *et al.* 2020, Ranjan, Kumari and Chakrawarty 2015).

South Africa, and in particular eThekweni, is a multicultural multilingual region with a high percentage of low socioeconomic population whose suffering due to chronic conditions, especially chronic MSK condition, is considerable (Major-Helsloot *et al.* 2015 Chima 2018; Stats SA 2013). It was decided that this region was to be investigated as communication and patient education are of value (Henderson *et al.* 2018). Communication is a central component in practicing a patient-centered paradigm and improving healthcare literacy, which are both fundamental to this region, as well as managing MSK disease optimally (Henderson *et al.* 2018; Lin, Green and Bessarab 2019; Johl *et al.* 2017).

Despite this, there are numerous barriers to communication and delivering patient education identified in the literature which could be compounded in the eThekweni Municipality context (Kee 2018; Street *et al.* 2008; Naughton 2020; Chima 2018). Some of these barriers include language and cultural disparities, which are prevalent in eThekweni (Street *et al.* 2008; Chima 2018). Time constraints, which are compounded by factors like chronicity, poor health literacy and language issues, all of which are also common in South Africa (Kee 2018; Aljassim and Ostini 2020), and a lack of communication training have been identified as issues in the region (Kee 2018; van Vuuren and Nel 2018). There are, however, numerous communication techniques, that have been studied and implemented internationally, that assist and ensure understanding and improved health literacy, self-management and patient outcomes, which could lead to a reduction in suffering from MSK pain and dysfunction (Lin *et al.* 2020; Hong and Oh 2020; Ha and Longnecker 2010; Ranjan, Kumari and Chakrawarty 2015).

This research study used a qualitative paradigm, making use of semi-structured interviews and thematic analysis. It aimed to explore the communication techniques and

barriers to communication in delivering patient education by chiropractic practitioners practicing within the eThekweni Municipality.

The data collected aimed to explain communication and ways to overcome communication barriers. It aimed to guide local practitioners and students on how to better utilize the undervalued tool of communication to obtain the best possible patient education for their patients within the eThekweni Municipality.

1.2 RESEARCH PROBLEM

Research shows that adequate communication skills are needed to deliver patient-centered education to provide optimal musculoskeletal care and comply with the AHPCSA (2015) directive, Sections 6 to 9, of the National Health Act, (Act No. 61 of 2003) on informed consent. Without these components of communication skills and patient education, it is understood that self-management and patient activation is reduced and therefore treatment outcomes are less satisfactory. This affects all health care providers, but is specifically crucial in providing musculoskeletal care, as it has a multifactorial etiology.

It also has increased value in the eThekweni Municipality which is characterized by a multicultural, multilingual population, which may have increased barriers to communication compared to more homogenous populations. Thus far, little is known about the communication style eThekweni chiropractors use to deliver patient education, the barriers they face and how they overcome these barriers. This study intends to explore the communication styles, the barriers to communication and how they are overcome by chiropractors in eThekweni to deliver patient education for musculoskeletal care.

A better understanding of these concepts could help chiropractors and chiropractic students in the region to better understand these phenomena, which would contribute to improving their communication techniques and their ability to deliver patient education and practicing within the legal framework, as set out by the AHPCSA.

1.3 AIM OF THE STUDY

The aim of this study was to explore the perceived communication techniques, the barriers to communication and how communication barriers are overcome by chiropractic practitioners, in eThekweni Municipality, to deliver patient education and provide effective musculoskeletal care.

1.4 OBJECTIVES OF THE STUDY

Objective One: Explore the communication techniques that chiropractors in eThekweni Municipality utilize to communicate with their patients.

Objective Two: Describe any factors which compromise communication between chiropractors and their patients.

Objective Three: Explore the techniques that chiropractors use to deliver patient education and overcome communication barriers.

1.5 OUTLINE OF THE DISSERTATION

Chapter 1: The background, context and research problem are defined. The problem statement aims and objectives of the study are presented in this chapter.

Chapter 2: The literature review pertaining to the topic is detailed in this chapter.

Chapter 3: The research methodology, research design, data collection and analysis are described in detail in this chapter. Ethical considerations are also discussed.

Chapter 4: The findings obtained from the thematic analysis of the eight semi-structured interviews are detailed in this chapter.

Chapter 5: A discussion of the results and comparison to previous studies relevant to this dissertation are represented in this chapter.

Chapter 6: The conclusion of the study and its limitations are discussed in this chapter. Future recommendations for relevant studies are outlined.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

Communication is the passing of a message direct or indirect between two or more people (Bazmi 2019). The 'process' of communication forms the basis of society: how we connect with one another and "share" information, intention, and emotion. It is a *process* since it is an ongoing dynamic construct, and it is *shared* because it requires the participation of more than one individual (Paicu 2017). Communication can be verbal, nonverbal, paraverbal, visual, written, and interpersonal (Paicu 2017).

Verbal communication includes the contents of the communication and the words chosen to share the message; it is the spoken word which is audible to the participants involved in the communication process. Nonverbal communication includes facial expressions, postures, and spatial distance between the communicators experienced during a face-to-face interaction. Paraverbal communication includes the tone, pitch, volume and spacing between words, which can be present during verbal communication in person or through a communication device like a phone (Ranjan, Kumari and Chakrawarty 2015). The other forms of communication are non-verbal mechanisms of delivering a message which only contains content without the nonverbal and audible paraverbal nuances. This would include the written word, information pamphlets and information diagrams which can communicate a message to the desired recipient.

When communication is completed within the confines of a medical consultation, it is known as therapeutic communication. It can be seen as the therapeutic component of the consultation that comes from talking and the sharing of information between two parties. It is used to establish a relationship between two individuals, to establish rapport and gather all the necessary clinical information (Roberts and Bucksey 2007). Communication skills have long been understood as a core clinical skill in delivering healthcare and establishing an effective patient practitioner relationship (Leonard 2017). For

communication to be successful, both the patient and the practitioner need to practice good communication skills.

Communication allows for the transfer of information between two parties which may assist in leading to a diagnosis (Lin, Green and Bessarab 2019), and allowing a practitioner to interpret the needs, preferences, and beliefs of the patient to tailor the appropriate treatment and management plan to the specific needs of each patient. Therapeutic communication has been linked to improved clinical outcomes, patient satisfaction, self-management and is a key factor in best practice guidelines for musculoskeletal care and the patient-centered approach (Levinson, Lesser and Epstein 2010; Lin *et al.* 2020, Ranjan, Kumari and Chakrawarty 2015). The role of communication in the formation of trust and the establishment of a relationship between the patient and the practitioner is seen as central to creating a therapeutic environment (Chichirez 2018; Ha, 2010). It is thought that if this bond and trust is not well established then the effectiveness of the therapeutic intervention applied is reduced (Ranjan, Kumari and Chakrawarty 2015).

Ahmed (2015) stated that 40% of therapeutic action can be accounted to the relationship which is formed. This is seen in the single, blinded, randomized clinical trial in which manual therapy was used in combination with patient education in the form of therapeutic neuroscience education. Home exercises showed improved outcomes compared to when manual therapy intervention was applied on its own (Saracoglu *et al.* 2020).

Patient education is defined as the imparting of information regarding the relevant condition to the patient. This includes information about the presenting condition, how it affects the body, treatment options, management strategies like lifestyle modification, exercises and possible outcomes. It can extend away from information directly related to the presenting condition, including nutrition, sleep, stress management and information regarding other practitioners who specialize in other areas which appear relevant to that patient (Lin *et al.* 2020).

Patient education can be delivered during a conversation between two parties: during a consultation and physically demonstrated, if it included exercises or postural modification,

or in the form of educational videos, website links or print outs (Hoving *et al.* 2010). The aim of patient education is to equip patients with increased knowledge about their presenting condition, the lifestyle factors which could be contributing to the severity of their pain and main complaint and how to modify their activity and lifestyle to improve or eliminate the presenting complaint (Wanless *et al.* 2021). This information has two functions. One, a patient's understanding and knowledge about what is happening decreases stress and anxiety regarding the issue and therefore can make a patient feel better (Louw *et al.* 2011). Second, the education can lead to behavioral changes which can improve the patients presenting condition and experience (Wanless *et al.* 2021).

Communication and therapeutic communication are closely intertwined with the concept of patient education because communication is the mechanism for delivering patient education. The effectiveness and uptake of the patient education can rely on the effectiveness of the practitioner's communication skills and techniques (O'Leary *et al.* 2020; Zolnierek and DiMatteo 2009). Patient education forms part of the content that needs to be delivered during the communication process. Communication needs to be utilized in a particular way to form a trusting relationship so that the education delivered is well received, more likely to be internalized and implemented (O'Leary *et al.* 2020). Patient education delivered through sound communication forms a part of high-quality musculoskeletal care provided by chiropractors (Snow and Torda 2009; Lin *et al.* 2020; Johl *et al.* 2017).

The management of musculoskeletal conditions (MSK) and neuromusculoskeletal care forms the main focus of chiropractic care (Dagenais and Haldeman 2002; Johl *et al.* 2017). Research shows that chiropractors consider patient education to be a large part of their intervention. A scope of practice survey on chiropractors in South Africa in 2015 demonstrated that advice giving on lifestyle, exercise and nutrition was one of the three main interventions given, along with adjustments and soft tissue work, like dry needling (Johl 2017).

Historically, chiropractors have practiced in a holistic way and within the biopsychosocial paradigm (Gliedt *et al.* 2017). This means addressing the patient as a whole and applying

interventions that not only include manual therapies to address the biomechanical issue but also addressing all contributors to the pathology, including psychosocial, environmental, and behavioral (Rosner 2016). The main mode of addressing these other contributing factors to the pathology is through communication to deliver patient education (Johl *et al.* 2017). This is based on sound research that illustrated that pain and MSK dysfunction has a multifactorial etiology. It is not only caused by injury and biomechanical dysfunction, but also psychosocial factors, especially when it reaches chronicity (Meints and Edwards 2018; Tang 2020; Vargas-Prada and Coggon 2015).

This is especially true for chronic MSK dysfunction since chronic MSK dysfunction has a greater link to psychosocial factors than it does to biomechanical factors (Meints and Edwards 2018). These psychosocial factors are best modified through talk therapy, be it with a primary care physician, psychologist or chiropractor. Therefore, the use of therapeutic communication and patient education are fundamental aspects of chiropractic care of MSK conditions and chronic MSK conditions (O'Leary *et al.* 2020).

The development and change in approach in addressing MSK conditions to include the psychosocial contributions and the biomechanical follows the establishment of the biopsychosocial model from the biomedical model (Hoving *et al.* 2010). It is marked by the development of the patient-centered approach which is the current paradigm in healthcare at the moment.

2.2 HISTORICAL DEVELOPMENT

Historically healthcare fell within a biomedical paradigm and utilized a paternalistic communication style (Dumez and Pomey 2019). The biomedical paradigm is disease-centered and directed by the practitioner (Dumez and Pomey 2019). Paternalism can be understood as the practitioner making decisions for the patients, regardless if the patients could be making the decisions for themselves (Murgic *et al.* 2015). In this paradigm, the practitioner was the informed, skilled determinant of the relationship while the patient was the passive receiver and patients were discouraged to question their physicians. Paternalism has had a proscriptive nature, which saw practitioners as the more powerful

participant within the relationship since they were trained and were perceived to have a greater level of understanding and knowledge (Ishikawa *et al.* 2013; Mousavinejad, Kiani and Bazmi 2019). The practitioner did most of the talking while the patient was a silent participant (Hoving *et al.* 2010). The patients were encouraged to do as they were told and not to question the directive of the physician. The patient's perspective, personal life and psychosocial position was not considered or discussed (Murgic *et al.* 2015).

This model of communication is representative of the sociological conflict theory which describes an inherent 'power struggle' in the practitioner patient relationship due to the increased knowledge and skills of the physician (Ishikawa 2013). In this more biomedical paternalistic era of MSK care (early medicine to 1980) (Cheng 2015), the patients were required to come for many sessions of physical therapy, and there was little buy in from the patient as treatment was something that was done to them, as opposed to them doing (Hiller *et al.* 2016). Patients were required to take their medication, show up for their treatment and exercise and lifestyle prescriptions were generalized to the condition and not specific to the patient, if these areas were addressed at all (Bizzarri and Fogli 2020).

The biomedical model can be advantageous because it focuses on the physical musculoskeletal component of the complaint which in this area of healthcare needs to be addressed (Johl 2017) but it fails to take into consideration the other contributing factors to MSK dysfunction, including the patient specific psychosocial and environmental factors, which have been shown to contribute towards the development and perpetuation of a disease process (Rosner 2016).

With the development of science and sociology, it was established that most conditions and good health do not only have a biomedical and biomechanical link but also strong psychosocial, environmental, and behavioral links. The biopsychosocial model proves that human beings are complex and it is not only the aberration of normal biological processes involved in pathology but also the complex interaction of their environment, support system and their psychological well-being (Gliedt *et al.* 2017). This correlates to the current definition of "health" set out by the World Health Organization (WHO), that it

is “a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity” (Naughton 2018).

This led to a shift in the best practice guidelines for musculoskeletal care which now suggests that each treatment and management approach must be tailored and developed with the individual in mind and with the patient’s participation (Lin *et al.* 2020). It must address not only the biological changes but also the individual social, psychological, environmental, and physical status of that individual (Naughton 2018). The suggestion that healthcare should be tailored to the individual patient is known as the patient-centered approach. In the 1980s, the biopsychosocial model started to take shape and with it the patient-centered approach. The patient-centered approach is defined as “patient-driven care and is designed to better address the needs of the patient as a whole by including shared decision-making” (Cheng, 2016). This new paradigm meant that the way practitioners communicate with their patients changed and the use of communication became more important in how patients are managed.

Practitioners are required to be much more open in the way that they gather information not only about the biomedical history but also the patients' beliefs, perceptions, and psychosocial history (Naughton 2018). Practitioners need to be more sensitive in how they deliver their message and how they address these more complex areas of healthcare. They need to encourage participation of the patient and work as a team to develop the most appropriate management strategy for the presenting situation. Communication therefore varies from patient to patient, as opposed to condition to condition (Brouwers *et al.* 2017; Lin *et al.* 2020).

It is understood that in many manual therapy offices today, this is not yet the approach. Sessions are largely based on a biomedical framework focusing on biomechanics, pathomechanics and anatomy and although practitioners are educated to address patients in a more holistic way, they tend to avoid addressing the psychosocial contributing factors (Booth *et al.* 2017; Louw *et al.* 2017; Hiller *et al.* 2016).

One recent study by Kamper *et al.* (2020) indicated that only 20% of patients presenting for treatment in family practices and emergency care for their lower back pain received any evidence-based information and advice. This shows that even well after the biopsychosocial model has been accepted into the academic literature as the leading paradigm in general and MSK care, it is still not always utilized within a clinical setting.

However, some healthcare professions have embraced the biopsychosocial model. Chiropractors have positioned themselves in a biopsychosocial paradigm, and have always looked at health in a holistic fashion and addressed the patient as a whole (Gliedt *et al.* 2017). A 2018 study indicated that advice giving on nutrition, exercise and lifestyle was routine during a chiropractic consult in South Africa, and is part of the top four interventions given (Johl *et al.* 2017).

The progression to utilizing the biopsychosocial model of healthcare may be difficult for some practitioners as it requires a diverse skill set. It is necessary for healthcare providers to be proficient clinicians, and have good examination skills and diagnostic skills. In the case of chiropractors, they must have good manual therapy skills and be able to deliver a successful treatment with minimal discomfort. It is now also necessary, and seen as a core clinical skill, to be able to identify yellow flags, that is psychosocial risk factors (Lentz *et al.* 2016) and communicate with patients in a way that considers the specific psychosocial contributors, while motivating them to be the driving force in the decision making and management of their own health (O'Leary *et al.* 2020). Therefore, it is imperative to provide patients with the information and support that addresses all these areas, while enabling patients to participate and contribute to this process.

There are still multiple communication models present in healthcare today, which fall across a spectrum from paternalistic to patient-centered and fulfill different roles (Cheng 2015).

2.3 COMMUNICATION MODELS IN HEALTHCARE

Communication models, which have been identified, developed, and theorized over the years fall across a spectrum from highly paternalistic to patient-centered (Cheng 2015). It is important to note that there is no 'correct' model. Each one on the spectrum has different values and uses in different clinical settings and different patients may respond to different communication styles (Cheng 2015). For example, very paternalistic and prescriptive models are better suited in trauma care, anesthetization, emergency medicine and mental delirium, where the patient's capacity and ability to participate is limited and does not improve outcomes. More balanced and slightly less paternalistic models are useful in acute infections and conditions needing similar protocols, where patient participation is limited, and compliance is necessary to mitigate negative outcomes but motivation is necessary to ensure patient active compliance.

Patient-centered communication models that foster a high amount of patient participation and activation are best suited to chronic care, psychoanalysis, and musculoskeletal care (Cheng 2015). In an outpatient situation, adequate patient practitioner communication and the establishment of a relationship helps to identify the best communication style to obtain the best compliance and satisfaction for the patient.

Various communication models have been outlined and theorized throughout medical history. Parsons (1951), a sociologist, believed that communication was led by the role one plays within a relationship. He proposed that due to the knowledge and skill of the practitioner they hold a higher level within the relationship and therefore should govern/guide the interaction (Ishikawa *et al.* 2013; Cheng 2015).

Szaszo and Hollender (1956) identified three models: the activity-passivity model, guidance cooperation model and the mutual participation model. The models describe the level of participation and style of questioning/communication, which is present within the interaction. The activity-passivity model is the oldest and most paternalistic model, wherein the patient is passive, and the interaction is guided and controlled by the practitioner (Oprea 2009; Cheng 2015).

The guidance cooperation model is more balanced. It is thought to be the most common in 20th century medicine, wherein the practitioner provides a plan and the patient is motivated to participate and collaborate with the plan laid out by the practitioner (Cheng 2015; Oprea 2009).

The mutual participation model is historically the most patient-centered, although it was theorized before the patient-centered approach. It indicates mutual interest, participation and effort into the patient's care and outcomes (Cheng 2015).

Later, Byrne and Longs (1976) described a model where the output function of the patient was the most important aspect of care, even if it was not a cooperative process with the patient. The patient's wants and desires were not important if the set outcomes for the interaction were reached (Cheng 2015). This was known as an input process output model.

This input process outcome model was expanded upon by different people and can still be seen in some healthcare models and educational frameworks today. It was first established by Pendleton (1983) who identified inputs like patient expectation and environment and perceived the outcome to be of the experiential nature. Frederikson (1993) added to this, explaining that both the patient and the practitioner were involved and responsible for an 'information exchange' process. This model was considerably biopsychosocial for its time, and considered biomedical and perception and personal framework inputs, and outcomes included biomedical and personal satisfaction (Cheng 2015). This was further developed by Kurtz (1982; 2002) and included a 70 points checklist which was included in the input process outcome framework (Cheng 2015).

Emanuel and Emanuel (1992) established four models of communication. These theories persist today and, in some literature, are seen as the most common models of communication in health care. The four models are parental, informative, interpretive, and deliberative communication (Bazmi 2019; Oprea 2009).

The parental model is the oldest and the most paternalistic and biomedical of Emanuel's models. It can be linked with cultures and historical perspectives, which placed health care practitioners in their own social class. The health care practitioners are perceived to be on the same level as 'wise men' and spiritual leaders and next after God in terms of hierarchy. This relationship reduces the autonomy of the patient. It requires the practitioner to have the best interest of the patient in mind or it can become misguided. The patient is a passive participant, while the doctor must take full responsibility for decision making, information production, and the outcomes of treatment (Bazmi 2019; Oprea 2009). There is an imbalance of power and high ethical integrity is required from the practitioner for the patient's best interest to be maintained (Ranjan, Kumari and Chakrawarty 2015).

