

**Caring Beyond the Table: Exploring New  
Zealand Osteopaths' Experience of Treating  
Pregnant Women: A Descriptive  
Phenomenological Study**

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# Abstract

*Background:* Pregnant women experience a variety of pregnancy-related complaints that significantly impact their quality of life. Osteopathic manual therapy is frequently used to treat these complaints in New Zealand. Women have described osteopathic care in pregnancy as increasing their quality of life by improving their ability to function and carry out their roles and responsibilities, reducing stress and providing security during a time of change (Kurth, 2011).

*Objective:* This descriptive phenomenological study explores osteopaths' experiences of caring for pregnant women.

*Method:* Snowball sampling recruited five practising osteopaths who specialise in treating pregnant women. Data were collected using semi-structured interviews and analysed using descriptive phenomenology.

*Results:* Two major themes were uncovered: 1) *Gaining a sense of her journey*, and 2) *Caring beyond the table*. Participants needed to gain an appreciation of each woman's unique journey to and through pregnancy and the impact of pregnancy related changes on the individual in order to tailor management and support. Osteopathic care was perceived to reduce both the physical and emotional stress associated with a demanding time of change. Osteopaths viewed their role during pregnancy as nurturing and providing support from a unique perspective from other healthcare practitioners. A third minor theme related to the professional environment of osteopathy within the New Zealand healthcare setting.

*Conclusion:* Osteopaths and other healthcare practitioners caring for pregnant women need to be aware of the heightened need for support during this time, and be able to respond to each woman's individual needs. Osteopathic care during pregnancy has a focus on nurturing and supporting pregnant women. Due to the high prevalence of common pregnancy complaints and their profound impact on women's lives, osteopathic care has the potential to change women's journey through pregnancy by improving their quality of life.

*Keywords:* Pregnancy; Osteopathy; Qualitative research

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# Preface

This research study explored the experience of five osteopaths in caring for pregnant women. The thesis is presented in three main parts. Part one comprises two chapters. Chapter one is a literature review to familiarise the reader with the background of osteopathic care in pregnancy and the experiences of healthcare in pregnancy. Chapter two describes the methodology and research methods.

Part two is presented as a manuscript with appendices in the stipulated format for publication in the International Journal of Osteopathic Medicine. Part three comprises the appendices which contain documentation of ethics approval, information and consent forms, journal publication guidelines and examples from the data analysis process.

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## Abbreviations

CAM            Complementary and Alternative Medicine

LBP            Lower Back Pain

PGP            Pelvic Girdle Pain

OMT            Osteopathic Manipulative Treatment

# Part One

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## Chapter One: Introducing the research

### Introduction

The preface sets out the structure of the thesis. This introduction presents the research topic and current study. An in-depth literature review and methodology follows and the manuscript concludes the document.

A variety of pregnancy-related complaints affect women throughout pregnancy. Among the most frequently reported are Lower Back Pain (LBP) affecting approximately 50% of pregnant women (Malmqvist et al., 2012; Vermani, Mittal, & Weeks, 2010) and Pelvic Girdle Pain (PGP) affecting approximately 45% of women (Robinson, Eskild, Heiberg, & Eberhard-Gran, 2006; Wu et al., 2004). Nausea, vomiting, headaches and breathlessness are among the variety of complaints also regularly reported during pregnancy (Emmanuel & Sun, 2014).

Although these complaints are described as 'normal' and 'minor' they can be disabling, affecting women's quality of life, with social, health and economic consequences (Mogren, 2006). Qualitative studies have found women describe a lack of acknowledgment of the struggle, pain and stress associated with these complaints (Fredriksen, Moland, & Sundby, 2008; Persson, Winkvist, Dahlgren, & Mogren, 2013). Increasing numbers of women are seeking Complementary and Alternative Medicine (CAM) to relieve these complaints, largely due to the perception of reduced risk in comparison to drug therapies and congruence with health beliefs (Gaffney & Smith, 2004; Hall, Griffiths, & McKenna, 2011; Rayner, McLachlan, Forster, & Cramer, 2009).

Osteopathy assists in the treatment of these complaints and there is research to support the efficacy of osteopathic treatment for lower back pain in pregnancy (Harding & Foureur, 2009; Lavelle, 2012; Licciardone & Aryal, 2013; Licciardone et al., 2010). While osteopathic care presents a plausible treatment for many of the other pregnancy-related complaints there is an absence of research to support these claims. Consequently it is apparent that significant research is urgently needed to explore all aspects of the current osteopathic care of pregnant women.

There is no published literature investigating women's experience of osteopathic care in pregnancy. However in a postgraduate thesis Kurth (2011) uncovered valuable information on the values, expectations and experiences of pregnant women undergoing osteopathic care. Women's need for support, empowerment and reassurance in pregnancy has been identified (Kurth, 2011; Schneider, 2002).

In turn midwives have identified the need to support women by respecting a women's autonomy, dispelling fears, empowering and developing their confidence, providing information, reassurance and advocacy (Hildingsson & Haggstrom, 1999; Homer et al., 2009). In osteopathic literature there is minimal research considering the osteopaths experience of treating patients, nor are there studies investigating osteopaths' experience of caring for pregnant women.

The present study explored the experiences of five osteopaths who specialise in treating pregnant women, allowing for rich and in-depth data to be gathered. Qualitative research is limited within osteopathy and the wider manual therapy fields and it is hoped that the current study will contribute to knowledge in these professions. Thus, the current study was designed to gain a further understanding of osteopathic care during pregnancy from the osteopath's perspective.

### **Personal background**

I am a thirty two year old osteopathic masters student, with a previous degree in psychology and an interest in health.

I have always had a great interest in pregnancy and find it a fascinating time in a woman's life. In addition I am at a stage in life where many of my friends are having babies and pregnancy is a topical subject. As a result of studying towards being an osteopath I now have an understanding of the physiological changes that take place during pregnancy and find the capacity of the human body astounding.

I find the human experience intriguing and enjoy hearing patients' perspectives and experiences in clinical practice. I approached this project with an inquisitive mind and a desire to further understand the osteopaths' experiences of caring for pregnant women. I hope that this project can provide osteopaths and other healthcare providers who treat pregnant women with some helpful insights.

# Literature Review

The following is a review of the literature concerning the experience of pregnancy and maternity carers' experience of caring for pregnant women. The main focus of the review is on osteopathic care in pregnancy where literature is available. Three key areas are considered starting with the background of maternity and osteopathic care in the New Zealand context. This is followed by the common complaints of pregnancy and their treatment with osteopathy. The review then covers women's experience of pregnancy and healthcare, and maternity carers' experience of caring for pregnant women. The review identifies the place for qualitative inquiry into the experience of osteopaths in caring for pregnant women and how this inquiry can inform osteopathic clinical practice.

## **Literature search and strategy**

A search of the literature was conducted using the Ebsco, Science Direct, Pubmed, Medline, Cochrane and Google Scholar databases and the Google search engine. Multiple searches were made using combinations of the following key words/search terms: osteopath\* (wildcard to include osteopath, osteopathy and osteopathic), pregnan\* (wildcard to include pregnant and pregnancy), perinatal, New Zealand, obstetrics, Australasia, manual therapy, manipulative therapy and complementary and alternative medicine. In addition to this, osteopathic textbooks were searched. A small number of relevant studies published in the last 15 years were identified; these examine osteopathic treatment for pregnancy related LBP, duration of labour and PGP. Due to the limited number of studies addressing osteopathy specifically, research exploring the broader field of CAM is considered.

## **Maternity care in New Zealand**

Maternity care in the form of a lead maternity carer (midwife, GP or obstetrician) is fully funded for New Zealand residents ("The Ministry of Health," 2014). A lead maternity carer monitors the health of the mother and baby, provides information and supports women through pregnancy, birth and for 4-6 weeks after the baby is born ("The Ministry of Health," 2014). Clinical outcomes are similar to comparable countries such as Australia, the United States of America and United Kingdom, however New Zealand women's survey ratings of satisfaction with maternity care are higher than comparable countries ("2007 Maternity services consumer satisfaction survey report," 2008; Grigg & Tracy, 2013). Limited free physiotherapy for musculoskeletal complaints is provided by each New Zealand district health board; lead maternity carer referral is necessary and access for pregnant women is varied with long waiting lists ("The Ministry of Health," 2014; V. Stevenson, personal communication, April 14, 2014). Other healthcare services including osteopathy can be accessed at the patients' cost.

## **Complementary and alternative medicine in pregnancy**

The Cochrane Library's working definition of CAM as described by its users is "preventing or treating illness, promoting health and well-being" and "complementing mainstream medicine by 1) contributing to a common whole, 2) satisfying a demand not met by conventional practices and 3) diversifying the conceptual framework of medicine" (Wieland, Manheimer, & Berman, 2011). CAM

used in pregnancy includes acupuncture, chiropractic, massage, osteopathy, vitamin/mineral supplementation, yoga, naturopathy, herbs and herbal remedies, meditation, homeopathy, kinesiology, reflexology, Reiki and aromatherapy (Adams et al., 2011; Harding & Foureur, 2009; Skouteris et al., 2008). Increasing numbers of pregnant women are seeking CAM treatment despite limited supporting research, with use reported as high as 87%, (Adams et al., 2009; Gaffney & Smith, 2004; Hall et al., 2011; Pallivalappila, Stewart, Shetty, Pande, & McLay, 2013; Skouteris et al., 2008). A large, nationally representative survey found 49.4% of Australian women in the study saw CAM practitioners for pregnancy-related health complaints and consultation with CAM practitioners was associated with fewer GP visits (Steel et al., 2012). Reasons for CAM use include the perception of reduced risk in comparison to drug therapies, reports of positive results, congruence with health beliefs and increased choice and control of the pregnancy experience (Gaffney & Smith, 2004; Hall et al., 2011; Pallivalappila et al., 2013; Rayner et al., 2009).

As a result of the increase of CAM use in pregnancy, studies have investigated maternity healthcare practitioners' referral to and attitudes towards CAM during pregnancy. An international review of 19 studies found 62 - 98% of maternity care professionals administered CAM or referred pregnant women to CAM and found it useful as supplementary treatment during pregnancy (Adams et al., 2011). Midwives and nurses were generally more likely to recommend CAM than obstetricians (Adams et al., 2011). Multiple studies and qualitative reviews have found midwives believe that CAM is a central part of caring for pregnant women, empowers them with their own healthcare, reduces medical interventions, supports normal birth and augments midwifery care (Adams et al., 2011; Hall, McKenna, & Griffiths, 2012; Harding & Foureur, 2009; Mitchell & Williams, 2007). In a New Zealand and Canadian survey 95% of midwives referred to CAM practitioners and 40% of the New Zealand participants referred to osteopaths (Harding & Foureur, 2009). While the survey response rate for New Zealand midwives was only 44.6% (171 midwives), this study provides insight in to the perceived benefit and need for CAM, and in particular osteopathy in the perinatal period. This also highlights the need for maternity healthcare professionals and CAM practitioners to communicate and work together.

### **Osteopathy in NZ**

Osteopathy is a form of manual therapy established 150 years ago and is considered to lie within the CAM field in New Zealand. The 2010 health workforce annual survey reported a total of 470 registered osteopaths in New Zealand of whom 68% qualified overseas (primarily in the UK – 56%) and 95% were working in private practice ("Osteopaths, Health Workforce Annual Survey, 2010," 2010). Osteopathy is an elective treatment modality where no referral from other healthcare professionals is necessary and osteopaths function as primary healthcare practitioners (Baer, 2009). Osteopathic treatment is subsidised for no-fault, personal injury under the government funded insurance scheme the Accident Compensation Corporation (ACC) ("Approved treatment providers," 2012). Approximate appointment cost ranges from \$60 - \$90 (the price is set at the practitioner's discretion), and some private health insurance companies will reimburse this cost

dependant on the policy cover (Lambert, 2007; "The Osteopathic Society of New Zealand," 2012). Appointment times typically range from 30 – 60 minutes ("Osteopaths New Zealand," 2014). While no studies have considered New Zealand specifically, approximately 6% of women surveyed in two Australian studies reported using osteopathy during pregnancy (Skouteris et al., 2008; Steel et al., 2012).

Osteopathy is a gentle hands-on physical therapy that is focused primarily on the musculoskeletal system. Treatment includes mobilisation and manipulation of joints, stretching and massage of soft tissues, muscle energy stretches, myofascial release, lymphatic drainage, visceral connective tissue stretching and cranial-sacral therapy ("The Osteopathic Council of New Zealand," n.d.; "Osteopaths New Zealand," 2014; J. Parsons & Marcer, 2006). Osteopaths also educate and advise patients on exercises, lifestyle factors and/or stretches to manage their condition at home ("Osteopaths New Zealand," 2014).

### **Osteopathy in pregnancy**

Osteopathy is promoted as a safe and effective treatment for easing pregnancy-related discomforts and preparing for labour and is advocated by approximately 40% of New Zealand midwives (Green, 2000; Harding & Foureur, 2009; Hyde, 2009; "The Osteopathic Society of New Zealand," 2012). Pregnant women consult osteopaths for a wide variety of complaints. In a questionnaire-based postgraduate thesis Smith (2006) explored the reasons pregnant women present to Australian osteopaths. The questionnaire had a relatively small response rate (17%) and while the questionnaire design was not previously validated, the draft survey was reviewed by four experts in the field of research and osteopathy in pregnancy, to increase the validity of the results. Smith (2006) found the common presenting complaints in pregnancy varied between each trimester and the post-natal period. There were over 30 presenting complaints noted in the study including lumbar spine pain, pelvic pain, carpal tunnel syndrome, headaches and breathlessness. The osteopaths surveyed reported cervical and lumbar spine pain were the most common presenting complaints in the first trimester (62%); lumbar pain was most common in the second trimester (88%); and lumbar (95%) and posterior pelvic pain (94%) in the third trimester. Smith's (2006) study provides some initial insight into the wide range of reasons pregnant women consult osteopaths. Osteopathy has a small but increasing body of research to support its efficacy in pregnancy as discussed below.

