Women's motivation to perform pelvic floor muscle training for prevention of pelvic organ prolapse

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Abstract

Pelvic organ prolapse (POP) is associated with decreased physical, psychological, and sexual health. Pelvic floor muscle training (PFMT) is an effective treatment for POP and other pelvic floor dysfunctions (such as urinary incontinence) and there is some evidence PFMT may help prevent POP. However, poor exercise adherence is a major barrier to PFMT effectiveness. Investigating women's motivation for PFMT to prevent POP may elicit useful insights into how clinicians can assist women to effectively incorporate into PFMT into their lives.

Using case study methodology, and a theoretical proposition based on Pender's Health Promotion Model, the influences on women's motivation to start and continue (or not) PFMT for prevention of POP was explored. The theoretical proposition was that; *there are internal and external influences that affect women's choices about performing PFMT, and it is the way that these influences are motivating or not that affect their choice. Influences may not be the same for every woman and nor is the degree to which they may, or may not, act as a motivator.* Case one was comprised of two women (both previous participants in a trial of PFMT for prevention of POP) and the physiotherapist who provided treatment. Case two was a Family Planning client and the female doctor who, during the course of clinical assessment, identified the woman had asymptomatic POP.

Transcripts from the semi-structured interviews were analysed according to the principles of case study methodology. Analysis began with explanation building within each case; data were coded for meaning and then categorised (deductively) according to the main concepts in Pender's HPM. Inductive categories were derived for data that did not map to the model and rival theoretical explanations (Bandura's Social Cognitive Theory, Ajzen's Theory of Planned Behaviour and Protection Motivation Theory) for these data were considered. Cross case analysis compared the two cases relative to the theoretical proposition.

Three key influences on motivation were identified; (1) *The woman's socio-cultural context*, (2) PFMT *self-efficacy*, (3) Health promotion *delivery.* The first described how a woman's attitudes, beliefs, knowledge and choices about PFMT are situated within her socio-cultural context that include influences such as taboos about discussing genital health, beliefs about health priorities, and spousal/family relationships. For the second, knowledge and skills were an important starting point yet personal agency and expectancy outcomes are necessary to initiate and maintain PFMT as a health promoting behaviour. The third influence captured the clinicians' role in providing a context that enables sharing of sensitive information and supporting women to achieve self-efficacy. The 'incidental' finding of POP in the Family Planning environment was associated with particular difficulties for supporting the client to achieve PFMT self-efficacy and thus the effectiveness of the health promoting moment was compromised.

Public health education to increase awareness of POP and provide women with PFMT skills is needed to enable them to adopt PFMT as a health promoting behaviour. Clinicians working in primary care, particularly in women's health contexts such as Family Planning, potentially have a major role to play in implementing such initiatives.

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List of Abbreviations

HPM	Health Promotion Model
POP	Pelvic Organ Prolapse
PFM	Pelvic Floor Muscles
PFME	Pelvic Floor Muscle Exercises
PFMT	Pelvic Floor Muscle Training
PFD	Pelvic Floor Dysfunction
POPPY	Pelvic Organ Prolapse Physiotherapy Trial
PREVPROL	Prevention of Pelvic Organ Prolapse Trial
PMT	Protection Motivation Theory
POP-Q	Pelvic Organ Prolapse Quantification
RN	Registered Nurse
SCT	Social Cognitive Theory
SUI	Stress Urinary Incontinence
TPB	Theory of Planned Behaviour
UI	Urinary Incontinence

Chapter One

Introduction

Pelvic organ prolapse (POP) is a serious, non-life threatening condition, which impacts on women's physical and psychological wellbeing (Dhital et al., 2013; Maher, Feiner, Baessler, & Schmid, 2013). Despite symptoms many women do not discuss their pelvic floor dysfunction (PFD) with their primary care clinician (Daniel, Mallen, & Cooper, 2010). For those women who do seek help they may find that neither health professionals nor the health system are able to provide effective care (Davis, Kumar, & Wake, 2010).

I work as a registered nurse (RN) at a Family Planning clinic with an advanced and extended scope of practice. This scope continues to evolve as I progress towards becoming a Nurse Practitioner. The majority of clients that I see on a day-to-day basis are women, and it is common for me to discuss PFD in the context of both stress urinary incontinence (SUI) and POP. I have observed that women tend not to present specifically with these concerns but that they arise opportunistically during the conversation, or perhaps prolapse is noted incidentally on pelvic examination. Women with symptomatic prolapse may present with distressing physical symptoms and an anxiety fuelled by not knowing the cause of their potentially embarrassing problem. Many women appear to have an awareness of pelvic floor muscle training (PFMT) but readily admit to not performing the exercises.

My interest in PFMT and POP is derived from a clinical nursing paradigm with a particular focus on health promotion. I posit that, my understanding of the clinical conundrum of why women may not adhere to PFMT for prevention of POP will be enhanced by understanding what motivates women to perform these exercises and overcome potential barriers. Once this is understood, I may play a more effective role in enabling women to take control of their pelvic health and minimize the potential burden of POP.

1.1 Current context

I work as an advanced nurse in a Family Planning Clinic in an urban centre of the South Island of New Zealand. This is a primary care setting and the majority of our clients are women, of a variety of ages, stages of life, ethnicities, demographics and presenting concerns within the area of sexual and reproductive health. Nurses are required to ask about urinary function as part of a routine history and nurses routinely perform speculum examinations for cervical smear taking or screening for sexually transmitted infections, and are likely to note vaginal prolapse on examination. The client may, or may not, be informed of this finding at the time.

I am motivated by concerns about how confident Family Planning clinicians feel, to raise an opportunistic finding with the asymptomatic client in terms of confidence, experience, resources, knowledge and time. Avoiding this discussion is effectively losing a valuable opportunity to provide information and support in promoting and supporting PFMT in prevention of POP. Nurses who are well informed and confident in the area of pelvic health, who understand the internal and external barriers and strengths that women experience in performing PFMT, will be able to work with women according to their strengths. The expert nurse is in a prime position to provide initial assessment, management and ongoing support for women with POP (Richardson & Hagen, 2009).

1.2 Research aims and questions

The aim of my research was to explore women's experiences of pelvic floor dysfunction. More specifically I want to explore woman's perceived strengths and barriers, their self-efficacy, and how this impacts on adherence with PFMT in the prevention of POP. In particular I am interested in internal and external factors such as; social groups, socioeconomic status, ethnicity, educational achievement, ability to set and attain goals, organisational ability, coping skills, prior health seeking behaviours or destructive behaviours, self-worth and self-esteem. To have an understanding of these factors may assist me and other clinicians to prospectively identify women who may have issues with adherence to PFMT. We

can then support women to achieve improved pelvic health outcomes by working with them according to their strengths.

The research question for this study was "how and why do women with mild asymptomatic pelvic organ prolapse engage with pelvic floor muscle training in a primary care setting?"

1.3 Research objectives

The research objectives were to;

1. explore how women with asymptomatic pelvic organ prolapse are identified in the primary care setting;
2. discern how does the primary care clinician facilitate (or not) the prevention of pelvic organ prolapse; and
3. investigate why some women engage with pelvic floor muscle training while others do not.

A qualitative framework using case study methodology was selected as the approach to address these objectives.

1.4 Thesis structure

This thesis is divided into five chapters. The first chapter: the introduction, outlines the clinical context and research aims. Chapter two: Background, describes the anatomy and pathophysiology associated with POP, the aetiology and symptoms, treatments and limitations of PFMT. It is ultimately the limitations of PFMT that frame the aims and objectives of the research. The background also presents and critically discusses the relevant literature on POP. Chapter three: Methodology describes the research process starting with the underlying theoretical perspective. Within this chapter there is also a description of the methods, sampling and recruitment process, and participant demographics. Chapter four: analysis is where the concepts derived from the participant interviews are presented. Chapter five: discussion, places the findings of the present study within the context of existing

literature and health behaviour models. This chapter also draws together the main findings of the thesis and discusses implications for clinical practice and future research.

Chapter Two

Background

2.1 Aetiology and symptoms of POP

2.1.1 The "normal" pelvic floor

In order to understand the pathophysiology of POP, it is necessary to first understand the anatomy and physiology of the normally functioning pelvic floor. Effective function of the pelvic floor relies on the correct anatomical and physiological relationship between muscle, nerves, and connective tissue. The pelvic floor can be described as an anatomical sling composed of skeletal muscle (levator ani and ischiococcygeus) and connective tissue (Cardozo & Staskin, 2001; Carriere, 2006). The function is to support the pelvic organs: bladder, urethra, small bowel, rectum and uterus against gravity and abdominal pressure (Baessler & Schuessler, 2003). These organs are in fact integral to the pelvic floor by their associated ligaments and fascia (Cardozo & Staskin, 2001) and the attachment of the pelvic floor organs to the bony pelvis is crucial to their support and function (Brubaker & Sacralides, 1996).

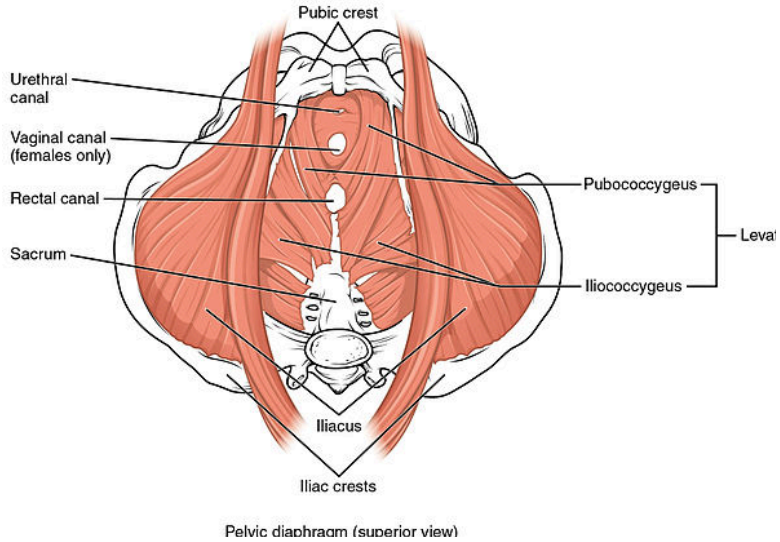

Figure 2-1: Superior view of the muscles of the pelvic floor
http://commons.wikimedia.org/wiki/File:1115_Muscles_of_the_Pelvic_Floor.jpg
Retrieved 8/11/14 and reprinted with permission.

The levator ani muscle (Leva) is the main support for the pelvic organs and is functionally divided into three muscles: (iliococcygeal, pubococcygeus and puborectalis) with each muscle attached to specific points of the bony pelvis and surrounded by fascia and connective tissue (Carriere, 2006; Word, 2009). Figure 2-1 illustrates the muscles of the pelvic floor. The levator ani is skeletal muscle composed predominantly of slow twitch fibers. It has baseline tonicity and is in constant contraction. The function is to lift the pelvic floor and compress the outlets of the urethra, vagina and rectum against the pubic bone to limit opening and prevent prolapse (Ashton-Miller & DeLancey, 2007; Bidmead & Cardozo, 1998; Cardozo & Staskin, 2001; Schaffer, Wai, & Boreham, 2005). This means the ligaments and fascia holding the pelvic organs in place are under no tension. In this situation the fascia serves to maintain the organs in position above the levator ani muscles. The urogenital hiatus is the opening in the levator ani through which the urethra, vagina and rectum pass externally (Cardozo & Staskin, 2001).

The skeletal muscle of the pelvic floor has somatic innervation from the central nervous system (CNS). Efferent motor control is through sacral nerves two to four which synapse in the sacral (pelvic) plexus and then via short fibers to the leviator ani muscle. Also arising from the sacral plexus is the pudendal nerve, which supplies the remaining skeletal muscle of the pelvic floor (Carriere, 2006; Schaffer et al., 2005). Control of the skeletal muscles is learnt through motor programs involving the somatosensory and motor systems (Carriere, 2006).

The organs of the pelvic floor are surrounded and held in position by a number of connective tissue components. The endopelvic fascia surrounds and connects the pelvic organs to the musculature and bony structures of the pelvic floor (Jelovsek, Maher, & Barber, 2007). The levator ani muscle is covered superiorly and inferiorly by connective tissue and collectively this is known as the urogenital diaphragm. The function is to support the pelvic floor via its connections to the pelvic bones, urethra, vagina and perineal body (Ashton-Miller & DeLancey, 2007). The perineal body is situated between the rectum and the vagina and is attached to components of the pelvis and pelvic floor. It allows for the insertion of the pelvic floor muscles and the attachment of the levator ani here is particularly important. Damage to this structural arrangement during vaginal delivery causes significant loss of function to the pelvic floor (Ashton-Miller & DeLancey, 2007; Balmforth & Robinson, 2007)

The anterior vaginal wall is supported by the vagina, levator ani, endopelvic fascia and the ligament known as arcus tendineus fasciae pelvis. The endopelvic fascia surrounds the vagina and connects it to the pelvis via the arcus tendineus fascia pelvis. These ligaments are derived from the fascia of the obturator and levator ani muscles and their function is to suspend the vagina bilaterally to the pelvic wall (Ashton-Miller & DeLancey, 2007). The pubocervical fascia is a sheet of connective tissue that connects the anterior vaginal wall to the pelvic wall. The uterosacal ligaments connect the cervix and upper third portion of the vagina to the dorsal pelvis while the cardinal ligaments attach the cervix and upper vagina laterally to the pelvis. Collectively the uterosacral and cardinal ligaments are referred to as the parametrium (Balmforth & Robinson, 2007). The combined effect

of these structures is to support the anterior vaginal wall (Balmforth & Robinson, 2007; Word, 2009).

The posterior vaginal wall is connected to the pelvis, vagina and levator ani muscles and the lower third of the vagina is directly attached to the perineal body posteriorly. This support mechanism prevents descent of the rectum. The middle portion of the posterior vaginal wall is supported by the levator ani muscles via their connection with the endopelvic fascia, and the upper third of the vagina is supported laterally by the paracolpium. The rectovaginal fascia connects the posterior vaginal wall to the bony pelvis (Balmforth & Robinson, 2007).

2.2 Measurement of POP

POP is commonly described, quantified and staged using the approved POP-Q system, which is shown in Figure 2-2. It is a reliable anatomical tool developed to provide consistency in the way that women are diagnosed with POP (Bump et al., 1996).

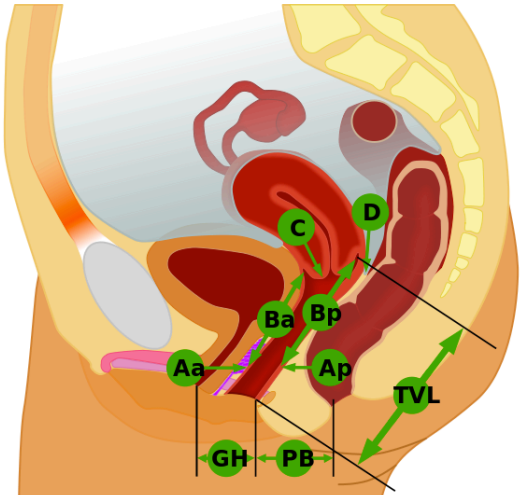

Figure 2-2: POP-Q system for measurement of POP

http://commons.wikimedia.org/wiki/File:Pelvic_Organ_Prolapse_Quantification_System.svg Retrieved 9/11/14 and reprinted with permission. (This system and its reference points are described on page nine).