The informative model by Emanuel and Emanuel (1992) may also be called the consumer model or scientific model. In the framework, the sole purpose of the practitioner is to provide the appropriate information and receive the results of tests and then execute the desires of the patient. It drastically increases the autonomy of the patient, but the practitioner's role is reduced. The patient makes all the decisions regarding their care and the physician is the passive executor and information provider. This model has been theorized to fall within functionalist sociological theory, which sees the patient practitioner role as a client provider relationship, which can lead to increased satisfaction of the patient due to their increased autonomy (Ishikawa 2013). However, this model is flawed because, despite the need for autonomy and participation from the patient, the practitioner's depth of knowledge and experience is not being utilized, and the insight and guiding influence of the physician is lost (Bazmi 2019; Oprea 2009).

The interpretive model set out by Emanuel and Emanuel (1992), also called the counselor's model, moves further towards the patient-centered approach. The physician's role is not only to provide information but also to help interpret the patients' values and desires and try and advise the patient on the best way forward, considering what is needed and what would best suit the patient. This model increases the autonomy of the patient so they are responsible for their own decision-making but it also considers the value the practitioner can have in aiding this process (Bazmi 2019; Oprea 2009).

The deliberative model is the most nuanced and patient-centered communication model. It is also known as the friendship or teacher model. This goes one step further from the interpretive model. It emphasizes the identification of the patients' values in terms of their health. The correct information must be provided but responsibility lies with the patient to make decisions regarding their management. It is highlighted that the practitioner must guide the information and management using their experience and expertise to influence the patient positively to make the best decision regarding their condition and presenting state. This model again requires a high amount of integrity on the part of the practitioner since they need to have the best interest of the patient at heart to 'influence' the patient in making the best decision for their management strategy (Bazmi 2019; Oprea 2009).

This model and the patient-centered communication model correlate to the utilitarian theory in sociology, which describes that people will always negotiate a best outcome that suits both parties. Within this construct, the physician provides the expert advice and information and the patient provides their perspective and personal preferences, which are then combined to form the most appropriate treatment and management approach (Ishikawa *et al.* 2013).

Other models divide communication styles into patient-centered, practitioner centered or disease-centered. These guide the partnership of communication and the goal of the interaction (Hiller 2016).

Practitioner and disease-centered communication follows an older biomedical outlook on communication, where the practitioner leads the communication process. It is focused around the diagnosis of the disease which is decided upon by the practitioner, rather than the preferences and goals of the patient. Communication is based around explaining pathophysiology, and it uses a closed and direct questioning pattern (Ishikawa *et al.* 2013; Hiller 2016).

Patient-centered communication is the communication model which is used in patient-centered care. It is outlined by the National Cancer Institute of Germany to contain the following functions: foster a healing relationship, exchange information, respond to a

patient's emotions, manage uncertainty, make informed decisions, and enable self-management (Ishikawa *et al.* 2013; Levinson 2010).

It has been theorized to contain elements from the sociological theories of functionalism, utilitarian theory, conflict theory and social constructionism. The former three have been described. Social constructivism highlights that the practitioner's knowledge as well as the patients' perceptions and preferences are all constructs of their social and environmental interactions. This is forever changing and being influenced by the individual's environment and interactions. Therefore, both parties have a role to play in the interaction which is dynamic and bidirectional and neither role should be fixed (Ishikawa *et al.* 2013).

Good patient-centered communication (PCC) should include all the following characteristics:

- Elicit an in-depth history from the patient to obtain all relevant clinical information, including all yellow flags and social influences and a physical exam to identify signs of dread disease, and bio anatomic abnormalities (Lin *et al.* 2020).
- Should lead to an appropriate diagnosis and differentials with only the appropriate tests and investigation to minimize cost and damage to the patient (Lin *et al.* 2020; Brouwers *et al.* 2017).
- Provide all available treatment options and management approaches and not only the ones provided by the consulting physician (Lin *et al.* 2020; Hashim 2017).
- Facilitate the patient in making an informed decision about the best approach, treatment, and management of the condition, whether it be from the consulting physician or another provider.
- Educate the patient about risk factors and lifestyle adaptations that may assist in their recovery (Lin *et al.* 2020).
- Ensure the patient understands they are the driving force behind their care, that all decisions are theirs to make, and that the practitioner is a support and guide to that process (Hashim 2017).

- Be cognizant of the patient's emotional and psychosocial state and contributors and adjust the communication tone to be sensitive to this (Hashim 2017).

Most countries now adhere to the patient-centered approach and advocate patient-centered communication styles. It takes a continued effort to improve these skills and to ensure that they are being used in practice. The following studies demonstrate the continued effort of the medical fraternity in ensuring the patient-centered approach and patient-centered communication is being used (Härter *et al.* 2017; Santana *et al.* 2018).

2.4 THE LEGISLATION CONTRIBUTING TO PATIENT-CENTERED COMMUNICATION

Legislative councils governing healthcare, whose aim is to protect the rights and the health of the patient, have identified the need for the patient-centered approach to be adopted throughout healthcare. These legislative bodies have therefore incorporated the principles of the patient-centered approach and patient-centered communication into their prescriptive literature, making it law.

The Allied Health Professions Council of South Africa (AHPCSA), who governs chiropractic in South Africa, have incorporated these principles. In the code of ethics set out by the AHPCSA, there is a detailed code of conduct which states the necessary information that should be communicated to the patient.

The sections that follow have been extracted out of the code of ethics in terms of section 54(9) of regulation NO.R.127 of 12 February 2001 to the Allied Health Professions Act, act 63 of 1982. It does not include all the sections, only the ones that were relevant to the research topic of communication and patient-centered communication.

Section D outlines the duty to the patient:

1. Patients' well-being or best interests:

- a. Always regard concern for the best interests or well-being of your patients as your primary professional duty.

- b. Be aware of the possibility of conflict of interest with regard to human rights and dual loyalties.
- c. Honor the trust of your patients.
- d. Be mindful that a practitioner is in a position of influence and authority over a patient and avoid abusing your position.
- e. Within the normal constraints of your practice, be accessible to patients when you are on duty, and make arrangements for access when you are not on duty or suitable alternative arrangements.
- f. Make sure your personal beliefs do not prejudice your patients' care. Beliefs that might prejudice care relate to patients' race, culture, ethnicity, social status, lifestyle, perceived economic worth, age, gender, disability, communicable disease status, sexual orientation, and religious or spiritual beliefs, among others.
- g. If you feel your beliefs might affect the treatment you provide, explain this to your patients, and inform them of their right to see another professional.
- h. Do not refuse or delay treatment because you believe that patients' actions have contributed to their condition.
- i. Apply your mind when making assessments and considering appropriate treatment.
- j. Act quickly to protect patients from risk if you believe yourself to be impaired.
- k. Respond to criticism and complaints promptly and constructively.
- l. Inform your patients if you are in the employ of, in association with, linked to, or have an interest in any organization or facility that could be interpreted by an average person as potentially creating a conflict of interest or dual loyalty in respect of your patient care.
- m. Provide healthcare in emergency situations within the limits of your practice, experience and competency. If unable to do so, refer the patient.

2. Outlines respect for patients:

- a. Respect patients' privacy and dignity.
- b. Treat patients politely and with consideration.
- c. Listen to your patients and respect their opinions.

- d. Avoid relationships with patients, which when regard is had to the circumstance, obligations, interest and duties of the relationship, may be deemed to be improper, inappropriate or exploitative, including sexual, financial or social relationships.
- e. Guard against human rights violations of patients, and do not allow or participate in any actions that lead to the violations of the rights of patients.

3. Outlines Informed consent:

Section (d) of 3 states Informed consent is governed by Sections 6 to 9 of the National Health Act (Act No. 61 of 2003), which states that practitioners have an obligation to explain all information to the patient, in a language and terminology that is easily understood, in a manner which considers their level of literacy.

In terms of Section 6(1) of this Act every healthcare provider must inform a user of:

- a. The user's health status except in circumstances where there is substantial evidence that the disclosure of the user's health status would be contrary to the best interests of the user.
- b. The range of diagnostic procedures and treatment options generally available to the user.
- c. The benefits, risks, costs, and consequences generally associated with each option.
- d. The user's right to refuse health services and explain the implications, risks, obligations of such refusal.
- e. The practitioner must respect the patient's autonomy and self-determination in that, on receiving sufficient information regarding the treatment, the patient can decide whether to continue with the treatment.
- f. The practitioner should respect the right of the patient to seek another medical opinion before continuing with any treatment.

4. Pertains to patient participation in their own healthcare and how practitioners need to foster this.

- a. Respect the right of patients to be fully involved in decisions about their treatment and care.
- b. Respect the right of patients to refuse treatment or to take part in teaching or research.
- c. Inform the patients that they have a right to seek a second opinion without prejudicing their future treatment.

This section illustrates the code of ethics set out by the AHPCSA to help chiropractic practitioners maintain informed consent for the patient, as well as ensure the best care possible for them. It illustrates concepts which can be seen in patient-centered communication techniques to ensure the satisfaction and safety of patients.

2.5 PATIENT-CENTERED COMMUNICATION AND THE PATIENT-CENTERED APPROACH

The following components of communication during a consultation are thought to contribute to the therapeutic action, reducing pain and improving clinical outcomes. They have been identified as components that contribute to the patient-centered approach and are communication constructs that form patient-centered communication.

The words chosen during the communication process are important as they can exacerbate or diminish the person's belief and perception of their condition (Stewart and Loftus 2018). It is understood that people's beliefs about their pain and their perception about their condition can affect their pain experience. If they believe their condition is life threatening and severe, their pain experience will match regardless of the real impact of their conditions (Louw, Nijs and Puentedura 2017). Therefore, how these details are communicated to a patient, the words chosen and the emphasis placed on them, is significant.

In the management of osteoarthritis for example, the use of phrases like "bone on bone" "degenerative joint disease", "joint destruction" can make the patient believe and think that they are severely disabled and that their outcomes are likely very poor (Stewart and Loftus 2018). This can inadvertently enhance a person's pain experience and worsen

their outcomes and perceived pain. Osteoarthritis, however, is a normal progression of the aging process and very expected in the aged population. A high percentage of elderly people with radiographic signs of osteoarthritis are asymptomatic, and therefore the presence of the degeneration has a poor correlation to the symptoms experienced by the patient (Brinjikji *et al.* 2015; Cubukcu *et al.* 2012).

If health care providers communicate clearly to patients, being careful not to use catastrophic terms and words, their perception of the situation is regulated, and this can reduce pain, fear and anxiety, while still being informative (Louw *et al.* 2020). Correct communication and language usage can also iterate and motivate patients to participate in recommendations when they do not understand the severity of their situation. Therefore, being cognizant of the words used when talking to patients about their condition is very important to avoid the development of fear avoidance behaviors and catastrophizing (Steward and Loftus 2018; Booth *et al.* 2018).

The patient needs to be empowered with knowledge, as this is known to down regulate pain (Louw, Nijs and Puentedura 2017). Research into pain neuroscience education shows that when a person understands the nuances, physiology, and complexities of how and why their pain is being generated that this can help to reduce their pain experience (Louw *et al.* 2016). Therefore, having an informative consultation with a patient helps to not only address their risk factors and teach the patient about their condition. It also gives the opportunity to neurologically downregulate their pain experience through the acquisition of understanding reducing anxiety about the condition (Louw 2011). This knowledge also increases the likelihood of self-management and lifestyle modification (Hutting *et al.* 2019).

The process of active listening provides the platform for developing a therapeutic relationship between the patient and the practitioner. It is necessary for establishing an empathetic connection, which has a therapeutic effect (Hashim 2017). If a patient does not believe that the practitioner genuinely cares about them and their situation, their treatment and management protocol is likely to have a far reduced therapeutic action (Rathert *et al.* 2017). Active listening and allowing patients to express how their condition

is affecting them and their lives, allows patients to feel heard and reduces stress and anxiety. Stress and anxiety are known risk factors for worsened pain experience and the development of chronic pain. Therefore, the process of active listening within the consultation is a construct of communication, which has a strong therapeutic action (Naughton 2018).

Active listening also allows the practitioner to identify the patients' beliefs and barriers to healing, lifestyle changes and the management needed to address their condition (Hong and Oh 2020). Therefore, this allows practitioners to tailor more accurately their responses and education to guide and correct the patients' understanding. Active listening is suggested to be the best method of obtaining clinical information. If open ended questions are asked with enough pauses, allowing the patient to respond fully, more detailed and more relevant clinical information is obtained leading to a better diagnosis (Hashim 2017; Rather *et al.* 2017; Naughton 2018).

Through active listening, showing empathy with eye contact and body language, patients become more autonomous since they are less fearful (Hashim 2017). The composite outcome of this can reduce unnecessary health care visits, improve self-management and improve overall experience while reducing the burden of chronic MSK pain (Hong and Oh 2020; Lin *et al* 2020).

2.6 THE BENEFITS OF PATIENT-CENTERED COMMUNICATION

It is well researched that there are many benefits to practicing within the patient-centered paradigm and using patient-centered communication (therapeutic communication), especially within the areas of manual therapy and chiropractic. Therapeutic communication can lead to outcomes which are highly sought after in healthcare. This includes reduction in the cost of health care, increased satisfaction of the patient and more successful treatment outcomes (Xue and Heffernan 2021; Ranjan, Kumari and Chakrawarty 2015; Hong and Oh 2020).

Therapeutic communication can reduce overall cost of care (Levinsone, Lesser and Epstein 2010; Hong and Ho 2020). When both parties are actively engaged in the communication process, and the practitioner focuses on open ended questions, allowing for adequate time for the patient to respond; more clinically relevant information is gathered; the correct diagnosis is more likely to be reached; less misdiagnoses occur; and treatment is more appropriately tailored to the patient and their diagnosis (Hong and Oh 2020).

This means the correct investigative tests are sent for and less unnecessary tests are done. Less money is spent during the investigative process. When an accurate diagnosis is made early on, treatment and management are implemented more timeously and there is quicker resolution of symptoms. These factors all lead to a reduction in the cost of care as there are less costly tests, and quicker recovery with fewer doctors' visits (Kee *et al.* 2018).

With adequate effort into therapeutic communication, a patient's ability to self-manage is improved, which reduces unnecessary health care and emergency care visits, while still speeding up time to recovery. This, therefore, contributes to a reduction in overall cost of care (Xue and Heffernan 2021; Ranjan, Kumari and Chakrawarty 2015; Hong and Oh 2020).

Interactive communication skills lead to fewer unmet expectations and patients feel like they have been heard; these factors may lead to a reduction in litigation, which also reduces cost to the healthcare systems, the practitioners and the patients (Levinson, Lesser and Epstein 2010).

When open communication is the goal of practitioners, patients feel understood, they know more about their own situation and have more tools, through patient education, to improve their situation (Kelly and DiMatteo 2009). The increased knowledge and sense of control, which is established through open communication, active listening by the practitioner and communication of appropriate education, reduce anxiety in the patient, which, in turn, reduces perceived pain levels, ultimately quickening time to recovery (Louw *et al.* 2016).

Therapeutic communication leads to increased satisfaction (Ha and Longnecker 2015; Rathert *et al.* 2016). Research shows that since patients do not understand and measure their experience based on medical outcomes and measures, they often use successful communication as a means to measure the success of the interaction (Hong and Oh 2020; Ha and Longnecker 2010). Therefore, when their physician engages in active listening, does not cut them off and asks open ended questions, using empathetic tone and language, it leads to increased satisfaction of the patient (Pugliese and Wolff 2020). Furthermore, improved outcomes and decreased cost of care are also factors which contribute to patient satisfaction (Hong and Oh 2020). The factors of increased knowledge, increased sense of control and reduced anxiety all improve patient satisfaction (Ranjan, Kumari and Chakrawarty 2015).

All the above-mentioned positive effects of successful patient practitioner communication link this phenomenon to improved healthcare outcomes in general (Silverman *et al.* 2005). Therefore, the pairing of therapeutic communication with any treatment and management protocol for any condition makes the outcomes more successful. Many studies show that if patients participate in their own healing process, there are more favorable outcomes (Cheng *et al.* 2015; Naughton 2018).

Research shows that manual therapy that includes education and exercise interventions, which encourage self-management, are more successful and have improved treatment outcomes when compared to manual and biomechanical treatments on their own (Booth *et al.* 2017; Pugliese and Wolf 2020 Gordon. and Bloxham 2016). This illustrates that when patients feel that they have worked and participated in their own healing process, the overall outcomes were more favorable. Therefore, treatment protocols that include education and patient activation through communication lead to improved treatment outcomes (Lin *et al.* 2020).

The three factors of reduced healthcare cost, improved patient satisfaction and improved outcomes have been the core motivating features for research into communication in healthcare and patient-centered communication (Ha and Longnecker 2010).

Therapeutic communication between the patient and practitioner improves health literacy (Naughton 2018). Health literacy is the ability for a layperson to understand, interpret and get information to make informed decisions about their health (Lynch and Franklin 2019). Low levels of health literacy have a stronger causal link to poor health outcomes when compared to other risk factors, such as old age, low education, coming from low socioeconomic background, or being non-Caucasian (Lynch and Franklin 2019). This is advantageous because, while some of these risk factors are non-modifiable, health literacy is.

With adequate effort into communication, through active listening and asking questions, patients' existing level of health literacy can be identified. Practitioners can then choose their words appropriately, ensuring understanding, while teaching and providing patients with the necessary information to empower them to make more informed health decisions (Hardavella *et al.* 2017).

Specific medical terms related to the patients' cases can be defined and explained using lay terms. Choosing simple words, explaining medical terms, and asking patients what they understand about what has been discussed, are all ways consultations can be used to improve health literacy of individuals. Using images, videos and providing education material via links are also ways of improving health literacy. The literature suggests trying to only use three pieces of information during patient education as another technique of combating low health literacy. (Coleman *et al.* 2017 Kountz 2009).

Therefore, a consultation where therapeutic communication is utilized can lead to improved health literacy of the population and can improve overall healthcare outcomes (Coleman *et al.* 2017).

Poor health literacy is a risk factor for chronic disease and chronic pain (Köppen *et al.* 2018; Mackey *et al.* 2016). Patient-centered communication has been recommended as the best way to address chronic disease and chronic pain (Lin *et al.* 2020; Hawk *et al.* 2020 Rathert *et al.* 2016)

2.7 CHRONIC DISEASE, CHRONIC MUSCULOSKELETAL PAIN, AND RISK FACTORS

Chronic disease is defined by the Centers for Disease Control and Prevention (CDC) “broadly as conditions that last one year or more and require ongoing medical attention or limit activities of daily living or both” (CDC 2022). In other literature, it has been defined as a condition lasting more than three months (Booth *et al.* 2017). It is estimated that 60% of Americans have at least one chronic disease and that over 40% have more than one (Brady *et al.* 2018). The leading causes of death due to chronic disease include chronic cardiovascular disease, cancer, and diabetes (CDC 2022). Chronic disease management has large economic and social implications. It is an increasing problem in developing countries due to urbanization, adoption of a western lifestyle and an increasing aging population (Jakovljevic and Milovanovic 2015). A peer reviewed study by Brady *et al.* (2018) illustrated that one of the best ways to manage chronic disease is through promoting self-management and patient-centered care and communication (Rathert *et al.* 2016).

In chronic disease management, the use of patient-centered communication skills and patient education is even more pertinent. This is because chronic conditions require long term and sometimes lifelong management. This means more visits to general practitioners and specialists are required, modification of lifestyle and activities of daily living are often recommended, and medication compliance is necessary (Stuber *et al.* 2016). Self-management support, effective information delivery systems and community resources links are considered key factors in the Chronic Care Model which has been implemented by primary care in Canada, the USA and other countries as best practice for chronic disease management (Stuber *et al.* 2016). These are all characteristics of patient-centered care.

Chronic conditions have a significant impact on family and work and research shows they are contributing factors to morbidity, disability, and the global burden of disease (Naughton 2018; Habib and Saha 2010). This burden has been growing and is expected to grow further due to an aging population seen around the world (Stuber *et al.* 2016).

Since chronic diseases require long term management, participation by the patient within their own care process is beneficial.

Maximum effort into communication and education and the use of patient-centered care is an optimal way of managing the chronic patient (Naughton 2018). Communication as an intervention can aid in identifying the needs of the patient as an individual, which can lead to improved self-management and reduced morbidity. Increased knowledge and understanding about their condition, established through increased patient education and communication, reduces unnecessary visits to specialists and doctors. Patients are more likely to modify their lifestyle and be compliant to their medication since they understand the impact this can make on their own quality of life (Naughton 2018).