## **Complaints of pregnancy**

Pregnancy is considered a normal physiological state and pregnant women are expected to continue with work and life as usual (Mogren, 2006). A variety of pregnancy-related complaints commonly affect women throughout pregnancy. Although these complaints are described as 'normal' and 'minor' a reduction in quality of life is observed, particularly when physical functioning is impaired (Emmanuel & Sun, 2014; Jomeen & Martin, 2012; Symon & Dobb, 2011). Reduced maternal quality of life has social, health and economic consequences including poorer birth outcomes for both mothers and

babies (Lau, 2013; P. Wang, Liou, & Cheng, 2013). The common complaints of pregnancy with particular reference to those most commonly discussed within osteopathic literature are discussed in more detail below.

### **Back pain**

An estimated 50% of women will suffer from LBP during pregnancy (Malmqvist et al., 2012; Olsson & Nilsson-Wikmar, 2004; Vermani et al., 2010). Severe LBP is experienced by 25-30% of pregnant women, resulting in time off work, reduced ability to complete activities of daily living and disturbed sleep (Bergstrom, Persson, & Mogren, 2014; Katonis et al., 2011; Mens, Huis in 't Veld, & Pool-Goudzwaard, 2012). Risk factors of LBP in pregnancy are not well established however previous episodes of LBP, smoking, low physical activity levels prior to pregnancy, hypermobility, parity, higher body mass index, and a strenuous or seated occupation are associated with higher incidence of LBP (Greenwood & Stainton, 2001; Mogren, 2005; Mogren & Pohjanen, 2005). The cause of LBP in pregnancy is not well understood; theories are based around hormonal, vascular and biomechanical changes (including weight and postural changes) (Sneag & Bendo, 2007; Vermani et al., 2010). Up to 65% of pregnant women with LBP will experience persistent pain twelve or more months post-partum (Bergstrom et al., 2014; Gutke, Lundberg, Ostgaard, & Oberg, 2011; Padua et al., 2005). Pregnancy and post-partum LBP and pelvic pain result in increased prevalence of post-natal depression, decreased physical ability, reduced capacity of activities of daily living (such as carrying and caring for a baby) and decreased perception of self-health and quality of life (Bergstrom et al., 2014; Gutke, Josefsson, & Oberg, 2007; Gutke et al., 2011).

The majority of women experiencing LBP will consult a physician, however treatment options available to physicians are limited due to potential pharmaceutical side effects (Mogren, 2005; Sneag & Bendo, 2007; Steel et al., 2012). A Cochrane review of pregnancy LBP treatment reported some pain relief and reduced analgesic use with acupuncture, pregnancy specific exercises, water gymnastics and support pillows, though the studies were rated moderate-low quality evidence (Pennick & Liddle, 2013). Regardless of the treatment all studies reported increased pain intensity as the pregnancy progressed (Pennick & Liddle, 2013). Two systematic reviews have concluded that there is insufficient research to support the use of physiotherapy, massage and electrotherapy (Pennick & Liddle, 2013; Stuge, Hilde, & Vøllestad, 2003). LBP has been described as a normal part of pregnancy, with the expectation expressed that a women should be able to cope without intervention (Pierce, Homer, Dahlen, & King, 2012). However, as described above pain and disability can be severe with social and economic consequences. A large scale Australian survey found 25.2% of women sought treatment for back pain from CAM practitioners during pregnancy, clearly reflecting women's need for support (Frawley et al., 2013; Steel et al., 2012).

There is substantial evidence to support osteopathy as an effective treatment for acute and chronic LBP in the non-pregnant population (Cruser d et al., 2012; Licciardone & Aryal, 2013, 2014; Licciardone, Brimhall, & King, 2005; Licciardone, Kearns, & Minotti, 2013; Licciardone, Minotti,

Gatchel, Kearns, & Singh, 2013; Mandara, Fusaro, Musicco, & Bado, 2008). Recent evidence also supports osteopathic care for LBP in pregnancy. Three well-designed randomised controlled trials have compared usual obstetric care, usual obstetric care plus osteopathic manipulative therapy, and usual obstetric care plus a sham ultrasound treatment, on back pain and functioning in the third trimester of pregnancy (Licciardone & Aryal, 2013; Licciardone et al., 2010; Recknagel, Roß, Recknagel, Ruetz, & Schwerla, 2008). The results of Licciardone and Aryal, (2013) (144 participants) and Recknagel et al., (2008) (40 participants) demonstrate a significant reduction in pain as a result of osteopathic care and all studies found a significant increase in back functioning (Licciardone et al., 2010). In addition research supports osteopathic care to reduce pain and increase the ability to perform activities of daily living for post-partum women with non-specific LBP (Hensel, Buchanan, Brown, Rodriguez, & Cruser, 2014). These studies affirm that osteopathic care provides an effective treatment modality for LBP in pregnant and postpartum women.

### **Pelvic Girdle Pain (PGP)**

PGP has a reported incidence of 45% of women during pregnancy and 25% for greater than 3 months after pregnancy (Robinson et al., 2006; Wu et al., 2004). Difficulty walking, pain with standing for greater than 30 minutes and difficulty with activities such as housework, sexual intercourse and work are reported in the majority of cases (Robinson et al., 2006; Wu et al., 2004). Exact aetiology of PGP remains unknown however musculoskeletal and hormonal changes are believed to be contributing factors (Aldabe, Milosavljevic, & Bussey, 2012). PGP can be effectively diagnosed with manual pelvic provocation tests (Albert, Godskesen, & Westergaard, 2000; Robinson, Mengshoel, Bjelland, & Vøllestad, 2010). Treatment commonly used includes specific abdominal and pelvic strengthening exercises, physical therapy, education about the condition, support belts, acupuncture, massage, joint manipulation and support pillows. There is some encouraging research to support massage, specific abdominal and pelvic strengthening exercises, acupuncture and physical therapy (Eggen, Stuge, Mowinckel, Jensen, & Hagen, 2012; Kordi et al., 2013; Vleeming, Albert, Ostgaard, Sturesson, & Stuge, 2008). However further large-scale research is needed to support these findings.

An Australian study found although 71% of women reported PGP and LBP to their lead maternity carer only 25% had received any treatment and the majority were advised it was a normal and expected part of pregnancy, despite moderate-high pain scores and disability (Pierce et al., 2012). Qualitative studies have considered the experience of PGP and reported themes around enduring pain, needing support, lack of acknowledgement from the healthcare system, reduced performance and productivity (work and life) and feelings of being a burden (Fredriksen et al., 2008; Persson et al., 2013). The impact of PGP and need for effective care is evident.

Research in to the treatment of PGP with osteopathy is limited. A single blinded, randomized controlled trial found decreased morning pain and reduced functional deterioration in the group receiving craniosacral therapy alongside usual treatment (education regarding the condition,

prescription of strengthening exercises and the provision of an elastic pelvic belt), in comparison to usual treatment alone (Elden et al., 2013). However treatment effects were small and no difference was seen in sick days or evening pain. Two case studies outline the diagnosis and treatment of the PGP using osteopathic techniques (soft tissue massage, lumbar spine manipulation, muscle energy technique, strain-counterstrain, articulation and home exercises) and state the patients reported a reduction in pain and reduced disability following treatment (Howell, 2012; Randall, 2014). Due to the limitations of case studies little can be drawn from this research. It can be clearly seen that while osteopathy presents a plausible and advocated treatment modality for PGP further research is essential ("Symphysis Pubis Dysfunction New Zealand Resource Group," 2007).

### **Carpal Tunnel Syndrome**

Carpal tunnel syndrome causes pain and paraesthesia in the hand and wrist due to compression of the median nerve under the transverse carpal ligament. The fluid retention associated with pregnancy increases pressure on the nerve predisposing pregnant women to carpal tunnel syndrome and resulting in a reported incidence ranging from 7% - 62% (Padua et al., 2010). Osteopathic treatment aims to decrease swelling and increase the length of the transverse carpal ligament, thereby decreasing pressure on the median nerve (Siu, Jaffe, Rafique, & Weinik, 2012; Ward, 2003). This concept has been supported by research which found osteopathic treatment was able to elongate the transverse carpal ligament in cadavers (Siu et al., 2012; Sucher et al., 2005). However, further research needs to be conducted to explore patient centred outcomes of osteopathic treatment for this painful condition.

### **Other common pregnancy complaints**

Various other complaints are common in pregnancy affecting women's quality of life, such as fatigue, constipation, haemorrhoids, reflux, headaches, incontinence, water retention, insomnia, thrush, oedema, varicose veins, dizziness and cramps ("The Bub Hub," n.d.; Emmanuel & Sun, 2014; Jomeen & Martin, 2012). Pregnant women present to osteopaths with many of the above and osteopathy claims to be able to assist with these ("The Osteopathic Society of New Zealand," 2012; S. Smith, 2006). In the literature search no research was found exploring osteopathic care of these complaints and therefore these will not be discussed in detail in this review.

### **Osteopathy and childbirth outcomes**

Longer duration of the second stage of labour has been associated with poorer maternal and perinatal outcomes (such as lower Apgar score at 5 minutes and post-partum haemorrhage) (Allen, Baskett, O'Connell, McKeen, & Allen, 2009). Higher pain ratings of LBP and PGP in the third trimester are associated with increased labour complications such as increased incidence of caesarean section, longer labour duration and assisted delivery (Brown & Johnston, 2013). Many women fear childbirth and it is increasingly common for women to seek CAM to assist with preparation for labour (Frawley et al., 2013; Melender & Lauri, 1999; Nilsson & Lundgren, 2009). Acupuncture, herbal remedies, osteopathy, naturopathy, yoga, antenatal and hypnobirthing classes

are commonly used to assist with preparation for birth ("Birthcare," 2014; "Parents Centre," 2014; Steel et al., 2012).

Anecdotally, osteopathy claims to assist in childbirth delivery outcomes. King et al. (2003) sought to determine the relationship between receiving Osteopathic Manual Treatment (OMT) during pregnancy and childbirth outcomes in a retrospective study of 321 women. Half of the women had received OMT - average of 4 times, and half had not received OMT. There were several weaknesses of this study; no description was provided as to the blinding of reviewers who selected the patient files to include in the study and other factors that may affect birth outcomes were not examined or controlled for (for example socioeconomic factors). The results showed a significant reduction in meconium stained amniotic fluid and pre-term deliveries in women who received OMT during pregnancy in comparison to women who did not receive OMT, and no significant difference between the two groups in relation to caesarean delivery or forceps use (King et al., 2003).

Birth outcomes following osteopathic treatment have also been considered in a small randomised controlled masters study and several case studies. The masters project found reduced pain during labour, decreased length of delivery, reduction in complications and improved baby condition based on umbilical artery pH, although none of the results were statistically significant (Nistler, Deutschmann, Lenz, & Schwerla, 2010). The case studies report decreased pain, facilitation of natural labour, reduced pain medication and faster delivery as a result of osteopathic care, however case reports are typically ranked low in the hierarchy of evidence thus little can be determined from these results (Carpenter & Woolley, 2001; Jones & Lockwood, 2008; Smallwood, Borgerding, Cox, & Berkowitz, 2013). While these studies are encouraging it is evident more research is required to support the use of osteopathy to improve childbirth outcomes.

## Risks of osteopathic care in pregnancy

Osteopathic guidelines suggest a full obstetric and medical case history is taken as part of the diagnostic process to ensure that any contraindications to treatment or referral to other healthcare practitioners is considered (Stone, 2007). It is recommended that treatment techniques are adapted to consider the way a woman's body is adjusting to the changes of pregnancy, bearing in mind the increased laxity of ligaments associated with the pregnancy hormones progesterone and relaxin (J. Parsons & Marcer, 2006). While there is no evidence of miscarriage as a result of manual therapy, treatment of the pelvis is not advised in weeks 8 -16 as a precaution against miscarriage because this period is associated with the highest rate of spontaneous abortion (Stone, 2007). Osteopathy is widely considered a safe treatment during pregnancy and there is no published literature reporting risks or side effects ("Osteopaths New Zealand," 2014). Thus it appears the personal judgement of the individual practitioner must be utilised to ensure safe care of pregnant women.

# Attitudes and Experiences

## **The experience of pregnancy**

Women have described the experience of pregnancy as a journey in to the unknown (Lundgren & Wahlberg, 1999). It is seen as a time of reflection on the past, experiencing the present and preparing for the future (Lundgren, 2004). This period of a woman's life is associated with transition and change of major life patterns, perspectives and values (Lundgren & Wahlberg, 1999; Modh, Lundgren, & Bergbom, 2011). A range of complex emotions are encountered, such as not daring to be happy in early pregnancy, feeling out of control, a sense of inner change and feeling lost (Lundgren, 2004; Modh et al., 2011; Schneider, 2002). Shifting emotions through fear, ambivalence and joy have been reported (Lundgren & Wahlberg, 1999). Worry about their pregnancy, anxiety and changing emotions occur more in early pregnancy, particularly in women with a history of miscarriage (Theroux, 2007). As pregnancy progresses women have described increasing confidence, with reassurance from healthcare practitioners and test results (Theroux, 2007). The experience of pregnancy varies hugely and for many women does not match their expectations (Schneider, 2002).