The POP-Q system uses six points on the surface of the vaginal wall measured from the hymen as a reference point. The six points are Aa, Bb, C, D Bp and Ap. Sites Aa and Ba are located on the anterior vaginal wall, C relates to the cervix, Ap and Bp are located on the posterior vagina wall and D refers to the posterior fornix. In addition the total vaginal length (TVL), genital hiatus (GH) and perineal body (PB) are also measured.

POP can also be represented as stages measured while the woman performs the Valsalva manoeuvre. Stages range from 0 to IV with Stage 0 being no prolapse and stage IV the most severe prolapse. Stage I refers to when the prolapse is >1cm above the hymen. Stage II is where the prolapse is ≤ 1cm proximal or distal to the hymen. Stage III is where the prolapse is > 1cm below the hymen but not greater than 2 cm. Stage IV means complete eversion of the entire length of the vagina (Bump et al., 1996).

2.3 Types of POP and associated symptoms

If the pelvic floor muscles are damaged, for example by stretching, or lose innervation resulting in wasting, they lose tonicity and strength. Ligaments can hold the pelvic organs in place initially but over time will weaken and allow the uterus and vagina to prolapse (Cardozo & Staskin, 2001). The location of damage to the muscles and ligaments of the pelvic floor will typically determine the type of prolapse that may occur i.e. anterior, posterior or apical compartment prolapse (Cardozo & Staskin, 2001). Clinicians need to be aware of how these variations of POP appear on pelvic examination, and the commonly associated symptoms that occur with each variation.

However, symptoms of POP may not be directly linked to the area that is prolapsed and many women will be asymptomatic. Typically a prolapse only becomes symptomatic when it is Stage III i.e. at the level of the introitus. POP can occur alongside, or be independent of, urinary and fecal incontinence (Bump & Norton, 1998). In taking a history it is important to assess urinary, bowel and sexual function, and to explore other local symptoms that may be caused by prolapse such

as pelvic pain and vaginal bleeding. Assessment should also include how symptoms affect a woman's ability to perform daily activities, participate in social events, exercise, work and how limitations may impact on mental health (Lentz, 2012).

2.3.1 Anterior compartment prolapse

An anterior compartment prolapse (previously known as cystocele or urethrocele) occurs when there is a loss of support in the anterior vaginal wall due to damage to the pubocervical fascia (Cardozo & Staskin, 2001). Damage to the pubocervical fascia allows the bladder to descend within the pelvis and protrude into the vaginal wall (Brubaker & Sacralides, 1996). This is the most common vaginal prolapse (Hendrix et al., 2002) and is strongly correlated with first vaginal birth (Dietz, Clarke, & Vancaillie, 2002). Women may report a feeling of heaviness or a bulge in the vagina, vaginal irritation, lower back pain or sexual dysfunction. An anterior prolapse can also be associated with frequency, urgency, nocturia, and urinary incontinence. A large anterior prolapse may need manipulation to initiate or complete voiding leading to urinary stasis and infection (Brubaker & Sacralides, 1996).

2.3.2 Posterior compartment prolapse

A posterior vaginal wall prolapse (previously called rectocele) is caused by damage to the rectovaginal fascia (Cardozo & Staskin, 2001) and results in a pouching of the rectum into the posterior vaginal wall (Jelovsek et al., 2007). Posterior wall dysfunction can also involve the small or large bowel. Bowel symptoms include fecal or flatus incontinence, needing to manipulate the prolapse in order to empty the bowel, and the feeling of incomplete bowel emptying (Jelovsek et al., 2007).

2.3.3 Apical compartment prolapse

Like the anterior vaginal wall, the uterus also receives support from the parametrium. Damage to these supports causes uterine prolapse (Cardozo & Staskin, 2001) which can cause women to feel a dragging or heavy sensation

(Dietz, 2008) or she may even be able to see the prolapsed uterus protruding from the vagina. This is called procindentia (Jelovsek et al., 2007).

2.4 Variables associated with POP

The aetiology of POP is likely to be multi-factorial and involve both intrinsic and extrinsic factors (Brubaker & Sacralides, 1996; Sampselle, 2003). Knowledge of the factors that predispose women to POP is important for clinicians in undertaking a gynaecological history. Clinicians who are alert to predisposing factors can identify women who are at higher level of risk for developing POP and offer appropriate prevention advice. Equally, for women presenting with symptoms such as pelvic pain or urinary incontinence, risk factors identified in the history combined with a pelvic examination, may assist the clinician to include POP as a potential differential diagnosis.

2.4.1 Pregnancy and childbirth

Pregnancy itself has been implicated in the development of POP, possibly through the hormonal effects on the tissue of the pelvic floor, raised intra-abdominal pressure weakening the pelvic floor, and anterior tilting of the pelvis resulting in lumbar lordosis (Carriere, 2006; Schaffer et al., 2005). However childbirth appears to be one of the most definitive independent risk factors for POP with studies demonstrating that this risk increases with each vaginal birth (S. E. Swift, Pound, & Dias, 2001; Word, 2009). Vaginal delivery of a macrosomic baby is also an established risk factor for POP (Schaffer et al., 2005; S. Swift et al., 2005). Caesarean section appears to have a protective effect in the development of POP (Casey et al., 2005; Jelovsek et al., 2007; Schaffer et al., 2005; S. Swift et al., 2005).

During the second stage of a vaginal birth the pelvic floor is subject to significant compressive forces from the pressure of the baby's head passing through the pelvic floor. These compressive forces can damage nerves, muscle and connective tissue of the pelvic floor (Word, 2009). As the baby's head descends through the pelvis in the second stage of labour the muscles of the pelvic floor, particularly the

pubococcygeus are significantly stretched. In obstructed or prolonged labour this can cause ischemia and necrosis of the levator ani and vaginal muscles (Schaffer et al., 2005). In addition, vaginal delivery can damage the connection of the vaginal wall to the pubocervical fascia leading to prolapse of the vaginal wall (Carriere, 2006).

Prolonged second stage of labour is also believed to cause stretching of the nerves of the pelvic floor leading to dysfunction. Studies have shown that loss of innervation to muscles with slow twitch fibers (such as the levator muscle) results in atrophy and fibrotic changes. One of the medical interventions for prolonged second stage is the use of forceps, which itself is a risk factor for POP causing direct injury to the tissues of the pelvic floor. However, in this situation there is a dichotomy as it would be difficult to determine if the use of forceps was detrimental or protective of the pelvic floor (Delancey, Kane Low, Miller, Patel, & Tumbarello, 2008).

Despite the significant changes the pelvic floor undergoes during pregnancy and childbirth most woman return to normal function even after a difficult delivery. However, some women do not return to normal function, or they develop symptoms of pelvic floor dysfunction later in life. The reasons for this variance in prognosis are poorly understood (Delancey et al., 2008).

2.4.2 Ageing

Ageing is an acknowledged independent risk factor for the development of POP (Bidmead & Cardozo, 1998; Brubaker & Sacralides, 1996). The function of the pelvic floor gradually declines as a result of normal aging and is a combination of age, gravity, loss of oestrogen with menopause and the development of other disorders that increase with age (Schaffer et al., 2005). It is known that both the number and size of muscle fibers and connective tissue declines with age with subsequent decrease in strength of the pelvic floor (Bidmead & Cardozo, 1998; Reay Jones et al., 2003). Women, who for a variety of reasons, develop a pelvic floor with suboptimal function, may develop symptoms earlier in life, especially if

exposed to aggravating factors, such as pregnancy and childbirth (Bidmead & Cardozo, 1998; Delancey et al., 2008).

Oestrogen plays an important role in the remodeling of collagen with a decrease in oestrogen resulting in connective tissue with less strength (Reay Jones et al., 2003; Schaffer et al., 2005). While oestrogen replacement therapy is used to treat or prevent prolapse symptoms a Cochrane systematic review has found a lack of randomised controlled trials to support its use in clinical practice (Ismail, Bain, & Hagen, 2010). A case controlled study has shown that abnormal curvature of the spine, commonly associated with aging, is a risk factor for the development of POP. The normal lumbar lordosis appears to protect the pelvic organs from the weight of the abdomen above, and any loss of lordosis places the woman at risk of POP (Mattox, Lucente, McIntyre, Miklos, & Tomezsko, 2000).

2.4.3 Raised intra-abdominal pressure

Chronic cough, secondary to chronic chest disease, or straining from constipation, occupation or manual labour with heavy lifting may play a role in the development of POP (Balmforth & Robinson, 2007; Brubaker & Sacralides, 1996; Jelovsek et al., 2007; Kuncharapu, Majeroni, & Johnson, 2010). The raised intra-abdominal pressure that results from these activities causes stress and subsequent weakness of the muscular and facial supports of the pelvic floor. Chronic straining is believed to stretch and permanently damage the pudendal nerve (Carriere, 2006). However, it is questioned whether pudendal nerve neuropathy leads to POP as the pudendal nerve contributes little to the innervation of the pelvic floor (Schaffer et al., 2005). While there is evidence to support straining from constipation as a risk factor for POP there is little quality evidence to support chronic cough in the etiology of POP (Balmforth & Robinson, 2007)

2.4.4 Raised Body Mass Index (BMI)

While studies have demonstrated a correlation between SUI and raised BMI, there is less certainty regarding obesity and POP. It is suggested that overweight or obese women are at greater risk (Balmforth & Robinson, 2007; Hunskaar; Subak, Richter, & Hunskaar, 2009) but this was not supported by a case controlled study by Swift

et al. (2001). However, some studies have shown obese women with symptomatic POP experience resolution of their symptoms following significant weight loss (Bump & Norton, 1998).

2.4.5 Congenital or genetic disorders

Congenital connective tissue disorders can also play an important role in the aetiology of POP (Chaliha & Stanton, 2002). It has been shown that women with POP have weaker and less elastic pelvic fascia (Carriere, 2006). A cross sectional study by Carley and Shaffer (2000), reported that women with both Ehlers Danlos syndrome and Marfan's syndrome (both fascial disorders) are significantly more likely to experience both urinary incontinence and POP.

Women of particular ethnicities may also be at greater risk (Deng, 2011; Jelovsek et al., 2007). The findings of the Women's Health Initiative (WHI) study in the United States of America (USA) showed that white women have a lower incidence of anterior compartment prolapse compared to Asian or Hispanic women, but a greater incidence compared to African-American women (Hendrix et al., 2002). This is in contrast to another study by Dietz (2003) that investigated pelvic floor strength among women of different ethnicities. Their findings supported epidemiological data that Asian women are less likely to experience POP than their Caucasian counterparts.

Twin studies of mono-zygotic twins have shown that genetics have a strong role to play in the occurrence of POP and SUI (Altman, Forsman, Falconer, & Lichtenstein, 2008; Buchsbaum & Duecy, 2008). A study looking at the expression of a gene coding for a protein important in the remodeling of elastic fibers following childbirth, found that mice deficient in this gene were more likely to display pelvic floor dysfunction. The gene expression was also reduced with age (Liu, Zhao, Pawlyk, Damaser, & Li, 2006). Genetics may dictate the development of muscle, ligaments and connective tissue. It is known that muscle tone varies according to the individual (Carriere, 2006). Women with POP have a reduction in the smooth muscle component of the anterior vaginal wall compared to normal women (Boreham, Wai, Miller, Schaffer, & Word, 2002). However it is not known

if this is a cause or consequence of POP (Schaffer et al., 2005). It is also suggested that women with deficiency in both the amount and type of collagen in the pelvic floor are prone to POP (Schaffer et al., 2005).

2.4.6 Previous pelvic surgery

Previous pelvic surgery is also a risk factor for pelvic floor dysfunction (Delancey et al., 2008; Jelovsek et al., 2007; Kuncharapu et al., 2010). Previous hysterectomy, particularly a vaginal procedure, appears to play a role in subsequent POP. However, there is mixed evidence for hysterectomy as a risk factor for POP (Balmforth & Robinson, 2007; S. E. Swift et al., 2001). Continence procedures are also risk factors for the development of POP. These include; Burch colposuspension, needle suspension and sacrospinous ligament fixation (Balmforth & Robinson, 2007)

2.4.7 Associated diagnosis of stress urinary incontinence

The other common condition arising from poor pelvic organ support is stress urinary incontinence (SUI). POP and SUI are closely linked (Buchsbaum, 2006). For the vast majority of women the patho-physiology for SUI is failure of the urethral closure mechanism caused by a loss of support from the pelvic floor muscles. This is either by muscular or neurological causes, and loss of support from the ligaments and fascia. For example, women with a larger diameter urogenital hiatus may be predisposed to SUI (Brubaker & Sacralides, 1996).

2.5 Epidemiology and impact of POP

2.5.1 Epidemiology

POP is a common condition (Hagen, Stark, Glazener, Sinclair, & Ramsay, 2009). It is a problem for women of a variety of ages but commonly tends to affect older women (Kuncharapu et al., 2010). It is reported that as many as 50% of women who have delivered children will experience some degree of POP but may not necessarily be symptomatic (Carriere, 2006). Data from the WHI study showed that

41% of women age 50-79 had some form of POP (Jelovsek et al., 2007). The most common type of prolapse is of the anterior compartment followed in frequency by the posterior compartment and the least common prolapse is of the apical compartment (Abrams, Cardozo, Khoury, &Wein, 2005). The severity of prolapse is directly associated with the degree of pelvic floor muscle strength and dysfunction (I. Braekken, Majida, Ellstrom, & Bo, 2010). The numbers of women with POP who never seek help for their prolapse is unknown (Bump & Norton, 1998).

2.5.2 Impact of POP

Most cases of POP are asymptomatic but women with symptoms can experience depression, decreased sexual health and poor genital body image, pelvic pain and reduced quality of life (Bump & Norton, 1998; Fritel, Varnoux, Zins, Breart, & Ringa, 2009; Ghetti, Lowder, Ellison, Krohn, & Moalli, 2010; Kuncharapu et al., 2010; Reddy, Barber, Walters, Paraiso, & Jelovsek, 2011; Zielinski, Miller, Low, Sampselle, & DeLancey, 2012).

A study by Ghetti et al. (2010) showed that women with symptomatic POP were five times more likely to experience symptoms of depression compared to controls. Rortveit et al. (2007) found that 50% of symptomatic women reported moderate or great distress associated with their prolapse, while 35% of women reported that the prolapse interfered with at least one physical, social or sexual activity. Fritel et al. (2009) used the Nottingham Heath Profile questionnaire (which assesses quality of life in relation to mobility, emotional reaction, sleep, energy, pain and social isolation) to assess the impact of POP on quality of life and found that women who reported a higher frequency of POP symptoms (mainly difficulty voiding and defecating, and lower abdominal pain) were more likely to have a low quality of life score.

A three year longitudinal study by Bradley, Zimmerman, Qi, and Nygaard (2007) of 259 post menopausal women showed that while POP can sometimes regress, older women are more likely to develop new POP or experience deterioration in their POP. It is reported that 11.1 % of women will require surgery for POP by the

time they are 80 years of age, and hysterectomy for POP is the most common reason for surgery for women aged over 50 (Bump & Norton, 1998; Jelovsek et al., 2007). Jelovsek et al. (2007) report that in 1997 225,000 women underwent surgery for POP at a cost of US$1 billion.