Often there is one practitioner who is managing many people and therefore it is difficult for the practitioner to be actively involved in managing each chronic case. If patients are encouraged to put effort into managing their own conditions, through education and communication and implementing as many interventions as possible, their suffering could be reduced (Souza, 2020).

Some chronic conditions which benefit from increased patient practitioner communication and active patient participation in their own care include cardiovascular disease, diabetes mellitus, chronic respiratory disease, cancer and stroke and musculoskeletal disease, such as rheumatoid arthritis, osteoarthritis, low back, and neck pain (Wildevuur and Simonse 2015; Booth *et al.* 2017).

Musculoskeletal (MSK) pain is defined by El-Tallawy *et al.* (2021: 1) as “acute or chronic pain that affects bones, muscles, ligaments, tendons, and even nerves, and the pain associated with MSK disorders”. Chronic MSK pain is pain that lasts longer than three months (Booth *et al.* 2017). The leading causes are low back and neck pain, osteoarthritis, rheumatoid arthritis (El-Tallawy *et al.* 2021; Hutting *et al.* 2019).

Chronic MKS pain, therefore, has a significant impact on morbidity and years lived with disability. Chronic MSK pain is one of the leading causes of disability, days missed off work and the worldwide burden of disease (Blyth *et al.* 2019). Its impact on quality of life and patients' ability to participate in activities of daily living are affected (Hartvigsen *et al.*

2018). It is known to lead to depression, anxiety, reduced ability to work and affecting participation within the family unit (Briggs *et al.* 2018). Chronic MSK pain often needs lifelong management, contributing to increasing costs for healthcare systems, businesses, and individuals (Briggs *et al.* 2018). Sufferers of chronic MSK conditions need more time with practitioners to allow for in-depth discussion on self-management protocols, lifestyle adjustments and for the practitioner to identify how the patient is coping physically and mentally (Baker *et al.* 2011). Practitioners need to assist in modification of patients' own goals and activities of daily living to enable them to remain independent and meet their goals while adjusting to their changing capabilities (Baker *et al.* 2011). Chronic MSK disease is proven to benefit from exercise therapy and nutritional modification and sometimes medication compliance.

All these factors require the patient to participate in these activities at home, out of the hands of the practitioner, and, therefore, require self-management and motivation (Lin *et al.* 2020; Booth *et al.* 2017; El-Tallawy *et al.* 2021; Hutting *et al.* 2019). Therefore, increased effort into communication with patients is required to advise on lifestyle modifications, to motivate and educate, so as to achieve the best outcomes possible (Hutting *et al.* 2019). This contributes to the increased cost and effort to support and provide care for this population (Briggs *et al.* 2018). Therefore, communication and adequate patient education play a significant role in reducing the burden of chronic MSK pain and dysfunction (Lin, Green and Bessarab 2019).

Chronic disease and chronic MSK conditions have shared and overlapping risk factors, including poor nutrition, smoking, lack of physical activity, obesity, and excessive alcohol use (Briggs *et al.* 2019; CDC 2022). Chronic disease is often seen as a comorbidity with chronic MSK disorders, since they affect metabolic health, efficiency of the cardiovascular system and reduce the capacity of a person to perform physical activity. Therefore, they share an association and often contribute to multimorbidity (Simões *et al.* 2016). These shared risk factors are best addressed through lifestyle modification and self-management. This includes things such as dietary changes, increasing exercise and activity, the cessation of smoking, increasing support systems and social interaction as well as time outdoors (Hutting *et al.* 2019).

Therefore, patients suffering with chronic MSK disorders and their often concomitant chronic multi-morbidities are best addressed with motivation and education with an emphasis on lifestyle modification and self-management (Hutting *et al.* 2019; Booth *et al.* 2017; El-Tallawy *et al.* 2021). This is best achieved through patient-centered communication and care, which is why it has been advocated for as the best way to manage chronic conditions and chronic MSK conditions (Lin *et al.* 2020; Hawk *et al.* 2020 Rathert *et al.* 2016).

2.8 BARRIERS TO COMMUNICATION

Many factors have been identified as barriers to effective communication. Despite the vast amount of research in this area and many countries advocating for patient-centered communication to be utilized within healthcare and MSK care there are still many barriers, which are faced in its implementation.

The most obvious of these barriers include cultural and language differences between the patient and the practitioner. Research shows when people perceive themselves to be like one another it is easier for them to communicate and connect. Their frame of reference is the same and therefore communication is easier. How we look, sound, our cultural identity and language, all contribute. Differences can make it difficult for individuals to form a trusting relationship and therefore communicate (Street *et al.* 2008).

There needs to be an adequate level of language comprehension between the two parties to establish a therapeutic relationship (Ranjan, Kumari and Chakrawarty 2015). When there are translation issues, due to language differences between patients and practitioners, medical interaction can become more difficult. This has increased impact in a place like eThekweni, South Africa, the study location of this research, since it is a multilingual region and language differences between providers and patients can differ (Chima 2018).

This means practitioners may have a higher socioeconomic bracket, which historically was dominated by the English and Afrikaans languages, and patients may be poorer

socioeconomic populations speaking more indigenous languages. Despite the adjustment of policy since the end of apartheid these divisions still affect the poorer vulnerable populations, who have reduced access to care in their home language, as well as reduced access to adequate education to obtain proficiency in English or Afrikaans (Chima 2018). These language disparities can lead to several issues including compromised informed consent, reduced confidentiality, care becoming more time-consuming, increasing frustration and reducing empathy and holistic care (Chima 2018; Hussey 2012).

Street *et al.* (2008) indicated that cultural and language differences and 'perceived similarity' identified by the practitioner affected the patient-centeredness of the communication they provided to the patient. Van Vuuren and Nel (2018) identified that physiotherapy students in KwaZulu-Natal found language barriers affect the quality of care they provided and that training in this area could be improved.

Time constraints have been identified as barriers to effective patient and practitioner communication and education (Naughton 2018). These concerns lead to practitioners cutting off patients while they are speaking and asking closed questions (Hong and Oh 2020). It is difficult for patients to feel heard and cared for when the practitioner appears rushed and does not allow the patient time to talk. The necessary communication has not occurred and this affects the formation of a trusting therapeutic relationship. Research conducted by Skärd and Söderberg (2018) and Kee *et al.* (2018) demonstrated how quick or rushed appointments affect patients' perception of the quality of the communication and the interaction. Naughton (2018) showed that practitioners perceive time constraints to also be a barrier to successful communication with their patients.

Some studies indicate that the doctors and physicians themselves can be a barrier to efficient communication (Skärd and Söderberg 2018; Kee *et al.* 2018). This can be due to perceived insufficient time, insufficient training, length of time in practice, fear of inadequacy and an inability to practice patient-centeredness due to their bias being a biomedical framework (Naughton 2018; Hiller *et al.* 2016). This is seen to result in a lack of empathy, poor tone and facial expression, which is perceived as indifference, cutting

patients off while they speak, and insufficient explanation of outcomes, prognosis, and other perceived relevant information (Skärd and Söderberg 2018; Kee *et al.* 2018; Naughton 2018; Hong and Oh 2020).

This study has not sufficiently been able to examine this barrier directly since it only gathered information from the practitioner's perspective and therefore did not obtain a patient's perspective on the practitioner as a barrier to the communication process. Although some insights were deduced on practitioners as a barrier.

A patient's level of health literacy can be a barrier to communication. It can hinder a patient's ability to understand and implement recommendations proposed by a physician. When patients feel overwhelmed or do not understand the information the doctor has provided, they are less likely to ask questions and engage in the communication process and less likely to internalize the information provided (Coleman *et al.* 2017; Kountz 2009; D'Agostino *et al.* 2017).

Finance and cost of care has been identified as a barrier in the literature. Due to exponential inflation and a decrease of access to care, patients lack access to the practitioners to engage in the communication process and patient education. Manual therapists have an advantage over general physicians since they have more contact time with patients and therefore more time to communicate and educate (Cheng *et al.* 2018). However, many patients cannot afford to return for their follow up visits and have limited resources to spend on MSK health. Furthermore, the cost of care is increasing due to the increased cost of education and running a practice (O'Leary *et al.* 2020; Ray and Pathak-Ray 2018)

A barrier identified in the literature to therapeutic communications' successful use in musculoskeletal care is the lack or insufficient education and training in communication skills (Kee *et al.* 2018). This has been identified by physiotherapists and chiropractic students internationally (Muddle *et al.* 2019). Manual therapists are mostly trained in a biomedical and biomechanical method of treatment (Hiller *et al.* 2016; Muddle *et al.* 2019). Although passive communication skills and various aspects are briefly covered in most training facilities, the in-depth application and specific training to utilize communication as

a treatment modality is not well taught. This makes the full use and application of these methods difficult to implement in practice (Hong and Oh 2020).

Studies show that although this is the best proven way to practice, it has also shown less efficiency when insufficient training has been implemented (Ha and Longnecker 2010; Levinson *et al.* 2010). Often practitioners feel left to learn communication skills as a passive skill once entering practice and the appropriate feedback on their proficiency is not received (Levinson *et al.* 2010). It is understood that modeling and feedback methods are the best way of honing and improving communication skills. When insufficient training has occurred, physicians may discourage patients from speaking deeply about their concerns due to fear of inadequacy to deal with the outcomes (Levinson *et al.* 2010).

It is important to identify and attempt to address barriers to communication because poor communication between the patient and practitioners has been linked to an increase in litigation (Huntington and Kuhn 2003; Jha 2018; Kee *et al.* 2018). In malpractice lawsuits evaluated by Leonard in 2017, 70% had communication at the core of the complaint. These included patients feeling deserted (lack of communication); devaluing patients views (patients' perceptions were disregarded); information given poorly, (use of words and communication was not adequate); and patients perspective was not understood (not addressing the psychosocial component of the interaction) (Leonard in 2017).

Further research shows that despite the knowledge of the importance of communication within the healthcare interaction, that its use and patients' satisfaction with it is declining (Ha and Longnecker 2021; Skärd and Söderberg 2018). This leads to an increase in litigation and lawsuits against physicians and practitioners (Ha and Longnecker 2015).

2.9 LIMITING FACTORS IN COMMUNICATIONS RESEARCH

Although this research examined the practitioner's perspective of communication and patient education only, it is important to note that this is a shared process. It is required that both parties participate. Research shows that what both parties value within the communication process is different. It is therefore a dynamic construct and when

researching it, the two parties' perceptions cannot be compared as they value different aspects of the communication process (Röttele *et al.* 2020).

Practitioners talk more than patients and patients often feel unheard and are cut off before they get to the key clinical information (Kee *et al.* 2018; Leonard 2017). Other research showed that patients were only allowed to talk for 23.5 seconds before being cut off by a practitioner (Naughton 2018). Since a practitioner is the person who is leading the interaction, and historically the power dynamic shows the practitioner is in a position of control (Ishikawa 2013; Baker *et al.* 2011), it is the role of the practitioner to create a space for the patient to be heard by asking open ended questions and providing them time to answer (Röttele *et al.* 2020; Hardavella *et al.* 2017).

The proposed reasoning for this is time constraints, which is one of the perceived barriers to communication. Studies show that if allowed to fully express themselves, patients will get to the clinically relevant information within two minutes and if they digress or take time, the information they present may be key to their presenting condition (Naughton 2020).

There is much research into patient practitioner communication, the benefits of it and the drawbacks due to the lack thereof. Despite this, there is still a lack of concordance or difference in the perception of the interaction (Street *et al.* 2008). This means that within many patient practitioner relationships, the perception of the communication within the same interaction are often different (Kenny *et al.* 2010). Practitioners and patients perceive communication proficiency to be at different standards: practitioners often overestimate their communication proficiency when compared to the perceptions of the patient's perspective (Kee *et al.* 2018). This can be attributed to practitioners valuing the sharing of medical information and diagnosis, while the patient values how much they felt cared for or the amount of empathy they experienced as an example. The patient does not measure the interaction on a medical framework, rather using a more social framework. This leads to a mismatch in the perceived "quality" of the communication shared (Kee *et al.* 2018; Naughton 2018; Hong and Oh 2020).

Emphasis within the conversation is often placed on different aspects of the conversation. This can be seen in Baker's study (2011) where the practitioner emphasized the patient

should adjust goals and settle into their new normal level of function, whereas the patient emphasized returning to their previous normal level of function. This is a critical difference in goal setting as one is attainable and one is not, and the goal of the patient and the practitioner are not aligned. It is the responsibility of the practitioner to adjust the patient's understanding of the implications of their condition and ensure that they have a realistic understanding of the possible outcomes and prognosis (Baker *et al.* 2011).

Other research indicates that patients do not always have the necessary communication skills themselves to participate adequately in the communication process. This can lead to less questions being asked, less clinical information being shared and less personal and emotional information shared. This has also been shown to decrease the participation and contribution from the practitioner (D'Agostino *et al.* 2017).

Despite the extensive research into the importance of communication and what is entailed in providing 'good' communication, much research shows a lack of consistency in the definition of 'patient-centered communication' within research and how it is operationalized within practice (Xue and Heffernan 2021). It has also been identified that despite the academic literature identifying communication as a pivotal construct within the formation of a therapeutic relationship, and its association with patient outcomes and patient satisfaction, there is limited consistency and structure in the way that it is tested and examined in scientific research (Roberts and Bucksey 2007). Research also shows that communication skills have not been well integrated into manual therapy education systems internationally. This can be seen in this systematic review based on Australian chiropractic and osteopathic schools (Muddle *et al.* 2019) and in physiotherapy training in South Africa (van Vuuren and Nel 2018).

These disparities in patient and practitioner perception of the communication process, and the issues identified in the research examining it, show that there is still room to investigate the phenomena further and room for practitioners to improve and hone their communication skills.

It is, therefore, important to further study this phenomenon and to encourage practitioners to incorporate and be cognizant of what patients' value within the communication process

to make their communication more effective and to truly practice within the patient-centered paradigm.

In healthcare, and MSK care, there are other established communication styles that have been developed. These communication styles have been utilized to motivate the patient to participate within their own healing process and use communication as an intervention to down regulate pain. These will be addressed next and include motivation interviewing and pain neuroscience education.

2.10 MOTIVATIONAL INTERVIEWING:

Motivational interviewing (MI) is a communication technique used in talk therapy or doctor consultation which aims to impart patient education in a way which fosters greater patient activation, and, therefore, behavioral change. Adjusting words used during communication and advice giving, and showing empathy while doing so, allows the patients to internalize the benefits of change as opposed to reinforcing the reasons against change behavior (Jamil, Javed and Iqbal 2021). It is a talk therapy style which is based in cognitive behavioral therapy, which intends to guide the patient in understanding their thoughts and feelings and how they relate to their behavior (Bundy 2004). In doing this, the intention is to identify barriers and ambivalence to change (Shannon and Hillsdon 2007). The patient is then encouraged to reframe and identify the benefits and reasons why they should support a behavioral change (Jamil, Javed and Iqbal 2021).

Within motivational interviewing, there are cognitive behavioral principles, which should be instilled (Bundy 2004).

These include:

- To understand his or her thought processes related to the problem.
- To identify and measure the emotional reactions to the problem.
- To identify how thoughts and feelings interact to produce the patterns in behavior.
- To challenge his or her thought patterns and implement alternative behaviors.

The five basic principles of MI, which are needed to create a condition where change is possible (Bundy 2004):

1. Express empathy.
2. Avoid arguments.
3. Support self-efficacy.
4. Roll with resistance.
5. Develop discrepancy.

These eight steps of motivational interviewing help to establish the aims of MI:

1. Establishing rapport.
2. Setting the agenda.
3. Assessing readiness to change.
4. Sharpening the focus.
5. Identifying ambivalence.
6. Eliciting self-motivating statements.
7. Handling resistance.
8. Shifting the focus.

This technique has value in chronic care settings when self-management is important and lifestyle changes are a crucial part of the management strategies (Jamil, Javed and Iqbal 2021). Therefore, this style of patient-centered communication is useful in MSK care, especially chronic MSK care. It has been shown to improve patient adherence to rehabilitation when used in conjunction with conventional physiotherapy for MSK, quickening return to work post debilitating MSK injury and improving chronic MSK treatment outcomes (DiClemente *et al.* 2017; Park *et al.* 2018; Jamil, Javed and Iqbal 2021). Therefore, this communication technique has the ability to aid in reducing the

burden of disease created by chronic MSK disability and total years lived with disability (Chilton, Pires-Yfantouda and Wylie 2012)

Motivational interviewing was first established in the mid-1980s when therapists started modifying cognitive behavioral therapy for use in addiction counseling (Shannon and Hillsdon 2007). Soon after, the technique was adapted to use in other medical fields, such as nursing, MSK medicine and chronic care. With the move to a more biopsychosocial model in healthcare, motivational interviewing has been integrated with the desire to activate patients in their own healing process, more wholly embrace lifestyle changes to support their diagnoses and remain more adherent to treatment protocols (Shannon and Hillsdon 2007). It utilizes concepts from change psychology to identify the readiness of patients to change and adapts the communication style to match their psychological change stage (Bundy 2004).

Change psychology identifies the level of ambivalence which exists within most people undergoing the process of change (Bundy 2004). Ambivalence is the state of having mixed feelings or contradictory thoughts on something (Shannon and Hillsdon 2007). The internal narrative expresses the motivations for and against a certain behavioral change. In the biomedical consult, the process of 'informing' and 'educating' the patient about the risk factors or the dangers of the current behavior can prompt the patient to provide the opposing narrative, which can further reduce the potential for change. This is known as the "righting reflex" (Shannon and Hillsdon 2007). An example of this would be if a doctor explains to a patient that losing weight will decrease their cardiovascular risk factors or exercise will improve their low back pain. The patient will feel compelled to supply the opposite side of the narrative. They may say that it hurts when they exercise or they do not have enough time in their day to exercise. The patient has therefore reinforced the factors in support of not changing their behavior (Bundy 2004). Therefore, the practitioner must swap narrative roles.

The barriers and challenges the patient is experiencing which are holding them back from initiating sustainable change need to be acknowledged by the practitioner. Without this the patient will never feel heard and will always revert to the reasons why the process is

too difficult and therefore reinforce this thought process (Bundy 2004). For example, the practitioners could state they understand the patient feels discomfort when they walk, while acknowledging the difficulty in finding time in a busy day to exercise. They could then try to get the patient to express the things they may gain from incorporating more exercise into their daily routine. The patient then expresses and reinforces the side of the narrative which encourages positive change. This is known as “change talk” (Bundy 2004).

A person is more likely to be committed to change when they hear themselves reiterating the reasons why they want to change, and the positive benefits associated with the change. This process highlights the difference between their current behavior and the behavior that needs to be adopted with an emphasis on the benefits and the gains from the positive behavioral change (Shannon and Hillsdon 2007). Once the behavioral changes that need to occur have been identified, and the barriers and ambivalence to change have been identified, the practitioner can help the patient formulate a change plan (Bundy 2004).

A change plan is important because it makes goals more achievable. It is a process of breaking the goals down into smaller processes and identifying ways they may be incorporated into patients’ lives in an achievable manner (DiClemente *et al.* 2017). It also incorporates directing patients to the help they may need to initiate the change, for example identifying service providers which may be conducive to the health behavior change needed, such as exercise classes, a nutritionist, or psychologist.

Before the practitioner can embark on this process, it is important to identify the stage of the change the patient is in as this will guide how to embark in motivational interviewing. (Bundy 2004; Shannon and Hillsdon 2007).

The following stages of change have been identified, based on the Transtheoretical Model, more commonly known as the Stages of Change Model (DiClemente *et al.* 2017). It is understood that an individual can go through this process up to seven times before implementing sustained permanent change.

These stages include:

- Pre-contemplation: when the individual is not considering change.
- Contemplation: when they are favorably disposed to change but have not made concrete plans or adopted any action.
- Planning: when strategies have been selected but not yet used.
- Action: when attempts have been made to, for example, stop smoking, lose weight, or adhere to some other health advice.
- Maintenance phase: when people make deliberate attempts to continue with the change program.