Increased awareness of one's body and a sense of being within one's body have been described (Lundgren, 2004). Physical changes are associated with modifications of exercise levels and many women feel the need to reduce their activity levels as pregnancy progresses (Bennett, McEwen, Clarke, Tamminen, & Crocker, 2013). Bodily changes and musculoskeletal complaints of pregnancy have profound effects on women's lives. Qualitative studies examining the experience of PGP in pregnancy have found themes relating to feelings of being a burden and the desire for independence, increased stress, enduring pain, reconsidering the future, fear, struggle with daily life and incapacity to perform ones responsibilities (Fredriksen et al., 2008; Persson et al., 2013). Women also describe a lack of acknowledgement of this experience from colleagues, partners, family, friends and healthcare practitioners (Fredriksen et al., 2008; Persson et al., 2013). This highlights the gap between the experience of musculoskeletal complaints of pregnancy as a 'normal condition' and women's reality.

Women describe increased importance of relationships during pregnancy (Modh et al., 2011). The necessity and desire for support from friends, family, partners and work colleagues is evident (Howarth, Swain, & Treharne, 2012; Modh et al., 2011; Schneider, 2002). In addition, trusting healthcare relationships enable women to face the unknown with less fear (Lundgren, 2004). Research has identified women's desire for healthcare practitioners to be confident, caring and interested and to work together as a team towards their healthcare goals (Bondas, 2002; Doherty, 2010). A New Zealand phenomenological study explored ten women's relationships and support throughout pregnancy (Howarth et al., 2012). One key finding was that women who described a positive relationship with maternity carers experienced reduced anxiety and feelings of vulnerability (Howarth et al., 2012). In addition, midwives appreciation of the individuality of the experience of pregnancy was important to women (Howarth et al., 2012).

### **Women's experience of maternity care**

The psychosocial aspects of healthcare have been identified as important to women (Hildingsson & Rådestad, 2005). Women have recognised the need for quality, safe care from competent healthcare professionals who have the time to provide attentive and individualized care (Hildingsson & Rådestad, 2005; Small et al., 2014). A large scale survey of Western Australian women found that the majority of women were happy with their midwifery care; areas rated with lower satisfaction related to emotional care and the delivery of consistent, individualised information (Fenwick, Butt, Dhaliwal, Hauck, & Schmied, 2010). Similarly a New Zealand survey of women's experience with antenatal maternity services revealed the majority of women felt well looked after. The reasons cited by those that were unsatisfied with their care were lack of lead maternity carer availability, lack of appropriate information and poor attitude of lead maternity carer ("2007 Maternity services consumer satisfaction survey report," 2008). It is possible other healthcare professionals including osteopaths may be able to assist in the delivery of these aspects of care.

Importance is placed on healthcare practitioners who actively listen, understand a woman's uniqueness and take her worries seriously (Bondas, 2002). Continuity of care is central and assists in the development of positive relationships (Howarth et al., 2012). Examination and testing by healthcare practitioners without consideration of the person or provision of information left women feeling like a vessel whose only role was to create a baby (Bondas, 2002). Women have described desires for knowledge and to share their pregnancy and childbirth stories with midwives (Bondas, 2002; Mander & Melender, 2009). Information seeking is evident and healthcare practitioners having time to answer and provide pregnancy information is important to women (Schneider, 2002). This information creates feelings of control and empowers women with the knowledge to make informed decisions (Schneider, 2002).

### **Pregnant women's experience of CAM**

In a qualitative study of 14 women's experience with CAM during pregnancy the overarching findings revealed women's perception of CAM in assisting them to achieve their goal of natural birth (Mitchell, 2013). CAM was believed to reduce unnecessary medical interventions and facilitate an emotionally satisfying pregnancy experience within the current medicalised maternity healthcare system (Mitchell, 2013). CAM was perceived as congruent with the women's philosophies, provided individualised healthcare and supported women with emotions such as anxiety and fear (Mitchell, 2013). Women's experiences of CAM as supportive, individualised and empowering are supported in other studies (Gaffney & Smith, 2004; Hall et al., 2011; Rayner et al., 2009). It is apparent that many women feel CAM is useful in supplementing their maternity care. Although more research is required it appears most women do not disclose CAM use to conventional medical practitioners (Furlow, Patel, Sen, & Liu, 2008). Furlow et al., (2008) suggest this is due to the expectation of negative attitudes or because it is not asked about.

### **Experience of osteopathic treatment**

Minimal research has specifically examined the experience of osteopathic treatment; those studies considering this aspect of osteopathic care are discussed below. In a study exploring patients' experiences with public versus private healthcare it was found participants felt cared for as an individual by osteopaths (Bradbury, Bishop, Yardley, & Lewith, 2013). A qualitative study considered the role of touch in the osteopathic consultation and found touch communicates security, professionalism, humanism and a sense of care to patients (Consedine, 2007). Patients have described placing trust in their osteopath, the importance of interpersonal care and a therapeutic relationship and the desire for honest communication (Bradbury et al., 2013; Cross, Leach, Fawkes, & Moore, 2013; Greene, 2009). Despite the growing number of studies exploring the efficacy of osteopathy in pregnancy the patient's experience of these interventions has received little attention.

### **Pregnant women's experience of osteopathic treatment**

No published research was found in the literature search exploring women's experiences of osteopathic treatment during pregnancy. An unpublished qualitative study of 7 New Zealand women's experience of osteopathy in pregnancy found themes relating to quality of life, accessibility of osteopathic care and security in a period of change as a result of osteopathic care (Kurth, 2011). Barriers to osteopathic care were the cost and public and healthcare practitioners lack of knowledge of osteopathy (Kurth, 2011). The participants described osteopathic care increasing their quality of life by improving their ability to function and carry out their roles and responsibilities. This increased ability to function was associated with reduced stress and improved quality of life and wellness. In addition, osteopathic care during pregnancy provided security during a time of great change and uncertainty and this encompassed aspects of reassurance, safety and trust (Kurth, 2011). The results of Kurth's, (2011) study reflect similarities with CAM studies discussed above, with regard in the support and reassurance experienced (Gaffney & Smith, 2004; Mitchell, 2013; Rayner et al., 2009). While the results of Kurth's, (2011) study are limited to the experience of the participants, they provide insight in to the patient perspective of osteopathic care in pregnancy. Such information is valuable because it allows osteopaths to care for pregnant women more effectively, enhance their clinical practice and inform collaborative decision making. Furthermore, it would be beneficial to gain an understanding of the osteopath's experience of caring for pregnant women.

### **Experience of caring for pregnant women**

Midwifery research has explored midwives' experience of caring for pregnant women, as described in the below studies. Midwives have described the need to support pregnant women throughout pregnancy and childbirth and apply personal judgement to decide those women who need more support (Hildingsson & Haggstrom, 1999; Homer et al., 2009). This support includes respecting a woman's choices and autonomy, dispelling fears, empowering women, developing their confidence, providing information, reassurance and advocacy (Hildingsson & Haggstrom, 1999; Homer et al., 2009). Women's desire for the above support was mirrored in survey results undertaken alongside the Homer et al., (2009) study, demonstrating the significance of this aspect of caring for pregnant

women. Thirty-two Australian midwives beliefs and attitudes about caring for pregnant women were explored and the findings included trust in women's bodies and the birth process, the need to develop trusting and respectful relationships where women's choices are valued and being available for women (Homer et al., 2009). Midwives place value on developing a trusting relationship in which the pregnant women feels the midwife cares for them as an individual (Lundgren & Dahlberg, 2002; Skinner, 2011). For those women with fears, midwives felt they needed to offer time to talk, listen to their fears, be present and show that they care (Salomonsson, Wijma, & Alehagen, 2010).

Mogren, Winkvist, and Dahlgren, (2010) examined midwives views and attitudes of PGP in pregnancy and found midwives in their study increasingly saw PGP as a 'normal' part of pregnancy that would run its natural course. The midwives reported women were fearful their pain would not be believed or acknowledged by the healthcare system (Mogren, Winkvist, & Dahlgren, 2010). Advice, understanding and counselling around PGP was offered by the midwives however this was limited due to consultation time restrictions (Mogren et al., 2010). As outlined earlier in the background literature, New Zealand midwives are able to refer to free hospital-based physiotherapy for musculoskeletal complaints, however access is limited with long waiting lists ("The Ministry of Health," 2014; V. Stevenson, personal communication, April 14, 2014). A large proportion (40%) of New Zealand midwives refer to osteopathy, however this is at the patient's expense (Harding & Foureur, 2009).

### **Experience of being an osteopath**

A UK grounded theory study of osteopaths' beliefs and perceptions found three disparate themes relating to collaborative osteopathy, empowering patients and practitioner-centred osteopathy (Thomson, Petty, & Moore, 2014). Collaborative osteopathy placed importance on interpersonal relationships, communication and therapeutic partnerships with patients (Thomson et al., 2014). Empowerment of patients focused on education, sharing knowledge and encouraging self-management (Thomson et al., 2014). Other osteopaths in the study described concepts of osteopathy as practitioner-centred with a focus on the practitioners' technical skills and knowledge. Although these themes were diverse the participants' views did not necessarily lie with only one of these concepts of osteopathy. The importance of effective communication in successful osteopathic treatment is reaffirmed in a postgraduate thesis exploring osteopaths' perspectives (Carey, 2009).

## Summary

The prevalence of pregnancy complaints and women's need for support and healthcare modalities to address these complaints has been well established. There is a lack of suitable treatment options and women are increasingly turning to CAM for reasons including perception of reduced risk, congruence with health beliefs and increased choice and control of the pregnancy experience. Osteopathy has a growing body of evidence to support the efficacy of this treatment modality for LBP in pregnancy; however little research in to the efficacy of osteopathic treatment for other complaints and experience of osteopathic treatment has been published. Consequently it is apparent that significant research is urgently needed to explore all aspects of osteopathic care at this significant time of women's lives.

Due to the small number of studies conducted and resulting absence of evidence, qualitative research can provide some foundation knowledge of the experience allowing the most efficient employment of quantitative studies and the application of their results in a meaningful way (Thomson, Petty, Ramage, & Moore, 2011). Kurth (2011) uncovered valuable information on the values, expectations and experiences of pregnant women undergoing osteopathic care. To date there are no studies exploring osteopaths' experience of caring for pregnant women. The need to gain further understanding of osteopathic care during pregnancy is essential and exploring the osteopath's experience of treatment will provide useful insight.

# Chapter Two: Conducting the research

The chapter explores the chosen methodological framework and its application to the research project. Firstly qualitative research methods and descriptive phenomenology are examined. This is followed by a discussion about maintaining rigour in qualitative research with explanation of how criteria of rigour were applied in this study. The methods in undertaking the project are explained including; participant recruitment, ethical considerations, data collection and analysis.

## Methodology

### **A qualitative approach**

Qualitative research's purpose is to describe, explore and understand an experience or phenomenon that is currently poorly understood (Vivar, 2007). The literature search found that very few studies have considered the experience of osteopathic treatment, either from the perspective of the patient or the osteopath (Thomson et al., 2011). The current study set out to gain an understanding of osteopathic care in pregnancy from the perspective of the osteopath, thus qualitative research met the aims of this project. Qualitative research allowed for rich and in-depth data to be gathered; contributing toward understanding the experience of being an osteopath, and more specifically in caring for pregnant women. The literature search also identified a lack of studies examining the efficacy of osteopathic treatment for pregnancy-related complaints. Some initial understanding of the topic would better guide clinical trials and enable the development of relevant studies to explore the effectiveness of osteopathy in pregnancy (Klopper, 2008). Kurth's (2011) phenomenological study explored women's experience of osteopathic treatment in pregnancy. Kurth (2011) concluded further research in to the experience was necessary and from the perspective of the osteopath.

The current study employs an exploratory design because of the limited understanding of osteopaths' experience of caring for pregnant women. Qualitative research is fitting in circumstances where little is known about a phenomenon as it allows the researcher to investigate the subject in detail, without the constraints of prior assumptions (van Manen, 1990). In order to understand the complexity of osteopaths' experiences of caring for pregnant women a qualitative study was necessary.

There are many approaches to qualitative research. Four common qualitative methodologies are ethnography, discourse analysis, grounded theory and phenomenology. Ethnography considers the

alterations and patterns of a phenomenon, particularly in relation to culture, while discourse analysis considers language and its use (Nicholls, 2009; Starks & Trinidad, 2007). Grounded theory seeks to describe and explain a phenomenon; however due to grounded theory's systematic and structured process it is arguably too time-consuming for a 90 credit thesis (Starks & Trinidad, 2007).

A phenomenological research design is fitting in studies where it is necessary to understand the common experiences of several individuals and when a deeper understanding of the phenomenon is required (Creswell, 2012). Phenomenology and specifically descriptive phenomenology seek to describe what is there and assists with uncovering meaning (Kleiman, 2004). For this study descriptive phenomenology was chosen to answer the research question of exploring osteopaths' experiences of caring for pregnant women within the New Zealand osteopathic setting. The theoretical principles of descriptive phenomenology are described below.

### **Descriptive phenomenology**

Phenomenology is particularly suitable when little is known about the phenomenon (van Manen, 1990). Thus phenomenology fits well with the current project due to the limited knowledge and research exploring osteopathic care in pregnancy. Phenomenology and especially descriptive phenomenology seek to describe what is there, without focus on cause and effect relationships (Finlay, 2011). Descriptive phenomenology is based on the philosophical belief that experience as perceived by human consciousness is valuable to scientific study (Lopez & Willis, 2004). In addition, it is assumed that any phenomenon has an essential structure which is present regardless of the individual who is experiencing it (Kleiman, 2004). Thus the essential structure can be found by studying the data which are perceived by those that have experienced it. Descriptive phenomenology enabled the research question to be answered and was realistic within the timeframes. Furthermore, descriptive phenomenology considers the uniqueness of individuals, their experiences and interactions with others and the environment, this fits well with the underlying concepts of osteopathy as individualised healthcare (Lopez & Willis, 2004).