In summary, the physical, emotional and fiscal burden of symptomatic POP provides a strong case for the promotion of effective strategies, such as PFMT, to prevent the occurrence and progression of POP.

2.6 Prevention and conservative management options for POP

When discussing prevention in regards to health promotion it is important to note that there are three levels of prevention. Primary prevention is aimed to prevent a disease or condition from occurring through reduction of risk. Secondary prevention is to screen, detect or manage early pre-clinical/pathological changes and instigate interventions to reverse or eradicate the process. Tertiary prevention occurs where a condition cannot be treated and prevention is aimed at reducing the impact on function and quality of life (University of Ottawa, 2014)

Conservative management of POP is aimed at improvement rather than resolution of symptoms and is intended to be maintained long term (Wilson & Herbison, 1995). General lifestyle measures advocated in the treatment and prevention of POP include: weight reduction, smoking cessation, treatment of constipation and other activities that involve straining such as heavy lifting. However there is limited data to assess the effectiveness of these measures (Jelovsek et al., 2007; Wilson & Herbison, 1995).

Management of POP also includes mechanical interventions such as vaginal ring pessaries to lift the pelvic floor. Ring pessaries are generally indicated in women who decline (or who are not good candidates for) surgery, and for whom other methods such as PFMT have not been successful (Jelovsek et al., 2007). Nevertheless, a Cochrane systematic review identified only one randomised

controlled trial to determine the clinical effectiveness of this method. In this study 60% of women reported an improvement in their prolapse symptoms. However, there is no agreement on appropriate long term follow up and management for women using this method. In addition, there are no trials to determine the effectiveness of ring pessaries compared to other treatment options (Bugge, Adams, Gopinath, & Reid, 2013). Disadvantages of pessaries include; expulsion, erosion, odour and discomfort (Brubaker & Sacralides, 1996).

Vaginal oestrogen therapy is used in clinical practice to prevent and treat the symptoms of prolapse. It is used as an adjunct to a vaginal pessary and also pre and post surgery for POP. A Cochrane review found only limited evidence to support the use of vaginal oestrogen therapy for prevention and treatment of POP in postmenopausal women. Further trials are required to determine the full extent of any actual risk or benefits (Ismail et al., 2010).

PFMT is another commonly recommended strategy to strengthen the pelvic floor and increase support of the pelvic organs. The aim of PFMT is to strengthen the muscles of the pelvic floor and increase support. It is used by women to manage symptomatic POP (Baracho et al., 2012; Hagen et al., 2009; J. Hay-Smith, Morkved, Fairbrother, & Herbison, 2008) and is also known to be effective in the prevention of POP (Hagen, Glazener, et al., 2014). PFMT is explored in more depth in the following section.

2.7 What does PFMT do?

In 1951 A.H. Kegel published a paper on exercises designed to strengthen the pelvic floor. As a gynaecologist he had noted that women with SUI had atrophied and weak pubococcygeus muscles, and that there was no prescribed physical therapy for this. Kegel recruited 500 women with SUI and taught them how to contract and relax the vaginal muscles. They were to alternate between fast (holding for one second) and slow (holding for 10 seconds) contractions and instructed to do this for 20 minutes three times a day for a total of 300 contractions.

As a result, 84% of women reported an improvement in their symptoms after six to eight weeks of therapy (Kegel, 1951).

In terms of exercise physiology, high resistance strength training causes an increase in the cross sectional area of skeletal muscle as a whole and also in individual muscle fibres. This is due to an increase in the size and number of the contractile proteins myofibrils. There are also changes to the structure of connective tissue and tendons, which affects the loading capacity of the muscle (Folland & Williams, 2007).

Braekken et al. (2010b) undertook an assessor blinded RCT to determine the morphological changes to the pelvic floor following PFMT. After six months, ultrasound was used to measure the length and thickness of the pubovisceral muscle both at rest and during Valsalva, the surface area of the levator ani, and the position of the bladder and rectum at rest. The study findings revealed that six months of PFMT increased muscle thickness, shortened muscle length, closed the urogenital hiatus and elevated the rectum and bladder. The authors concluded that PFMT increases the muscle thickness and strength of the pelvic floor, with a direct correlation between muscle thickness and strength (I Braekken, Majida, Engh, & Bo, 2010a)

Pelvic floor muscle strength is the strongest predictor of SUI (Baracho et al., 2012). However, during normal day-to-day activities women do not consciously contract the pelvic floor to remain continent. “Therefore, the optimal outcome of a PFM training program is to reach the automatic (unconscious) co-contraction level present in continent women”(Bø, 2004, p. 80).

While PFMT was originally developed by Kegel for the management of SUI, it is suggested that PFMT is also effective for the prevention and management of POP (Bø, 2006). However, the evidence base for this is much smaller, and is discussed below.

2.8 An overview of the literature for PFMT in POP and SUI

There are multiple studies demonstrating the effectiveness of PFMT for the prevention and treatment of SUI but significantly fewer studies about PFMT for prevention and treatment of POP. It is known that SUI and POP share a very similar etiology (i.e. a weak pelvic floor) and may co-exist (Buchsbaum, 2006). Therefore it is presumed that PFMT may be effective in the prevention and management of POP. For these reasons, studies about SUI have been included in this overview of the literature.

2.8.1 Prevention and conservative management of POP

2.8.1.1 Clinical effectiveness of PFMT for prevention of POP

The PREVPROL trial is a multi-centre, international randomised controlled trial and is, to date, the only quantitative study to determine both the clinical and cost effectiveness of PFMT for the prevention of symptomatic POP. 272 women with mild asymptomatic prolapse were randomised to receive either treatment, consisting of five one-on-one supervised PFMT sessions, and Pilates classes, or to the control group which received a lifestyle advice pamphlet only. Women in the treatment arm were offered a physiotherapy follow-up appointment at one and two years. At two years all women were asked to complete a POP symptom severity questionnaire and the resulting POP-SS score was the primary outcome measure for the study. Secondary outcome measures included; POP related quality of life, uptake of treatment for symptomatic POP, symptoms of SUI, sexual dysfunction, perceived benefits of PFMT and cost effectiveness (Hagen, Glazener, et al., 2014).

Preliminary presentation of the results of the full trial analysis show that at two years 77% of women in the intervention group were still performing PFMT, compared to 53% in the control group, and had significantly lower POP-SS scores compared to the control group. Furthermore, women in the intervention group

were more likely to report improved general wellbeing as a result of participating in the study. The results also indicate that the PFMT intervention is likely to be cost effective (Hagen, Glazener, et al., 2014).

2.8.1.2 Women's experiences of PFMT for prevention of POP

Qualitative data collected as part of the PREVPROL trial showed that some women found it difficult to incorporate PFMT into their lives particularly after the study intervention had ceased. While other women did not notice any benefit in relation to their associated urinary symptoms so stopped. One woman found that PFMT caused her pain so she stopped doing the exercises. However overall the data showed that most women experienced positive effects from being part of the trial. Comments illustrated how women felt that gaining control of associated physical symptoms (such as urinary incontinence) led to improved quality of life and sense of wellbeing Women also reported increased knowledge of the pelvic floor and POP. Increased strength and awareness of the pelvic floor led to some women losing weight and increasing their general physical activity (S. Hagen, personal communication, 29 December, 2013). Given the limited data that exists about the effectiveness of PFMT for the prevention of POP, it is of interest to find out if PFMT is an effective treatment for POP. This is described below.

2.8.1.3 Clinical effectiveness of PFMT for the treatment of POP

A Cochrane Systematic Review of RCTs of PFMT in management of POP, included four trials comparing the effects of PFMT versus control in the management of POP and two small trials assessing PFMT as supplementation to surgery compared to surgery alone. The review determined that there is some evidence to support the use of PFMT in reducing both symptoms and anatomical degree of POP, and suggested that six months of supervised training is required for the treatment to be effective. However the evidence remained limited as only one trial had sufficient quality data. More data was required to determine the effectiveness of PFMT in the medium and long term and also to determine the benefits when PFMT is used as an adjunct to surgery for POP (Hagen & Stark, 2011). Since this Cochrane Systematic Review was conducted, the Pelvic Organ

Prolapse PhysiotherapY (POPPY) trial has been completed and published. However, the Cochrane Review on PFMT is yet to be updated with the results of the POPPY trial, which will likely strengthen the Cochrane recommendations for the role of PFMT in the management of POP.

The POPPY trial by Hagen, Stark, et al. (2014) was a large multi-centered randomised controlled trial (RCT) of 447 women with newly diagnosed symptomatic stage 1, II or III POP measured by POP-Q. Women were randomly allocated to an intervention group to receive five one-on-one PFMT instruction sessions over 16 weeks, this also included education about the pelvic floor and POP. Women allocated to a control group received a POP lifestyle pamphlet and no PFMT instruction. All women were asked to complete a POP symptoms questionnaire (which included questions on symptoms and quality of life) after six and 12 months to determine a POP symptoms score (POP-SS). The results at 12 months showed that significantly more women in the intervention group (women who had undergone PFMT instruction) had a reduction in their POP-SS compared to women in the control group (women who had received a lifestyle pamphlet only). The remaining women in the intervention group experienced no benefits from the PFMT instruction and reported no change in symptoms or deterioration in symptoms. While more women in the intervention group experienced an improvement in their prolapse stage compared to the control group, this was not significant (Hagen, Stark, et al., 2014).

The strength of the trial lies in its size and design. It is also women focused with the study outcomes dependant on self-reported symptoms, which is usually the driving force for women to seek treatment (Hagen, Stark, et al., 2014). A further strength is the use of the validated POP-Q scoring system to assess prolapse stage and also the POP-SS, which is a validated questionnaire for the assessment of POP symptoms. A limitation of the trial is that it reached only 88% of its target sample size of 506. Furthermore of the 225 women allocated to the intervention group 14 were lost to follow up and 30 discontinued. Of the 222 women in the control group 12 were lost to follow up. However, the authors note that the standard deviations (SD) of the POP-SS were smaller than anticipated, such that the trial retained

sufficient power to provide robust findings. The drop-out rate between the two groups were similar (Hagen, Stark, et al., 2014)

2.8.1.4 Women's experiences of PFMT for the treatment of POP

Hyland, Hay-Smith, and Treharne (2014) sought to provide a qualitative perspective on women's experiences of performing PFMT for the treatment of symptomatic POP. The purpose of the study was to shed light on the issue of declining adherence to PFMT over time. Five women, who had previously participated in the POPPY trial, were invited to participate in semi-structured in-depth interviews. Audio recordings of the interviews were transcribed verbatim. The data was analysed using the principles of Intrepretative Phenomenological Analysis (IPA). This involved initial content analysis followed by individual and then group theme development. Three main themes were identified. The first theme was *patterns of PFME behaviour,* which describes the use of routine behaviour to establish PFMT routines. Triggers were often a way women remembered to do the exercises. The ability to do PFMT anywhere at anytime i.e. transportability, was a positive influence on PFMT as a behaviour. The second theme was *influences of PFME maintenance cycles.* This theme showed that self-efficacy was a factor in how the women viewed PFMT as a long-term health behaviour. Women were also positively influenced to do PFMT by their enjoyment of doing exercise, being a participant in the POPPY study and by relationships with health practitioners. However, overall PFMT maintenance declined over time. The third theme was *family as priority* and highlighted the significant role family plays in women's adherence to PFMT. In this study, women were likely to place the needs of their family before their own needs in terms of PFMT and POP (Hyland et al., 2014).

A limitation of this study is the homogenous nature of the sample. All of the participants in the study had undergone intensive PFMT as part of the POPPY trial, which is a level of instruction that most women in the general population do not experience. Therefore it is difficult to determine how the results may be applied to the wider population.

The researcher GH was responsible for the interviews. She had also undertaken the PFMT instruction with the women in the POPPY trial. Hyland et al. (2014) describe how this is both a limitation and a strength. The participants' interview responses may have been influenced by a desire to convey a positive PFMT outcome consistent with the aims of the POPPY study. Furthermore, the previous relationship between GH and the participants may have created a power imbalance, also influencing the responses in the interviews. However, Hyland et al. (2014) argue that the pre-existing relationship may have added a level of trust and rapport so that women were more likely to provide data with a greater sincerity and depth of meaning.

Given that SUI and POP share a common aetiology, and that the evidence base for the effectiveness of PFMT for prevention and conservative management of SUI is comparatively larger than for POP, it is important to consider the literature regarding PFMT and SUI.

2.8.1.5 PFMT for the prevention and management of SUI

A Cochrane systematic review reported that PFMT is effective in the prevention and management of SUI; however the long term effectiveness of PFMT is not yet established (Boyle, Hay-Smith, Cody, & Morkved, 2012). Women who perform PFMT experience less leakage episodes and greater quality of life compared to women in control groups and treatment outcomes were greatest when women received supervised individualized PFMT for a minimum of three months (Dumoulin & Hay-Smith, 2010; J. Hay-Smith, Morkved, Fairbrother, & Herbison, 2009).

Essential to the success of PFMT is correct teaching and the ability of the woman to isolate and contract the pelvic floor muscles (Brubaker & Sacralides, 1996; Stafne, Salvesen, Romundstad, Torjusen, & Morkved, 2012). However it seems that despite proven short-term benefits of PFME for the management of SUI, long-term success is barred by lack of adherence to a PFME regime (Alewijnse, Mesters, Metsemakers, Adriaans, & van den Borne, 2001), whereby many women struggle

to either perform these exercises correctly or perform them at all (Chiarelli, Murphy, & Cockburn, 2003).

This section on the literature regarding PFMT and POP demonstrates that there is now evidence from well designed, randomised controlled trials to support the use of PFMT for both treatment and prevention of SUI and POP. However, women's experiences demonstrate that there are issues with adherence to PFMT.

2.9 Models of health promotion

Four models of health behaviour were selected, by a process of immersion in health behaviour, literature, to provide a framework for discussing PFMT from a health promotion perspective. Pender's Heath Promotion Model (HPM) (see Figure 2-3) was intuitively chosen as the primary framework and is philosophically congruent with the aims of the current study. It is a model I know well, and has formed a consistent framework for clinical practice from the beginning of my career, to use Benner's terms, as a novice practitioner, until the present as an expert practitioner (Benner, 1984). Further more it is a nursing model developed by a nurse for nurses. The HPM is used to assess a variety of factors including an individual's background and perceptions of self in order to predict health behaviours. The entire model is based on Pender's definition of health, which is disparate from the absence of disease; the traditional medical definition of health. Pender's definition of health includes measures taken to promote good health and includes the patient's (or client's) own view of themselves and their lifestyle (Pender, Murdaugh, & Parsons, 2006). The health determinants described in Pender's HPM were useful in providing a framework to develop the interview questions for this study (see Chapter 3.3.3 Data collection).