Jamil *et al.* (2021), Park *et al.* (2018), and Alperstein and Sharpe (2016) have shown that the use of motivational interviewing in MSK treatment and chronic MSK treatment is effective. It has been shown to improve outcomes, increase adherence to recommendations and decrease pain, and improve recovery of workers with MSK disorders.

2.11 THERAPEUTIC NEUROSCIENCE EDUCATION (TNE)

Therapeutic neuroscience education (TNE) is another type of communication technique which is used in consultation to change patients' outcomes. It is specifically directed at chronic pain patients and aims to use communication to change patients' pain perception to improve their condition. Robins *et al.* (2016 p. 43) stated that "Pain education addresses patient misconceptions about physiological phenomena and helps shift their perspective to the idea that pain is dependent on biological, psychological, and social processes."

A meta-analysis and mixed methods systematic review conducted by Watson *et al.* (2019) on the use of TNE for chronic MSK pain indicated that this method of communication helped patients cope with their condition, as well as lowering their pain experience. Another systematic review and earlier study conducted by Louw *et al.* (2011; 2016)

showed its effectiveness is reducing disability, anxiety, reducing pain at catastrophizing, while improving function and movement.

In most physiotherapy and chiropractic approaches, pain can be overly mechanized and mostly attributed to biomechanical and anatomical dysfunction (Louw, Nijs and Puentedura 2017; Shala *et al.* 2021). The word 'pain' can be repeated excessively while the area of discomfort is repetitively poked and provoked. These practices are now known to upregulate and intensify the pain experience (Louw, Nijs and Puentedura 2017). Increased research shows a stronger link between pain and disability to the psychosocial state of an individual compared to the tissue state (Stewart and Loftus 2018).

The current model of pain recognizes that pain is a complex experience which is modulated by many systems. A person's level of stress, quality of sleep and affect all contribute to the pain experience (Hamilton, Catley and Karlson 2007). One's environment, psychological state, level of arousal, as well as the state of the tissues, will all affect the perception of pain. Attention can even be a predictor of pain (Moseley 2007). Pain neuroscience suggests it is essential to approach a patient in a biopsychosocial manner to address and investigate all aspects that could be influencing the person's pain experience including the psychosocial, environmental and biological (Watson *et al.* 2019).

These contributing factors to the overall pain experience need to be addressed by the practitioner or referred accordingly to someone who can help "down regulate" the central nervous system and reduce the pain experience of the patient. This approach attempts to change patients' beliefs about their pain, reconceptualizing it, therefore changing the central nervous system and brain and modulating the sensation (Shala *et al.* 2021).

An important component of TNE is to understand the different types of pain, namely somatic pain, neuropathic pain, and central pain (Crofford 2015).

Somatic or acute pain shows evidence of tissue damage. There are little or no psychosocial implications and the presenting pain will diminish with normal tissue healing time. Pain should resolve when tissue repairs (Crofford 2015). This type of pain requires less of a TNE approach and less emphasis on the communication within the consultation would need to be placed.

Neuropathic pain is specific to neurological damage. It presents as burning or tingling with altered sensation either due to nervous tissue damage, such as diabetic neuropathy or true nerve root entrapment at the spinal cord level (Crofford 2015). This type of pain, although not entirely curable, could benefit from a TNE approach to communication and, since it is chronic pain, it could be managed and down regulated with sufficient effort into communication and education.

With central pain, there is no evidence of tissue damage or pain has persisted well after the injury has healed. It can also be identified as chronic pain. There is no evidence of neurological involvement in the pathophysiology of the pain but chronic pain persists. Psychosocial factors are attributed to playing a role. The proposed mechanism is that central sensitization has occurred, whereby the neurological pathway which is responsible for the pain gets a lowered threshold for stimulation (Crofford 2015; Louw *et al.* 2017).

It is now known that chronic pain can change the brain by reducing the amount of gray matter and increasing the size of the affected part (area of pain) in the homunculus of the outer cortex, as well other areas, including the prefrontal cortex, the amygdala and the brain stem (Rodriguez-Raecke *et al.* 2009). This means that the brain's sensitivity to pain in this area is “turned up” so that even non-painful stimulation can activate the pain neural pathway and elicit a pain response (Louw *et al.* 2017).

It is thought that biopsychosocial components and environmental and behavioral components have a contributing impact in producing the neurological and physiological changes which can make pain persistent (Crofford 2015). This type of pain is suited to a TNE approach to communication. Communication and education can down regulate the central nervous system, reducing fear and anxiety and improving patients' perception of their pain.

Pain neuroscience suggests that the longer pain progresses into chronicity, the less accurate it becomes as an indicator for tissue damage (Mosley 2007).

It is understood that repeating the word pain numerous times in a consultation can upregulate the pain experience/ sensation. Therefore, the words chosen during a session

are important. Words like degenerative disease or slipped or misalignment can make patients perceive the level of damage and injury as far surpassing what is meant. This can lead to fear avoidance behavior, sensitization of the central nervous system and allodynia of tissue. Therefore, communication, as a means of delivering patient education in the form of utilizing PNE in the treatment of MSK conditions, is a valuable thing to explore and investigate (Steward and Loftus 2018; Shala *et al.* 2020).

Since chiropractors treat neuromusculoskeletal pathologies, their patients usually present with a complaint of 'pain'. This model of conducting a consultation is an example of how communication, even to the use of certain words, can be tailored to help optimally treat the patient. The education and words which are used to communicate to the patient not only help them modify their lifestyle to help improve their pain and condition but it can also educate the patient about pain physiology (Hinkeldey *et al.* 2018).

2.12 CONCLUSION

In this chapter, the literature was presented regarding communication, patient education and its role in MSK care and chiropractic. A brief history of communication and the different communication models in healthcare were discussed. Communication and how it fits into patient-centered care were explored, as well as the benefits and barriers in utilizing patient-centered communication. The link between chronic pain, chronic MSK conditions and how communication can benefit these areas was also discussed. The literature describing motivation interviewing and therapeutic neuroscience education were included since these are other communication styles which are used to treat MSK conditions and chronic MSK conditions.

There is a lack of knowledge on how communication is used in patient education in MSK care by chiropractors in eThekweni South Africa. Therefore, this current research study aimed to explore this.

The next chapter discusses the methods used to address this paucity in the literature.

CHAPTER 3 METHODOLOGY

3.1 STUDY DESIGN

This study utilized a qualitative research paradigm with an exploratory design to investigate the experience of chiropractic practitioners in terms of their use of communication, barriers to communication and strategies in which barriers to communication are overcome to deliver patient education (Silverman 2005). This design was utilized to enable the researcher to obtain insight into how practitioners perceive their own communication and patient education and how they overcome the barriers that may hinder effective communication and patient education. The researcher used this study design because the nature of communication and patient education to treat musculoskeletal pain is a phenomenon best explored while looking at personal experience, to gain a deeper understanding of how these concepts are addressed in everyday practice (Graneheim and Lundman 2004; Ward, Comer and Stone 2018).

The medium of a semi-structured interview was used to obtain the personal perspective of each practitioner interviewed, to collect a rich and thick description of their experience and perspective regarding the phenomena being explored (Polit and Beck 2012). This lengthy and in-depth interview process added to the credibility and rigor of the study contributing to the choice in study design (Cope 2014).

3.2 LOCATION OF THE STUDY

This study was conducted in private chiropractic settings in the eThekweni Municipality. Chiropractors in South Africa practice solely within the private sector and not within any government clinics or government hospitals. In eThekweni, there are chiropractors practicing in low and high socioeconomic areas. There are practitioners practicing alone, within private rooms and in dynamic multi-disciplinary health care settings. Some chiropractors practice from alternative health care facilities, while others may share

locations with medical doctors or practice privately within private hospital settings (CASA 2020). These differ from public health facilities as they are more affluent, spacious, clean, quiet and less crowded (Richardson 2007).

The locations of the practitioners being studied affected the nature of the information gathered, because their location placed them within the vicinity of a particular population. Therefore, each study location produced slightly different perspectives on communication and the barriers faced. Through reaching data saturation and analyzing each interview before conducting the next, the researcher identified shared experience despite the variation in study location; this has added to the credibility of the study (Cope 2014).

3.3 POPULATION

The population of interest in this study was registered chiropractors in the eThekweni Municipality, KwaZulu-Natal. Practitioners from a variety of ethnic backgrounds, age groups, genders and practicing in different socioeconomic areas were targeted. This added depth and richness to the data to gain a more realistic perspective of the challenges and techniques used in communication and providing patient education in eThekweni Municipality (Bowers, House and Owens 2011; Ward, Comer and Stone 2018).

The sample population was chosen to mirror the diversity of the chiropractic practitioner population of eThekweni to provide relevance and comparability to this study. Most of the chiropractors selected for this study graduated from the Durban University of Technology, since this is the local education facility which provides chiropractic training. One practitioner was sought out who studied at the University of Johannesburg, but practices in eThekweni, to increase the diversity.

All practitioners selected are registered with the Allied Health Professions Council of South Africa (AHPCSA), which governs and sets the practice standards across the whole county. All practitioners were registered with the Chiropractic Association of South Africa (CASA), which shows the unified professional identity held by practitioners in this region.

An equal number of male and female practitioners were selected to obtain a balanced response. The sample population represented all race groups present in the region but the majority were white. This is due to a much higher percentage of white practitioners practicing in this region, compared to other race groups, as well as the researcher receiving a greater response rate from this race group. Further information on the demographic details of the participants can be found in Chapter Four (Results), Table 1.

3.4 PARTICIPANT RECRUITMENT

Participants were recruited from private chiropractic practices within eThekweni Municipality. The contact details of registered chiropractors in the eThekweni Municipality were obtained from the Chiropractic Association of South Africa (CASA) website. The researcher mapped out all chiropractors practicing in eThekweni and registered with CASA and recruited participants from as many different areas as possible, including those practicing in more affluent, rural, populated, and unpopulated areas.

The researcher communicated with qualified chiropractic practitioners via email, explaining the study and inviting them to participate. Chiropractic practitioners who expressed interest in participating in the study were sent a detailed letter of information (Appendix A). This included the details and the intention of the study, as well as a letter of consent (Appendix B) and a document capturing their demographic details (Appendix C).

Participants were also recruited through a snowball method. The snowball method is a method of participant recruitment whereby already recruited participants can recommend other potential participants they perceive would be appropriate for the study and contact details are obtained in this fashion. It is often used to identify participants who may be interested in participating, have relevant interest and knowledge and to obtain contact with potential participants (Parker *et al.* 2018).

Snowball sampling also assisted in accessing participants who had a particular interest in the research being conducted and the phenomena being explored. This meant they

had personal insights, experience and knowledge which created a fuller, deeper, and well explored data set, which added to the rigor of the information obtained. Therefore, participants who were already recruited referred to other chiropractic practitioners who they believed would have valid and deep insights into the topics being investigated. This assisted the researcher to have access to a larger population and gain access to the contact details of participants who had an interest in the research topic.

3.5 SAMPLING STRATEGY

Purposeful sampling is a technique geared towards maximum variation because it allows for a wide variety of participants to be involved in a research study to get a diverse perspective on the phenomena (Palinkas *et al.* 2015) and, thus, it was utilized for this study.

This strategy was chosen for this study because in eThekweni there is a diverse population of chiropractic practitioners, who may have varied experiences and perspectives on communication, patient education, the barriers to these and how to overcome them. It was important to obtain data from a wide demographic to obtain insight into the behaviors and experiences of the practitioners. This aimed to include practitioners operating in different socio-economic areas, from different genders, cultural backgrounds, and years in practice. Snowball sampling was also utilized.

3.5.1 Inclusion Criteria

- Must be a registered chiropractor with AHPCSA.
- Must practice within the eThekweni Municipality.

3.5.2 Exclusion Criteria

- If informed consent to research has not been obtained.
- If participation in the research has led to distress for the participant in any manner.
- If registered with the AHPCSA for any other profession other than chiropractic.

3.6 SAMPLE SIZE

A sample size of 14 is suggested by Baker and Edwards (2012) to achieve data saturation but it was later suggested by Silverman (2005) that interviews should be conducted until data saturation is reached. Data saturation is achieved when themes and concepts are starting to repeat themselves and no new information is being addressed within the interviews (Brink, van der Walt and van Rensburg 2012). This was reached with eight participants.

3.7 DATA COLLECTION INSTRUMENT

A semi-structured interview was used to obtain the data from the participants. The interview schedule (Appendix E) contained a grand tour question and probing questions to gain insight into how practitioners perceive patient education, without allowing participants to direct the conversation and influence the line of questioning (Brink, van der Walt and van Rensburg 2012).

The interviews were recorded using the researcher's cellular telephone or the interview medium, Microsoft Teams (with the participants' permission), and the information was transcribed verbatim. This allowed the researcher to focus on the content and guide the interview with fewer distractions (Jamshed 2014).

The researcher took field notes during the interview. This was to highlight interesting concepts, which addressed the central research questions and phenomena, but not for the purpose of recording data (Ward, Comer and Stone 2018).

3.8 STUDY PROCEDURE

An initial pilot study consisting of one interview was carried out before the main study commenced to adjust the grand tour question and ensure the correct information was being addressed in the interview (Van Teijlingen and Hundley 2002).

Practitioners were recruited via telephone to determine their possible interest and to obtain their email address. This was followed up by an email detailing the purpose and intention of the study.

A letter of information (Appendix A) was sent to practitioners who expressed interest. This provided an opportunity to address any questions or issues the participants had regarding the interview and study procedure. This ensured the maintenance of the study's ethics as participants had access to as much information as possible to make an informed decision about whether they wanted to participate (Winterbottom *et al.* 2014).

Once the pilot study was completed and the interview schedule was finalized and approximately 10 participants were recruited, the interview times and locations were arranged. Interviews were conducted at locations most convenient for the participant. An option to conduct interviews on an online platform, such as Zoom, Skype, Teams or WhatsApp, was proposed to the participants. Two interviews were conducted in person, one on WhatsApp video call, one on MS teams and four on Zoom. This reduced unnecessary contact to comply with Covid-19 protocols in place during the data collection period (2021) and to increase ease for the participant.

Interviews were recorded using the online platform used to conduct the interview or the cellular telephone recording function. Transcription and analysis of each interview occurred before the next interview commenced. This allowed for insight to be obtained and applied to the next interview to gain maximum depth from each interview (Vaismoradi, Turunen and Bondas 2013).

The interviews were conducted in a safe, quiet, and private location to protect the participants' privacy and ensure a safe space for them to talk about their experiences undisturbed.

Interviewer variability, concerning clothing, language use, and decorum, was kept to a minimum as this can affect the exchange of information and outcome of the interview (Brink, van der Walt and van Rensburg 2012).

The names and any identifying details were left out of the transcription and data analysis process to maintain the confidentiality of those who participated in the study.

However, true anonymity was not possible due to the nature of the face-to-face interview setting (Allmark *et al.* 2009).

3.9 DATA REDUCTION AND ANALYSIS

The recorded interviews were transcribed verbatim into transcripts. The verbatim transcript, along with the field notes, were read and re-read by the researcher to be familiarized with the data as a whole. The data were then broken up into content areas (e.g., barriers faced during communication). This became the unit of analysis and was examined in isolated units of text by the researcher and supervisors (Graneheim and Lundman 2004).

Identifying the meaning unit, condensing the meaning unit, creating sub themes and eventually themes, was done manually by the researcher and supervisors (Vaismoradi, Turunen and Bondas 2013). These were then coded (Hilal and Alabri 2012).

The analysis and understanding of the data are explored in the discussion section of this dissertation.

3.10 ETHICAL CONSIDERATION

This study commenced only once full clearance from DUT's IREC (Institutional Research Ethics Committee) was issued and received. Ethical clearance was issued on 21 September 2021, with ethical clearance number IREC 091/21. The ethical clearance letter can be seen in (Appendix F).

Within research, the concepts of autonomy, justice, beneficence, and non-maleficence should always be upheld and within qualitative research the concepts of credibility, transferability, dependability, and confirmability must also be maintained. (Polit and Beck 2012).

Autonomy is defined as “the right to conduct self-government” (Stirrat and Gill 2005). This was obtained through the participants receiving a detailed description of the purpose and procedure to be carried out during the study (Appendix A). This enabled the participants to informatively decide whether they wanted to participate in the study. A formal agreement was carried out by the signing of a consent form (Appendix B) which was completed before the interview. The nature of a semi-structured interview left room for unexpected issues or concepts to arise during the process and, therefore, it is important to note that consent was an ongoing process which was addressed at many stages during the interview (Allmark *et al.* 2009).

Special consideration was given to privacy when conducting interviews, therefore no names and identity details were used within the transcripts and stored data. Participants were at any point allowed to decide not to participate in the study, withhold information they did not wish to share or get clarity on any part of the study they did not understand without any consequences to themselves (Brink, van der Walt and van Rensburg 2012).

The concept of justice in ethical research was first put forth by the *Belmont Report* (U.S. Department of Health & Human Services 1978). It addresses the selection of participants and is essential in ensuring the fair distribution of costs and benefits to participants (U.S. Department of Health & Human Services 1978).

There was room for bias within this study as purposeful sampling was used which meant the selection process could become subjective. The intention of this was to include a variety of participants with regards to race, gender, years in practice and socio-economic area within which they practice, therefore justice should not be compromised (Bowers, House and Owens 2011). This study did not cost the participants anything. Therefore, justice within an ethical context was upheld as much as possible.

Confidentiality was addressed by the practitioner’s personal identity details remaining private. This was done by ensuring there were no names and identity details included in any of the transcripts or within the dissertation itself (only unlinked demographic details were included). No one except the researcher knew the identities of any of the research

participants, therefore maintaining as much confidentiality as this research design could provide.

Beneficence is the concept of “doing good” and ensures the participants are not harmed during the study. The results of this study will offer new ways for overcoming communication barriers and could help practitioners improve patient education and patient adherence to recommendations, leading to better treatment outcomes. Insight into the use of communication and how to overcome communication barriers to deliver patient education will benefit both the patients and the practitioners who participate in the research because the data will be used to improve their treatment strategy. Insights can also theoretically be utilized by anyone within a similar context who reads the research dissertation.

Non-maleficence is a key ethos in health care and is defined as doing no harm. This study does not involve any physical intervention so physical harm could not be imparted. Emotional harm was kept to a minimum by utilizing continuous, informed consent during the interview process and keeping to the explored topic of communication, patient education and how to overcome barriers thereof (Allmark *et al.* 2009).

3.11 RIGOR

Trustworthiness was established through the maintenance of credibility, dependability, confirmability, and transferability throughout the research process (Polit and Beck 2012).

3.11.1 Credibility

Credibility was achieved through lengthy interviews ensuring rich description of the phenomena. Allowing participants to express their train of thought for as long as possible without interruption added to the richness of the descriptions. Probing questions and encouragement to continue with the description were only produced after a pause which created time and space for participants to continue for as long as possible with their thought uninterrupted, all of which contributes to credibility (Polit and Beck 2012).

Continuing to recruit participants and conduct interviews until data saturation was reached ensured that all aspects of the phenomena being examined were considered. Credibility was maintained by integrating the researcher's findings into future interviews to see if these experiences had been shared. Credibility was enhanced since shared experience was easily recognized. Therefore, analysis and coding of the recording took place between every interview (Cope 2014). Comprehensive field notes and transcriptions, which were transcribed verbatim, were examined extensively before coding and thematic analysis occurred.

The audio recordings were listened to and transcriptions checked numerous times to ensure transcription rigor was achieved. Investigator triangulation was achieved by the supervisor contributing to the coding process. Thus, the data was analyzed by the researcher and supervisor. This also contributed to credibility. Supervisors asked questions and probed the process of coding providing a "peer review function" leading to further credibility (Polit and Beck 2012).