### **Analysis using descriptive phenomenology**

This section describes the analysis approach of descriptive phenomenology. The specific details of the application of the analysis process to the current study are explained in the data analysis section.

Firstly, it is necessary for the researcher to enter the phenomenological attitude whereby past knowledge and theory is bracketed in order to limit the impact of the researcher on the topic (Finlay, 2011). The researcher must actively strip away preconceptions, personal knowledge and bias (Tufford & Newman, 2012). The impact of the researcher on the analysis is continually assessed to minimise the influence of the researchers biases and preconceptions on the phenomenon being studied (Lopez & Willis, 2004).

The descriptive phenomenological researcher reads and/or listens to the data to gain a sense of the phenomenon as a whole (Lopez & Willis, 2004). The participants descriptions are then broken up in to separate meaning-laden statements (codes) from which the essential meanings fundamental to the phenomenon can be gathered (Kleiman, 2004). Psychological meanings of the participants everyday language are extracted, drawn out and reflected upon (Finlay, 2011). The codes are clustered and synthesised to make meaning of the data (Tracy, 2012). Potential themes emerging from the data are slowly refined and defined. From this analysis the nature of the phenomenon begins to emerge. As mentioned above the in-depth application of this process to the current study is described in the data analysis section below.

### **Addressing rigour in qualitative research**

Rigour relates to the quality and trustworthiness of qualitative research, thereby ensuring the interpretation of the data is sound. This section will discuss rigour in qualitative research, criteria to assess standards of rigour and how rigour has been achieved in this study.

Rigour can be defined as a method of showing the legitimacy of a qualitative research process (Tobin & Begley, 2004). Rigour employs accepted systems, reflectivity and sensibleness, consequently increasing the significance and replicability of findings (Ryan-Nicholls & Will, 2009). There are a variety of criteria to address rigour and debate around how best to assess the process (Tobin & Begley, 2004). However the basis of rigour is arguably based on reflective qualitative research with ongoing self-critique and detailed descriptions of how themes were uncovered (Koch & Harrington, 1998). In addition the researcher must understand the influence of different philosophical ideas on the research process, and ensure congruence between the aims of the study and the methodological and philosophical approach selected (Koch & Harrington, 1998). As mentioned above the philosophy of descriptive phenomenology suits the aims of this study.

Rigour can be increased by the researcher not only expressing that something was done but describing how it was done (Ryan-Nicholls & Will, 2009). For this reason the research process must be clearly explained. Systematically gathering and analysing data with clear presentation of findings and interpretations of those findings allows for evaluation and future replication (Ryan-Nicholls & Will, 2009). Furthermore any inaccurate results can be recognized by the reader and contested or reviewed.

As mentioned above a variety of criteria can be used to assess rigour. Four commonly cited criteria are credibility, dependability, confirmability and transferability (Houghton, Casey, Shaw, & Murphy, 2013; Ryan-Nicholls & Will, 2009; Tuckett, 2005). These criteria will be discussed below with reference to their application in this study.

### Credibility

Credibility, also called truth value, concerns the value and believability of both the findings and the research process (Houghton et al., 2013). Credibility is the component of rigour that lets others recognise the experiences within the findings (Thomas & Magilvy, 2011). The researcher must use a reflective process and note bias to create consistency and reliability (Ryan-Nicholls & Will, 2009). Credibility can be achieved through prolonged engagement to increase understanding of the topic of interest, triangulation by using different methods to collect data, peer debriefing and member checking (Houghton et al., 2013).

Credibility was ensured in this study by determining pre-conceived ideas with regard to the phenomenon before undertaking this study; by analysis over a twelve month period (until a lack of new emerging data was achieved); by corroboration with experienced supervisors and discussion with peer researchers. The presentation of initial findings at a research forum with attendees from a wide range of research backgrounds allowed further examination of the data interpretation. Peer debating with fellow researchers aided in ensuring that the findings were believable.

### Dependability

Dependability can also be called confirmability or auditability and relates to the reliability of the data (Tuckett, 2005). The audit trail outlining decisions made throughout the research process provides rationale for the data interpretations and findings, and is an important part of creating dependability (Houghton et al., 2013). Even if the reader does not agree with the researcher's interpretation they should be able to follow the process, influences and actions of the researcher to determine how the findings were reached (Koch & Harrington, 1998). In addition, the researcher's self-reflection (reflexivity) and the procedures employed by the researcher affect reliability because the researcher functions as a research instrument in qualitative research (Houghton et al., 2013).

Dependability was generated in this study with an audit trail including examples of the data collection and analysis process. Appendix A shows the question template used in the inquiry process. Appendix B provides an example of mind-mapping used in the theme development process and Appendix C presents an example of a brainstorming session with supervisors. The researcher's reflections were audio recorded immediately after data collection and written reflections noted throughout the analysis process.

### Confirmability

Confirmability is strongly linked with dependability and concerns the accuracy and neutrality of the data (Houghton et al., 2013). Confirmability can be increased through appropriate research questions, design and data reporting, as well as the researcher deliberately searching for and presenting data that contradict previous interpretations (Harding & Whitehead, 2013).

The exploration of the appropriateness of the research question prior to commencing this project assisted in achieving confirmability. Throughout the research process the researcher regularly reflected on and returned to the transcripts and audio recordings to verify the accuracy and meaning. In addition the researcher continually searched for data that contradicted the interpretations of the data. Consultation with peers and supervisors also served to challenge the researcher's observations of the data.

### Transferability

Transferability relates to the ability of findings to be applicable to other comparable situations or contexts, though it must be noted that the nature of qualitative research does not allow absolute transferability of findings. (Houghton et al., 2013; Ryan-Nicholls & Will, 2009). Transferability can be enhanced by the researcher providing rich, detailed descriptions and findings, including research methods, context and examples of raw data (Houghton et al., 2013). This allows the reader to make informed decisions about the researcher's interpretations and decide whether the findings are transferable to other contexts.

Direct quotes from the transcripts are presented throughout the results section, thus allowing the reader to oppose or agree with the researcher's interpretations. While a single truth is not supposed in qualitative research the reader should observe a logical interpretation of the data. Throughout the research process findings were checked with peer researchers and supervisors to ensure fittingness of interpretations. Presentation of preliminary findings to a forum of researchers and osteopaths enabled discussion on the applicability of the findings to clinical situations.

## Methods

The previous section outlined the methodology of this study. This section will outline how the researcher carried out the study. The methods section will discuss details about the participants and their recruitment, ethical considerations, data collection and data analysis.

### **Participant recruitment**

A snowball sampling method was used to recruit participants. Snowballing is a sampling technique suited to phenomenology because it ensures participants have a rich experience of the phenomenon (Kleiman, 2004). Due to the small number of osteopaths in New Zealand and in particular those specialising in treating pregnant women many osteopaths tend to know each other; this method allowed participants' connections to lead to new contacts. The inclusion criteria for the study were: practising osteopaths who were known within the osteopathic community as specialists in treating during pregnancy, with a minimum of five years full time experience. This was to ensure their experience of treating pregnant women was rich and deep (Tracy, 2012). Participants were required to have fluent English as data was collected by verbal interview.

Firstly, several experienced osteopaths connected with Unitec were asked to suggest suitable potential participants and obtained permission for their contact details to be given to the researcher. These potential participants were approached by email, which included an outline of the study, details of their participation and the information sheet (Appendix D) (Tracy, 2012). Participants who signalled their interest in the study received follow-up contact by phone or email to answer any questions they had and confirm inclusion criteria were met. When consent had been granted a time was set up to sign the consent form and an interview time arranged. The first participant who agreed to be involved in the study was then asked to refer other suitable participants who were in turn asked to refer further suitable individuals until five participants were recruited. Several of the participants' were repeatedly recommended as specialists in treating pregnant women thereby confirming their suitability for the study.

### **The participants**

The five qualified osteopaths who participated in this research all had a specific interest in treating pregnant women. Participants worked in a variety of settings including a multi-disciplinary natural health clinic, their own clinics and working within small osteopathic practises. Two participants trained in the UK, two in New Zealand and one in Australia. All participants were female. Please see Table 1 below for participant information.

*Table 1: Participant information*

Participant number	Years practising	Approximate number of pregnant women seen per week	Primary treatment approach <sup>1</sup>
1	9	5-6	Structural
2	9	2-12	Structural and cranial
3	15	3-4	Cranial
4	10	1-2	Structural
5	20	2-3	Cranial

Participant 4 currently works part time. Participants 4 and 5 have children and personal experience of pregnancy and birth. All participants had completed courses related to osteopathy in pregnancy following registration. The mixture of treatment approaches and educational backgrounds, coupled with the extensive years of practising ensured rich and in-depth experience of the phenomenon.

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<sup>1</sup> Structural osteopathy is focused primarily on the musculoskeletal systems including joint mobilisation and manipulation and soft tissue stretch and massage (Chila, 2010). Cranial osteopathy is a more subtle form of manual therapy aimed at impacting the primary respiratory mechanism (small rhythmical involuntary movements) felt throughout the body ("Osteopaths New Zealand," 2014; S. Parsons et al., 2007).

## **Ethical considerations**

Ethical approval was granted by the Unitec Research Ethics Committee for completion of data collection between 22<sup>nd</sup> May 2013 and 19<sup>th</sup> April 2014 (see Appendix E). Ethical considerations for this study related to informed consent, data collection, anonymity, confidentiality, data security and withdrawal conditions.

Potential participants were informed about the study via a participant information sheet and an informed consent form was signed by all participants (see Appendix D and F). Verbal consent was also gained prior to the interview commencing. All interview recordings, emails, transcripts, and analysed data have been stored in password protected computer files. Consent forms and the print transcripts have been kept in a locked filing cabinet to which only the researchers have access. All of these items will be kept for five years in accordance with Unitec Institute of Technology's regulations for research projects. After this time, any hard copy information will be destroyed and all computerised files will be deleted. The transcriptionist was also bound by confidentiality and signed a confidentiality agreement (Appendix G).

Participants have been anonymised and identifying characteristics excluded in the transcripts and final thesis. Although practitioners are bound by the Health Information Privacy Code 1994 an ethical consideration was maintaining anonymity of patients ("Health Information Privacy Code 1994," 2008). No identifying characteristics or patient details were discussed in any of the interviews. The risk of emotional, psychological and social harm to participants in this study was low and potential harm for participants was minimised by informing participants of their right to withdraw from the study at any time. No participants chose to withdraw from the study. Interview transcripts were sent to all participants, no participants requested any changes to their interview data. Participants' expert knowledge was treated respectfully and participants will be sent a copy of the manuscript within this thesis once examination is complete.

## **Data Collection**

Data were collected by face-to-face interviews with each participant. Interviews are better suited to the phenomenological methodology than focus groups because they allow participants to explain their own experience without other participants' influence (Webb & Kevern, 2001). Face-to-face interviews allow added meaning associated with facial expression and gestures to be conveyed. Interviews were conducted in a place of the participants choice where the participant felt at ease to facilitate comfort in telling their story (Kleiman, 2004). All participants chose the clinic where they practice for the interview location.

The interviews were semi-structured, which helped to ensure the conversation covered the major areas of the phenomenon and the participant was still able to explain their experience in a deep and rich manner (Klopper, 2008). A pilot semi-structured interview was role-played with a peer researcher to ensure interview structure was satisfactory, rehearse questioning and receive feedback. Open

questions were used to facilitate story-telling, for example each interview started with the question 'please outline a 'typical' osteopathic consultation with a pregnant woman'. An interview schedule was used to guide the interview as necessary, the interview schedule is included (Appendix A). The interviews were carried out in a natural conversation style. The interview structure was flexible to allow participants to discuss subjects as desired and specific follow-up questions were asked if needed. The interview terminated once the participant had shared their experience of the phenomenon and the discussion came to a natural close.

### **Data set**

The length of the interviews ranged from fifty-four minutes to one hour and fifteen minutes. The final data set for analysis consisted of five interviews with a total recording time of five hours and two minutes.

### **Data analysis**

Interviews were transcribed verbatim by a paid transcriptionist who signed a non-disclosure form (Appendix G). The interview transcripts were then checked for accuracy against the audio recordings and anonymised by the researcher. Each participant was emailed a copy of the transcript pertaining to their interview to review and make any changes they desired. None of the participants made any changes.

It was acknowledged the researcher's pre-existing understandings needed to be monitored at each stage. Throughout the research process the researcher continually reviewed known or unknown assumptions to gauge their influence on all parts of the study.

Analysis and interpretation of the data aimed to consider the participants' experiences and identify common themes. The process of data analysis was guided by descriptive phenomenology and followed the process outlined by Tracy (2012). The phases of thematic analysis used in the data analysis are outlined on Table 2 below.

Table 2: Phases of thematic analysis

Phase	Description of the process
1. Familiarisation with the data	Reading and re-reading transcripts and continual listening to audio
2. Generating codes	Systematic coding of data using words and phrases to capture essence of meaning-laden sections of data
3. Creating categories	Cluster codes and excerpts of data into categories
4. Synthesising and making meaning of codes	Exploring potential themes; gathering data and quotes from original context relating to potential themes under thematic headings
5. Thematic mapping	Grouping potential themes from each transcript, identifying inter- and intra-thematic relationships and generating a thematic overview
6. Reviewing themes	Checking whether themes work in relation to coded extracts and total data set
7. Refining and defining themes	Refining the themes including specifying theme names, and clear definitions of themes

Firstly, each transcript was analysed separately using phases 1-4. At this stage continual reflection, writing and re-writing allowed the development of potential thematic ideas and data summaries for each transcript. At phase 5 large mind maps were used to explore patterns across transcripts and understand the relationships of potential themes (see Appendix B). A preliminary results presentation to research staff and students allowed discussion of emerging themes and feedback on theme identification from other perspectives. The above phases were approached in a slow, reflective and systematic manner to avoid deciding on themes too quickly. Discussion with supervisors, continual reflection on the data and the process of writing allowed for the gradual clarification of themes to better understand and describe osteopaths' experience of caring for pregnant women.