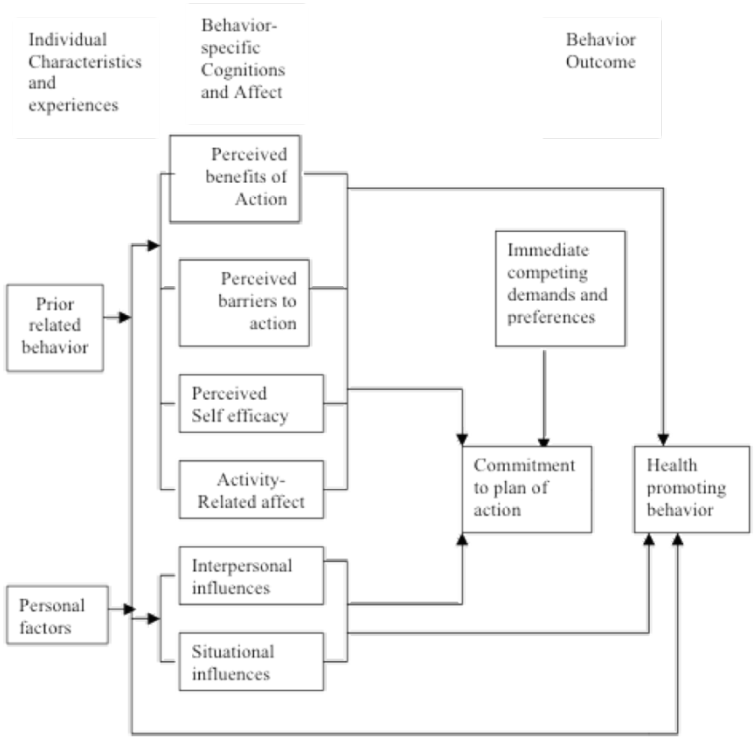

Figure 2-3 Pender's Health Promotion Model

Source: Taymoori *et al, (2008)*. *International Journal of Behavioral Nutrition and Physical Activity.* 5(18) doi:10.1186/1479-5868-5-18. Reproduced with permission.

Pender based her model on one of the first theories developed on health behaviour, the Health Beliefs Model (HBM). This model addresses in particular negative behaviours that contribute to health concerns. The HBM proposes that health-seeking behaviour is influenced by a person's perception of a threat posed by a health problem and the value associated with actions aimed at reducing the threat. This perceived threat of disease is a concept that Pender deliberately left out of her model. By not including this as a determinant towards health behaviour, the HPM focuses more on health promotion and less on illness prevention. The HPM is applied to any health behaviour and threat is not proposed as the major motivation for behaviour change (Pender et al., 2006).

The HPM has 14 theoretical propositions on which it is based. Prior related behaviours and individual characteristics including personal, psychological and socio-cultural factors influence the individual's choice to undertake a health promoting behaviour. Individuals will participate in a behaviour if they can see that

they will benefit from the behaviour. Perceived barriers will limit the individual's commitment to a course of action as well as decrease their probability of undertaking a behaviour. In contrast, perceived self-efficacy will increase commitment to action and similarly increase probability of the behaviour. An individual with a positive affect towards a behaviour will have greater self-efficacy as well as greater commitment to action. Individuals who are positively influenced by significant people around them who provide support, assistance and role model the behaviour, are more likely to commit to a course of action and participate in the desired behaviour. Significant interpersonal influences are often family, peers and health providers. Situational (environmental) influences can either increase or decrease commitment to action and behaviour. High levels of commitment to action are associated with maintenance of a behaviour over time. Competing demands on the individual and individual competing preferences will decrease commitment to action. A major assumption of the model is that individuals are capable of self-regulating their behaviour. The propositions that individuals have control over; affect, cognitions, interpersonal influences and situational influences (Pender et al., 2006)

The second model selected for this study was Albert Bandura's Social Cognitive Theory (SCT), which is a learning theory that provides a framework for understanding, predicting and changing human behaviour. It proposes that there is constant interchange between a person, the environment and the person's behaviour (see Figure 2-4). It is based on that the idea that people learn by watching what other people do, which from a practical perspective is arguably incongruent with the very private and silent nature of PFMT. Key to the theory are the concepts of self-regulation, self-direction, and perceived self-efficacy (Bandura, 2012). This model was specifically chosen as a rival theory as self-efficacy is a concept that is often discussed in the literature about PFMT and adherence.

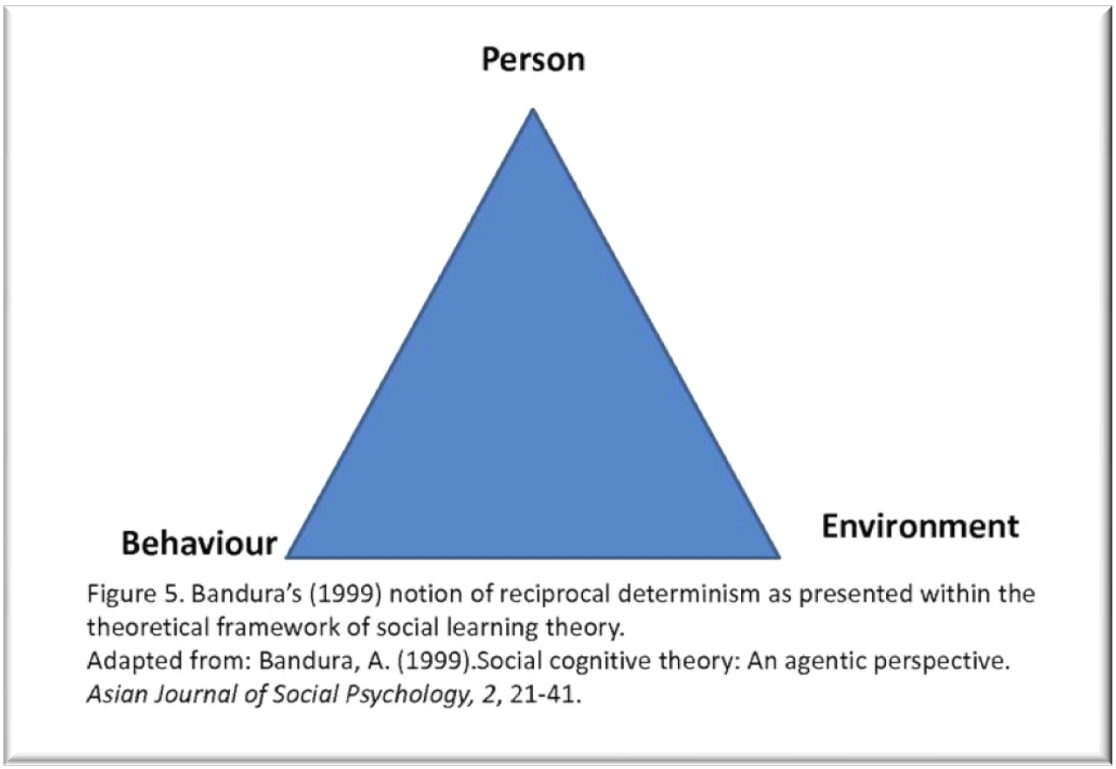

Figure 2-4: Bandura's Social Cognitive Theory

http://commons.wikimedia.org/wiki/File:Rec_determination.pdf Retrieved 28/11/14. Reproduced with permission.

Perceived self-efficacy is used by individuals to determine their ability to perform a behaviour. Then the potential negative and positive outcomes of undertaking differential courses of action are weighed up before a decision is made to enact on the behaviour. Motivation to achieve the behaviour is influenced by the potential positive outcomes of the behaviour or by avoiding negative outcomes. However, overall it is a persons perceived self-efficacy that is the key for predicting for predicting a behaviour (Bandura, 1997).

The third model chosen as a rival theory for the current study is the Theory of Planned Behaviour (TPB) (see Figure 2-5) by Icek Ajzen. This model was specifically identified as it is commonly used to explain the uptake and adherence to exercise. The TPB is based on the Theory of Reasoned Action (TRA). "Behavior is performed not automatically or mindlessly but follows reasonably and consistently from the behavior-relevant information available to us" (Ajzen, 2012,

p. 438). This is described as a reasoned action approach to human behaviour and is in this way similar to Bandura's SCT and also the HBM. When we undertake a behaviour the decision to do is based on a rationale derived from the thoughts and feelings that occur as part of the decision making process (Ajzen, 2012).

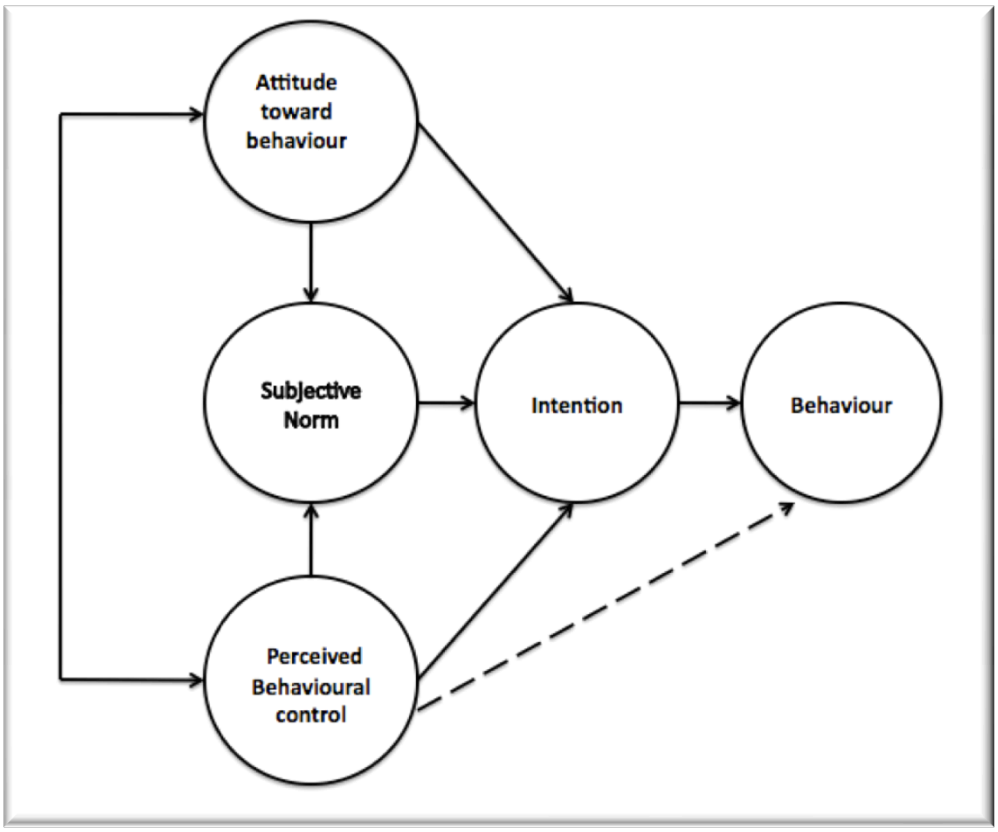

Figure 2-5: Theory of Planned Behaviour by Izek Ajzen

http://commons.wikimedia.org/wiki/File:Teorien_om_planlagt_atferd.jpg
Retrieved 28/11/14. Reproduced with permission.

TRA has three basic constructs regarding an individual's decision to perform a voluntary behaviour; *behavioural intention*, the person's *attitude* towards the behaviour and *social norms* where the behavioural intention, that is the motivation to perform the behaviour, is dependent on the individual's attitudes towards the behaviour and the prevailing social norms. Attitude is the person's beliefs regarding the behavioural outcome, and social norms are those beliefs the individual holds regarding the opinion of their peers based on performance of the

behaviour or not. If a person's attitudes and subjective norms are aligned with performing a behaviour, the stronger their intention to perform it (Ajzen, 2012). The concept of intention is central to the TRA and encompasses the degree of motivation towards a behaviour. Intention precedes behaviour and the stronger the intention, the more likely a behaviour will be performed (Ajzen, 1991).

It is widely recognised that many behaviours are not entirely volitional and there are multiple factors at play in determining the behavioural outcome (Ajzen, 2012). Azjen extended the TRA to include the concepts of actual and perceived behavioural control and this is the primary difference between the two theories. Azjen (1991) describes how performance of a behaviour can be facilitated or prevented by intrinsic and extrinsic factors which reduce the degree of volition and actual control, which is the ability of an individual to undertake the behaviour. These include having the necessary skills, knowledge and resources to undertake the behaviour, social support and affect. When there are sufficient facilitating factors to enable the person to perform an intended behaviour and overcome any barriers there is a high degree of behavioural control. A high degree of actual behavioural control means that intention predicts the performance of the behaviour. Sufficient actual control results in performance of the intended behaviour (Ajzen, 2012).

In contrast to actual control, perceived control is how the individual views their ability to successfully achieve a desired behaviour. Perceived behavioural control is closely aligned with Bandura's work on self-efficacy and affects the degree of perseverance an individual applies to complete a behaviour that is determined to be difficult. If a person believes they have the ability to undertake the behaviour, that is they have a high degree of perceived control, the harder they will persevere and ultimately succeed in the behaviour (Ajzen, 1991). Actual control can be difficult to measure and perceived control is often used as an approximate measure (Ajzen & Sheikh, 2013).

In summary, the TPB describes how the individual's attitude regarding the behaviour, normative beliefs about peer expectations around performance of the behaviour or not, and perceptions of control summate to provide intentions.

Intentions combined with actual control determine if the behaviour is performed or not (Ajzen & Sheikh, 2013).

The fourth and final model considered as a rival to Pender's HPM was Protection Motivation Theory. Protection Motivation Theory (PMT) is a fear response theory and describes three factors that prompt a fear appeal to modify a change in attitude; the severity of a noxious event, the probability that the event will occur, and the potential effectiveness of a protective response. Appeals to modify behaviour typically aim to appeal to the person's personal relevance of the event, the probability of the event occurring for them and/or how the person can protect themselves from the event. Intention then predicts behaviour (Rogers, 1975). The revised PMT incorporates Bandura's concept of self-efficacy as a fourth variable that may predict behaviour (Maddux & Rogers, 1983).

2.10 The Family Planning context

Understanding the Family Planning context is important to appreciate the theoretical proposition and aims underpinning this study. Family Planning is a charitable organisation with a philosophy of promoting positive sexual health across the life span The Ottawa Charter for Health Promotion and the Treaty of Waitangi are foundation documents on which Family Planning bases its services. (Family Planning, n.d.).

Family Planning offers a clinical service to provide a range of reproductive and sexual health services. It also has a health promotion arm providing health promotion, education and services to a range of community groups. Family Planning is also involved in advocacy for positive sexual and reproductive health both nationally and internationally (Family Planning, n.d.).

Family Planning nurses work relatively autonomously and receive intensive training and support in order to do so. There is a clear role and pathway for nurses to develop an expanded scope of practice, taking on responsibilities and procedures that typically used to be in the medical domain, for example inserting intra-uterine contraceptive devices (IUDs) and contraceptive implants such as Jadelle. There is

also a supported pathway for nurses, like myself, to work towards Nurse Practitioner registration, making services and expert care more accessible to the population.

2.11 Chapter summary

This chapter has outlined the basic anatomical and patho-physiological concepts required to understand the nature of POP and how, if symptomatic, can impact on women's day to day function and quality of life. A review of the literature has identified that PFMT is an effective, evidence-based strategy for the conservative management and prevention of POP. However PFMT requires good adherence to be effective, and it is known that women have difficulty incorporating PFMT into their daily lives even when they are symptomatic. Therefore the question remains as to what motivates asymptomatic women to perform PFMT for prevention of POP?

Chapter Three

Methodology and Methods

The previous chapter outlined the literature regarding the effectiveness of PFMT in the prevention and treatment of POP. In addition, a common finding in a number of qualitative studies of women's experiences of PFMT is that for a number of reasons, many woman find it difficult to perform the exercises with confidence, or to incorporate them effectively into their daily lives. There are currently no published studies of women's experiences of PFMT for the prevention of POP.