3.11.2 Dependability

Dependability was obtained by the analysis of data from similar contexts, that is within the area of eThekweni. This was done in the literature review and the discussion where themes explored in the interviews showed similar insights to other research from the South African and eThekweni context. This was confirmed by the supervisor and the researcher analysis (Cope 2014). A rigorous data trail of all communication, voice recordings, transcriptions and all decisions made throughout the research process has been kept, contributing to the dependability of the research process (Polit and Beck 2012).

3.11.3 Confirmability

Confirmability was ensured by providing rich descriptions of the insights obtained from the participants in the dissertation. Conclusions and interpretations are from the data and do not contain bias from the researcher. This was maintained by including lengthy quotations, showing how conclusions were reached and decoding in a collaborative team

with supervisors, creating investigator triangulation (Polit and Beck 2012). Coding was also scrutinized by the supervisors creating a peer-reviewed process.

3.11.4 Transferability

To maintain transferability, a clear account of the demographic information of the participants and quotations from the interviews has been included. Obtaining a rich data set and reaching data saturation helped to give a profuse description and enhance the transferability (Cope 2014). Comprehensive field notes were also taken during the interview process further contributing to transferability (Polit and Beck 2012). If others not participating in this study but within this unique context find the research relevant to them, this will show transferability. Although, it is important to note that the data is specific to the eThekweni context and therefore further transferability of this study is limited (Graneheim and Lundman 2004).

To enhance all aspects of qualitative rigor, time was allowed to build trust and a relationship between the researcher and the participants. This allowed their true experience of the phenomenon to be expressed. The researcher used reflexivity and the analysis of the field notes to try and avoid personal bias from permeating the study. The field notes were, therefore, used as a reflexive diary and an additional data collection strategy.

Triangulation between field notes taken during the interviews, literature read during the process, audits and transcripts as well as the supervisors added to overall trustworthiness of this study (Cope 2014).

3.12 CONCLUSION

This chapter explained the research methodology that was implemented in this study, clarifying the method of data used and analyzed.

The findings of the research study will be represented in the next chapter.

CHAPTER 4

RESULTS

4.1 INTRODUCTION AND PARTICIPANT DEMOGRAPHICS

A total of eight semi-structured interviews were conducted before data saturation was achieved. A diverse amount of information was covered due to the broad nature of the research being conducted. The conversation was based on the central topic of communication in chiropractic practice and its use in delivering patient education within the eThekweni Municipality area.

Table 1 represents the demographic information for the participants. Of the interviews, five out of the eight interviews were conducted online using either Zoom or Microsoft Teams, one was done on WhatsApp video call and two of the interviews were conducted in person at the participants' private practice. These options were presented to the participants on recruitment, due to the presence of the COVID-19 pandemic during the data collection process. Each participant chose the interview medium with which they were most comfortable.

Table 1: Participant information

Participant number	Race	Gender	Language of instruction	Qualifications obtained and the respective institutions	Number of years in practice	Place and context (home, medical suite, etc.) of practice
1	White	Female	English	MTech Chiropractic DUT	24	Amanzimtoti – Medical Suite
2	White	Male	English	MTech Chiropractic DUT	15	Durban Medical Suite
3	White	Male	English	MTech Chiropractic DUT Sports Science University of Natal	26	Amanzimtoti-home practice
4	Indian	Male	English	MTech Chiropractic DUT	13	Sydenham Durban medical suite
5	White	Female	English	MTech Chiropractic DUT Business Development	10	Bluff home practice
6	Black	Female	English	MTech Chiropractic DUT	9	Durban Ahmid Alkadi Private suite
7	White	Male	English	MTech Chiropractic DUT Diploma Pain Management University of Cape Town	13	Hillcrest medical suite
8	White	Female	English	MTech Chiropractic University of Johannesburg	10	Hillcrest medical suite

Analysis was conducted by transcribing each interview verbatim; they were read numerous times to obtain full immersion while themes and subthemes were identified. Each theme was coded in a color. This was done for each interview before the next interview was conducted.

4.2 THEMES AND SUB-THEMES

The themes and sub-themes identified were as follows:

Table 2: Themes and subthemes

THEMES	SUB-THEMES
4.2.1 COMMUNICATION SKILLS	a. Importance of communication skills b. Acquisition of communication skills
4.2.2 COMMUNICATION BARRIERS	a. Patient perception b. Language, culture and socioeconomic status c. Time constraints d. The practitioner
4.2.3 COMMUNICATION TECHNIQUES	a. Using an aid b. Paternalistic, disease-centered techniques c. Patient-centered techniques

4.2.1 Theme One: Communication Skills

The theme of communication skills consisted of two sub-themes namely:

4.2.1.1 Importance of communication skills

4.2.1.2 Acquisition of communication skills

4.2.1.1 Importance of Communication Skills

All the participants mentioned that communication is a vital and fundamental component of being a proficient chiropractor and physician. The participants expressed that communication was necessary for gaining the trust of a patient, obtaining relevant information regarding their patients' conditions and in the management and outcomes of musculoskeletal care.

One participant stated that communication techniques were a:

... make or break skill in the success of your practice. Participant 3

Other participants stated the importance of communication:

... as a practitioner your skill set in terms of communication and patient education platform is probably one of the most important things in gaining accurate information and trust and things like this. Participant 6

Firstly, I do think communication is a very important aspect when it comes to managing your patient, ... communication is essential in clinical practice because it is beneficial for your management protocol and your treatment outcomes... But communication is essential when it comes to musculoskeletal problems. It's one of the biggest things. I think it's essential. Participant 6

...we can have a massive effect on these (points to psychosocial factors) based on how we speak to patients and how we communicate with them... it definitely helps how you communicate with your patient, what you tell them what you think is wrong with them is important ee, what they have been told before is important... so ja the narratives we spin are very very important but more so it's how we spin them. Participant 7

The value of communication was acknowledged within the patient-centered paradigm and how to address a patient in a biopsychosocial manner.

... I think it's really really important because um it's (communication) aligned with um, the patient-centered care as well... Participant 1

... the first part of my, um approach to a patient is quite long and most of that is history and talking to a person, so agreeing that mechanics on their own is not a good way of managing a person and treating a person. Participant 3

4.2.1.2 Acquisition of Communication Skills

When conducting the interviews, communication training and the acquisition of the skills to conduct effective communication were raised frequently. The perception on this varied. Some participants thought the general communication training received, mostly from DUT, had been lacking and insufficient.

Communication was perceived to be a “soft skill” which was gained through practice and time spent in practice, evidenced through the following participant voices:

...and yet it's (communication) not something that is not taught often that it should actually have, I guess it's considered more of a soft skill... it has been very challenging in that um, considering it was something, when I graduated in 1996 it was something that was not even addressed, it's something that was not even considered. So, I have had to kinda like feel my way along and learn these skills myself, um I really hope it is something that has, is being addressed. Participant 1

...I think that it (communication) definitely improves. I do think you get to a point in practice though, when you start out that you feel the need to tell patients, ... I felt like I was over explaining or over communication in a way and you get to know when patients are kind of just glazed over because you have explained to them the mechanics of x, y, z, and they just want to know this is my problem, how I'm going to fix it, what are you going to do to me in the simplest way that they will be able to understand and just carry on. Participant 5

Another participant believed the training received at DUT set them up to be very proficient and skilled communicators, allowing those who were trained there an advantage over other practitioners.

...I think it's the roll we should play as chiropractors, it's the way we have been educated in our field, I think it bodes well for us being excellent communicators um, making sure patients understand all aspects of their health... all of that is the advantage of DUT. Participant 4

A further two participants had sought further education, which they perceived to improve their communication skills. The one participant obtained a further diploma in management at the University of Cape Town (UCT), which included communication techniques and techniques involving motivational interviewing.

The other participant furthered education through business development training, which he believed had contributed to his ability to communicate efficiently with his patients and more adequately satisfy his patients communication needs.

... I started business coaching in 2015 I think, and that's where I think I learned most of the emotive um and communicative side of things um and business so your brain just started thinking differently on different types of conversations... (goes on to discuss different communication techniques..) I learned that at business coaching. Participant 2

...so I was introduced to the pain modules, through train pain, so that's um I think 6 modules over 3 years if you do em... and then I did the post grad diploma which is just this in detail... so what I found is when I did the pain certificate, I was lecturing patients. `Cause I knew what the pain neuroscience was, and I was telling patients what it was. When I did the pain diploma it was more about listening to patients, understanding, and slowly starting to change their ideas but getting them to change their ideas instead of telling them what is going on. So, I think the diploma made a big difference. Participant 7

4.2.2 Theme Two: Barriers to Communication

This theme consists of four sub-themes:

4.2.2.1 Patient perception

4.2.2.2 Socioeconomic, culture and language

4.2.2.3 Time constraints

4.2.2.4 The practitioner

Barriers to communication were identified by the participants as an important matter during the interviews. These barriers to communication resulted in barriers to patient education in various ways. They made patients less receptive to communication, and less likely to integrate the education the participants were delivering into their daily lives. Some barriers made it more difficult for patients to physically come to appointments and therefore reduced the amount of communication time and opportunity for patient

education. Some barriers meant that participants needed to put more effort into communication to ensure that patients understood the information they were delivering.

4.2.2.1 Patient Perception

In all eight interviews, the participants talked about patient perceptions as a major barrier to smooth communication and effective patient education. This was, therefore, identified as a sub-theme to the main theme of communication barriers. Patient perceptions, as a barrier to communication, took on different forms. It manifested as the patients' perception of their role in the healing process and their lack of interest in either communication or actively participating in their care process.

It manifested in patients' perception of chiropractic and their knowledge of the profession and what chiropractors do.

It also manifested in patients' perceptions of their own condition, their perceptions of what certain terms mean and how these terms related to themselves, their symptoms and their recovery.

The following quotes show how patient interest and their perception of what was required of them within the healing process was perceived as a barrier to communication and an obstruction to delivering patient education.

...sometimes there are patients coming in that even if they are well educated, they also just not interested in their health...I do find that sometimes people can be very guarded with their communication for whatever reason... um some barriers that I find is that there some people that just don't what to communicate... anyhow when I tried to get into the um lifestyle issue, or just her lifestyle she quietly told me she was only here for her neck pain and did not want to be analyzed. Participant 1

...the harder patient to manage is the sedentary patient who is not interested in contributing to their own healthcare. Participant 3

...a barrier is sometimes I feel with certain patients that they are not going to um even be bothered with what you are going to tell them. So sometimes you say go

home and stretch or go home and ice or go home and maybe apply a sort of topical gel. It's the attitude of the patient that sometimes becomes a barrier. Participant 6

Patients' perception and knowledge of what chiropractic is and what chiropractors do was identified as a major component of the sub-theme "patient perceptions". Practitioners believed that this affects how the patients participated within the communication process and how receptive they were to patient education. They believed these perceptions to come from past experiences and from YouTube and social media. This is seen in the following quotations:

...I mean I think it's, it's what patients have belief in, you get patients who... um, well you know... so many patients see these videos of these great chiros on YouTube which I think has been fantastic I guess overall because there's more um, publicity, they see these adjustments and you get people coming in wanting that adjustment you know. But that's all the glamorous stuff no one's going to show a chiro educating people. Participant 4

...and they don't even ask you "what is chiropractic?" they don't even know what it is! And when you start explaining it to them, they will be like "ooh ok so it's sort of like physio" so their attitude changes or they will be like, "oh no I get it um, I've been to so many chiros what can be different about you" and it can be a bit of a challenge when it comes to you trying to communicate with the patient that you know what this could be your condition and this is how I would choose to treat you. Because their attitude and their perception of the profession itself become a barrier. Participant 6

...I think sometimes or often people come in here with certain ideas of what chiropractors do um, and that's based on, on what society thinks chiropractors do and what they have experienced before in terms of treatments from chiros or physios or whatever the case is. Um so that's a big barrier, is trying for me in terms of education, is trying to get through that, and trying to change their idea of what we do and how we do it and what happens when we do our things, that's probably my biggest issue. Participant 7

Patients' perceptions and understanding of certain terms and words and an oversimplification of specific conditions or concepts were also felt to be barriers hindering communication and patient education. These included terms and phrases like “sciatica” or “fixing my alignment” or explanations like “bone on bone”, “short leg” or “degeneration”. Practitioners perceived that when patients held these beliefs about their conditions, it could cloud their understanding of the real underlying condition and be “incorrect” or oversimplified. It could give the patient the perception that their prognosis was very severe and this could affect their recovery and pain perception.

The participants perceived these ideas to have come from other healthcare practitioners, other chiropractors, language used in diagnostic imaging and over simplified perception of what chiropractors do.

...if you in sighting fear in someone by using words that are quite powerful um, it's the wrong source of motivation for the patient... for example, say “if you don't come to me you going to need surgery’ it's a very hard stance, it's a very aggressive stance. Unless categorically they do. But a lot of guys use those terms. And minimalistic terms like, oh it's just your alignment or its just your short leg, that's minimizes the complexity, the patient in their brain ahh interprets that as a very simplistic issue and when that very simplistic issue is not rectified or keeps occurring, they lose, faith trust and if their condition isn't then better, they lose faith in you, as a practitioner and your skill set and in by virtue of that they often blame in the profession. Participant 2

...she had bulges throughout... she was just catastrophizing right and also if you're not going to the right people. She had gone straight to a specialist with the MRI, I think. Then you know, I got to know this term a long time ago, spondylosis, became this catastrophic term... Not that there is just one meaning, obviously there is many meanings. But I think that terms alone, arthritis, spondylosis, degeneration, it really has been, I don't know how to overstate it. To go a bit further, you need a neck brace, you need to stay off work, you need bed rest. You need medication, but you need to be careful. You need to take care of your back. All of this will make it worse. The fear can become a cycle. That fear avoidance so um... I think x-rays and MRIs

and GPs I don't think they do it intentionally certainly not its part of using a reductionistic biomedical um dogmatics kinda approach. Participant 4

...And then um X rays and MRIs often patients come in with those, and patients will be like I've got this and this and this, again bulging discs is a classic example and it's a case of say ok cool, um like and they will be told... and there is a lot of fear avoidance around that that I see, and fear avoidance is something that we address a lot, so that's actually probably super important. A patient will come in here guarding, big time, with their low back, a bulged disc in the low back, they don't want to bend over, they don't want to lift, they don't want to do this, they don't want to do that. Because they've been told they have bulging discs and if they do anything, they have been told it's going to get worse ok... so I avoid things like "sciatica" to be honest because it is such a grey area, so I won't tell somebody they've got sciatica. I won't tell somebody they've got um, "their out of alignment", because that's a lot of nonsense. I won't tell somebody they've got "short legs" or "long legs" or anything like that because that is also such a grey thing... I'm not going to tell them their pain is from degenerative changes, even if I see stuff on x-ray, I'm still going to say to them, look this is what I'm seeing but its normal for your age. I'm not going to say to them well look, sorry your pain is coming for your joint which is stuffed like. Soo yeah there's a lot those I won't say. Participant 7

In these quotes, the participants mentioned how the use of certain terms and words can lead to things like "catastrophizing" and "fear avoidance behavior" and this illustrates the link between communication and worsening a patient's outcomes or reducing their ability to recover from their condition.

4.2.2.2 Language, Culture, and Socioeconomic Status

Culture, language and socioeconomic status were seen as major factors which contributed as barriers to communication and patient education. It was identified as a sub-theme to the main theme of barriers to communication.

Language as a barrier was faced by some of the participants. This was faced when the participant had a different home language to the patient, as well as when the participant

perceived the patient had low health literacy. These difficulties with language lead to barriers in communication, making it more difficult for practitioners to deliver information about the presenting condition, and education that needed to be delivered to the patient. Participants practicing in more diverse socioeconomic areas were more likely to encounter these barriers.

... there are some say barriers. There could be low level of health literacy and understanding... so in other words ah some people don't understand the medical jargon and that's also one thing ... I find that language is a huge barrier or understanding is a barrier. Participant 1

...when patients have more, either a cultural or language issue, since covid, in my practice I've been getting a lot more African patients, um in, ahh that have been drawn into the practice than ever before. In the last year alone, so language does become more of an issue. Participant 2

So, sometimes language barriers, because I see a lot of people from Umlazi and obviously their main language is Zulu. Participant 3

A factor that came up in the current study, associated with language differences and cultural diversity, was patients having spouses or family members coming into consultation with the patient. This was identified as a method of overcoming language barriers, where the family member would help with translation. However, this was also identified as a barrier to communication when patient/practitioner privacy was disrupted and this affected the communication process.

...family dynamics which also comes into um communication barriers. For instance, you can either have a husband and a wife coming into the treatment together... um sometimes the person that comes in besides the patient is the one that is um not assisting with the communication. You're tryna build a rapport with the patient and they will either keep interrupting or keep telling you what their symptoms are. That I find um yea, those family dynamics I find very difficult to handle and understand. Participant 1

I'll be honest with saying both black and with both Indian patients like males are seen as like head of households, head of families so very often I have especially Indians with the Indian females I have husband sitting in on the consults which sometimes makes the whole communication aspects and the consults a little bit awkward because the wives don't freely communicate like when they are absent. So those sorts of factors do come to play when you are looking at the race groups and when you are looking at the socioeconomic state. Participant 6

...so, for um people that are definitely not ah English first language speaker's um if they really battle then I ask for an interpreter to come in with them um, um, ah sometimes that complicates things more, because then you're dealing with someone else's perceived ideas as well. Participant 3

When cultural and socioeconomic diversity in eThekweni and barriers to communication were discussed, financial means was a concept that came up in most of the interviews. "Finances" was put under the sub-theme of language, culture and socioeconomic status since it is a socioeconomic factor. The dominant view indicated it as a barrier since patients would struggle to come in for follow-ups or lack the financial means to complete treatment and therefore reduce the time available for communication and patient education.

...So ya, finance aspects of it that a big thing, um basically I'm contracted out of medical aid or private so, um that can be a barrier as well, um because it affects a person pocket directly. Participant 3

When looking at the cultural diversity and the socioeconomic status also the majority of my patients are medical aid patients, they don't have this active cash flow, so if I find that out, they don't know, see the benefit of coming back because they don't have the funds to pay for it. Participant 6

4.2.2.3 Time Constraints

Time constraints were addressed in a few different perspectives as being a barrier to implementing communication and patient education. It was therefore identified as a sub-

theme. Some illustrated that allowing patients to fully address their psychosocial contributions to their conditions took up too much time. Time was identified as more of a barrier when patients presented with low health literacy, chronic conditions, multiple complaints and as the elderly population. Others expressed that time became a barrier to communication due to the demands of their own life.

Other practitioners believed they had overcome time as a barrier by having longer sessions, practicing for longer hours or tailoring the session time to accommodate for specific communication requirements of that session.