This section has discussed the descriptive phenomenological methodology that has guided the research process and outlined the steps taken to collect and analysis the data. The following chapter will present the results of the analysis and discussion of the findings in the context of relevant literature in the form of a manuscript for publication.

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# Part 2: Manuscript

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Note: This manuscript was prepared in general accordance with the guidelines for authors (See thesis Appendix H) for the *International Journal of Osteopathic Medicine*, however, there are three main deviations: i) the manuscript exceeds the prescribed word count of 5000 words in the journal guidelines in order to address the learning outcomes as part of a research thesis; ii) for ease of reading the tables and figures are typeset in the text; iii) the style of the headings and subheadings also differs from that prescribed for ease of reading.

In addition rather than the referencing style specified in the IJOM guidelines for authors, the referencing style follows that of the American Psychological Association (“APA”). Elsevier’s initiative ‘Your Paper, Your Way’ ([www.elsevier.com/yourpaperourway](http://www.elsevier.com/yourpaperourway)) now permits manuscripts submitted using other referencing formats and APA was selected because it is easier to follow authors’ names in the text.

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# **Caring beyond the table: Exploring New Zealand Osteopaths' Experience of Treating Pregnant Women: A Descriptive Phenomenological Study**

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## Abstract

*Background:* Pregnant women experience a variety of pregnancy-related complaints that significantly impact their quality of life. Osteopathic manual therapy is frequently used to treat these complaints in New Zealand. Women have described osteopathic care in pregnancy as increasing their quality of life by improving their ability to function and carry out their roles and responsibilities, reducing stress and providing security during a time of change (Kurth, 2011).

*Objective:* This descriptive phenomenological study explores osteopaths' experiences of caring for pregnant women.

*Method:* Snowball sampling recruited five practising osteopaths who specialise in treating pregnant women. Data were collected using semi-structured interviews and analysed using descriptive phenomenology.

*Results:* Two major themes were uncovered: 1) *Gaining a sense of her journey*, and 2) *Caring beyond the table*. Participants needed to gain an appreciation of each woman's unique journey to and through pregnancy and the impact of pregnancy-related changes on the individual in order to tailor management and support. Osteopathic care was perceived to reduce both the physical and emotional stress associated with a demanding time of change. Osteopaths viewed their role during pregnancy as nurturing and providing support from a unique perspective from other healthcare practitioners. A third minor theme related to the professional environment of osteopathy within the New Zealand healthcare setting.

*Conclusion:* Osteopaths and other healthcare practitioners caring for pregnant women need to be aware of the heightened need for support during this time, and be able to respond to each woman's individual needs. Osteopathic care during pregnancy has a focus on nurturing and supporting pregnant women. Due to the high prevalence of common pregnancy complaints and their profound impact on women's lives, osteopathic care has the potential to change women's journey through pregnancy by improving their quality of life.

*Keywords:* Pregnancy; Osteopathy; Qualitative research

## Introduction

A variety of pregnancy-related complaints affect women throughout pregnancy. Among the most frequently reported are Lower Back Pain (LBP) affecting approximately 50% of pregnant women (Malmqvist et al., 2012; Vermani et al., 2010) and Pelvic Girdle Pain (PGP) affecting approximately 45% of pregnant women (Robinson et al., 2006; Wu et al., 2004). Other regularly reported pregnancy-related complaints include nausea, carpal tunnel syndrome, headaches and breathlessness (Emmanuel & Sun, 2014).

These complaints are often described as 'normal' and 'minor', however they can be disabling, affecting women's quality of life, with social, health and economic consequences (Mogren, 2006). Qualitative studies have found that women describe a lack of acknowledgment of the struggle, pain and stress associated with these complaints (Fredriksen et al., 2008; Persson et al., 2013). In addition women have described feelings of being a burden on family, friends and colleagues; the desire for independence; reconsidering the future; struggle with daily life; and incapacity to perform ones responsibilities, as a result of pregnancy-related complaints (Fredriksen et al., 2008; Persson et al., 2013). Increasing numbers of pregnant women are seeking Complementary and Alternative Medicine (CAM) to relieve these complaints, largely due to the perception of reduced risk with CAM in comparison to drug therapies and increased congruence with personal health beliefs (Gaffney & Smith, 2004; Hall et al., 2011; Rayner et al., 2009).

Osteopathic manual therapy is one form of CAM advocated to assist in the treatment of pregnancy-related complaints. A questionnaire of New Zealand midwives found 40% of the participants referred pregnant women to osteopaths (Harding & Foureur, 2009). Research supports the efficacy of osteopathic treatment for lower back pain in pregnancy (Harding & Foureur, 2009; Lavelle, 2012; Licciardone & Aryal, 2013; Licciardone et al., 2010). However, although osteopathic care presents a plausible treatment for many of other pregnancy-related complaints only a small number of studies have explored osteopathic care at this significant time of women's lives.

Women have described the need for support, empowerment and reassurance from healthcare professionals throughout pregnancy (Kurth, 2011; Schneider, 2002). In turn midwives have identified the need to support women by respecting a women's autonomy, dispelling fears, developing their confidence, and providing information, reassurance and advocacy (Hildingsson & Haggstrom, 1999; Homer et al., 2009).

Kurth (2011) uncovered information on the values, expectations and experiences of pregnant women undergoing osteopathic care. The participants described how osteopathic care increased their quality of life by improving their ability to function and carry out their roles and responsibilities

(Kurth, 2011). This increased ability to function was associated with reduced stress, improved quality of life and security during a time of change (Kurth, 2011).

Qualitative research is suitable when little is known about a phenomenon because it provides foundation knowledge of the experience (Klopper, 2008). Due to the small number of studies exploring osteopathic care in pregnancy some foundation knowledge would assist in the efficient development of quantitative studies and the application of their results in a meaningful way (Thomson et al., 2011). Qualitative research is limited within osteopathy and manual therapy and there is a need to explore and understand patients and healthcare practitioners experiences (Thomson et al., 2011). Women are currently accessing osteopathic care during pregnancy and with limited research a better understanding of the phenomenon is required. Exploring osteopaths' experiences would provide useful insight.

## The Purpose of this Article

This article provides insight into osteopaths' experience of caring for pregnant women. The findings of this study may help healthcare practitioners care for pregnant women more effectively, enhance osteopathic clinical practice and education and contribute to the knowledge of the experience of being an osteopath.

## Methods

### **Methodology**

A qualitative study was chosen because a deep rich data set was necessary due to little being known about osteopaths' experience of treating pregnant women. This study was guided by a descriptive phenomenological approach. Phenomenology and especially descriptive phenomenology seek to describe what is there, without focus on cause and effect relationships (Finlay, 2011). Descriptive phenomenology enabled the research question to be answered and fits well with the osteopathic concepts of appreciation of the uniqueness of individuals and their experiences (Lopez & Willis, 2004).

### **Participants**

Five osteopaths who specialise in treating pregnant women were recruited using a snowball sampling method. All participants were female and qualified osteopaths currently practising in New Zealand. Please see the table below for further participant information.

Table 1: Participant information

Participant number	Years practising	Approximate number of pregnant women seen per week	Primary treatment approach <sup>2</sup>
1	9	5-6	Structural
2	9	2-12	Structural and cranial
3	15	3-4	Cranial
4	10	1-2	Structural
5	20	2-3	Cranial

### Data Collection

Face-to-face interviews were audio recorded with each participant at a time and place of their choice (all participants chose the clinic where they practice). Interviews ranged from 54 – 75 minutes long, with a total data set of 5 hours and 2 minutes. The interviews were semi-structured, which helped to ensure the conversation covered the major areas of the phenomenon and the participant was still able to explain their experience in a deep and rich manner (Klopper, 2008). Interviews are better suited to the phenomenological methodology than focus groups because they allow participants to explain their own experience without other participants' influence (Webb & Kevern, 2001).

### Ethics

The study was approved by the Unitec Research Ethics Committee (reference: 2013-1014). Informed consent was gained in verbal and written form prior to commencement of the interviews. Participants were sent a copy of the transcript to review and make any changes they wished (none chose to make any changes). Harm to participants was minimised by informing participants of their right to withdraw from the study at any time up until two weeks after receipt of the transcript. Privacy was preserved by anonymising data and password protection of participant information. In addition, the transcriptionist signed a non-disclosure of information form.

### Data Analysis

The interviews were transcribed verbatim and anonymised prior to analysis. Analysis and interpretation of the data aimed to consider the participants' experiences and identify common themes. The process of data analysis was guided by descriptive phenomenology and followed the process outlined by Tracy (2012). Following familiarisation with the data each transcript was analysed individually using primary-level coding. Codes were then categorised and synthesised to make meaning of the data. Thematic mapping explored the patterns across transcripts and relationships of

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<sup>2</sup> Structural osteopathy is focused primarily on the musculoskeletal systems including joint mobilisation and manipulation and soft tissue stretch and massage (Chila, 2010). Cranial osteopathy is a more subtle form of manual therapy aimed at impacting the primary respiratory mechanism (small rhythmical involuntary movements) felt throughout the body ("Osteopaths New Zealand," 2014; S. Parsons et al., 2007).

potential themes. Emerging themes were discussed, reviewed and refined further with peer researchers and supervisors. The above phases were approached in a slow, reflective and systematic manner to avoid deciding on themes too quickly. The continual reflection on the data and the process of writing allowed for the gradual clarification of themes.

### Rigour

Rigour was assessed against the criteria of credibility, dependability, confirmability and transferability (Houghton et al., 2013; Ryan-Nicholls & Will, 2009; Tuckett, 2005). Steps to ensure credibility included determining pre-conceived ideas about the phenomenon, reflective analysis over a twelve month period, and ongoing corroboration with experienced supervisors and peer researcher to assess fittingness of interpretations. Dependability was generated with an audit trail of processes, influences and actions, including examples of data collection and the analysis process. Confirmability was addressed with the initial exploration of the appropriateness of the research question and by regularly challenging the data interpretation through reflexivity and consultation with peers and supervisors. Steps to ensure transferability include the presentation of direct quotes from the transcripts to allow the reader to consider the researchers interpretation and the presentation of preliminary findings to a forum of researchers and osteopaths.

## Results

Two overarching themes emerged from the osteopaths' dialogue regarding osteopathic care of pregnant women; *Gaining a sense of her journey*, and *Caring - beyond the table*. In addition concepts relating to osteopathy and osteopathic practice in New Zealand were also apparent and provide the background to the themes.

Figure 1: Themes and sub-themes.



The above diagram depicts the inter-relationship of the themes. The highs, lows and ongoing changes of a woman's pregnancy journey are represented by the undulating lines. Osteopathy's capacity to impact and support this journey is illustrated by the complementary undulating line. This is encompassed within the background of osteopathic principles and practice in New Zealand.

## Theme 1: Gaining a sense of her journey

*"...getting a real sense of their whole pregnancy, their journey, their plan" (P4, Pg 28).*

Participants described their patients' pregnancy as an individual and emotional journey of which they needed to gain an appreciation. Two parts to the journey were evident; the journey to pregnancy and the journey through pregnancy. A third element to this concept was the need to understand the individual impact of the changes of pregnancy on each woman.

### **Journey to pregnancy:**

*"I've treated women that have actually flown to the United States to pick up a donor egg to bring it back to New Zealand to have it implanted here, so things like that, we're talking about very, very precious pregnancies" (P1, page 16).*

The journey to pregnancy included the participants' experiences with patients who had had difficulty getting pregnant and the financial, physical and emotional cost of this process. Participants described caring for women who'd had a rocky road including years of trying, sleepless nights, multiple miscarriages and strained relationships. In many of these cases the resulting pregnancy appeared to be viewed by the woman as precious and fragile, and the participants needed to adapt treatment, management and support to this situation. This was not always the case and patients may also have become pregnant unintentionally. The participants would inquire about, perceive and appreciate each woman's journey to pregnancy, and anxiety and apprehension about the pregnancy.

### **The journey through pregnancy**

*[Asking women] "how the pregnancy's been going, how their scans have been if they've had them, who their midwife is, where they plan to birth, so that I can get a real picture of what sort of journey they're on." (P4, Pg 2)*

Participants viewed pregnancy as an individual journey in which a complex array of emotions and change in life patterns is encountered. Three distinct parts were identified in relation to the sub-theme of the journey through pregnancy; Emotional rollercoaster, Expectations and the ability to cope with normal life, and Preparing for birth and beyond.

#### Emotional rollercoaster

*"You know, you do play an emotional support sort of role because it's very up and down" (P5, Pg 38).*

The journey through pregnancy was described as emotionally complex and all participants described encountering a variety of emotions with their pregnant patients including fear, stress, anxiety, excitement, happiness and guilt. The hands-on nature of osteopathic care also revealed the physical

effects of these emotions, for example muscle tension, shallow breathing and exhaustion. Consideration and empathy for each woman's feelings and their impact on patients' lives was described.

#### Expectations and the ability to cope with normal life

*"I'm thinking of lady, it's her third baby, she's seven months pregnant, she had crippling S.P.D (Symphysis Pubis Dysfunction), she's working full-time and she couldn't drive, she could walk twenty metres without support and that was it. Hospital physio had offered her a wheelchair and she's a busy lawyer and she's supporting her family and someone had said an osteopath might be okay" (P4, pg 23).*

Two participants commented on the internal and external expectations associated with pregnancy and childbirth and the impact of these expectations on a woman's perception of the experience of pregnancy. Particularly for those women experiencing pain in pregnancy there was an awareness of finding ways to cope with and fulfil their usual responsibilities. Participants described their capacity to assist by increasing a woman's physical ability to function, by managing their pain and by addressing any unrealistic expectations that arose.