The aim of this study is to explore women's motivation to undertake PFMT in the prevention of POP. The intention was to take a broad view of potential internal and external factors that may influence women's decision to initiate and maintain PFMT as a health promoting behaviour. In turn this may assist primary care clinicians to facilitate women to achieve maximum benefit from this intervention, potentially avoiding progression of prolapse or severity of prolapse symptoms and possibly decrease the need for surgery.

This research employed a qualitative approach using case study methodology (Yin, 2009) to provide rich and descriptive data to address the aims of the study. It involved two cases. Each case was comprised of one or more women with mild asymptomatic POP and the health professional involved in the provision of care. Each woman was interviewed to discover the range of factors that may influence their perspective on health, and potential internal and external factors that may affect their practice of PFMT. Later the health professional who had provided treatment or advice, was also interviewed regarding their perceptions of the importance of PFMT in women's health, their degree of expertise or confidence in providing this care, and the realities of promoting pelvic health care in the primary care context. This chapter comprises a description of the research process,

including the theoretical background to the research, the methodology and design, and how the data were analysed.

3.1 Background to the research process and researcher

The research process began with my recognition of the need for primary care clinicians to assist women to achieve better pelvic health through PFMT. As I come from the Family Planning primary care background with a strong health promotion focus, I entered this project with an a priori framework for working with clients to achieve health outcomes using Pender's HPM (see Chapter 2.9 Health Promotion Models). The model promotes clients to achieve good health using a strengths based approach and avoids the use of negative reinforcement to encourage healthy behaviours. Clients utilise resources, including people, to help them achieve their goals. One such person is often the clinician (Pender et al., 2006). The following paragraph is a personal account of how I view my role as a nurse in the client-nurse relationship within the Family Planning context.

It is my responsibility as the clinician to build trust and rapport to enable the relationship to become therapeutic. Out of necessity this must sometimes occur over a matter of minutes depending on the nature of the presenting condition. I observe that the client assesses my trustworthiness by my language, tone, gestures and countenance to rapidly assess whether they can trust me with intimate information and, as occurs frequently in the Family Planning setting, often an invasive and potentially embarrassing examination (such as a pelvic examination). Equally, I must interpret the client's demeanor for signs of trust, pertinent emotions and understanding. I then use this information to modify behaviour to suit the needs of the client in that consultation. Recognising the underlying mechanics of how we interact is an important aspect of how I practice clinically and this clinical perspective has inherently driven the overarching theoretical perspective of the current research, that of symbolic interactionism.

Symbolic interactionism is a term first expressed by the philosopher Herbert Blumer in 1969. He was a man heavily influenced by pragmatist philosophy, particularly the symbolic interactionist approach of George Mead (Blumer, 1969;

Crotty, 2002; Shalin, 1986). Symbolic interactionism describes an approach to the study of how humans behave in relation to each other (Crotty, 2002) and it suggests that humans are not only products of society but are active contributors to how their society is constructed. That is, the individual and society are mutually and dynamically inter-dependent. Furthermore, the way in which individuals interpret the behaviour of others is significant as a means of understanding the way in which the world is socially constructed (Crotty, 2002).

Symbolic interactionism is based on three premises. First, an individual's behaviour towards any given object or person is driven by the meaning that the object or person holds for the individual. Second, the meaning attributed to the object or person arises from the social interaction that the individual has with his or her peers (Blumer, 1969). In other words, meaning is derived from social interaction, and the social context within which people interact is significant for both their interpretation of the behaviour of others and the way they themselves choose to behave at any given time (Crotty, 2002). Third, an individual uses an interpretive process to manage and modify these meanings. This process is a form of self-interaction where the individual then determines a given course of action based on what he/she decides to do, or that is expected in the given social situation (Blumer, 1969). Therefore "human interaction is mediated by the use of symbols, by interpretation, or by ascertaining the meaning of one another's actions" (Blumer, 1969, p. 79).

As previously mentioned in Chapter one, Pender's HPM was used as a framework for the research, for example it assisted in the development of the interview questions. The model is congruent with symbolic interactionism; that is, behaviour is understood against the backdrop of culture and society. The interview questions focused on women's perceptions and interpretation of PFMT as part of pelvic health, and the wider health arena. Relationships with family and intimate partners and how these influenced (or not) women's motivation to perform PFMT was also explored, as was the experience of working with clinicians within the context of POP and PFMT. Furthermore, in this research the participants and I are described as social actors within the context of women's health and specifically PFMT. My

role in the study was multifaceted as a woman, a researcher and a nurse working towards NP registration.

From a research perspective, an interaction between the researcher and the participant is inherently symbolic because language and other means of communication that we use to interact are symbolic tools. It is only through talking that we can come to appreciate another's feelings, attitudes and perceptions and then through an interpretive process understand the meaning and purpose of the interaction (Crotty, 2002). The purpose of the research is to explore women's motivation to perform PFMT within the context of their wider health and health experiences, relationships with friends and family, and the social norms and attitudes of the society in which they live. However, the challenge was to accurately interpret and synthesise their stories to reflect this. This required thoughtful development of interview questions appropriate to the aims and theoretical perspective of the study.

I chose to use case study methodology to provide rich and contextual data to address the aims of the research, which are descriptive and directed at exploring the complexities of women's lives and their experience of interactions with primary care clinicians about POP and PFMT. As Rubin and Rubin state "qualitative research is not simply learning about a topic, but also learning what is important to those being studied" (Rubin & Rubin, 2005, p. 15).

3.2 Design

Case study methodology "allows investigators to retain the holistic and meaningful characteristics of real-life events"(Yin, 2009, p. 3). It is a tool to provide in-depth descriptive qualitative data about a given phenomenon or issue in its real-life context, and also the relationships between the issue and the context. The use of case study methodology allowed the freedom to select the social actors required in the study, to choose contrasting participants that would potentially show disparate characteristics with respect to motivation in performing PFMT and other health promoting behaviours.

There are five important elements in the design of a case study inquiry which are; formulating the study's question, developing the research proposition, defining the units of analysis, deciding how to link the data to the proposition, and finally determining criteria for interpreting the study's findings, which includes considering rival explanations (Yin, 2009).

First, much thought was given to the study's question; *how and why do women with mild asymptomatic pelvic organ prolapse engage with pelvic floor muscle training in a primary care setting?* Case study methodology is concerned with how and why a phenomenon occurs within its context (Yin, 2009). The question was based on a desire, as a clinician, to understand the reasons why some women choose to perform PFMT while others do not. Finding an answer to this question will hopefully assist clinicians to enable women to undertake PFMT as a life-long health promoting behaviour. Next, a proposition was developed to narrow the focus and lead the research in a purposeful direction (Yin, 2009). The proposition was expressed as; *there are internal and external influences that affect women's choices about performing PFMT, and it is the way that these influences are motivating or not that affect their choice. Influences may not be the same for every woman and nor is the degree to which they may, or may not, act as a motivator.* The framing of the proposition, in terms of internal and external influences, is congruent with Pender's HPM.

Having formulated the proposition, the unit of analysis was decided (which defines what constitutes the case) (Yin, 2009). In this study there were two cases. The primary care/Family Planning case was comprised of a Family Planning client opportunistically identified with mild asymptomatic prolapse, and the Family Planning doctor who identified her. The second case, the research/primary care case was comprised of two women selected from the PREVPROL study and the research physiotherapist who provided the PFMT. The two women with POP were selected to reflect different levels of adherence to PFMT.

The fourth step was to consider how the data were to be linked to the proposition (Yin, 2009). This involved coding of the verbatim transcripts and mapping the coding to Pender's HPM. This step is explained fully in the section on data analysis (see section 3.3.4 on data analysis).

The final step in the design process was to determine the criteria for interpreting the study's findings. Important to this step is to consider rival explanations for the findings (Yin, 2009). Alternative models to Pender's HPM (Pender et al., 2006) were identified in the health promotion literature on PFMT, adherence and exercise. These models were Bandura's SCT (Bandura, 2012), Ajzen's TPB (Ajzen, 1991) and PMT (Ruiter, Abraham, & Kok, 2001). The results of the current study were interpreted within the context of these models to provide potential rival explanations for the findings.

3.3 Methods

3.3.1 Approval and consultation

Prior to recruitment, approval was gained from the University of Otago Health Ethics Committee to use human participants in the research (Appendix 1). A particular ethical issue was that I consider my dual role as clinician and researcher. This led to the decision to exclude myself or other Family Planning nurses from the recruitment of the Family Planning woman participant and instead request that a clinic doctor perform this role. In my Family Planning role as the Locality Nurse Advisor I am responsible for the management of other nurses. In asking a nurse to recruit a participant, I may have placed the nurse under pressure to do this due to potential power imbalance. Approval was also granted from Family Planning to recruit a Family Planning clinician and client (Appendix 2).

As part of obtaining Ethics Approval, approval was also gained from Health Research South (Appendix 3), as even though the PREVPROL participants were no longer patients at Dunedin Hospital, they were when initially recruited for the PREVPROL study. In addition approval was gained from the Scientific Peer Review Committee of the Department of Women's and Children's Health at The

University of Otago (Appendix 4). This was to ensure the rigour of the study design.

Also part of the Ethics process, and that of being an ethical researcher, I undertook Māori consultation (Appendix 5). At the beginning of the research process I was not able to predict if there would be Māori participants in the study. However the Māori Consultation Committee felt that the results of the study would be relevant to Māori and requested that the findings be disseminated to Māori health organisations.

3.3.2 Sample and recruitment

The concept of traditional sampling used in other designs, where the size of the sample is important to determine the power of the study, cannot be applied to case study methodology. The results of the study are not intended to be statistically generalisable to the wider population. In fact if this was true then the number of variables inherent both within the phenomenon and its context would render the project so statistically complex it may defy interpretation. Instead of statistical generalisation, case study methodology employs analytic generalisation where the findings support or refute a previously described theory. Two cases significantly increases the analytical power of the study (Yin, 2009). A single case is considered analogous to a single experiment and multiple cases are viewed as replication of findings. The cases in the current study were intended to provide direct comparisons between women who were aware (or unaware) of PFMT or who engaged (or not) with PFMT i.e. theoretical replication (Yin, 2009). If the data revealed clear differences in the way these women managed their pelvic health then this constituted a strong criteria to link the findings to the study proposition.

The participants for case one were sought from the Family Planning context. A Family Planning doctor was approached by me to invite participation, and a participant information sheet was provided (Appendix 6). After the doctor had had time to review the information I offered her the opportunity to ask questions. In agreeing to take part in the study the Family Planning doctor signed a consent form (Appendix 7) and agreed to; a) identify a woman client who had asymptomatic

POP and introduce the study to her, and b) be interviewed later about providing care for the woman.

The case also included a woman that the doctor identified, during the course of her usual clinical history taking and examination, as having mild asymptomatic POP. The doctor invited the woman to consider being involved in the study and provided her with a participant information sheet (Appendix 8). If the woman agreed to consider being involved she was advised that she would receive a follow up telephone call from me in the following few days. When the Family Planning doctor had verbal agreement of interest in participation from a woman, I then called her, addressed any questions, and with verbal consent to take part arranged a date for the one on one interview. In fact the first woman the doctor identified and approached agreed to participate, and so this process did not need repetition to recruit a Family Planning participant. At the start of the interview the woman was able to talk through the participant information again and had the opportunity to ask questions before signing a consent form (Appendix 9). She was advised that she could withdraw from the study at any stage without repercussion.

Case two involved the PREVPROL trial participants. Two potential participants from the PREVPROL study were identified by a PREVPROL research assistant at the Department of Women's and Children's Health, University of Otago. The sampling criteria was to select one woman whose PFMT diary data suggested she had actively engaged in PFMT, and another woman who appeared to have undertaken little PFMT. The PREVPROL research assistant contacted these women by telephone and asked for their consent to be approached by me regarding their involvement in the present study. If they agreed, a participant information sheet (Appendix 8) was posted and I contacted the women by telephone to follow up on their initial interest in taking part. Once the woman confirmed her interest then an appointment was made for a one-to-one interview. Prior to the interview I guided the women through the participant information sheet allowing opportunity for questions. If still interested in participating they were then asked to sign a consent form (Appendix 9) before proceeding to the interview. Again participants were advised that they may withdraw from the study at any time with no repercussions. The PREVPROL physiotherapist who had provided the PFMT

treatment for these women was approached directly by me. She was also provided with a participant information sheet (Appendix 10) and informed consent was sought and given (Appendix 11).

The PREVPROL women had all met the inclusion criteria for their involvement in PREVPROL and both had received the same number of clinic appointments for PFMT instruction and lifestyle advice. However, the experience of the woman recruited from Family Planning with regards to PFMT was unknown. At recruitment the three women were known to have in common only the fact that they all had mild asymptomatic POP.

Basic demographic data for the two PREVPROL women was obtained by a PREVPROL research assistant from the PREVPROL data. This was done with permission from one of the PREVPROL researchers. For the Family Planning woman demographic data was collected by the Family Planning doctor with permission from the Family Planning Research Committee. To protect the confidentiality of all participants, names are pseudonyms.

3.3.3 Data collection

The purpose of in-depth interviews is to provide data that allows participants to describe, explain and provide examples of a personal experience such that the researcher can come to understand the experience from the participant perspective (Rubin & Rubin, 2005). Brinkman (2013) states that interviews are a superior qualitative technique when the purpose of the study is to understand how a person experiences a given phenomenon

I developed interview schedules (Appendix 12) in consultation with my supervisors (JHS and GHS) to ensure the questions were broad and appropriate to the aims of the research. Pender's HPM was used as a foundation for the questions, which had a clear health promotion focus. The precise phrasing, nature and order of the questions was not determined in advance, but depended on the participant's background (such as whether they were a clinician, participant or client) and the way in which the interview developed. I understood that no two conversations or

conversational partners would be the same and that the questions must be modeled on the participant's experience and the degree to which they were willing to share personal information (Rubin & Rubin, 2005). Prior to the interview with participants I conducted two practice interviews, one with each of my supervisors (JHS and GHS). The purpose of this was for me to familiarise myself with the necessary interview skills to ensure that the subsequent interviews provided data that was rich, contextual and relevant.

Interviews were conducted at a site and a time that was mutually acceptable to both the participant and the researcher. Women were offered a variety of options including their own home or work place, or on the premises of the University of Otago. The Family Planning doctor chose her work office. The PREVPROL researcher agreed to visit me in my work office. The three women participants all chose to conduct the interview in their own homes and for two of these participants their husbands were also present. I did not check if the husbands were there as support people or if their presence was merely arbitrary. However, their presence potentially influenced the course of the interview, and, in both instances the husbands verbally participated and provided comments that were relevant to the interview questions. I did not gain verbal or written consent to use their comments in the analysis of the data and considered that consent was implied. None of the husband's verbatim comments were used in the presentation of results.

Given that the three patient/client participants were unknown to me it was important to make the women feel immediately comfortable in order that they could share personal information with me. The intention was to create a safe and open space for dialogue that was filled by the woman. My role was to facilitate this space and to tease out salient and interesting points provided by her. As I already knew the PREVPROL physiotherapist and the Family Planning doctor there was a pre-established sense of rapport for these two interviews.