It can also be so time consuming because sometimes you feel as a chiropractor, you're just there you know to treat their musculoskeletal component... Or you've taken up so much of my time, it depends on the type of practitioner that you are, like for me personally, there are certain patients, not all patients that I will give you that time to address those yellow flags because I know they are actually linked to your actual complaint that you are coming with um and then there are some patients that just want to talk... we actually don't have hours and hours to sit with one patient at a time... time can be a challenge and a barrier with some patients who don't stop talking, and that also patients who have multiple complaints and who have multiple issues and have got chronic pain and that's usually for me the elderly... Participant 6

...it's just maybe just the time, the time that it takes from my point of view. So, to try and allocate that time within my day um when I am busy with patients to now try and find the time to still communicate with my patients that I still need to get back to... You know. Also, a lot of us we've got children we've got families, so you know you're rushing around picking up kids during the day from school, so there's a huge chunk of your day taken away actually trying to deal with family matters. So, I think that my biggest challenge is trying to balance my family life with my practice life and trying to still communicate with all my patients within that time. Ya. Participant 8

...look with chronic patient there's a lot more here (points to psychosocial contributors) that needs to be dug into so it does take a lot more time, but I'm prepared for that I don't limit, ah well I do limit but ah my initial consultations are an hour so I'm not going to sit and say to a patient well you've got 15 minutes so let's get in do what we need to, out you go. And if I do run out of time I'll say to them look, we've run out of time but we need more time so we will reschedule this and well do it for longer and we will go into it longer. So, I don't, it doesn't have to be a barrier. Participant 7

...some of our appointment times are pre templated, so if I need to have a feedback session about someone's x-rays that caters for more time than a manipulate session. So, if someone has a more spinal issue and the primary treatment is spinal manipulation at a certain volume um, which you can easily give some supportive stretch or other exercises then the timeline can be shorter, if its rehab session it is longer, if it's a report of findings session it is longer. So in our system we tell our front desk what appointment type is needed and then that automates the time. Participant 2

4.2.2.4 Practitioners as a Barrier

Some participants were objective enough to identify themselves as a possible cause of a barrier to communication. This can be seen in the following quotations:

Communication is also a subjective thing, I feel, because you may feel as a practitioner that you are communicating adequately to your patient even when your giving forms of demonstration, which is also part of communication with your patient, however your patients may perceive your communication differently or even misinterpreted what you have told them so therefore, so it becomes challenging in practice... or the practitioner is in a hurry and they don't want to talk, or the practitioner just doesn't want to talk. Participant 6

I think one of the biggest barriers in the profession to be honest and pain education as a whole, is that we are taught too biomedically that when we come out it's a case of X plus Y equals Z em, and forget about all the stuff between. And I think

that is the biggest barriers to patient management as a whole is that we tend to have students coming out who are very fixated on “I have to find the reason for that pain” and if I don’t then, its psychosocial, or so they will dig and dig and dig until they find the vertebrae that is 2 mm shorter than the one above it and then that will be the cause for their pain for example, so I think that is one of the biggest challenges in the management of pain as a whole, is the very biomedical model. (having said that people tend to look at psychosocial and go well, we just going to deal with psychosocial and that also isn’t correct because when we look at it psychosocial is biomedical. This stuff here (points at psychosocial contributions) is all neurophysiological, it’s not wishy-washy stuff you know. And I think when you start to get people who are on the extremes of those, biomedical will say well, you’re just dealing with psychosocial and psychosocial will say, well you’re just dealing with biomedical but they both dealing with both). Participant 7

4.2.3 Theme Three: Communication Techniques

This theme consists of three sub-themes:

4.2.3.1 Using an aid

4.2.3.2 Paternalistic, disease-centered techniques

4.2.3.3 Patient-centered techniques

Communication techniques were identified as a theme within all the interviews conducted. These were methods which the practitioners used to help pass on a message to their patient. They were used to help deliver patient education, ensure understanding and try and help patients internalize that information and often act on the information. These techniques were used to help overcome communication barriers and try and motivate patients.

4.2.3.1 Using an Aid

The sub-theme “using an aid” was extracted out of the main theme of communication techniques. These included the utilization of technology platforms, such as WhatsApp,

email, televisions, including animations and visuals, providing handouts and utilizing family members and coworkers to aid in the communication process.

All the participants reported using technology as a means to communicate with their patients and deliver patient education. These included WhatsApp, telephone, and email. They used these platforms to send education resources and reinforce education delivered in the sessions and they included YouTube links and videos with stretches, exercises and rehab and extra information regarding the patient's presenting condition.

Participants also reported using technology in the sessions to enhance communication and education. This was done by showing the patients videos, animations, and visuals to illustrate what they were trying to explain. Many of them perceived this as a useful way to overcome language barriers, low health literacy as well as to ensure patient understanding.

...then I try and use like audio visual stuff. Um ah, I find like either YouTube links which I'll WhatsApp to the patient. I might have some stretches, which if I have seen they don't really understand what sort of a stretch I'm referring to or I've shown them or I can see that they are not remember those stretches um then I'll WhatsApp those to them. Um I find that WhatsApp as a communication tool works really nicely. Participant 1

...almost everyone is on WhatsApp right, and I do have that open line with patients you know... So I guess sending stuff via WhatsApp like a YouTube link for example deep breathing techniques, or ah stretches... So, YouTube is good. And then to go even further you know certain types of music. Participant 4

So, I have a huge tv in my room too, I'll put up the x-ray and any other images that I have, so I pull that up and I bring that into my discussion with the patient so they can see... so lots of color, lots of pictures, um and that's how I try to explain.. I send them emails with basically a breakdown of what home therapy we have chatted about... if it's a new patient and I do see it's quite a severe case I do send them a message to see how they are going, like a day or two later. Say how you feeling? How you going, but yeah, I think it's just about keeping those channels

open, so they feel free to give you a call if anything's bothering them or send you an email or a message... Participant 8

Some participants utilized print outs and handouts to help reinforce education which they delivered in the consultation. These would include postural changes and stretches and other information relevant to the patient.

I have this small flyer I've made with a visual graphics on neutral spine posture and a bit of information but it after I've shown and said the same thing...
Participant 4

Another mechanism that I use is that I have given them ah pamphlets. I've formulated some pamphlets in my practice, like for pregnancy patients... and like osteoarthritis patients ... Just so they can go home and read, even if they don't read, just because I feel it is another form of me communicating with them.
Participant 6

Many participants reported using the patient's family or colleagues as a supporting aid in the communication process. This was often to help with language barriers if the family member was more proficient in the home language of the practitioner. This technique was also utilized to assist with motivating the patient and what the participant recommended. This sub-theme overlaps with the patient-centered sub-theme since linking a person to their community and a support system is a patient-centered approach.

...even using like a child who is more well versed in English than a parent who isn't... sometimes I say to the patients can you call your daughter or your spouse or your son, and I communicate with family members to aid the patient especially those that have like fibromyalgia, I say like sometimes you need to help your pounce or your mother with this and this and this. Participant 6

...sometimes I get family members or a work colleague or a spouse to engage with me as a supportive mechanism so when they need me, I know that person or people are assisting that person whether that be emotively to motivate them too

ahh, um sometimes actually be their supervisor in a way, um that they then know that they are accountable outside the treatment room. Participant 2

...so for people that really battle I kind off use the team approach, so sometimes that team involves the family. So usually, the family is pretty keen on seeing them get healthy and wanting them to thrive. Participant 3

4.2.3.2 Paternalistic/ Disease-Centered Techniques

A paternalistic and disease-centered approach to communication techniques was identified as a sub-theme within the theme of communication techniques. This included information on pathophysiology or how conditions are related to activities of daily living and the effects of treatment. It consisted of mechanistic approaches of delivering traditional manual therapy education. This sub-theme overlaps with the “use of an aid” sub-theme because often the use of visual aid, video, model or animation was used to help explain or deliver bio anatomical information. This sub-theme could be understood as a more disease-centered mechanism of communication and patient education.

I send for x-rays, for example, and now we have got a diagnosis. Obviously based on our clinical findings, how the patient is presenting. Now we've got pretty much an idea of what is going on ... this is where now we need to educate our patient on what are we dealing with and what is the way forward. So, this is something ya, I spend quite a lot of time with. So, I first educate the patient on what is going on, so what is the pathophysiology of the condition. Um I go quite in depth ...I also bring in like a biomechanical um, diagram so they can try to understand... Participant 8

...and I use my adjustments um let's say thoracic adjustments for example... every direction of most thoracic adjustments is usually in extension you know what I mean... so, I look to use that, and how can I say a neutral spine posture, good posture as a continuation of that. so, I'm visually demonstrating it, I'm communication it, I'm showing it on the patient, I'm putting a towel you know behind the patient, you know when they sitting down as lumbar support, I'm you know straightening out the shoulder. Participant 4

...discuss things like stride length, changing stride mechanics, um and again it's through their education um and helping them understand how their body works then they are more likely to follow along with your treatment program, um so the initial part of the program is advice and education and then if there is something mechanical, um then we adjust what needs to be adjusted. Participant 3

The use of a paternalistic communication style was placed within the disease-centered sub-theme. This was done because historically this communication style was utilized within a disease-centered framework. Most of the participants used this style of communication interchangeably with a more patient-centered communication style depending on what the patient responded to.

...someone whose... extrinsically... they looking outside of themselves. I have to be that leader. We have to lead, the practitioner has to be the lead person. It's not something that they are going to do on their own... we show leadership by giving content, by um, making sure we engage at the level that they want us to engage if that is sometimes us being a bit firm with them... They sometimes want you to be firm and control things for them... from a conversation style we can either be slightly more the dictator... if they not forthcoming I'll often just try and prompt them, I'll raise my tone of voice. Participant 2

... soo, like I have a very um, honest approach with patients, I'm quite blunt in how I deal with patients, I don't sugar coat things. Participant 8

4.2.3.3 Patient-Centered Techniques

Patient-centered techniques were identified as a sub-theme within the theme of communication techniques. These were communication techniques that followed a more patient-centered approach. Ensuring the information and communication provided was specific to the patient, engaging the patient in their own healing process, making sure the patient understood the information that was being provided, while responding to patients needs and preferences are all patient-centered communication techniques. Patient-centered techniques also include addressing the psychosocial contributions to a patient's presenting problem and not just focusing on the biomedical contributions. It involves care

which is empathetic, listening to the patient and other paraverbal techniques which make the patient “feel” cared for as opposed to only dealing with the physical aspect of the patient's presenting conditions.

Being patient specific was mentioned by majority of the participants and is known to be an important part of patient-centered communication. This can be seen in the following quotations:

...what I try and do is try to treat patients individually. Participant 3

So, the way that you approach each patient, the way that you um educate them, um you need to change. Um, the success of your communication depends basically comes from um you assessing the patients' needs and concerns.
Participant 1

I think it's more so the type of patient that you dealing with then having a specific technique that you use for every single of patient throughout. Participant 5

Most of the participants expressed the need to ensure the patient understood the information that they were delivering. This was achieved in different ways:

...so it's kind of essential to make sure that your patient has understand you. That you ask them, you know, “do you understand what is it that I have just shown you?”, so you know that they have been able to understand that. If you don't know if they have understood what you thought that you have communicated with them then ya your education, the patient education just doesn't exist. Participant 1

...sometimes you just try to get the patient to tell you what you've been telling them, so when I ask them for feedback, I say so, “what information can you give me or what can you remember from the last appointment or what can you demonstrate that you are now doing better that perhaps you did worse?” um, for some of them are physical tasks you asking, some of them are emotive. Participant 2

...because patients need to understand, they can't just be told a whole lot of stuff that's not patient education. Participant 7

The use of simple language and avoiding medical jargon was discussed by most of the participants. This is a part of patient-centered communication and ensuring patient understanding.

So, I've actually found that I've dumbed down my stuff big time, to the point that I have actually almost forgotten proper terminology to be honest, because it doesn't work with patients because they not interested. Again, you start talking fancy stuff they turn off and their out so, terminology is very important... Participant 7

...but yeah try to keep things really simple, simple language, definitely not using medical jargon... try not to use jargon, jargon for me is it's an easy barrier, they don't understand, and if they don't understand they not likely to follow your management program. Participant 3

Some of the participants had other ways of making the patient feel like they were on the same level. Many of the participants did this by trying to relate to the patients personally. One of the participants believed he did this through the utilization of his first name with all his patients.

...I actually lost 37 kilos myself, so I bring my own personal experience into that and um, that tends to help the patients deal with a very sensitive topic when they know I've been there in that place... Just to show them you know that I do know where they are coming from... Participant 8

...in terms of identifying with them or them identifying with you. looking for common ground whether it's um ahh, belief or exercise or sometimes even food. um so that when they can, when they feel free to talk to you then you get a lot more information out of them, and with that information you can then advise them... Participant 3

We also make it personal I don't use even the whole Dr ... thing. They only allowed to call me by my first name... I want a personal connection... So, I set up a friendship discussion form the outset, so that kind of thing goes a big way early on when a stranger is meeting another stranger to make them one, they don't see that I'm trying to make them seem like I am above vs below, we are looking at each other and we also trying to talk to each other. Participant 2

Other participants expressed allowing their patients to feel heard, listening and letting their patients talk to be a method of developing rapport. Talking about their psychosocial contributions was also perceived to help down regulate their pain and the talking process was seen as being therapeutic in itself. Participants expressed that using open ended questions was one method of obtaining this kind of communication.

...you need to listen, you need to be patient, doesn't matter what cultural boundaries that you crossing, ah you need to show empathy, you need to be patient, you need to observe your patient, don't make any assumptions, be mindful of like body language, um don't interrupt them. You need to establish like rapport with the patient... Participant 1

...um you've got to first understand what the patients understand about their condition... it's in a way that they really tell you what's going on and they really talk through the interview instead of you telling them what's going on if that makes sense... But generally, if you stick to open ended questions, with those patients, with all patients, you'll get deeper and deeper and deeper. And again, if you're not just asking yes and no questions, you'll find out a lot... so um and that's a lot of listening... Participant 7

I also express empathy and compassion. Like I understand what they going through. The moment they feel like ok someone is actually listening... So that's the thing so I don't interrupt a patient when they are trying to relay a story to me, I listen to what they saying I take my notes. I think all of that tends that tends to establish a better open form of communication. Participant 8

Other participants mentioned the importance of body language, making eye contact, expressing empathy, putting effort into ensuring the patient feels comfortable, these can all be identified as patient-centered communication techniques.

...so they can actually choose to look at me slightly to an angle or they can look away from me. So, I'm not a threat, I think that helps with getting them to feel comfortable and getting them to trust you, because trust is a big part... Um yea so

um, ya eye contact for me is a big thing, ah physical contact is also a big thing...
Participant 3

...it's also your body language like communication when it comes to body language is highly beneficial for a patient to feel comfortable around you. Participant 6

...definitely you do need to show far more empathy and understanding. Participant 8

The use of analogies and real-life experiences was another method that participants used to help educate and achieve understanding in their patients.

...my main thing that I use is like true life example and analogies so again, like the orange and the nardtchy analogy so, I use similar narratives for different, so for the knee I'll use that as an example to explain the anatomy of the knee for arguments sake or um, like true life experience is a big thing for me, so something that a patient that has experienced previously that I can then say look this is what happened with this patients, x, y and z this is how we addressed It this is how it helped didn't help etc. Um, those are probably the 2 biggest things I use are analogies and some true-life examples and things that have happened. Participant 5

...on giving them analogies and being able to explain in very simple terms what is going on. They don't need to know these details, they just need to know what is going on, why it's going on, how we can make it better. Participant 7

...gray hairs of the spine. So, you start getting thinning hair or gray hair or wrinkles in the skin. You don't call it degradative hair disease or degenerative skin disease right. Um but we call it multi-level disc degenerative disease. Complex I mean, there's no context to that... so that context changes everything. So instead of that you've given a catastrophic film. Participant 4

Communication that encouraged self-management and participation within their own healing process were identified by most practitioners as important factors in patient education. This concept falls into patient-centered communication. This was expressed directly and explained to be reached in different ways.

These included goal setting, managing expectations and trying to integrate the advice into the patient's life more, as well as breaking down the information into more manageable pieces. This also included the concept of shared decision making.

...it's putting the ball in the patient's court. Trying to get them to motivate themselves to get to certain, certain... ahhh levels, to certain goals... You trying to get them to motivate themselves to get better and you've got to figure out, you've got to pull it out of them why they want to get better, so again you can't tell a patient you've got to do this, and you've got to do this and then you'll get better ok well... "what is it that you want to do? What is it that you want to achieve, what do you want to do now that you can't do because of your pain?" and then hone in on that and keep working on that. Participant 7

...telling an overweight female who is battling depression and anxiety and, and and, um to go and run comrades is unrealistic, so it's also about managing expectations and saying to the patient, and again communicating at that point like look, you haven't exercised in the last 15 years you weight 160 kilos you have heart disease going on a run is not realistic but walking your dog around the block twice a week is something we can get started with so it's a whole consent of how you eat and elephant? Piece by piece. Participant 5

...um so, using achievable goals helps a lot... looking at something that they can do where they feel ah empowered so they can affect the changes, I think that kind of ah makes them feel more positive about their healthcare so they not handing themselves over to you to look after. I don't believe we get good results that way. Um I'd much prefer that person become self-motivated and I just guide the process. Participant 3

Many of the participants mentioned referral. This is an important component of patient-centered care and communication which most of the participants mentioned.

...then follow on with a biokinetics or with a gym instructor that I've got a relationship with, and then ya, the diet side of it, um the basics I advise on and

further I've got a couple of dieticians we use if they need in depth help. Participant 3

...to address the psychological aspects you, you can say a simple thing like "you know what I think that's contributing to your neck pain you could have additional stress this could be coming from your household or from your childhood, maybe as an option go see a psychologist." You know you don't have to tell them to communicate with you about their problems...And I feel also as a chiropractor you cannot address every psychosocial issue, we need to know our place in the medical domain we can identify them, and we can provide some form of support, but we cannot say that when a patient comes to me we are going to sit for 45 minute and talk to them and that is going to be a treatment it is not, it is only an adjunctive mechanism. Participant 6

It's also about seeing if this is within my scope of practice as well, so I can help people to a certain to a degree but if there's a lot of deeper stuff it not really my role to try and it's not for me to try and sort that out em, I'll try get patients to see how their stress and how their psychosocial issues is contributing to their pain, its then a case of saying cool well is this something I can help them with or is this something I must pass onto another healthcare professional and we can work together on with them. Participant 7

4.3 CONCLUSION

In this chapter, a summary of the interviews conducted with quotations have been presented in the form of themes and sub-themes which were extracted from them.

The main themes were Communication skills, Barriers to communication and Communication technique.

In the next chapter (Chapter 5), these themes and sub-theme will be discussed in further detail and related to the current literature around these topics.

CHAPTER 5

DISCUSSION

5.1 INTRODUCTION

This section will discuss the results presented in Chapter 4. Communication and patient education are central skills in the delivery of best practice guidelines for MSK treatment and management (Lin 2020). Communication is known to improve patient outcomes, lead to increased patient satisfaction and reduce the cost of care (Levinson, Lesser and Epstein 2010; Lin *et al.* 2020, Ranjan, Kumari and Chakrawarty 2015). Furthermore, effort into communication and patient specific education can assist with increased self-management and patient empowerment and down regulate pain. Despite this, research still shows many pitfalls in practitioners' communication skills and many manual therapists still tend towards a biomedical framework neglecting patient education (Kee 2018)

5.2 THEME ONE: COMMUNICATION SKILLS

All the participants discussed communication skills. There was unanimous agreement on the importance of communication skills, but differing opinions of how these skills should be acquired.

5.2.1 The Importance of Communication Skills

This study found that communication skills were important as a means to obtaining clinical data, as well as to develop a rapport and trust within a therapeutic relationship. This correlates with the literature, which identified communication skills as a core clinical skill. It is part of the best practice guidelines for MSK care and is linked to improved outcomes, improved patient satisfaction, as well as reduced healthcare costs (Levinson, Lesser and Epstein 2010; Lin *et al.* 2020; Ranjan, Kumari and Chakrawarty 2015). This is common for most health care practices but is specifically important for chiropractic, since giving advice is seen as a key component of their therapeutic intervention (Johl *et al.* 2017).

This is also due to the nature of MSK disease, which often presents as pain (Perrot *et al.* 2019), progresses to chronicity, has many psychosocial components (Meints and Edwards 2018) and has a variety of risk factors, which are best addressed with lifestyle interventions (O'Leary *et al.* 2020).

Despite this viewpoint, identified in the literature and during the current study, structured research that can adequately link communication with the outcomes it is suggested to have been of poor quality (Roberts and Bucksey 2007). This shows room for further research in the area, with effort placed into methodology, which can prove the link between therapeutic communication and improved patient outcomes.

5.2.2 Acquisition of Communication Skills

The results of the current study indicated that most of the participants felt communication skills were acquired through time, with practice, as a soft skill. Some had sought further training in the field and some felt the training received at the university level was insufficient.

A systematic review by Muddle *et al.* (2019) found that communication skills training at the university level within the area of manual therapy are insufficient. It does not contain adequate “modeling” and feedback sessions, which have been identified as the most effective method of teaching and obtaining adequate communication skills. Furthermore, research shows that although most practitioners perceive their communication skills to be adequate and improve during their time in practice, this is not reflected in the research, which shows poor self-reporting on communication adequacy (Kee 2018). This is due to a lack of feedback mechanisms and the isolated nature of most private practice settings (Ha and Longnecker 2010; Levinson *et al.* 2010).