#### Preparing for birth and beyond

*"I mean lots of women ask me advice about the birth" (P4, Pg 10).*

Most participants described patients exhibiting some concern about the birth and wanting to be informed and prepared for birth. Birth was an unknown experience for many women and the participants were asked for information and stories of the experience. The participants with children discussed pregnant women asking questions about their personal birth experiences and discussing information about what lay beyond.

#### **A changing patient**

*"You have to go, what else is going on? Like, there's increased weight, there's increased breast tissue, there's fascial drag, there's changes in the lymphatic system, changes in the circulatory system, change in the respiratory system. What stage in pregnancy is she at? What should I expect in terms of results? How much should I expect in terms of results? What should I do? How much should I do? What techniques should I do the best?" (P2, pg 46)*

The sub-theme of a changing patient encompasses the continuous and widespread change associated with pregnancy. Change is embodied in the physical changes of pregnancy as well as lifestyle, emotional and work-life changes. The participants wanted to gain an understanding of how each woman was coping with these changes. Change was communicated verbally through case-history taking and discussion. In addition participant two and three introduced the concept of communicating change through touch and feeling how a woman's body was coping with change.

*"So I have to really feel tissues, really feel what's going on in that pregnancy, really feel how healthy she is, how well she's coping with the pregnancy in terms of her body." (P2, Pg 47)*

Women's bodies accommodate rapid physical change during pregnancy; the changing body system was a challenge in treating pregnant women and one aspect of what made treating pregnant women different to non-pregnant patients. Participants described the necessity for women to have some pliability of the musculoskeletal system in order for their body to continually adjust to the growing baby and other pregnancy-related physical changes. The body's ability/inability to adapt and the increased demands on her body were associated with strain and pain. Lifestyle changes, emotional changes and pain were also associated with increased stress on patients and each woman's experience and ability to cope was described as unique. Osteopathic treatment was aimed at assisting the body to adjust to the physical changes and decreasing stress associated with the increased physical demands.

## Theme 2: Caring - beyond the table

*"Athletes couldn't care less whether you like them as long as you get them better. But there's a slightly different relationship and we don't know how to sort of define that but maybe a real sense of care is really important in this field, and something that they pick up on" (P4, Pg 27).*

All participants described their role as an osteopath during pregnancy as a caring, nurturing and supportive role. This relationship was believed to be unique in comparison to other healthcare practitioners and independent within the healthcare system. Osteopathic care was able to assist in reducing the stress and strain associated with pregnancy, both physical and emotional. Three sub-themes emerged; *Nurturing, An impartial and unique support role and Lightening the load.*

### **Nurturing**

*"A lot of it with pregnancy, for me is really supportive care. They're really worried, that something is wrong or that they will have to live with this until the baby's born, and they can't cope with not being able to sleep on one side or whatever it is, so really normalising it for them." (P4, Pg 3)*

Nurturing related to reassuring and supporting women through the emotional rollercoaster and stresses of pregnancy. Nurturing also related to the woman's body and physical health, and to supporting a growing baby by improving the wellbeing of the mother. Reassurance was communicated verbally by explaining information, discussing options and giving women time to speak. Reassurance also related to the hands-on treatment of osteopathic care and treatment was described as calming and settling. Osteopathy's gentle approach appeared to be well suited to this nurturing role.

Another side of the supportive care was advocating for patients to ensure they were getting the care they needed and were happy with their healthcare. Pregnant women were directed to and encouraged to use any services and support available.

*"They'll say to me, what do you think about having a caesar or what do you think about natural delivery? My midwife thinks my pelvis is too small for a natural so she wants me to*

*have a caesar. So my approach is, I will say to them 'what do you want? Do you want a natural or do you want a caesar? Or are you concerned? And is she justified? Do you think she's justified, do you think she's listening to you?'" (P2, Pg 22)*

Interestingly two participants argued that emotional support was no different for pregnant women than for anyone else, instead it was based on the apparent needs of any individual and their situation. For these participants emotional support was not always a significant aspect of treating pregnant women.

### **An impartial and unique support role**

*"I don't think they come looking for support, but I think they can find it, perhaps there a bit easier than a midwife. They often feel like their midwife advises them and there is lots that the midwife has to advise so it's less of a discussive relationship and having that conversation with your friends you get the horror stories or the myths and legends. Whereas what we have to offer is we understand normal birth, we understand difficult birth, we understand the physiology, the anatomy of it, processes and it's not an opinion based thing" (P4, Pg 15).*

This sub-theme encompasses the osteopath's description of encouraging patients to be informed, having more time than some other healthcare practitioners and being impartial and independent within the healthcare system. Participants felt as osteopaths they were able to be impartial with regard to pregnancy and birth options and information, which allowed them to support women from a unique perspective. Being impartial allowed women to freely ask questions and discuss information. Participants described the importance of a trusting, honest and open relationship which allowed the patient to feel comfortable enough to share their story and the patient and osteopath to work together. Having longer appointment times than other healthcare practitioners was noted and the increased time allowed for more time to talk, information sharing, allowing patients to clarify their thoughts, ask questions and build rapport. Sharing stories was described as a way to reduce fear and anxiety, as well as share excitement.

*"I think we find ourselves, like a lot of normal non-pregnant patients [Laugh] in the unique position where you have more time than any other practitioner with them. And on some level they trust you because they've laid on your table before, taken some clothes off or something, there's already some type of relationship there, so they perhaps find it a bit easier to talk about their fears or their plans or their ideas" (P4, Pg 14).*

Participants expressed the way they empower women by explaining pregnancy information such as the stages of pregnancy and how the body was changing with reference to why the patient was feeling the way she was feeling. There was an emphasis on encouraging women to do their own research so they understand and feel confident with the information. Birth was often discussed and patients advised to ensure they know the positive and negative aspects of each option. Participants described this sharing of information as adjunctive, impartial and from a unique perspective to the support provided by the patients' midwives. Information sharing also allowed women to maximise the time with their midwives as some questions could be clarified with the osteopath.

*“So you need to know that if you choose this, this is what happens. If you choose this, this is what happens. And I mean, midwives don’t really offer that, they talk about it but they don’t talk about it like that.” (P5, Pg 30)*

Participant four explained that she felt the relationships with pregnant women were distinct from relationships with other patients. This difference included women’s need for compassion and care and perceptiveness of an osteopath’s genuine interest in their care. The enjoyment of treating pregnant women was evident in several participants discourse, and participants mentioned rejoicing in the pregnancy process, the reward of positive outcomes from osteopathic care and genuine interest in their pregnant patient’s wellbeing.

### **Lightening the load**

*“They get really stressed and so they start to get compromised and so whether it’s about just taking some physical stress off their bodies so that they have a bit more reserve that allows them to handle things better” (P5, Pg 19).*

Osteopathic treatment during pregnancy was described as a way to reduce the strain associated with a body that was changing and working harder. Participants described belief and experience in osteopathy’s capacity to improve the physical strain and pain associated with common complaints of pregnancy. Decreased physical stress as a result of osteopathic treatment was described and this in turn provided comfort and support in a time of emotional stress. Osteopathic care reduced stress through pain relief, reduced tension, emotional support and increased feelings of wellbeing.

Furthermore participants expressed that osteopathic treatment was also about ensuring a woman’s body was functioning well and increasing the enjoyment of pregnancy. Increased wellbeing and decreased pain in a taxing period provided pregnant women with some comfort and the ability to cope. In addition, publicly funded healthcare for musculoskeletal complaints is limited and at times women were advised there were no options to manage their pain. This was associated with increased stress and the discovery of osteopathic treatment reduced the necessity for women to cope with all musculoskeletal discomfort.

## **The professional environment**

A third minor theme emerged with concepts relating to osteopathic theory, inter-practitioner relationships, osteopathy within the NZ healthcare setting, risks and limitations of osteopathic treatment and presenting complaints. These are summarised below.

### **Osteopathic principles**

The sub-theme of osteopathic principals relates to the participants descriptions of osteopathic concepts in practice. These concepts relate closely to three of the principles of osteopathy; The body

as a unit, The body possesses self-healing mechanisms, and Health restoration and disease prevention.

#### The body as a unit

*"It's coming back to osteopathy that it's about the whole individual, it's not just about the uterus and the baby." (P3, Pg 27)*

One of osteopathy's key concepts involves considering a human being as a whole functioning unit (Chila, 2010; J. Parsons & Marcer, 2006). Several participants reflected on the need to look at the whole person; this related both to the whole physical body and the way the parts are working together, as well as psychosocial and environmental factors. Discussions about diet, exercise, stress levels, sleep and social situations demonstrated the participants' consideration of the whole person. This concept also related to the individuality of each person and their situation, as well as the need for treatment to be focused towards the individual.

#### The body possesses self-healing mechanisms

*"I'm a facilitator; I point the body in the right direction. [...] And the body will do all the clever stuff" (P3, Pg 26).*

Another key principle of osteopathy is "The body possesses self-regulatory mechanisms that are self-healing in nature" (Chila, 2010, pp 3). Participant 3 described treatment as reminding the body from which point the body will self-heal. This was also supported in participants' dialogue through the idea of the body knowing what it was doing throughout pregnancy. Participant 4 explained that at times tension or laxity of tissues is functional in pregnancy and an osteopath needs to bear this in mind when deciding on treatment in a pregnant woman.

#### Health Restoration and Disease Prevention

*"So they're coming in to make sure their whole body's in good condition and functioning well." (P1, Pg 44)*

Osteopathic theory outlines a healthcare model that is preventative, aimed at increasing well-being and treating dysfunction before the body's capacity for self-maintenance is overcome and disease results (Chila, 2010; J. Parsons & Marcer, 2006). Participants' dialogue clearly reflected this principle, with descriptions of women seeking treatment to avoid more serious complications (particularly for women who had experienced complaints in previous pregnancies), treatment to increase comfort and to ensure the patient's body was in good health and prepared for birth.

#### **Inter-practitioner relationships and osteopathy within the New Zealand healthcare setting**

*"It's something that they've [midwives] now come to see where osteopathy fits in. And it's because I've worked hard to show them. And I've given the patients as much advice as I can within my scope. And then they'll go back and tell their midwife and the midwife will go, actually well this blends in with our scope perfectly." (P2, Pg 41)*

All participants described referral relationships to and from other healthcare practitioners. Participants had referral relationships with midwives, naturopaths, obstetricians, acupuncturists, massage therapists, paediatricians, yoga teachers, aqua aerobics instructors, homeopaths and Pilates instructors. Women referring each other to osteopathy appeared to be a significant aspect of accessing this form of CAM. Lack of awareness of osteopathy as a treatment option during pregnancy was also revealed. Many pregnant women and other healthcare practitioners were described as being unaware of osteopathy for common pregnancy complaints. Therefore building inter-practitioner relationships is important for increasing awareness of osteopathy as a supplementary option for pregnancy care.

### **Limitations and risks of osteopathic treatment during pregnancy**

#### Cost

*“You know some of them just can’t afford to come as regularly as they probably need to, to be supported during the pregnancy” (P5, Pg 6).*

The major limitation or barrier of osteopathic treatment during pregnancy described by participants was the cost of treatment. As expressed by participant 2 “there’s no subsidy for being pregnant”. Participants discussed the impact of decreased income and increased costs on pregnant women’s financial situations and access to healthcare.

#### Miscarriage

*“It depends on the situation I guess, it depends on how they’re feeling, there’s no correlation between the treatment and spontaneous miscarriages. It’s more just really being cautious that you just wouldn’t want to do anything unnecessary” (P1, Pg 11).*

The major potential risk of treatment discussed by participants was miscarriage in the early stages of pregnancy. All participants made it clear there was no evidence to support osteopathic treatment or manual therapy increasing the risk of miscarriage and explained this to patients. However participants altered their treatment to avoid heavy treatment of the lumbar spine and pelvis during this phase to decrease any potential or perceived risk, particularly with patients identified as anxious or uncertain. Participant 5 explained she felt avoiding treatment was only protecting the osteopath and not putting the patient first, because osteopaths can help patients during this time.

### **Presenting complaints**

Participants listed a wide variety of reasons for pregnant women presenting to them, ranging from pelvic pain to reflux, see full list in Appendix I. Participants noted some presentations were primarily based on injuries (both recent and existing) however many were pregnancy related or a combination of both.

## Discussion

This study highlights the osteopaths' awareness of the need for individualised healthcare and support for women throughout pregnancy. The ability to cope with the many changes of pregnancy and experience of the journey varies considerably between women. Findings presented osteopathic treatment as a way to reduce the stress associated with a demanding time of change. Osteopaths viewed their role as healthcare practitioners during pregnancy as nurturing and providing support from a unique perspective to other healthcare practitioners. Strengths of this study include the rich experience of participants in treating pregnant women and the mixture of osteopathic treatment approaches (cranial and structural). Analysis was discussed with peers and supervisors throughout the research process. There are two main limitations to this study: the small number of participants means the transferability of findings to other osteopaths is limited and bias towards osteopathy may be present because the researcher is an osteopathic student.

### **Gaining a sense of her journey**

The findings of this study revealed the participants view of pregnancy as an individual journey in which a complex array of emotions and change in life patterns is encountered. These concepts corroborate with studies exploring women's experience of pregnancy (Lundgren & Wahlberg, 1999; Modh et al., 2011; Schneider, 2002; Theroux, 2007). In addition the participants described the strain associated with the physical changes of pregnancy and challenges of treating the changing body system. As the first study to consider osteopaths approach to and experience of treating pregnant women, further research is required to extend these findings. Increased stress and reduced ability for pregnant women to perform their roles as a result of common pregnancy complaints was described by participants; this is consistent with the experience expressed by women (Fredriksen et al., 2008; Persson et al., 2013). Additionally the current study uncovered the osteopaths' desire to gain an understanding and appreciation of this individual journey and each woman's ability to cope.