Each of the five interviews began with an appreciative thank-you for participating in the study. An explanation was provided regarding the recording of the interview and the collection of written notes that would remind me to clarify or explore further a salient point raised during the course of the interview. Written notes also

included information on body language or nuances that were not necessarily captured by an audio recording alone. Each interview lasted approximately 60 minutes. At the conclusion of the interview I thanked the participant for her contribution and for her time. Verbal permission was sought to provide each participant with a written summary of the analysis of her data.

Upon completion of each interview I took time to reflect on the interchange and add any important information to the field notes, as well as a summary of any information provided by the participant once the audio recording was switched off. I also reflected on how the interview was conducted and considered any changes to the nature or approach to the design of the interview. These reflections were noted in a log-book.

During the interviews I used reflective listening to check that my immediate interpretation of the women's responses were a true representation of what she had told me. For example when a participant described her experience of learning PFMT my immediate impression was that she found it simple to isolate the muscles. To check this was correct I shared my impression with her and asked for verification. Each participant was provided with a one to two page written summary of their interview (Appendix 13). The purpose of this was so that participants could verify that I had correctly perceived the meaning of the information they had provide. Only the PREVPROL physiotherapist, the Family Planning doctor and the Family Planning client responded to my request. Each of these participants reported that they agreed with the summaries and made no suggestion for change.

3.3.4 Data analysis

3.3.4.1 The analytic strategy

An overarching analytic strategy is important in case study methodology to develop a logical flow of ideas that draw wholly on the data (Yin, 2009). In this study the analytic strategy was to follow the case proposition which is based on the theory of Pender's HPM. In applying the data to the theory I was looking for both how and

why women chose to initiate and maintain PFMT (or not) specifically within the context of the components of Pender's Model. For example, how and why interpersonal relationships or situational influences impact on women's choices regarding PFMT. Thus the initial data analysis of each case is presented in the results under the three main headings of Pender's HPM; *individual characteristics and experiences*, and *behaviour specific cognitions and affect* and *behavioural outcome*.

The research was situated with the wider sexual and reproductive health context of each case. Therefore many of the interview questions were developed in order to elicit women's general health experiences. For example, I elicited information about prior health promoting behaviours such as smoking cessation attempts. In addition, my observations of participant's personal factors such as their environment, their confidence in interacting, and the way in which they presented are described. The completed data were presented and analysed using the strategy of case description which allows for a descriptive approach to the data analysis (Yin, 2009).

3.3.4.2 The analytic techniques

The first data analysis technique used was that of explanation building, which is to explain how or why a given phenomenon occurs, where the explanation reflects a theory-based proposition (Yin, 2009). In the current study the framework for explanation building is Pender's HPM, specifically, the way in which the components of the model interact to explain how or why a woman's decision regarding PFMT was influenced by any of the components of the model.

Building the explanation began with verbatim transcription of the recordings; transcription immerses the researcher in the data and is considered part of the analytic process (Brinkman, 2013). During the transcription process certain transcription conventions were applied; '/' indicated overlap by another speaker, and '–' indicated an untimed pause. While the original transcription was verbatim, extracts of the transcripts used in the presentation of results may have had material removed for ease of reading and this is indicated by '…' . In these circumstances

care was taken to ensure the meaning of the material was not lost or significantly altered.

The transcripts were matched with any non-verbal cues collected in the accompanying field notes. During the data analysis attention was given to the use of verbal and non-verbal language that the participant used to convey meaning about her choices regarding her general health and PFMT, and how I interpreted what that meaning had for her within her social context. Each interview was transcribed as soon as practically possible. Interviews were separated by two to three weeks to allow the researcher to transcribe and be immersed in one participant's data before moving onto the next participant. Confidentiality was maintained by using pseudonyms or deleting other identifying information such as names of spouse, children, or workplace.

The next step was the within case analysis. Each verbatim transcript was printed in hard copy with large margins on either side of the page. The left hand margin was used to highlight meaning units within the transcript, and each phrase could represent one or several meaning units. Once this was completed the right hand margin was used to identify recurring ideas or commonalities amongst the meaning units; codes were developed to illustrate key concepts relevant to the proposition. The coded data for each transcript were grouped into meaningful broader groups according to how the codes interacted with respect to Pender's HPM and to each other (refer to Table 3-1 for an example of deductive analysis).

Table 3-1: Example of deductive analysis – Louise's requirement for good health

Transcript data	Meaning unit	Code	Category	Pender's Model Component
…if I wasn't a 100% well… running around after all my children yes. Well.	100% function is good health	Definition of good health	Personal factor	Individual characteristics and experiences
	Good health is necessary for the needs of her family		Perceived benefits of action	Behaviour specific cognition and affect
	Life is busy		Perceived barriers to action	Behaviour specific cognitions and affect

Analysis included deductive and inductive components. The assignment of meaning units and codes was inductive and the mapping of data to Pender's HPM was more deductive. Deductive, also known as directed, analysis is driven by an existing theory or concept regarding the phenomenon of interest. "The goal of a directed approach to content analysis is to validate or extend conceptually a theoretical framework or theory" (Hsieh & Shannon, 2005, p. 6). Where meaning units and codes did not map clearly to Pender's HPM the process became, again, more inductive. Inductive analysis is commonly used where little is known about a given phenomenon. Researchers using this method enter the analysis without pre-empting what the data may tell them and instead allow the data to drive potential codes and categories (Hsieh & Shannon, 2005). However, the process of inductive analysis must still occur within the context of the study's theoretical stance (Braun & Clarke, 2006). (See Table 3-2 for an example of how inductive analysis was used in the current research).

Table 3-2: Example of inductive analysis – Mary's journey of getting her hip surgery

Transcript data	Meaning unit	Code	Group	
They [the public hospital system] muck you up. So I would go straight to the specialist straight away.	Negative experience of public health care	Perception of a specific health journey	Health experiences	Did not fit with Pender's HPM as it was specific health experience not related to PFMT or exercise
	Positive experience of private health care			

At this point in the analysis, within case analysis continued by examining the data across each of the participants one case at a time. This was achieved by amalgamating the data from each step of the analysis from each participant according to Pender's HPM into a word document. Key similarities and differences were identified according to the model and the study proposition.

The second analytic technique used in this case was cross case analysis. This technique allows for the data across the cases to be compared and contrasted to allow conclusions to be drawn regarding the theoretical proposition (Yin, 2009). In this study the data from the cross case analysis were presented as a table demonstrating how the data from the two cases reflects the theoretical proposition and the components of Pender's HPM. Key influences on women's decision to perform PFMT were identified from the data, and whether these influences were motivating (or not) with respect to the women's decision to undertake PFMT.

Throughout the analysis a reflexive attitude was taken whereby it was necessary to move backwards and forwards through the data to view it from the perspective of the different roles I hold in this study, i.e. a woman, nurse and researcher. In essence the analytic lens of this study was Pender's HPM within a clinical nursing context. This provided the data with a nursing focus and helped to draw findings that will increase nursing knowledge regarding prevention of POP. The findings of the analysis are presented in the following chapter.

Chapter Four

Results

This research involves two cases. The first case came from the primary care Family Planning setting and comprised one clinician (a Family Planning doctor) and one woman who was opportunistically identified by the doctor as having a mild asymptomatic POP. The second case (from a primary care research setting) involved two women who were participants in the intervention arm of the PREVPROL trial and the research physiotherapist who provided the PFMT for the trial. The physiotherapist provided the treatment in the practice where she worked, which was a primary care setting. The purpose of interviewing clinicians was to understand the clinician's interpersonal influence of their attitudes and beliefs about health, health promotion and PFMT, on their interaction with the client/patient within the situational context of the clinical setting.

The data from both cases were analysed within the framework of Pender's HPM in order to address the research proposition, which was*; there are internal and external influences that affect women's choices about performing PFMT, and it is the way that these influences are motivating or not that affect their choice. Influences may not be the same for every woman and nor is the degree to which they may, or may not, act as a motivator.* Reporting of each case begins with a case description, which presents the data regarding the wider health and socio-cultural context. The case descriptions include my observations of 'personal' details (such as the participant's home environment) and these are not intended as a judgment. Rather, I sought to provide data that were directly relevant to understanding two major concepts of Pender's model (personal factors and prior related behaviour). Each case description is followed by reporting of the participant's PFMT specific thoughts and feelings, and the role of the clinician. After both cases are considered separately I explore the proposition in cross case analysis.

4.1 Case one: primary care/Family Planning

4.1.1 Case description

Mary, identified by Glenda (the Family Planning doctor) as having a mild asymptomatic POP, was the third person I interviewed. Before visiting Mary I knew that she was aged in her fifties and identified as New Zealand European. I visited Mary at her home in the evening. It was a cold, dark and rainy night and as I walked up the well-kept path to her house I could see that inside it looked bright, warm and inviting. When I knocked on the door Mary's little dog came to the door barking and was a constant companion to her throughout the interview. Mary was wearing slippers and a smart looking dressing gown over casual and tidy clothes. She was well spoken, confident and welcomed me into the house, which was warm and well furnished.

Mary quickly acknowledged that that she did not really know why she had agreed to participate in the interview. This made me feel a little anxious and I sought to clarify with her that she was free to withdraw from the interview. However, Mary agreed to continue and it seemed that one of her main reasons for doing so was that the interview was likely to benefit other women. On reflection I wondered if her initial reluctance to participate might have been related to a sense of anxiety about being asked personal questions by a stranger. However it seemed she soon became more at ease and I felt rapport was established between us.

We sat at her kitchen table adjacent to each other and I sensed Mary felt initially awkward about the recording device. However, it did not take long for the conversation to flow freely. There did not appear to be anyone else in the house at the time of the interview and Mary did not mention a partner or spouse. She did however talk about her two adult children who have left home. This indicated that Mary did not have the immediate competing demand of family to potentially decrease motivation to perform PFMT.

Mary had recently left her job and indicated that this was because she did not get the employment conditions she wanted. There did not seem to be any financial

concern about this and Mary indicated that she was going to use the time to focus on her fitness and wellbeing. She had undergone hip surgery in the past year and was able to pay for this privately. My first impression of comfortable financial circumstances (formed when I approached her home) was substantiated.

From Mary's account it seemed that the chronic pain she experienced prior to her hip surgery was her only major health issue to date. The process required to get surgery was problematic for Mary, and involved a number of conventional and complementary health providers. She spoke about having to "demand" a X-ray from her GP indicating personal psychological factors of self-esteem and confidence. She was subsequently informed by her GP and the public orthopedic specialists that she was not debilitated enough to get surgery under the public system. She reported she was told "we're not even looking at you, you're not coming in here on two sticks". Mary immediately decided to be seen privately. The surgeon told her that the hip "was a total mess" which provided a validation to Mary that she had made the right choice. It was evident that Mary had a high regard for the care that she received through the private health care system and this positive experience led her to the conclusion that private health care providers and specialists provide better care compared to the public system. She had subsequently lost faith in the public health care system.

Mary expressed strongly her view that her health was a priority and she was committed to undertaking health promoting behaviours to achieve good health. Underlying this view was a belief that it is an individual's responsibility to take care of their own health. The reason she came to be involved in this study was because she presented for a routine cervical smear, one of several screening tests Mary participates in, as she understands the role of screening in early detection. Mary was oriented to healthy food choices and maintaining her fitness through exercise. She attributed her current attitudes to an emphasis on healthy foods and exercise as a child. She has continued these health behaviours into adult life and they were passed on to her children, who she says are even more motivated about diet and exercise than she is.

Mary talked of herself as generally a fit and well person with no hypertension, diabetes or hyperlipidaemia. She was not a smoker. These personal biological factors were congruent with Mary's efforts to be and remain a 'healthy' person.

The other participant in this case was Glenda, the Family Planning doctor, who identified Mary as having POP (asymptomatic) opportunistically during an appointment for a routine cervical smear. Glenda is a colleague with whom I work in both the Family Planning clinic and in student teaching. Through my association with Glenda I knew that she was aged in her early sixties and probably identified as New Zealand European. Glenda enjoys the combination of clinical and academic work as she values the learning opportunities that come with teaching and research.

Our interview took place one Tuesday morning in Glenda's office. Glenda's office was sunny, tidy and private with the paraphernalia associated with academic teaching. Glenda was wearing smart casual clothes and welcomed me into her office apologising for her cold, and hoped it would not affect her ability to do justice to do the interview. The atmosphere was relaxed, probably because we knew each other and it was my final interview, so I felt confident and curious to hear what Glenda had to say. We sat adjacent to each other at her desk on which she had a number of student assignments for marking, and had obviously been in the middle of this when I arrived.

Glenda was articulate, well spoken, and throughout the interview she took time to carefully consider her answers before replying. While she did not use her hands or body to communicate much, her facial expressions were vivid. Glenda conveyed a clear interest in women's health and a genuine concern for the needs of individual clients. The impressions I had of her in the context of the interview were consistent with my observations of her in our shared clinical setting.

Glenda discussed her views on the role of the Family Planning clinician in health promotion. She spoke about the clinician's role in imparting health promoting information to clients and encouraging and supporting them. Equally, in her view, clients need to be motivated to work on the behaviour change themselves. Glenda believed her role is to support women with their health promoting efforts and her

philosophy of care is to work alongside women. She felt that health professionals have a powerful influence on how clients perceive a health issue and how they learn to manage it. Glenda noted that clinicians are potentially limited in the amount of health promotion they provide by a lack of time in their consultations.

4.1.2 Examining the theoretical proposition in case one

4.1.2.1 Individual characteristics and experiences

Pender postulates that a person's experiences of similar or directly related prior behaviours and a range of personal (biological, psychological, and socio-cultural) factors influence their decision to undertake the health promoting behaviour of interest (Pender et al., 2006) (see Chapter 2.9 Models of Health Promotion).

Mary's general good health, and underlying personal biological factors, were potentially a positive influence on her adoption of a new health promoting behaviour such as PFMT. While Mary's age does put her at risk of POP, as does her ethnicity (see Chapter Two, section 2.3.6), she had few (if any) other chronic health conditions that required her attention. Mary had dealt successfully with her previous chronic hip condition, from which she described an excellent recovery.

Mary's definition of health and perspective on her own health status was a positive psychological influence on her motivation for health promoting behaviours. Mary had a broad definition of health stating, "I think it includes everything; body, mind and spirit." She also expected to be healthy and saw this is the "normal" state of being. Mary felt it was important to undertake a range of activities to maintain her health and this included physical exercise, good diet, screening tests, but also movies, theatre, music, travel and contact with people for her mental health. Mary described her health as excellent, and while she had not previously maintained a regular exercise regime she was generally an active person and valued health. She said; "the bottom line is your health, it's got to be good." More than once Mary stated that she was motivated by the desire "to be 100 percent" in terms of her health. Mary believed that individuals have to take responsibility for their own

health and stated; “Because you’ve really got to be sensible don’t you. You can’t expect other people to be picking you up all the time.”

Since leaving her job Mary had made health her priority. By the end of the interview Mary explicitly expressed her intention to include PFMT as part of her commitment to good health. Both Mary’s prioritisation of health and her intention to do PFMT are personal psychological motivating factor in Pender’s HPM and her intention means, according to the Ajzen’s TPB, that the behaviour is more likely to ensue. Mary also demonstrated a high level of personal agency towards health promoting behaviours in general. According to Bandura’s SCT, this means she is also likely to undertake the behaviour.