There is no research specific to communication training for chiropractic within the context of eThekweni. This would be an interesting area to investigate further due to the cultural diversity of the area and the relevance of communication, specifically in the practice of chiropractic. Research indicates, however, that physiotherapy students in KwaZulu-Natal feel there is insufficient training in communication skills which inhibits their ability to deliver care to their patients (van Vuuren and Nel 2018).

An investigation into whether chiropractic students within the same setting have similar views could help to direct educators in the region. Since literature suggests there is adequate knowledge about how to deliver appropriate communication skills training, the integration of this into chiropractic training programmes should be possible (Kee *et al.* 2018).

5.3 THEME TWO: COMMUNICATION BARRIERS

The communication barriers which were identified during the current study included patient perceptions, language, socioeconomic and cultural differences, time constraints and the practitioner as a barrier.

5.3.1 Patient Perceptions

Participants in the current study identified patient perception as a barrier to communication. It manifested in different ways, becoming an obstacle the participants needed to overcome. Patient perception hindered the internalization of the message and this was perceived to reduce the participation of the patient in their treatment and management. These included perceptions of patients' role within the healing process: some people preferring and expecting passive care, and some perceiving that manual therapy did not require them to actively communicate. Other perceptions held by the patients that were identified as barriers included patients' perceptions and knowledge of chiropractic and patients' perceptions of words and terms used, and understanding of conditions.

It is interesting to note that there is little to no research that examines the patient's perception or the patient as a barrier to the communication process or the education process. There is, however, a plethora of research that looks at ways practitioners can improve communication, improve adherence to recommendations and increase self-management within the patient (Kee *et al.* 2018; Levinson, Lesser and Epstein 2010; Hong and Oh 2020; Hutting *et al.* 2019). This could be understood to indicate that there

is an underlying issue of the patients' willingness to participate within their own healing process.

One observation of this research is that these factors (effort into communication to improve self-management, patient satisfaction and outcomes) are effective ways of managing MSK disease and chronic conditions, and the risk factors thereof, and therefore warrant investigation. Another less direct observation is that, currently, patients are poor at adhering to recommendations and acting on self-management and therefore stimulating a lot of research in this area. Therefore, indirectly, much research is directed at how practitioners can improve this trend within patients, as opposed to identifying the patients as a "problem" within the communication and management process. This could be due to various reasons.

One of these reasons could be that society works on a consumer framework (Assadourian 2013). It can be perceived that everything, including health, can be bought and obtained monetarily. A health system has now been developed, which works within the same framework. Patients believe "good health" can be paid for and received and does not require them to talk or act on any advice, but entitles them to remain a passive receiver (Joiner and Lusch 2016; Wolf and Jason 2018).

This could also be due to the role of the practitioner. Historically, practitioners played the dominant role, did all the talking and did not desire a patient to engage, ask questions or actively participate within the healing process (Bazmi 2019). In manual therapy, there is a tendency towards a bio anatomical framework, which does not "encourage" communication about psychosocial issues or participation within the communication process (Kamper *et al.* 2020; Kee *et al.* 2018). Therefore, patients are acting out the role they have experienced in the past or have been encouraged to play in previous experiences.

Kee (2018) reported that up to 50% of patients do not adhere to recommendations and it is recognized that it is the practitioner who needs to, through communication, change the role the patient identifies with. This is seen in research, despite patient-centered communication being a preferable way of practicing, which includes patients in the

communication process, being patient specific, addressing psychosocial influences within the history taking and not just the bio anatomical issues. It is still not the main method of communicating in consultations (Kamper *et al.* 2020; Anderson and Funnell 2010; Härter *et al.* 2017).

Manual therapists, and physicians tend to hold to the bio anatomical approach, which means patients tend to keep to this model as well. The many comments made by participants in the current study repetitively identified the patients as a barrier can indicate how internalized this passive role has become.

The participants identified patients' perception of chiropractors as a barrier to communication. This was expressed as either patients comparing them to previous experiences of other chiropractors or perceptions they had from videos seen on the internet and social media. Again, this can be examined directly as a perceptual problem of the patients. Since communication is a dynamic construct, when one party has a set, preconceived idea of the other and what to expect from the interaction and this is not what is experienced, then this can lead to breakdowns in communication and can be seen as a barrier in forming a therapeutic relationship (Street *et al.* 2008). This could also be seen and interpreted as an issue within chiropractic professional identity (Villanueva-Russell 2011).

Historically chiropractic is a young profession and has been on the fringes of the healthcare system. There are many different philosophical frameworks of chiropractic and these are known to treat and approach patients in very different ways. This lack of cohesion within the profession is known to be an issue, and has been identified as a cause of chiropractic remaining on the fringes of the healthcare system (Brown 2016). If patients cannot “know what to expect” when they visit their chiropractor, then this will become a barrier to the communication and education process.

The participants identified patients' perception of words, phrases and medical conditions as barriers to communication and patient education. These perceptions were obtained from chiropractic practitioners and physicians' experiences and explanations they had received. This included things like “sciatica”, “alignment” or using words to motivate the

patient that could induce fear and anxiety within patients' understanding of their condition. This also included a lack of knowledge of certain words and terms that practitioners may use and medical jargon which is overcomplicated and difficult for patients to understand, yet an oversimplification of the condition can also give a false understanding of what is really occurring.

This can be related to the understanding of the "perceptions of chiropractic". Many of these terms and phrases are used by some chiropractors but not by others (Brown 2016). Therefore, the lack of terminological cohesion within the profession becomes an issue. The philosophical standpoint of the chiropractor leads to their belief of what the root cause of the pain and dysfunction is. Some may believe pain is coming from an "alignment issue" or a "short leg". Others may believe in a more biomedical or biopsychosocial construct, or a more complex viewpoint that takes into consideration the neuromusculoskeletal, psychosocial and environmental contributing factors (Cooper and McKee 2003). As long as chiropractic does not have a unified perception of the origins of what it is they are treating, it cannot be assumed that patients will have a unified understanding of these origins either.

These perceptions can also originate from low health literacy (D'Agostino *et al.* 2017). This is known to be a contributing factor to poor communication and struggles within the patient practitioner relationship (Coleman *et al.* 2017; Kountz 2009; D'Agostino *et al.* 2017). Most patients do not have the health literacy to be able to have a dynamic understanding of their own health and situation. This can lead to practitioners oversimplifying the patients' issues and concerns during conversation, which then results in misconceptions and misunderstanding of what the true cause is or the meaning of words and phrases used during the conversation (D'Agostino *et al.* 2017).

The issue of the deep meaning of words and the effect communication and understanding can have on a person's perception of their medical condition speaks to the core of this current research. It is understood that one's perception and understanding of what is occurring within one's body can affect the manifestation of one's symptoms, condition and ability to recover and act on the education received (Stewart and Loftus 2018).

Practitioners can use seemingly “scary” and “catastrophic” medical terms, which can make a patient perceive their condition to be much worse than it really is. This is often linked to medical language, which is used in imaging reports like x-rays and MRIs (Bossen *et al* 2013). This is known as catastrophization (Stewart and Loftus 2018).

Medical terms like “degenerative disc disease” and “slipped discs” sound dangerous and scary; they give the patient the perception of disability, of irreversible pain and/or decreased function (Westman *et al.* 2013). In reality, a great deal of MSK pain and dysfunction, like low back pain, has a large psychosocial component and radiographic finding of degeneration does not always have the clinical presentation to go with it (Evers *et al.* 2017; Brinjikji *et al.* 2015; Cubukcu *et al.* 2012).

When a person believes they are disabled, this can up regulate the pain pathway in their central nervous system (Louw 2020). This leads to a fear of movement and less activity which inadvertently worsens their condition. This is known as “fear avoidance behavior” (Westman *et al.* 2013). This illustrates how careful practitioners need to be with their words and their communication (Stewart and Loftus 2018). Therefore, language and communication need to be used with care and consideration to ensure the correct message is delivered to the patient and the correct understanding has been obtained.

Through this discussion, it can be seen how patient perception can be linked to “practitioners as a barrier”. Patients’ perceptions can be affected and influenced by the practitioner and, therefore, could be a result of poor communication on the practitioner’s part.

The practitioner as a barrier was identified in the literature extensively when looking at the patients’ perception on communication (Skärd and Söderberg 2018; Kee *et al.* 2018; Naughton 2018; Hong and Oh 2020). Since this current study only examined the practitioners’ perception it was a surprising result that some practitioners identified themselves as a possible barrier to communication.

5.3.2 Language, Culture and Socioeconomic Status

Language, culture, and socioeconomic status emerged out of the interviews in diverse ways, as a barrier to communication and delivering patient education. It was not unanimously agreed upon yet participants felt it influenced them in different ways. The first language of all the participants was English. This is supported in the literature which identified that in South Africa, and therefore eThekweni, the providers of healthcare usually fall within the higher socioeconomic bracket and this group is still dominated by the English and Afrikaans languages (Chima 2018).

The participants practicing within areas that are more culturally diverse faced language differences as a barrier. The consequences of these language barriers affected the level of care the patients received in the same way that was identified in the literature. The practitioners often used a family member or practice staff to help translate, or they had to reduce the level of education and communication to ensure some sort of understanding. This inadvertently affected informed consent, while observing patient privacy reduced the level of care and empathy the patients received (Chima 2018; Hussey 2012; Street *et al.* 2008).

In the case of having a family member or translator coming into the room with the patient, it was interestingly seen to have two opposing effects. Most of the participants indicated its usefulness and positive effect as a way to overcome language barriers and how it assisted communication. However, most of them also indicated how this could become a barrier due to complicating the communication process because of not dealing directly with the patient. In a systematic review by Laidsaar-Powell *et al.* (2013), a similar sentiment was suggested, that although the presence of a companion in the room was usually helpful with information gathering, it could sometimes complicate the communication process and lead to a reduction in sharing from the actual patient.

This also sheds light on the socioeconomic and cultural difficulties still experienced in South Africa and in eThekweni, which illustrates how often more underprivileged populations, often those speaking Black African languages still have issues accessing care in their own language (Chima 2018). This can be seen in the difficulty the researcher

had in trying to find participants who spoke a Black African language. Only three practitioners were identified out of the estimated 175 known, registered chiropractors practicing within eThekweni metropolitan (Lamprecht and Padayachy 2019).

In a region which is occupied, by 74% Black African language speakers (Stats SA 2013), it can be deduced that adequate chiropractic care in one's home language is hard to find. This is an indication of how the historical inequalities in South Africa affects healthcare delivery, communication, and education and continues to affect health literacy and quality of health care received by the majority of the population in South Africa (Chima 2018; Hussey 2012; Street *et al.* 2008).

Cultural reasons also formed a challenge to communication. The social hierarchy, which is seen in some African and Indian families, lead to family members coming into the consultation room with the patient. The participants felt this affected the flow of information and privacy for the patient, leading to less sharing of information from the patient. The presence of a translator or a family member can affect informed consent since these patients do not have the privacy to ask and share information freely without the input of their partners or the presence of a translator (Chima 2018).

The current study indicated low-income individuals had less opportunity to return for follow up consultations and therefore less opportunity to communicate and gain education from their chiropractic practitioners and, therefore, finances were a barrier to communication. The systematic review by Aljassim and Ostini (2020) suggested the link between low socioeconomic status, low education, rurality and access to care with low health literacy and poorer health care outcomes. These factors were also linked to communication difficulties. Therefore, the current research and the literature show that less economic agency leads to less quality care, as well as more barriers to communication and patient education (Chima 2018).

5.3.3 Time Constraints

The participants in the current study, as well as in the literature (Kee *et al.* 2018; Leonard 2017), identified time as a barrier to effective communication. Many of the participants mentioned they had identified ways to overcome time as a barrier, including tailoring their

appointment times to the communication needed for that session, scheduling follow up appointments or practicing for longer hours and having longer consultations to accommodate for adequate patient education and communication. Only one participant identified how the use of open-ended questions and allowing patients to talk uninterrupted could help to overcome time constraints as a barrier (Naughton 2018).

Kee *et al.* (2018) reported the perception of a lack of time was strongly linked to poor communication provided by the practitioners. The participants in the current study felt education could be time consuming and addressing patients with increased psychosocial problems contributing to their condition, and that this was not part of their scope of practice. They also reported that balancing their personal lives and communication with patients also led to time constraints as a barrier. These opinions indicate how time constraints as a barrier could be a result of the practitioners (Kee *et al.* 2018).

5.4 THEME THREE: COMMUNICATION TECHNIQUES

The communication techniques identified during the current study included using an aid, bio anatomical and disease-centered techniques and patient-centered techniques.

5.4.1 Using an Aid

“Using an aid” ranged from the participants using technology to aid in communication to the patient's family and community.

Every single participant discussed the use of technology within the communication process. It was not something that was initially encountered in literature so it was an interesting concept to consider. All participants in the current study mentioned reinforcing their communication outside of the consultation and remaining in contact with their patients through communication platforms such as WhatsApp, email and telephone. This illustrates a large shift in communication within the doctor-patient relationship, which started to emerge at the change of the century (Petracci *et al.* 2017).

Historically, there would have been no means to stay in constant contact with one's patient or with one's doctor (Petracci *et al.* 2017). With the development of communication technology and the normalization of remaining constantly in contact with people, it has become a requirement for practitioners to be more available to their patients outside of the consultation time. Research shows that this has led to increased access to information and support relevant to the patient and their condition. It has therefore been linked to increased autonomy and satisfaction of the patient since it can neutralize the relationships and increase the role that the patient can play within the interaction, giving them time to interact with information and reflect (Fage-Butler and Jensen 2015; Petracci *et al.* 2017).

It can, however, increase the disparity and disadvantage of some within lower socioeconomic communities if they lack access to technology (Petracci *et al.* 2017). It can be more time consuming for practitioners, as well as leading to bioethical concerns emerging, related to the safe development and use of new technologies and healthcare communication (Fage-Butler and Jensen 2015; Terrasse *et al.* 2019). The bioethical concerns are linked to the utilization of social media, like Facebook, to communicate with patients, but this was not mentioned by any of the participants. This could also inadvertently develop an increased dependence of the patient on the relationship with the clinician leading to a decreased internal locus of control of the patient.

Participants shared that they were using videos, images, 3D animation and internet resources, like YouTube links and printouts, to provide extra information or reinforce education given during the consultation. Research shows how technology and multimedia utilized in this manner can reinforce education and clarify communication (Fage-Butler and Jensen 2015; Schooley *et al.* 2015). The participants suggested this assisted patients with language disparities and engaged a person visually and via auditory senses.

Research shows that this can reinforce patient autonomy, increase patient-centeredness by allowing patients time to digest information through multiple platforms within their own time which aids in the education and communication process (Fage-Butler and Jensen 2015). Lopez-Olivo *et al.* (2018) and Bailey *et al.* (2020) show how both video-based education programs and multimedia online facilitation of education can improve patient

adherence and self-management and are effective adjective ways of managing MSK conditions.

The use of family members and even coworkers and friends to help motivate patients or to be an extension of the practitioner to help ensure patients internalize information and remain compliant to recommendation was discussed by most of the participants. This is a very “patient-centered approach” since activating patients’ community and engaging their support system is a valuable tool used in motivating people and helping them maintain self-management (Zill *et al.* 2015; Santana *et al.* 2018).

Park *et al.* (2018) identified that patient-centered care and family centered care is an effective means of improving the quality of healthcare, including how family in the care process has many positive benefits for the patient, the family and the practitioner.

5.4.2 Paternalistic and Disease-Centered Techniques

The use of paternalistic and disease-centered communication techniques were utilized by all the participants. In the current study, these communication techniques were used to directly communicate information about the disease process, link the patients’ lifestyle and their condition, as well as the use of more paternalistic styles of communicating.

Historically, this was the dominant communication style in all forms of medicine including manual therapy (Hoving *et al.* 2010; Cheng 2015). The individual was not considered and disease and dysfunction were perceived to have a very mechanistic nature (Hoving *et al.* 2010). This communication style often did not include or consider the individuals’ preferences or how their advice would be integrated into their lives. It was not empathetic and did not consider any psychosocial contributions to the present case (Ishikawa *et al.* 2013).

Certain types of medical care and medical practitioners are still perceived to practice in this manner, in which advice is based around a practitioner and disease-centric paradigm (Cheng 2015; Anderson and Funnel 2010; Kamper *et al.* 2020). In the current study, this sort of communication was described: participants were leading the conversation and encouraging their own recommendations instead of encouraging patients own goals and

lifestyle adjustment. It is understood that many manual therapists still practice within this paradigm (Hiller *et al.* 2016).

Chiropractic is understood to be a “holistic” and patient-centered practice (Gliedt *et al.* 2017), yet, inevitably, since it is dealing with muscles, joints, nerves and physical dysfunction, it still holds a paternalistic and disease-centered bias (Hiller *et al.* 2016). This can be considered as an acceptable approach if it is incorporated with other more patient-centered techniques. In the current study, it can be deduced that the chiropractic practitioners interviewed within the eThekweni expressed the importance of using “patient-centeredness techniques” but also described the use of a lot of paternalistic approaches.

Many of the participants linked their treatment procedures to postural and lifestyle adjustments, which they believed had a causative link to the patients’ presenting condition. This is valid disease-centered communication and education technique to utilize since MSK dysfunction is multifactorial and can often have contributing factors, including poor technique of activities of daily living or weak musculature (Eitvpart 2018; Aktürk, Büyükcavcı and Aktürk 2019). Using visual alterations achieved with treatment, and describing the link to the biomechanical aggravating factor, could help patients understand how chiropractic works, as well as their responsibility to continue these changes in their daily life.

Some participants described using a paternalistic communication style. This was not the dominant communication style used, rather, it was utilized when other communication styles were less effective. This is a more dominant communication style illustrated by the practitioner talking more than the patient and suggesting compliance, as opposed to cooperation (Hoving *et al.* 2010). Utilizing a more dominant and leadership style of communication can be seen as a way of matching the communication style that best suits the patient (Cheng 2015). However, a paternalistic approach to communication is not suggested to be the best approach to managing MSK conditions (Lin *et al.* 2020; Hiller *et al.* 2016).

Despite most of the participants suggesting they utilize more patient-centered communication styles, their bias was swayed towards a more paternalistic style of

communication. This is because the participants suggested lifestyle changes and established the best approach to the management of the patient's condition. Although the participants are the ones who have the expertise and knowledge, it is a nuanced skill to lead the patient so that the patient can come up with their own goals, and management approach and truly practice patient-centered communication techniques (Anderson and Funnel 2010 Hiller *et al.* 2016).

5.4.3 Patient-Centered Techniques

The current study identified that the participants utilized a lot of patient-centered communication techniques. Research shows that this is the desired way of practicing, especially for outpatient care of MSK conditions which benefit from self-management, lifestyle modification and addressing the psychosocial contributions to a condition, as well as the biomedical (Lin *et al.* 2020; Hashim 2017). This is especially true for MSK conditions that become chronic (Naughton 2018).

Research suggests chiropractic care has a holistic approach to healthcare, aligning themselves with the patient-centered approach and considering all aspects of a patient (Gliedt *et al.* 2017; Johl *et al.* 2017). The current study shows that chiropractors practicing within the eThekweni are aligned with the research and with the perceived approach that chiropractors take. They considered patient education to be of the utmost importance; they put effort into ensuring understanding of the information they provided; they emphasized tailoring the information they provided to the patient and other patient-centered communication techniques, including paraverbal and nonverbal empathetic techniques like eye contact and a gentle tone of voice. The current study showed that numerous patient-centered communication techniques were used to maintain communication, overcome communication barriers and create rapport and a healing relationship.

Being patient specific is a fundamental component of patient-centered communication. This means tailoring education and communication to the patients' needs, preferences and level of health literacy (Lin *et al.* 2020; Hashim 2017 Rathert *et al.* 2017; Naughton 2018). It requires the practitioner to provide information to the patient that is not only

condition specific but specific to each individual. In the current research all the participants acknowledged how the communication process and the education process needed to be tailored to each specific patient and their needs and preferences, and this aligned with the research (Lin *et al.* 2020; Hashim 2017 Rathert *et al.* 2017; Naughton 2018).