There has been a general trend towards childbearing at an older age and consequent increase in assisted reproductive technologies in the past 15 years ("Statistics New Zealand; Births and Deaths," 2011; Y. Wang, Dean, Badgery-Parker, & Sullivan, 2008). Women's experience of assisted reproduction technologies, miscarriage and infertility is complex with powerful emotions including guilt, grief, anger and humiliation (Brier, 2008; Rayner et al., 2009; Whiteford & Gonzalez, 1995). Women who have fallen pregnant after miscarriage have described a strong desire to discuss their miscarriage and concerns, anxieties and fears about their present pregnancy with health professionals (Andersson, Nilsson, & Adolfsson, 2012). Participants in this study discussed caring for and supporting women who were older mothers, had experienced assisted reproductive technologies, miscarriage and difficulty falling pregnant and the financial, physical and emotional cost of this process. The participants revealed a desire to gain an understanding of each woman's unique journey to pregnancy and adapt treatment, management and support in response to their perception of her journey.

### **Caring – Beyond the table**

The current study supports Kurth's, (2011) findings that osteopathic care not only improved pregnant women's physical ability to function but this in turn resulted in reduced stress and increased ability to cope psychosocially. Kurth's (2011) study found reassurance was an important part of osteopathic care for pregnant women. Similarly the osteopaths in the current study identified nurturing and reassurance as a significant part of caring for pregnant women. Participants believed osteopathic care increased patients' wellbeing and enjoyment of pregnancy (Kurth, 2011). This corroborates with women's perception of osteopathic care increasing wellness and quality of life. The similarities in the findings of these qualitative studies exploring both the osteopaths' and pregnant women's experiences of osteopathic care add weight and significance to the results.

Common complaints of pregnancy such as LBP and PGP are associated with time off work, reduced ability to complete activities of daily living, disturbed sleep, increased prevalence of post-natal depression, decreased physical ability and decreased perception of self-health and quality of life (Bergstrom et al., 2014; Gutke et al., 2007; Gutke et al., 2011). The sub-theme of 'lightening the load' reveals the participants' perception of decreased stress as a result of the improvement of common pregnancy complaints through osteopathic care. Reduced physical strain and pain was observed to improve women's emotional stress. In addition both the current study and Kurth's, (2011) study found the perception of increased ability to perform activities of daily living through osteopathic care. Due to the high prevalence of common pregnancy complaints and their profound impact on women's lives, osteopathic care has the potential to change women's journey through pregnancy by improving their quality of life. Accordingly, further research exploring osteopathic care during pregnancy is necessary.

The osteopaths in this study described the importance of support in caring for pregnant women; support included reassurance, advocacy, providing information, allowing time to talk and sharing stories. These findings are similar to the results of midwives experiences of caring for pregnant women (Hildingsson & Haggstrom, 1999; Homer et al., 2009; Salomonsson et al., 2010). Correspondingly, communication of knowledge, sharing of pregnancy stories and healthcare practitioners having time to answer questions is important to pregnant women (Bondas, 2002; Mander & Melender, 2009; Schneider, 2002). Information-seeking in pregnancy not only empowers women and allows informed decision making but also contributes to a positive birth experience (Lavender, Walkinshaw, & Walton, 1999; Schneider, 2002). Osteopaths and other healthcare practitioners caring for pregnant women must recognise women's heightened need for support, information and reassurance. Osteopathic care was viewed by participants as adjunctive, impartial and from a unique and independent perspective within the healthcare system. This is likely to be a consequence of osteopathy being classified as CAM which is complementary to the conventional medical model and is accessed privately. Further study investigating the information communication between osteopaths and pregnant women is warranted.

The concept of caring as opposed to curing has been widely discussed in caring theory, with criticism of today's medical system being focused primarily on curing (Clayton, Badger, Bishop, & Scudder, 2002). Caring theory outlines recognising vulnerability in patients as a result of illness or pain, the promise to help by being a healthcare practitioner and responding with competent patient-centred healing decisions made by the healthcare practitioner (Clayton et al., 2002; Geller, 2006). The results of the current study support the caring theory with osteopaths first gaining a sense of the patients' journey including the recognition of vulnerability and need. Thus the osteopath is identifying the pregnant women's 'call' for a caring response (M. Smith, Turkel, & Wolf, 2012). The osteopath then responds to the individual human being with reassurance, advocacy, provision of information, allowing time to talk and the sharing of stories. This fits closely with the description of caring in action (Montgomery, 1993). It would appear the osteopaths have identified pregnant women need more than just 'curing', particularly as pregnancy is a time of uncertainty and change associated with physical, social and emotional transformation.

### **The professional environment**

Concepts of osteopathic theory were reflected in the professional environment. In particular each individual as a whole functioning unit, the self-healing mechanisms possessed by the body and preventative healthcare aimed at increasing well-being. Kurth, (2011) found pregnant women also viewed osteopathic treatment as preventative and wellness care. Miscarriage as a result of treatment was identified as the primary potential but unlikely risk of osteopathic treatment and participants described adapting treatment to avoid any risk, particularly with those patients perceived as anxious and uncertain.

Referral relationships with other healthcare practitioners and referrals from patients were a significant part of working within the New Zealand healthcare setting. Referral relationships were important in educating healthcare practitioners about osteopathy. Barriers to osteopathic care identified were cost and patient and healthcare practitioner knowledge of osteopathy. These results are supported by Kurth (2011) who found the lack of accessibility to osteopathic care due to cost and the knowledge of patient and healthcare practitioners was an important concept in pregnant women's experience of osteopathic care. With 40% of New Zealand midwives referring to osteopaths and midwives views of CAM as supporting and augmenting midwifery care, an opportunity for osteopaths to work together with midwives to support women may be present (Adams et al., 2011; Hall et al., 2012; Harding & Foureur, 2009). Further investigation of the accessibility of osteopathic care in pregnancy and referral relationships would be worthwhile.

Thomson, Petty and Moore, (2014) found three distinct themes relating to osteopaths' perceptions and beliefs of their practice of osteopathy. Two of these themes were supported in this study. Namely, collaborative osteopathy where importance is placed on interpersonal relationships, communication and therapeutic partnerships with patients; and empowerment of patients with osteopathy focused on

education, sharing knowledge and encouraging self-management (Thomson et al., 2014). Participants in the current study described their belief in the importance of honest, open, trusting relationships and the need to communicate effectively and connect with women. In addition the importance of empowering women was revealed; this was done by explaining information and encouraging women to do their own research so they feel confident with the information. Both of these findings fit closely with Thomson et al.'s, (2014) results. These concepts are useful for developing further understanding of the practice of osteopathy and guiding osteopathic education.

## Conclusions

This study found osteopaths place importance on understanding the journey to and through pregnancy and the impact of pregnancy related changes on each individual. The osteopaths adapted their management, support and treatment of women based on their perception of her journey. Osteopathic care during pregnancy has a focus on nurturing and supporting pregnant women. This caring role was from a unique perspective in comparison to other healthcare practitioners. Osteopathic care was perceived to reduce the physical pain and strain associated with many of the common complaints of pregnancy. Reduced physical pain and supportive care was believed to improve women's emotional stress, quality of life and ability to perform their activities of daily living. With the high prevalence of common pregnancy complaints and their significant impact on women's quality of life osteopathic care is a treatment modality that warrants further research.

Osteopaths and other healthcare practitioners caring for pregnant women need to be aware of the heightened need for support and reassurance during this time, and be able to respond to each woman's individual needs. Osteopathic care in pregnancy has the potential to significantly change women's journey through pregnancy by improving their ability to function and quality of life. Research is needed to further develop appropriate care for the common complaints of pregnancy and women's experience of these treatments must be explored.

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# Part Three: Appendices

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## Appendix A: Interview schedule



### Semi-structured interview schedule:

#### **Exploring New Zealand Osteopath's Approach to and Experience of Treating Pregnant Women**

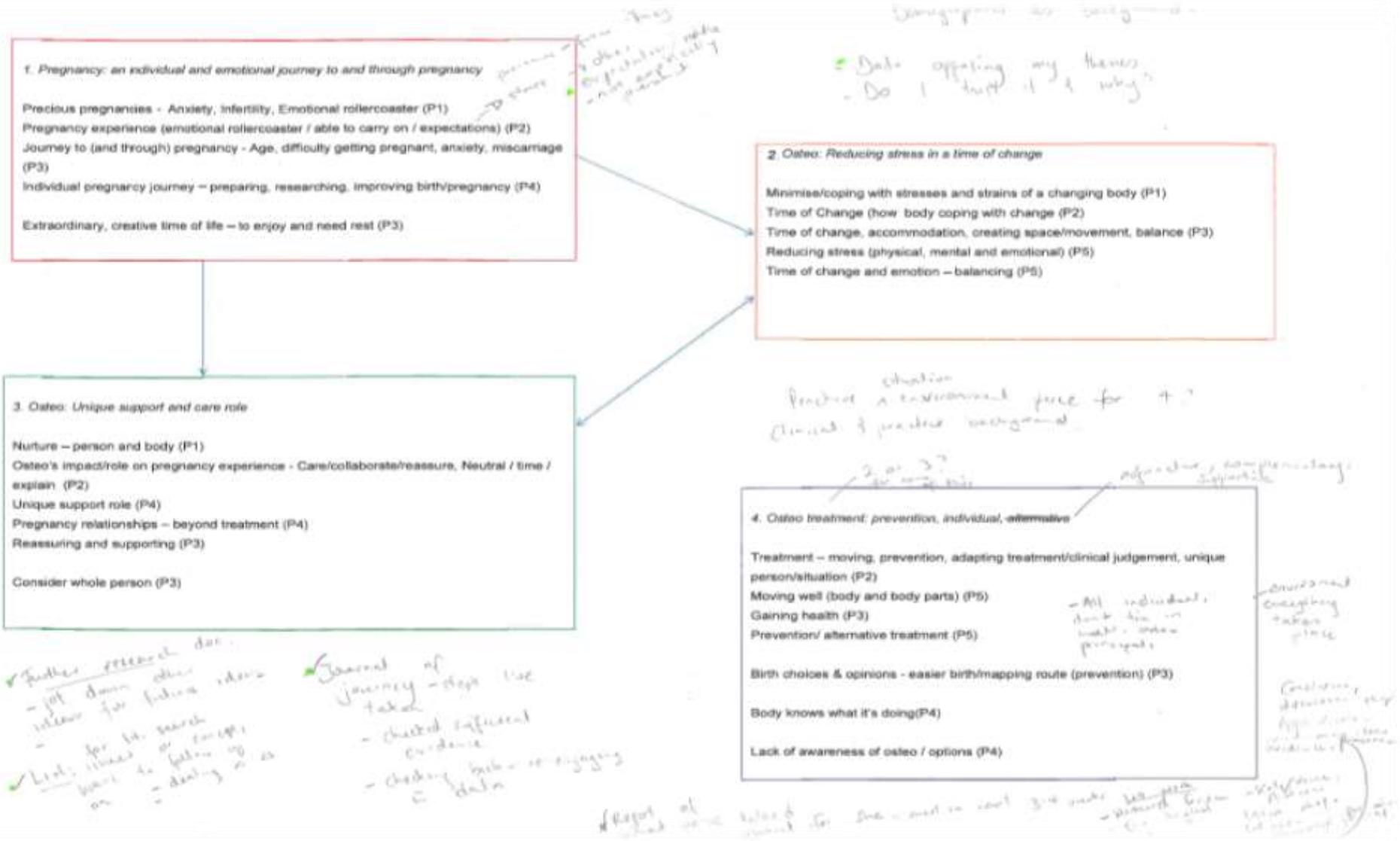
- Confirm the participant is still willing to participate in the research and is happy to be interviewed
- Answer any additional questions from the participant after running through the information sheet and get the consent form signed
- Explain that the researcher may take notes during the interview

Explain I would like to hear about their experiences of treating pregnant women. Facilitate story telling by ask the participant to outline a 'typical' osteopathic consultation with a pregnant woman – this could be as one particular anonymised woman or some form of amalgamation of many women.