Mary’s understanding of good health was that you can do whatever it is that you want to do without restrictions. She spoke of the disabling effects of her hip related pain and how surgery the previous year had a life changing effect, freeing her of the restrictions that pain imposed on her life and everyday activities. She also displayed a high degree of personal agency in facilitating the surgery for herself. My observation of Mary was that she had good levels of self-esteem. She also appeared confident and articulate. She was an active and engaging discussant in terms of her health and asked questions about PFMT and POP. Mary’s definition and perspective of health are intrinsic motivating factors that would support Mary in adopting PFMT as a health promoting behaviour.

In contrast, a potential de-motivator (for Mary’s adoption of PFMT) was that Mary was disturbed about being advised of the opportunistic finding that she had a mild prolapse. She said; “Well I wasn’t very pleased to hear that, I thought I was OK. I thought oh, blow. Another thing. Gosh, had enough”. My perception of this statement was that she had worked a great deal on recovering her health and mobility following surgery and did not feel ready to tackle a further health issue at this point. It is also possible that Mary was focused on achieving the cervical smear (the purpose of the appointment), which I have observed takes a degree of emotional and psychological effort to participate in the examination and anticipate the result. Mary expressed relief during the interview regarding her normal cervical smear result; “Well at least they didn’t ring me up because there was something

wrong with the smear so I'm pleased about that." Mary's initial reaction to POP constituted a personal psychological factor that Pender predicts would possible decrease her motivation to perform PFMT.

I observed from Mary's surroundings and from particular things she told me (for example enjoying travel and theatre) that she was comfortably able to meet the financial demands of everyday life and enjoy some discretionary spending. Education and income are socio-cultural factors, positively correlated with achieving a health behaviour in Pender's HPM and Ajzen's TPB. Education (both formal and health related) and resources (such as money and time) faciliate access to health promoting activities such as healthy food choices and engagement in exercise (Ajzen, 2012).

While POP was an unexpected diagnosis for Mary, Glenda considered POP was a likely consequence of childbirth and that it is common and 'normal'. In doing so Glenda's view suggested that perhaps clinicians normalise POP. However normalisation of POP in the clinical setting may not lessen the taboo nature of genitally-related conditions in social contexts. Glenda felt women may learn about POP and PFMT through participating in research about PFMT, and also through midwives but not generally through family or friends. She said;

> They might have an awareness through the Women's Weekly…but whether they share…their own situation with their group, they might not.

Mary was adamant she had never discussed POP or PFMT with family or peers and when asked if she had ever discussed it with her Mother she replied "certainly not". The way in which PFD is perceived in society has a bearing on women's attitudes towards, and potentially creates a silence around, both PFD and PFMT. If woman are not asked about pelvic health or they do not volunteer their concerns, then PFD may well continue to be a silent condition. Glenda illustrated this in the following way;

> It can be a hidden thing and especially if it leads to continence problems and leakage and smells and…bladder or bowel you know? Then it can become a bit of a taboo thing too.

By limiting awareness and open discussion amongst women, both social silence and taboo about PFD are extrinsic socio-cultural factors that potentially decrease women's ability to actively engage in seeking information and gaining skills for PFMT. The end result is de-motivation towards achieving PFMT as a health behaviour.

Another possible extrinsic motivating factor to undertake PFMT is the socio-cultural influence of aging. Mary did not appear to have a negative view of aging; she considered that with age differing health issues would arise and need to be managed, including maintaining a strong pelvic floor. Mary stated "well, they [pelvic floor muscles] just get slacker as you get older…its part of keeping up with things as you get older"

It seemed that Mary had a rather pragmatic approach to the consequences of aging and saw PFMT as a way to be prepared for the effects of age.

Moving onto the influence of the individual's experiences of similar or directly related behaviours, it was clear that until Mary presented to Family Planning for her cervical smear she had not heard of POP and reported that she had never done PFMT. She stated "I've never done any pelvic floor exercises. Why would you? [we both laugh]. No one told me." Mary rhetorically questioned how women, asymptomatic for PFD, without being advised of PFMT would know to do them. She said "if you're just being a natural person just going through your life, you wouldn't would you?" So for Mary, as she was not experiencing any symptoms and no one had advised her to do PFMT she wondered why or how she would know to do it. Further, there was "no reason to do it." Thus the absence of prior experience of PFMT as a health behaviour had a direct and negative influence on PFMT as a current health behaviour. However, the overall context for exercise to promote health was in favour of Mary adopting other exercise behaviours (such as PFMT) as she did have previous positive experience of exercise for general fitness and spoke of her plans to increase her exercise regime to recover her mobility following her surgery.

Since leaving her job Mary had made health her priority. By the end of the interview Mary explicitly expressed her intention to include PFMT as part of her commitment to good health. Both Mary's prioritisation of health and her intention to do PFMT are personal psychological motivating factor in Pender's HPM and her intention means, according to the Ajzen's TPB, that the behaviour is more likely to ensue. As seen in the case description Mary also demonstrated a high level of personal agency towards health promoting behaviours in general. According to Bandura's SCT, this means she is also likely to undertake the behaviour.

Glenda demonstrated how she uses women's experiences of prior related behaviour (of PFMT) and understanding of POP to support the adoption and/or maintenance of PFMT. She felt that parous women (by virtue of their experience of childbirth), potentially have an understanding of how POP is caused, as they can understand the physicality of birth and what occurs to the pelvic anatomy. In discussing POP with me, Glenda described how existing knowledge of the function of the pelvic floor and PFMT gained at the time of childbirth, albeit some time ago, can be drawn upon to facilitate understanding of POP and PFMT in later life. She felt that in this way the diagnosis of POP and discussion of PFMT is not something that is new and potentially worrisome, but rather it is an extension of the prior behaviour and existing knowledge gained. However, as already demonstrated, Mary did feel concerned about the POP diagnosis and did not have adequate knowledge about PFMT to develop it into a health promoting behaviour. For Mary this was negative motivating factor for PFMT.

The influence of personal factors and prior related behaviours on motivation for PFMT for prevention of POP in case one is summarised in Figure 4-1 on page 57. Mary's clear orientation towards health, her enjoyment of the benefits of good health, her sense of agency in her ability to maintain her health, and seek out necessary (and the best possible) treatment for a prior health problem were probably all factors that provided a positive environment in which to consider adopting another health promoting behavior. However, May was somewhat taken aback and experienced some dismay when it became clear she had a previously undiagnosed POP and the prevailing social norm of silence around sexual and reproductive health meant that she had almost no knowledge or experience of

PFMT. The closest experience Mary could draw on was her successful rehabilitation following her hip surgery; however, this was exercise as 'treatment' rather than 'exercise for 'prevention' of a condition.

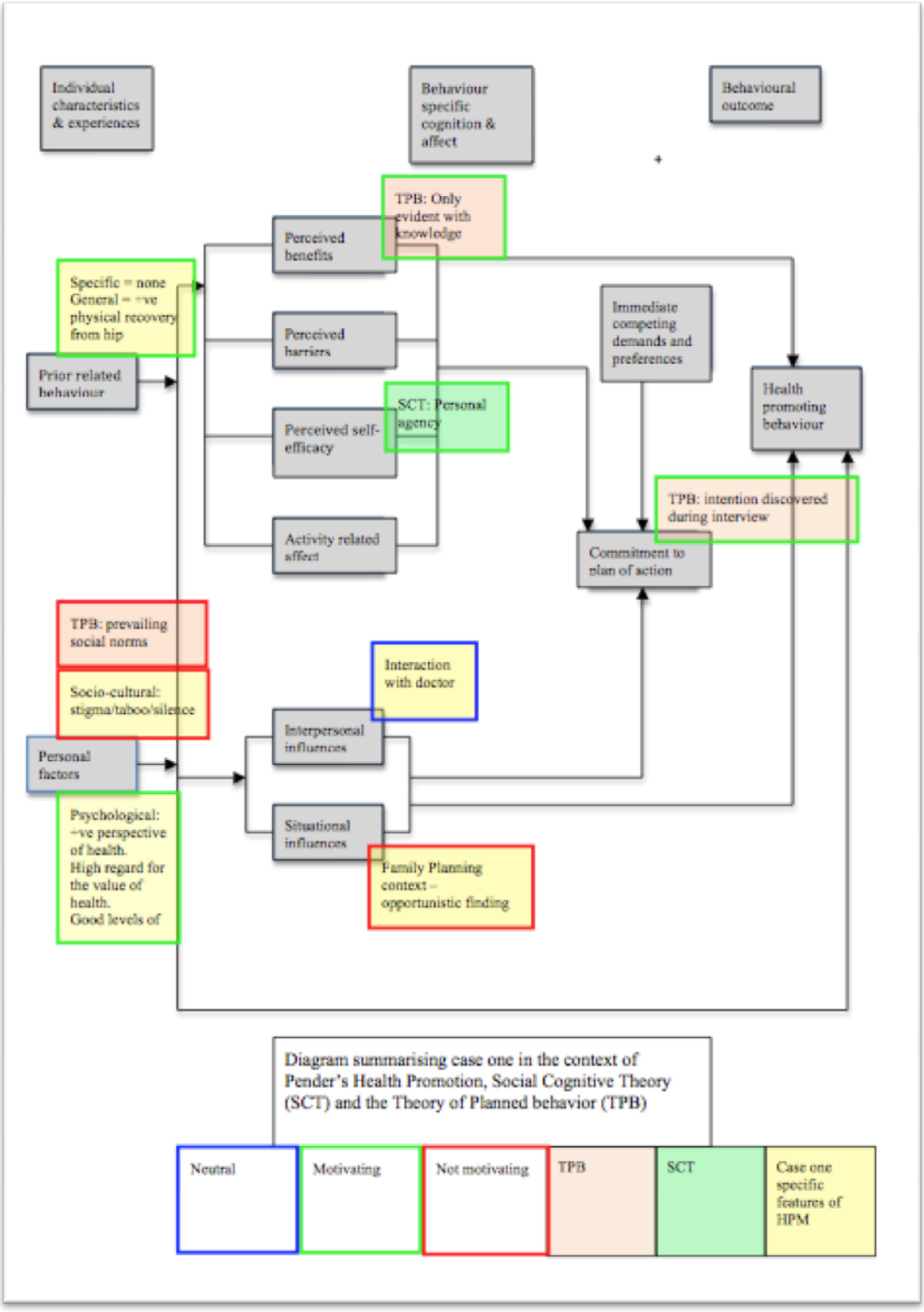

Figure 4-1: Diagram summarising the main influences in case one

4.1.2.2 Behaviour-specific cognitions and affect

The second major concept to the Pender's Health Promotion Model is *behaviour specific cognitions and affect* which has a number of sub concepts. The sub concepts can have a positive or negative effect on the individual's decision to undertake a health promoting behaviour. These concepts include: perceived benefits of action, perceived barriers to action, perceived self-efficacy (specific to the behaviour), activity-related affect, interpersonal influences and situational influences (Pender et al., 2006).

Pender intentionally excluded the concept of fear or negative reinforcement to prompt a change in behaviour in her HPM. Instead there is a focus on the perceived benefits. During the interview Mary and I discussed how PFMT can help prevent SUI and POP. When asked how Mary might incorporate PFMT into her life she replied "oh well I have to…you don't want to end up incontinent". This demonstrated that Mary felt some compulsion to do PFMT for fear of developing symptoms rather than due to potential benefits. This 'fear' may have originated when she was initially diagnosed with POP and could also have developed during the interview as we discussed POP in more detail. During my interview with Glenda we discussed how she approached PFMT with clients and she stated "so things [PFMT] that could help prevent that getting worse…or leading to continence problems or whatever." This shows how clinicians may also use potential negative outcomes of not undertaking PFMT in order to motivate clients to perform PFMT as a heath promoting behaviour. Perceived benefits of PFMT was not a significant motivating factor in this case, but fear of potential symptoms related to not doing PFMT was.

As discussed previously Mary had no previous knowledge of POP and minimal experience of PFMT and did not understand the importance of PFMT for prevention of POP (see Section 4.1.2.1 Individual characteristics and experiences). At the beginning of the interview it appeared Mary had low self-efficacy for PFMT. This was evident in her lack of understanding of the purpose and perceived benefits of PFMT, and her uncertainty in how to perform the behaviour and

incorporate it into her daily life. This demonstrated that she had low self-efficacy for PFMT. However, as the interview progressed Mary was able to articulate the perceived benefits (i.e. a component of self-efficacy) of having adequate strength of the pelvic floor to prevent SUI and POP. As I answered some of Mary's questions about PFMT it appeared that her developing sense of self-efficacy for the exercises outweighed her prior lack of PFMT specific experience. Mary said "you've got to have a good floor…I mean it makes sense…So. Just do it."

Women may experience low perceived self-efficacy in relation to PFMT as they may not only find it difficult to localise the appropriate muscles required for PFMT, but also struggle to make PFMT an ongoing health promoting behaviour. Glenda believed that supervised PFMT by a specialist clinician is important to increase women's sense of self-efficacy regarding PFMT, and to facilitate PFMT as a health promoting behaviour. However a lack of resources within the public health system to provide formal supervised PFMT potentially limits the quality of PFMT instruction and women may be unable to pay for private PFMT teaching. She described how women who do not feel confident in the exercises are unlikely to incorporate them into their lives. Thus, a lack of self-efficacy becomes a barrier to action. Glenda said;

> If you've got a sense that oh well you might not even be doing the right thing [PFMT] you've heard how difficult it is to localise them [pelvic floor muscles]…oh well I won't bother then.

This statement also shows how a lack of PFMT specific self-efficacy could influence activity-related affect. If a woman does not feel confident doing the exercises then she may experience doubt and potentially feelings of inadequacy, rather than positive feelings associated with performing PFMT. Negative feelings would decrease motivation to perform PFMT. The taboo nature of POP and PFMT (see Section 4.1.2.1 Individual characteristics and experiences) may also influence activity related affect. If PFMT is associated with embarrassment or shame then this could contribute to a negative activity related affect, also decreasing motivation to perform PFMT.

Health professionals may act as a personal influence on a patient or client's choices about health promoting behaviour. Glenda articulated a health promotion approach whereby she "plants a seed" regarding a health promotion activity with the client and encourages them to grow the idea into a behaviour. Glenda said, "No matter where people are at…they've got to work on it. That's part of their working on it." This corresponds with Mary's understanding that individuals need to take responsibility for their own health (see section 4.1.2.1 Individual characteristics and experiences). This shows how Glenda uses her interpersonal influence to support people to achieve behaviour specific self-efficacy, which according to Pender's model, may potentially increase motivation to perform PFMT.

Mary reported that she had never heard of POP. She was unsure but thought that she may have received some PFMT instruction from her midwife at the time of delivering her children in the 1970s. At that stage she knew that you were meant to do PFMT after having babies, but she had not thought of doing the exercises since then. This constituted a weak foundation of knowledge regarding the longer-term benefits of PFMT from which to build PFMT as an ongoing health promoting behaviour. It also shows how a lack of knowledge and skills formed a barrier to action. Furthermore Mary's lack of ongoing PFMT may suggest that her midwifery provider exerted a weak personal influence in terms of a positive long term PFMT outcome.

Glenda stated that Family Planning is in the position to provide an environment where women can feel safe to discuss their issues regarding PFD (i.e. a positive situational influence). It is therefore important, Glenda thought, for clinicians to carry out a thorough gynaecological history in order to establish risk factors and potential symptoms for POP. She felt that women might feel more comfortable discussing PFD in the Family Planning environment compared to talking with a GP. However even at Family Planning women may not volunteer their PFD unless asked. Glenda said;

> So I guess that's where we come in…being able to open that door, having a safe place and… making sure those screening questions are asked because, they might not even volunteer it to us.