In patient-centered communication, information regarding the patient's diagnosis, options of treatment, management and outcomes must be explained to patients in a way that they can understand and that educates them (Stilwell and Harman 2017; Rajan *et al.* 2015). Engaging with the patient to recognize if understanding has occurred is important. Using a teach back mechanism, or asking the patient if they understood, are other ways of ensuring understanding (Coleman *et al.* 2017). This requires the patient to “teach back to the practitioner” what they have just been told or what they were taught at previous sessions to see the level of understanding the patient has obtained.

In the current study, it could be seen that most of the participants understood the value of ensuring that the patient understood the information that was being communicated. They expressed utilizing the teach back method, asking the patient if they understood and other methods, such as observing body language and facial expressions.

The use of simple language, avoiding medical jargon and matching communication to the patients' health literacy were identified in the current study as important ways of enabling understanding. All the practitioners addressed this as a method of communication; it was done to overcome language barriers, health literacy barriers and remaining patient specific and ensuring maximum benefit and engagement from the patient (Coleman *et al.* 2017). This is identified in the literature as a patient-centered communication technique since the practitioner communicates on the level of the patients' understanding and does not place themselves in a superior position (Rathert *et al.* 2017; Steward and Luftus 2018).

Developing rapport and a trusting relationship is an important part of patient-centered communication (Huntington and Kuhn 2003; Ranjan, Kumari and Chakrawarty 2015). The participants had their own unique ways of doing this. Some tried relating personally to their patients, whilst another preferred patients to address them by using their first name.

Remaining open and warm, with adequate eye contact to facilitate establishing trust in the relationship, are identified by the research to be paraverbal and nonverbal empathetic patient-centered communication techniques (Huntington and Kuhn 2003; Ranjan, Kumari and Chakrawarty 2015). This includes expressing empathy (Howick *et al.* 2018).

This can be done during the communication process by using a gentle tone, a lower volume, using empathetic facial expressions, and avoiding emotional and experiential disregard of the patient by repeating their struggles and individual experiences back to them so they feel heard. These paraverbal components can make up 90% of the communication and are linked to improved outcomes and patient satisfaction (Ranjan, Kumari and Chakrawarty 2015; Hashim 2017).

In the current study, the participants described utilizing these techniques, all of which are ways of establishing a therapeutic and trusting relationship and allowing the participant to fully understand the patient's situation. They perceived this to assist in general communication and patient education, as well as a method to overcome communication barriers, ranging from a more complex psychosocial history to financial barriers.

Open-ended questions during the consultation are an important part of achieving patient-centered communication. This means asking questions using interrogative adverbs like why, what is, where, and how, which encourage full sentence answers, instead of questions which require a closed yes or no answer (Hong and Oh 2020). This enables the patient to provide a true descriptive narrative of their condition and experience, which enables more in-depth accurate information to be gathered (Rajan *et al.* 2015).

Active listening is also an important part of patient-centered communication. This means the practitioner must allow adequate time for the patient to respond to questions, letting them fully explain their experiences without cutting them off and assuming understanding, while showing encouraging paraverbal signals like eye contact and nodding (Ranjan, Kumari and Chakrawarty 2015; Hashim 2017; Rather *et al.* 2017; Naughton 2018). These techniques were expressed to be utilized by the participants within the current study.

The analogies to help explain information to patients were used by many of the participants. This was seen as a method of ensuring understanding by patients and

simplifying the information, while putting it in a format that relates to them. This is also a known pain neuroscience education technique. Pain neuroscience education is a method of educating patients which falls within a patient-centered communication framework (Wijma *et al.* 2016). The use of analogies is used to “reframe” or reconceptualize a person's perspective of their pain, as well as make education understandable (Shala *et al.* 2021).

Self-management is an important outcome expected to be achieved from patient-centered care and patient-centered communication techniques (Naughton 2018; Souza 2020). It was considered by many of the participants to be an important aspect in achieving improved outcomes for patients. This was expressed directly and the different methods this was achieved was also explained. These included goal setting, managing expectations and trying to integrate the advice into the patient's life more, as well as breaking down the information into more manageable pieces. This can also include shared decision making (Cheng 2018).

There are often many treatments and management options available for most conditions which are offered by different types of medical practitioners. It is important for the practitioner to alert the patient to these different options and together establish what suits the patient's desires, beliefs, and preferences. (Härter *et al.* 2017; Röttele *et al.* 2020). It is understood that when the patient has been activated within their own care process, they are more likely to implement the changes necessary for improving their condition.

All possible resources needed for the patient to remain compliant to their management program and to resolve their condition need to be identified and activated. Research suggests connecting the patient with information about other professionals, classes, such as yoga or pilates, and encouraging them to engage their own support system by connecting with their community. These are all important components within patient-centered communication (Santana *et al.* 2018; Zill *et al.* 2015). This was addressed by most of the participants and can also be seen as a fundamental component of patient-centered communication. It included referrals to biokineticists, exercise classes, nutritionists and psychologists and counselors.

5.5 CONCLUSION

In the current study, all the participants expressed the importance of the use of communication in delivering adequate patient education. They all held different perceptions of how this skill should be acquired but most of them indicated that the basic level of training at university level was insufficient.

Many different communication barriers were identified, most of which were reflected in the research and included language, cultural and socioeconomic differences, time constraints and the practitioner as a barrier. Patient perception was also identified as a barrier to communication, but this was not directly encountered in the literature. Extensive literature identifying mechanisms of increasing patient adherence to recommendation and self-management was used to support the idea that patients' perceptions can be a barrier to the communication process. Patients' perceptions as a barrier was also affected by the lack of unified chiropractic professional identity.

Different communication techniques were used to connect with patients, from relationships, to overcoming communication barriers. These included using an aid like communication technology, which can be used to increase patient-centeredness. The use of more bio anatomic and disease-centered communication techniques were also identified, and a variety of patient-centered communication techniques.

CHAPTER 6

CONCLUSION

6.1 CONCLUSION

Through this research process, it was discovered that all the participants perceived communication and patient education to play a vital role in the care they provided to their patients. They expressed that communication skills education was a crucial factor but had varying opinions on its acquisition. Some participants sought further training, some perceived it to be a soft skill acquired and improved during time in practice, while others perceived the basic training received to be optimal.

Many communication techniques were discussed and identified. It can be understood through the research process that the chiropractors interviewed have a balanced method of communication and overcome communication barriers utilizing disease-centered and patient-centered communication techniques.

They all utilized bio anatomical and disease-centered communication techniques, emphasizing bio anatomical causative factors, educating on pathophysiology, and leading the communication and education process with their own perceptions of the best approach to the management process.

They also all utilized more patient-centered techniques and approaches, emphasizing patient specificity, understanding and self-management. They discussed the importance of listening, expressing empathy, addressing the psychosocial contributions to the condition and the importance of referral, and engaging the patient's community in the managing process. All of which can be identified as patient-centered communication techniques.

An interesting and large sub-theme which emerged was the use of aids. All the participants discussed utilizing communication technology to maintain open lines of communication with their patients. The participants utilize platforms like WhatsApp,

YouTube and email to supplement education and communication, and to deliver images and resources to further enhance the communication and education process. Through research, this was identified to enhance patient-centeredness, as well as improve health literacy and self-management.

The participants expressed encountering many barriers to communication and patient education, some of which were reflected in the literature and some were new and unique. The barriers that were reflected in the literature were language, cultural and socioeconomic factors, time constraints and the practitioner as a barrier.

Patient perceptions were perceived to be a large barrier to optimal communication and patient education which is a factor not well described in the literature. This sub-theme was interpreted not only at its face value but also as the practitioner as a barrier, since the practitioner through communication inherently affects the perceptions of the patient. It was also interpreted as a product of a consumeristic based healthcare system leading to a lack of interest and desire by the patient to participate in the consultation.

A lack of professional identity within the chiropractic profession was explored as a factor leading to a lack of cohesion within the perception of what chiropractors do and how they practice.

6.2 LIMITATIONS OF THE STUDY

This study was limited by the fact that no practitioners who spoke a Black African language participated. This limited the perspective collected. This was due to a lack of response from this demographic and the time constraints on the study. This also shows the lack of chiropractic care delivered in these languages.

Another limiting factor was that the study only examined the perceptions of the practitioner and did not consider the patient view of the phenomena. It is understood that the two parties value and interpret the communication construct differently and, therefore, to obtain a full understanding of the phenomena insight from both the practitioner and the patient would be optimal. Only the practitioner's perception was collected since this study

is a partial Master's dissertation and, therefore, time and feasibility only allowed for data collection to be obtained from one party.

Although data saturation was reached, this study was conducted on a small sample size, and within a unique context, and, therefore, transferability is limited.

6.3 RECOMMENDATIONS FOR FURTHER RESEARCH

Further research in this area could benefit from examining the patient's perception of communication and patient education to establish how their perceptions add to that of the practitioner's perception of this phenomena. Studies could consider recruiting practitioners and obtaining consent to recruit some of their patients as well. In this way, interviews could be conducted with both the practitioner and the patient to see how both parties perceive the communication and patient education process and the barriers they both face. This would create a richer and more complex data set to analyze.

Since this study was conducted on a small population and within a small and unique context, further studies could consider examining a bigger population group and conduct it in different regions of the country. This would add to a more in depth understanding of the phenomena, which would be more transferable.

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APPENDICES

Appendix A: Letter of Information



LETTER OF INFORMATION

Title of the Research Study: Exploring communication as a means to deliver patient education for musculoskeletal care by chiropractors in the eThekweni municipality.

Principal Investigator/s/researcher: Frances Cowley Chapman, BTech Chiropractic

Co-Investigator/s/supervisor/s:

Main supervisor: Dr Penny Orton. PhD Nursing (COIL Specialist)

Co-supervisor: Dr Cleo Prince. MTech Chiropractic (Lecturer)

Brief Introduction and Purpose of the Study:

Good Day, I trust you are well.

I am a 6th year student at the Durban University of Technology DUT doing research for my master's degree in chiropractic.

I would like to invite you to participate in my qualitative research study on communication styles and techniques, barriers to communication faced in practice and methods you use to overcome these barriers in order to deliver optimal patient education.

Research shows that adequate communication skills are required to deliver patient education and to provide optimal musculoskeletal care. Without these components of communication skills and

patient education it is understood that self-management and patient activation is reduced and therefore treatment outcomes are less satisfactory. This affects all health care providers but is specifically crucial in providing musculoskeletal care as it has a multifactorial etiology. It also has increased value in this region as a multicultural multi-lingual municipality is proposed to have increased barriers to communication than other more homogenous populations. Yet little is known about the communication style eThekwini chiropractors use to deliver patient education, the barriers they face and how they overcome these barriers. In this study I would like to explore your communication styles, the barriers to communication you face and how you overcome them as a chiropractor in eThekwini to deliver patient education for musculoskeletal care. Better insight into these areas could help other chiropractors and chiropractic students in the region better understand these phenomena contributing to improving their communication techniques and their ability to deliver patient education.

Outline of the Procedures:

If you agree to participate in this study, you are required to sign a letter of informed consent, complete a form to capture your demographics and partake in a semi-structured interview. Although your name will be required and used in the interview process it will be coded and eliminated from all the recorded data so anonymity will be maintained throughout the rest of the research process. Once you have completed the relevant paperwork (letter of consent, and demographic form). I, Frances Chapman, the researcher, will contact you and set up an interview date and location. The interview can be conducted online on Zoom/MS teams or WhatsApp or in person at a location chosen by you. This is to maintain COVID-19 protocols and ensure a medium for the interview which is the most convenient to you. The interview will be approximately an hour long and contain open ended questions around the topic outlined above. The interviews will be recorded for analysis afterwards. A summary of the results and the final dissertation will be made available to you once they have been compiled.

This is a qualitative research study which aims to explore the perceived communication techniques, the barriers to communication and how communication barriers are overcome by chiropractic practitioners in the eThekwini municipality in order to deliver patient education and provide musculoskeletal care. The semi-structured interview will be transcribed and deeply analysed to identify themes and look for the meaning within the information obtained. All AHPCSA registered chiropractors practicing within the eThekwini Municipality are potential participants.

Risks or Discomforts to the Participant: There will be no risks to you, if you decide to participate in this study. Due to the nature of a semi-structured interview, it is possible for emotional risk or discomfort to incur during the interview process. This will be kept to a minimum by ensuring that only information outlined in the topic above will be addressed during the interview process and you as the participant only have to talk about and share information you wish to share.

Reasons he/she may withdraw from the Study: In order to minimize any discomfort or harm during the research process it is important to note that you, as a potential participant may withdraw from the research process at any point if you feel the need. The researcher may also under certain circumstances decide to withdraw the participant from the study. This may be for ethical reasons to protect the participant or to maintain the highest ethical integrity during the research process as possible. If this occurs the participant will be notified and appropriately informed as to the reason by email and an orderly process of debriefing and termination of participation will proceed.

Benefits: Your full cooperation will assist in expanding the knowledge on communication techniques, the barriers to communication and how they are overcome by chiropractic practitioners in eThekweni Municipality. Thus, helping other chiropractors and chiropractic students in the region better understand the barriers they may face and the resources there may be to improve patient practitioner communication and education.

Remuneration: There will be no remuneration will be given to participants of this study.

Costs of the Study: There will be no cost to you, in participating in this study. The only cost to consider will be the valuable cost of your time which will be greatly appreciated.

Confidentiality: All interview recordings and transcripts will be kept in confidence. The interviews will be conducted and transcribed solely by the interviewer who will need your name for practical reasons. All recordings and transcripts following the interview will have no identification details on them to maintain confidentiality. The transcripts (not containing any identity details) will be analysed by the researcher as well as the supervisors mentioned above therefore confidentiality will be maintained. All personal information is confidential, and the final results of the study will be made available in the Durban University of Technology library in the form of a dissertation.

None of your individual responses will be made available to your patients or the university. The other participating parties will only receive the information regarding this study after all the data has been collectively analysed, meaning that your individual data will not be identifiable.

Results: All results will be disseminated to the participants via e-mail once it has been compiled. The dissertation will be available in the DUT library for interested parties to read if they would like. An article summarizing the study and its findings will be drafted for possible publication.

Research-related Injury: There should be no injury incurred in the research process. If any emotional harm is experienced during this process counselling can be arranged to help you process and work through any unforeseen emotional trauma that might have arisen.

Storage of all electronic and hard copies including tape recordings: All data, recordings and transcripts obtained during the research process will be stored in a locked cabinet in the DUT chiropractic day clinic for a duration of 5 years which is a legal requirement of the ethics board. During which it can be made available if necessary, for litigation purposes. After which point it

will be destroyed. During the research process only, the researcher will have access to your information.

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

Please contact the researcher: Frances Chapman (0618269768), my supervisor: Dr Penny Orton at pennyo@dut.ac.za or the Institutional Research Ethics Administrator on 0313732375. Complaints can be reported to the Director: Research and Postgraduate Support Dr L Linganiso on 031 373 2577 or researchdirector@dut.ac.za.

Appendix B: Letter of Consent



LETTER OF CONSENT

Full Title of the Study: Exploring communication as a means to deliver patient education for musculoskeletal care by chiropractors in the eThekweni municipality.

Names of Researcher/s: Frances Cowley Chapman, BTech Chiropractic

Co-Investigator/s/supervisor/s:

Main supervisor: Dr Penny Orton. PhD Nursing (COIL Specialist)

Co-supervisor: Dr Cleo Prince. MTech Chiropractic (Lecturer)

Statement of Agreement to Participate in the Research Study hereby confirm that I have been informed by the researcher, _____ (name of researcher), about the nature, conduct, benefits and risks of this study - Research Ethics Clearance Number: _____.

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

Full Name of Participant	Date	Time	Signature/Right
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Thumbprint

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

Full Name of Researcher **Date** **Signature**

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

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

Appendix C: Demographic Information



DEMOGRAPHIC INFORMATION

Gender:

Date of birth:

Race:

Place of origin:

Years in practice:

Place of practice:

Appendix D: Interview Agenda



INTERVIEW AGENDA

Ice breaker:

Hi there. How are you? My name is Frances. Tell me a bit about yourself? How long have you been practicing? Have you always practiced in and around Durban? What was your experience like? Do you have any special interests in terms of how your practice?

Intro:

My interest has led me into looking at how practitioners communicate with their patients and how this can affect patient education, or the way patients respond to education. Musculoskeletal pain and conditions which chiros treat are often very multifactorial and are often complicated by environmental and psychosocial issues. Therefore, to wholly address presenting conditions patient education is very important. Communicating with your patient in a way which helps motivate them to change their lifestyle, do stretches, strengthening exercises, and address psychological issues can sometimes be the key factor which is needed to resolve a musculoskeletal issue or condition. This becomes even more pertinent when the condition becomes chronic. Despite this knowledge it can still be very difficult to achieve this level of relationship and be able to communicate with your patient in a way which motivates them.

What are your thoughts on this? Does it contribute to the way you communicate with your patient?

Possible probing questions:

- Considering the socioeconomic and cultural diversity in eThekweni, in your experience how do you think this contributes or complicates the way you communicate and educate your patients?
- In your own practice are there things you have felt to be barriers to communication and patient education?
- To expand if they have not touched on any of these topics: do you feel these things affect your ability to communicate patient education; language differences, terminology understanding, knowledge of chiropractic, willingness to participate in their own healing process, level of patients education,
- How do you overcome these barriers? What sort of communication techniques do you use to motivate your patients?
- When you encounter a “difficult” patient, be it a complex psychosocial history, a chronic condition, a large lifestyle component. How do you approach them differently to other patients?
- Do you communicate with them differently? In what way?
- Do you find certain words/terms used by chiropractors or manual therapists to be problematic in terms of effecting the patients perception and outcome outcomes?
- Do you think the AHPCSA legislation on informed consent and non discrimination etc help practitioners to be informative and patient-centered
- Health literacy?
- Time constraints?
- Knowledge of communication techniques? MI, TNE?
- Degree of training done by practitioners to be proficient communicators?
- Communication issues leading cause of litigation
- Year in practice have an effect on communication and patient education? Does it improve or get worse?
- How do you “measure” the effectiveness of your communication and patient education.

Appendix E: Ethical Clearance Letter



Institutional Research Ethics Committee
Research and Postgraduate Support Directorate
2nd Floor, Benyon Court
Gate 1, Steve Biko Campus
Durban University of Technology

P O Box 1334, Durban, South Africa, 4001

Tel: 031 373 2375
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http://www.dut.ac.za/research/institutional_research_ethics

www.dut.ac.za

21 September 2021

Ms F C Chapman
P.O Box 2110
Hillcrest
3650

Dear Ms Chapman

Exploring communication as a means to deliver patient education for musculoskeletal care by chiropractors in the eThekweni municipality.

Ethics Clearance number IREC 091/21

The Institutional Research Ethics Committee acknowledges receipt of your final data collection tool for review.

We are pleased to inform you that the data collection tool has been approved. Kindly ensure that participants used for the pilot study are not part of the main study.

Please note that **FULL APPROVAL** is granted to your research proposal. You may proceed with data collection.

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 Standard Operating Procedures (SOP's).

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

Yours Sincerely,

Appendix F: Editor's Certificate



Helen Bond

IMPELA EDITING SERVICES

impelaediting@gmail.com

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5 May 2022

CERTIFICATE

Frances Chapman

franceschapman4@gmail.com

Dear Frances

Thank you for using Impela Editing Services to edit your Master's dissertation entitled "Exploring communication as a means to deliver patient education for musculoskeletal care by chiropractors in the eThekweni Municipality".

I have proofread for errors of grammar, punctuation, spelling, syntax and typing mistakes. I have formatted your work and checked the references (this means checking the formatting). I believe your work to be error free.

PLEASE NOTE: Impela Editing accepts no fault if an author makes changes to a document after a certificate has been issued.

I wish you the very best in your submission and your career.

Kind regards

Helen Bond (Bachelor of Arts, HDE)

Appendix G: Plagiarism Report

exploring communication as a means to deliver patient education for musculoskeletal care by chiropractors in the eThekweni municipality

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