#### Further possible discussion points:

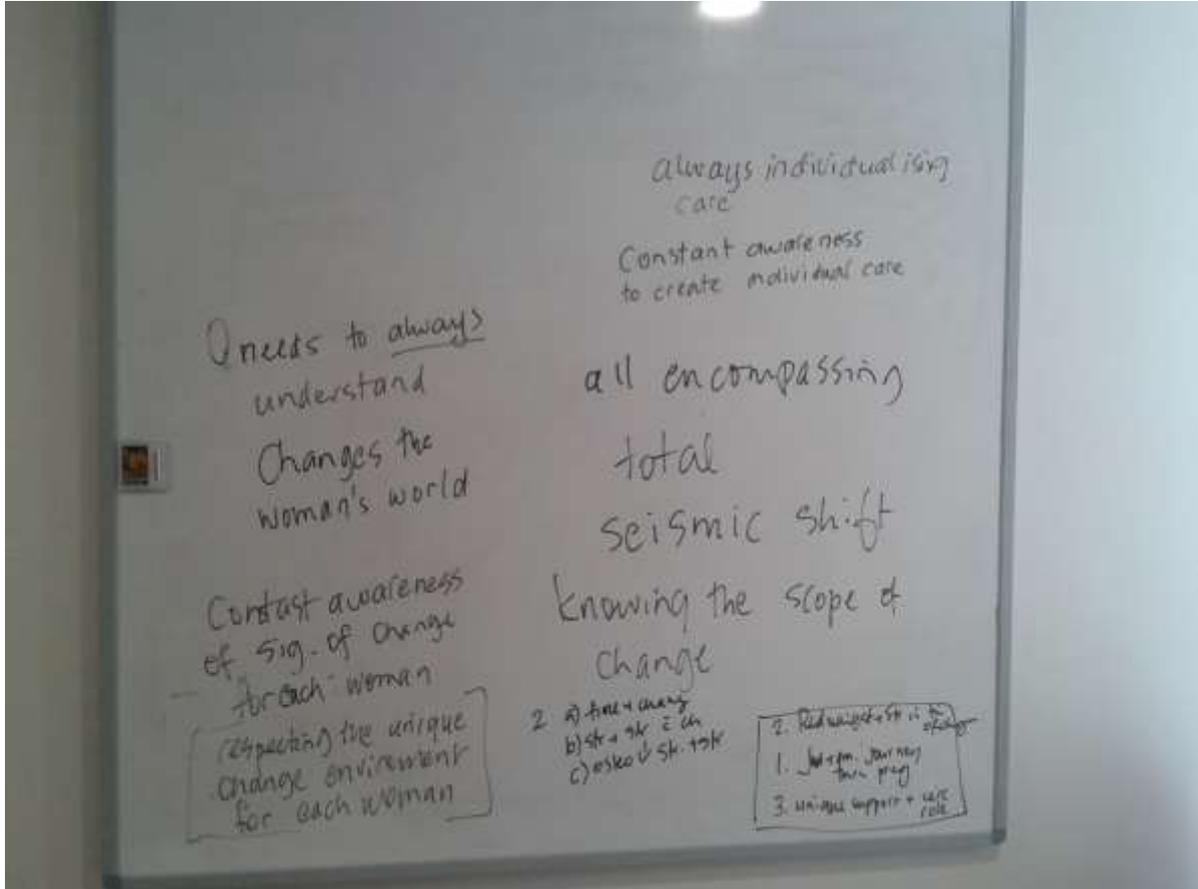
- Use probing questions where expansion is desired (e.g. can you please give me an example of that, how, why, what)
- Why do you believe pregnant women come to see you?
- What is your treatment and advice to pregnant women (this may include diet and exercise)?
- What do you believe are the barriers, limitations or concerns to osteopathic treatment in pregnancy?
- What do you believe osteopathy can offer during pregnancy?
- How did you feel your education and training prepared you to treat pregnant women? Have you completed further study in to the care of pregnant women?
- What is your experience of interacting with other healthcare providers?
- Anything else not yet covered you would like to add from your experience of treating pregnant women

# Appendix B: Mind map from theme development process



## Appendix C: Example of data analysis process

Photo taken following a theme development brainstorming session with supervisors.



## Appendix D: Information sheet



### Information Sheet

Exploring New Zealand Osteopaths' Approach to and Experience of Treating Pregnant Women

#### **About this research:**

You are invited to take part in a study which explores New Zealand osteopaths' approach to and experience of treating pregnant women. The objective of the study is to explore all aspects of the nature of osteopaths' work with pregnant women. This may include practices, reasoning, attitudes, beliefs, language, individualization to patients and knowledge.

The knowledge gained from this study will help to guide education within osteopathy and research in the field of osteopathy in pregnancy.

#### **The researcher:**

Frances Mandeno, Masters of Osteopathy student, Unitec.

This project is supervised by Dr. Elizabeth Niven and Sue Gasquoine.

#### **What we are doing**

We will be interviewing approximately five osteopaths who specialise in treating during pregnancy and have been practising full time for at least five years. The interviews will be audio recorded then transcribed for the information to be analysed using qualitative research methods.

#### **What it will mean for you**

This project will investigate your approach to and experience of treating pregnant women. This will be done through an in depth interview that will take at most one and a half hours. You will be interviewed by Frances at your office, home or other place of your choice. During the interview you will be asked open questions about your experience of treating pregnant women. All information conveyed during the interview will be confidential and anonymised on the published research. A copy of the transcript will be posted and/or emailed to you as soon as possible after the interview, on which you can comment.

If you agree to participate, you will be asked to sign a consent form. This does not stop you from changing your mind if you wish to withdraw from the project. However, because of our schedule, any withdrawals must be done within 2 weeks after receipt of the transcript.

Your name and information that may identify you will be kept completely confidential. All information collected from you will be stored on a password protected file and only you, the researcher and our supervisors will have access to this information. A transcription service will be used to transcribe the audio recordings and the transcription typist will be required to sign a confidentiality agreement.

Please contact us if you need more information about the project. At any time if you have any concerns about the research project you can contact my supervisor:

My supervisor is Elizabeth Niven, phone 815 4321 ext. 8320 or email [eniven@unitec.ac.nz](mailto:eniven@unitec.ac.nz)

**UREC REGISTRATION NUMBER: 2013-1014**

**This study has been approved by the UNITEC Research Ethics Committee from April 19th 2013 to April 19th 2014. If you have any complaints or reservations about the ethical conduct of this research, you may contact the Committee through the UREC Secretary (ph: 09 815-4321 ext 6162). Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.**

## Appendix E: Ethics Approval

Frances Mandeno  
57 Powell Street,  
Avondale,  
Auckland 1026

23.5.13

Dear Frances,

Your file number for this application: **2013-1014**

Title: **Exploring New Zealand Osteopaths' Approach to and Experience of Treating Pregnant Women: A Descriptive Phenomenological Study.**

Your application for ethics approval has been reviewed by the Unitec Research Ethics Committee (UREC) and has been approved for the following period:

**Start date: 19.4.13**

**Finish date: 19.4.14**

In addition to the above approval, your request for an amendment to your application has been reviewed by the Unitec Research Ethics Committee (UREC) and has been approved for the following period:

**Start date: 22.5.13**

**Finish date: 19.4.14**

Please note that:

- 1. The above dates must be referred to on the information AND consent forms given to all participants.**
- 2. You must inform UREC, in advance, of any ethically-relevant deviation in the project. This may require additional approval.**

You may now commence your research according to the protocols approved by UREC. We wish you every success with your project.

Yours sincerely,

Gillian Whalley  
Deputy Chair, UREC  
Cc: Elizabeth Niven  
Cynthia Almeida

## Appendix F: Participant consent form



### Participant Consent Form

#### **Exploring New Zealand Osteopaths' Approach to and Experience of Treating Pregnant Women**

**I have had the research project explained to me and I have read and understand the information sheet given to me.**

I understand that I don't have to be part of this if I don't want to and I may withdraw at any time up to two weeks after receipt of the transcript.

I understand that everything I say is confidential and none of the information I give will identify me and that the only persons who will know what I have said will be the researcher and their supervisors. I also understand that all the information that I give will be held in a secure location if printed or password controlled if electronic for a period of 5 years.

I understand that my discussion with the researcher will be taped and transcribed.

I understand that I can see the finished research document.

I have had time to consider everything and I give my consent to be a part of this project.

*Participant Name:* ..... *Date:* .....

*Participant Signature:* ..... *Date:* .....

*Project Researcher:* ..... *Date:* .....

**UREC REGISTRATION NUMBER: 2013-1014**

**This study has been approved by the UNITEC Research Ethics Committee from (date) to (date). If you have any complaints or reservations about the ethical conduct of this research, you may contact the Committee through the UREC Secretary (ph: 09 815-4321 ext 6162). Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.**

## Appendix G: Non-disclosure form



### Non-Disclosure of Information

#### **Exploring New Zealand Osteopaths' Approach to and Experience of Treating Pregnant Women**

I \_\_\_\_\_ agree not to disclose the name of, or any information that would lead to the identification of the participants in the research study being undertaken by Frances Mandeno, Masters of Osteopathy student at Unitec, New Zealand.

The audiotapes, transcription hard copies, and computer files will not be made available to anyone other than the researcher and will be kept securely while in my possession.

I will not retain any copies of the audiotapes, computer files or transcriptions.

Signed \_\_\_\_\_

Name \_\_\_\_\_

Date \_\_\_\_\_

# Appendix H: International Journal of Osteopathic Medicine: Research submission guidelines

IJOM. (2014). Guide for Authors. *International Journal of Osteopathic Medicine*. Retrieved from <http://www.elsevier.com/journals/international-journal-of-osteopathic-medicine/1746-0689/guide-for-authors>

## **Author guidelines (abridged form):**

### General Guidelines

#### **Reviews and Original Articles (2,000 - 5,000 words)**

These should be either **(i)** reports of new findings related to osteopathic medicine that are supported by research evidence. These should be original, previously unpublished works; or **(ii)** a critical or systematic review that seeks to summarise or draw conclusions from the established literature on a topic relevant to osteopathic medicine.

#### **Review Process**

The decision to publish a paper is based on an editorial assessment and peer review. Initially all papers are assessed by an editor of the journal. The prime purpose is to decide whether to send a paper for peer review and to give a rapid decision on those that are not.

Manuscripts going forward to the review process are reviewed by members of an international expert panel. All such papers will undergo a double blind peer review by two or more reviewers. All papers are subject to peer review and the Journal takes every reasonable step to ensure author identity is concealed during the review process. The Editors reserve the right to the final decision regarding acceptance.

#### **Author Enquiries**

For enquiries relating to the submission of articles (including electronic submission where available) please visit this journal's homepage at <http://www.elsevier.com/ijosm>. You can track accepted articles at <http://www.elsevier.com/trackarticle> and set up e-mail alerts to inform you of when an article's status has changed. Also accessible from here is information on copyright, frequently asked questions and more. Contact details for questions arising after acceptance of an article, especially those relating to proofs, will be provided by the publisher.

#### Preparation of the Manuscript

Submitted papers should be relevant to an international audience and authors should not assume knowledge of national practices, policies, law, etc. Authors should consult a recent issue of the journal for style if possible. Since the journal is distributed all over the world, and as English is a second language for many readers, authors are requested to write in plain English and use terminology which is internationally acceptable.

*Abbreviations* - Avoid the use of abbreviations unless they are likely to be widely recognised. In particular you should avoid abbreviating key concepts in your paper where readers might not already be familiar with the abbreviation. Any abbreviations which the authors intend to use should be written out in full and followed by the letters in brackets the first time they appear, thereafter only the letters without brackets should be used. Statistics - Standard methods of presenting statistical material should be used. Where methods used are not widely recognised explanation and full reference to widely accessible sources must be given.

#### **Manuscript Layout**

The manuscript with a font size of 12 or 10 pt double-spaced with wide margins (2.5 cm at least) and number pages consecutively beginning with the Title Page. Depending on the paper type (see above) this should include the title, abstract, key words, text, references, tables, figure legends, figures, appendix. Microsoft Word or similar programme should be used.

Papers should be set out as follows, with each section beginning on a new page:

## *Title page*

## *Keywords*

## *Abstract*

Both qualitative and quantitative research approaches should be accompanied by a structured abstract of no more than 250 words. Commentaries and Essays may continue to use text based abstracts of no more than 150 words. All original articles should include the following headings in the abstract as appropriate: Background, Objective, Design, Setting, Methods, Participants, Results, and Conclusions. As an absolute minimum: Objectives, Methods, Results, and Conclusions must be provided for all original articles.

## *Text*

The text of observational and experimental articles is usually, but not necessarily, divided into sections with the headings; introduction, methods, results, results and discussion. In longer articles, headings should be used only to enhance the readability. Three categories of headings should be used:

- major headings should be typed in capital letter in the centre of the page and underlined
- secondary ones should be typed in lower case (with an initial capital letter) in the left hand margin and underlined (i.e. Participants).
- minor ones typed in lower case and italicised (i.e. questionnaire).

Do not use 'he', 'his' etc. where the sex of the person is unknown; say 'the patient' etc. Avoid inelegant alternatives such as 'he/she'.

## *Statement of Competing Interests*

When submitting a manuscript you will need to consider if you, or any of your co-authors, are an Editor or Editorial Board member of the International Journal of Osteopathic Medicine.

## **References**

Responsibility for the accuracy of bibliographic citations lies entirely with the authors.

Citations in the text: Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Avoid using references in the abstract. Avoid citation of personal communications or unpublished material. Citations to material "in press" is acceptable and implies that the item has been accepted for publication.. Citation of material currently under consideration elsewhere (e.g. "under review" or "submitted") is not permitted.

Text: Indicate references by superscript numbers in the text. These should appear at the end of the relevant sentence and should be directly after punctuation. The actual authors can be referred to, but the reference number(s) must always be given.

## **Implications for Clinical Practice**

At submission stage, authors of reviews and original research articles are required to provide three to four bullet points outlining the manuscript implications for clinical practice.

## **Submission Checklist**

Please check the manuscript carefully before it is sent off to the Editorial Office, both for correct content and typographical errors, as it is not possible to change the content of accepted typescripts during the production process. As a guide, please ensure the following had been included:

- One copy of manuscript and;
- Tables, figures and illustrations, uploaded separately and correctly labelled;
- Reference list in correct style and correct in-text referencing;
- Written permission from original publishers and authors to reproduce any borrowed any borrowed material (where relevant).

# Appendix I: Presenting complaints

## **Presenting complaints listed by participants:**

LBP and lumbar spine disc disorders

PSD

Trochanteric bursitis and hip pain

Gluteal muscles tendinopathy

SIJ pain and SIJ ligament strain

Postural changes

Costochondritis and rib pain

Upper back pain

Headaches

Fluid retention and swelling

Leg pain

Piriformis syndrome

Carpal tunnel

Reflux and nausea/vomiting

Breathing disorders; including anxiety, panic attacks and hyperventilation

Babies position – support with turning baby

Assisting with inducement of labour

Difficulty sleeping

Coccyx and pelvic floor pain/dysfunction

Altered gait

Difficulty getting pregnant

Multiple miscarriages

Preparing the pelvis for delivery

High blood pressure

Any body aches and pains