Mary's first introduction to POP was when she presented to Glenda at the Family Planning clinic for her routine cervical smear, and was advised that she had a mild POP. Mary reported that she had little information given to her regarding POP and PFMT by Glenda, but that she did not expect any more than this as the primary reason for her visit was to get a cervical smear. The opportunistic finding of POP during the Family Planning consultation imposed a time limit on the information that Glenda was able to provide to Mary about POP and PFMT. This illustrates how a situational influence can have a bearing on the nature of the interpersonal influence. Mary felt that Glenda had carried out a good consultation with her and that Glenda may not have wanted to alarm her by providing more information on POP. However the lack of information provided to Mary was not congruent with Glenda's stated practice ideal of planting a seed for health promotion and allowing it to grow.

Glenda discussed with me the current literature regarding PFMT in the treatment and management of POP and SUI and described PFMT as "very important" to help women avoid the physical and psychological effects of SUI and symptomatic POP, and improve their pelvic health (i.e. a perceived benefit). She stated, "you know it's something we should all be doing all the time, particularly postnatally and then in an ongoing way." The way that Glenda described PFMT indicated a degree of self-efficacy for PFMT; she appreciated the potential positive outcomes of PFMT and had mastery of how to perform PFMT. However she had difficultly adhering to PFMT as a regular behaviour. She said; "we're all guilty" of not doing it as much as we should. It is possible that if women reveal to Glenda that they do not do PFMT, or do it in an ad hoc fashion, as an interpersonal influence Glenda may be more likely to reassure and normalise this pattern of behaviour because this is the 'normal' for her. It could be speculated that if Glenda felt her PFMT regime was equivocal it may affect the conviction of her health promoting messages about PFMT.

As a primary care provider in sexual and reproductive health, Glenda felt that her role was in the initial assessment of women with POP and discussion of PFMT, and then referral to secondary or tertiary services for further assessment or management

as required. This is a situational influence that potentially imposes a barrier to action due to waiting times in the public system. However Glenda debated whether Family Planning may have the potential to be more involved in the ongoing management of women with POP, providing another avenue for care. However, in order to do this, she felt clinicians at Family Planning would require more specific training on how to teach PFMT to women, and would also require resources and approval from senior management.

Glenda spoke of the way she acts as a personal influence in women's decisions to perform PFMT. She described an approach to working alongside women in regards to PFMT and described how she discussed and encouraged PFMT with women stating "it's something that we should all be doing, the old pelvic floor muscle training" and "we're all in that journey together here girls [laughs]". In encouraging women in this way, Glenda again demonstrated her own sense of positive outcome expectancy about PFMT, which could potentially have a positive influence on women's decision to undertake PFMT. It also demonstrates how Glenda may interact with female clients using a 'woman to woman' attitude instead of 'doctor to woman' attitude when she discusses PFMT. She describes how this attitude of working alongside people is influenced by a an overarching philosophy of how she desires to relate to people;

> I guess I try and get in alongside the person, you know, that we're all here on this journey together, we're all here to help each other and work together. And my role as a doctor is to support this person for their good health. I guess that's my philosophy on life really, whether it's my children or you know whoever…

It is questionable as to whether she was able to convey this sense of support during her consultation with Mary, as Mary did not describe her interaction with Glenda in this way. Glenda spoke of the practice reality (a situational influence) where management of opportunistic findings can be constrained by set consultation times, which do not potentially allow for unexpected findings to be managed as well as the presenting client issue. On examination, if a woman had a mild asymptomatic POP Glenda felt she would most probably inform the woman of the finding most of the time but the degree of information or advice given about PFMT and POP would

depend on how much time she had left in the consultation. This would potentially restrict Glenda's ability to work according to her philosophy of working alongside women for their good health, and my impression is that the consultation between Glenda and Mary was an example of where this limitation occurred. This is how Glenda described the effect of time constraints on her practice regarding PFMT;

> …if I was really pressed for time. I think I would usually say you know there's a bit of laxity. It wouldn't be often that I wouldn't mention it…but whether we'd get on to actually talking about…pelvic floor muscle training all the time, or what they could do about it…

In this specific case Glenda, as a personal influence, probably had a neutral motivating effect on Mary in regards to PFMT. The situational context in which Mary and Glenda interacted is important. Mary's POP was an opportunistic finding and not the specific focus of the consultation. This had a bearing on the nature of their interaction regarding PFMT and had a neutral influence on Mary's decision about PFMT. However over the course of the interview, as POP and PFMT were discussed in more detail (and in the comfort and security of her own home), Mary expressed an intention to undertake PFMT. This suggests that the interview had a positive motivating effect on Mary's decision to undertake PFMT.

The influence of perceived benefits and barriers, self-efficacy, activity related affect, and situational and interpersonal influences on motivation for PFMT for prevention of POP in case one is summarised in Figure 4-1 on page 57. The most significant aspect of this case is that of the interpersonal influence. First, the neutral influence Glenda had on Mary's decision to undertake PFMT or not. Glenda spoke of the positive role that health professionals have the potential to play to assist clients to achieve health; "as health professionals...we've got quite a power there…without having to really…do anything." Implicit in this statement is that health professionals can use their clinical skills and knowledge to undertake an intervention to prompt a client towards a health promoting behaviour. However it is the client's own self-efficacy and capacity to implement change that completes the process. Mary's view of Glenda's influence appeared to be neutral also, as she stated she did not expect Glenda to provide much in the way of education and

advice about POP and PFMT, as this was not the purpose of the visit. Second, in the course of the interview I appeared to have a positive motivating effect on Mary's development of an intention to undertake PFMT. This may well be related to having sufficient time and also setting, where Mary was able to ask questions in the comfort and security of her own home. The case also shows that as the interviewer I also had a personal influence on Mary's decision to perform PFMT.

In addition, the case demonstrates the contrast between Glenda's perceived value of PFMT and the way women can be supported to do this, and the practice reality (situational influence) where it seems she was unable to provide the information and support required for Mary to instigate PFMT as a health behaviour. The case also identifies the disparity between what Glenda believes women understand regarding POP and PFMT and the knowledge that women may bring with them into the practice setting. In this situation the disparity between assumed and actual knowledge was a barrier for Mary to undertake PFMT.

4.1.2.3 Behavioural outcome

The final major concept in Pender's model is the *health promoting behavior* itself, which is the desired outcome of the individual's decision-making and preparation for action. The sub concepts in this component are; commitment to a plan of action, immediate competing demands and preferences and the health promoting behaviour itself (Pender et al., 2006).

At the beginning of the interview Mary told me that she had not thought any more of doing PFMT since her consultation with Glenda. However, during the interview with Mary we discussed POP and PFMT in response to Mary's questions regarding these. Towards the end of the interview Mary decided that she was going to incorporate PFMT into her daily routine, i.e. she demonstrated intention. She said; "Oh well I have to…it's part of what we have to do." Her intention to undertake PFMT had increased as a result of the interview and according to Ajzen's TPB, intention predicts behaviour. Mary felt that she would be able to achieve PFMT as an ongoing behaviour by developing a routine, and described how it was important to have a structure when implementing any health behaviour. She stated "otherwise

you won't do it". This demonstrated commitment to a plan of action, which Pender predicts increases the likelihood of PFMT as a health promoting behaviour.

Mary's current lifestyle indicated that she had few obvious immediate competing demands (i.e. not currently employed and no young children to care for) that could potentially take priority in her mind and distract from a PFMT routine. Few competing demands contributes to the likelihood of sustained motivation for PFMT. Figure 4-1 on page 57 summarises the effects of immediate competing demands and commitment to plan of action in determining PFMT as a health outcome.

4.1.3 Case summary

The decision to include a case based around the Family Planning setting was to provide a perspective on how POP and PFMT are introduced to women in the primary care setting. Clinicians are often the interpersonal, extrinsic influence who have the potential to motivate the client to effect health behaviour change (Pender et al., 2006). In this case, Glenda in the Family Planning setting was unable to exert a positive motivating influence on Mary's intention to perform PFMT.

The way in which POP and PFMT are introduced to women has a bearing on how the woman perceives both the condition and the behaviour. This case involved an unanticipated opportunistic finding of POP in a setting where it was not possible to provide sufficient education and advice about the condition, or PFMT as a behaviour and its associated expected outcomes. It is also possible that Glenda lacked a degree of personal self-efficacy in regards to her own PFMT routine, which may have affected the degree to which she was able to motivate Mary towards PFMT. The effect was that Mary lacked the subsequent self-efficacy for PFMT and her ability to manage PFMT as an ongoing health promoting behaviour. However, Mary's previous related behaviour of physical exercise was likely a positive influence on her intention towards PFMT.

During the course of the interview Mary developed an intention towards PFMT. Ajzen's concept of intention is a cognitive move towards undertaking a behaviour.

Whereas Pender's HPM proposition of 'commitment to plan of action' is when the individual has moved from a cognitive state of readiness to a behavioural readiness, and concrete plans have been put in place to undertake a behaviour. An example of intention could be illustrated by Mary's decision to undertake PFMT. However actual commitment to a plan of action would be demonstrated by Mary developing a PFMT diary or seeking PFMT instruction. In either model (HPM or TPB) a behavioural outcome is not guaranteed by an individual expressing intention or demonstrating commitment to a plan of action alone.

This case also shows how the socio-cultural context of POP has a major influence on women's decisions about PFMT. While Pender's HPM includes socio-cultural influences as personal factors in an individual's decisions to undertake a behaviour, Ajzen's TPB has a stronger focus on the effects of social attitudes and norms on an individual's intention to undertake a health promoting behaviour. POP is not discussed in polite society as it is a genital condition and can be associated with embarrassing symptoms associated with leakage and smells. It is therefore stigmatised and effectively silenced. Silence contributes to a lack of knowledge about POP, evidenced by the fact Mary had never heard of the condition. Mary did not perceive specific barriers to doing PFMT and in her case it seemed the main barrier to action was a lack of knowledge and skills about POP and PFMT. Without knowledge of POP as a condition and the role of PFMT in its prevention, women will not be motivated to perform PFMT as a long-term behaviour.

Related to stigmatisation of PFD as a de-motivating factor to perform PFMT is normalisation of POP. It may seem counterintuitive that both stigmatisation and normalisation of a condition can occur simultaneously. However, both clinicians reported that there is a tendency by clinicians and women to accept POP as a normal and accepted consequence of childbirth. In doing so women's expectation outcomes of how POP can be managed, and subsequent self-efficacy for PFMT decrease. The effect is a negatively motivating influence on women's intention or performance of PFMT.

4.2 Case two: primary care/research setting

4.2.1 Case description

There were three participants to this case; the physiotherapist who conducted the PFMT instruction and data collection for the PREVPROL trial, and two of the trial participants. The first participant, Jane, was identified by the physiotherapist as adherent to PFMT during the trial, and the second participant, Louise, was identified as non-adherent.

My first interview for this study was with Jane. I already knew from the PREVPROL data that she was aged in her forties, identified as New Zealand European, and was a smoker. I visited her at her home in the early evening while it was still light. It had been raining and was a little overcast and cold. Jane answered the door and welcomed me into the house, which also felt a little cold. She was dressed casually in track-pants, t-shirt and long cardigan, and had long well kept fingernails. I followed her into a lounge area where there were three cats, which she introduced me to, and also her husband who was sitting in front of a computer in the corner of the room and remained there for the length of the interview. He did at times join in the discussion and at one point when Jane was talking critically about a work colleague who does not do PFMT he pointed out that this was done in good humour. I perceived that this interjection was in order to ensure I did not gain an impression of Jane as being critical and unkind.

The television was turned on at the other end of the room though neither Jane nor her husband was watching it. We sat at a dining table adjacent to each other for the interview often accompanied by one of the cats that jumped up on the table. I could not resist stroking him. I felt nervous as this was my first interview and I hoped that my questions would prompt good discussion. Jane quickly put me at ease, and I wondered if having been involved in PREVPROL she was used to being a research participant and discussing POP and PFMT.

Jane spoke openly about the challenges she faced with chronic sinus allergies that impacted on her daily activities and ability to function at work. Aspects of the

effects of her sinus allergies were interwoven throughout the interview. This chronic condition limited her ability to exercise, especially during the warmer months, which was difficult for Jane as she enjoyed the benefits of regular exercise and wanted to maintain a good level of fitness into older age. Jane initially started running with her daughter who was trying to increase her fitness to gain entry to the Navy. She found a sense of competition running with her daughter and this was a motivator to keep going. Jane participated in screening tests and understood that these are for early detection of health conditions.

In discussing her chronic sinus allergies Jane reflected that she tries to have a positive attitude towards the effects of this condition. She believed that this attitude is derived from the fact that her father also had a chronic condition yet maintained a positive outlook on life. She discussed the importance of having a simple diet, free from additives and preservatives, and attributed this also to her father who raised Jane and her sister as a solo father on a limited income; a simple diet was a financial necessity at the time.

Jane appeared to be motivated regarding her health but admitted early on in the interview to being a smoker. She reported that she has ceased smoking twice before. The first time she said she was “nagged” by her first husband to do it and relapsed when he died. The second attempt was more internally motivated by the knowledge that smoking is bad for health, but she resumed smoking again when undergoing a stressful employment situation. Jane reported that smoking is the only way she knows to manage her stress.

Jane talked of her plans for the future, which involved moving to a warmer, drier climate in an attempt to manage her sinus allergies better and to be closer to family. She hoped she would be able to work fewer hours which would help lower her stress levels, and she could spend more time on activities she enjoyed, such as developing a vegetable garden, building her exercise regime and incorporating PFMT into other aspects of her daily routine. This implied that time was a factor in not doing more frequent PFMT.

The second interview I undertook was with a woman identified as being non-adherent to the PREVPROL study protocol. I knew that Louise was aged in her forties, identified as New Zealand European and she was a smoker. I visited Louise at her house on a cold early evening before it became dark. There were children's toys scattered around the front yard. Louise she greeted me shyly wearing track pants and a t-shirt. She held a t-towel indicating she had been in the middle of doing the dishes. Louise welcomed me into the house, which smelled of cigarette smoke, and into a lounge, which felt cold, as the front door of the house remained open. There was a log burner in the lounge but it was not on. I noticed multiple cigarette butts on the fire hearth and a bottle of spirits on a low table in the corner. These indicated to me that one or members of the house smoked cigarettes and drank alcohol.

I was invited to sit on a couch and Louise sat on another couch adjacent to me next to a pile of unfolded clean washing. I was introduced to her husband who sat in the opposite corner of the room using a computer. He wore a singlet and shorts despite the cold. He greeted me warmly. Occasionally during the interview Louise asked for her husband's input to the questions or asked him what he was looking at on the Internet. I wondered if Louise appreciated the presence of her husband as a source of familiarity while talking to me, ostensibly a stranger in her home. There was also the possibility that some of her answers may have depended on whether her husband was present or not. Before the interview began, two children came into the lounge as well and they were friendly and inquisitive about the tape recorder. One of the children offered everyone a cup of tea, including me.

The way Louise spoke indicated that she had quite a degree of oral discomfort, which she explained was a side effect of a recent and long awaited major dental procedure. Her son made her a cup of tea, which she drank through a straw. Throughout our interaction the Louise avoided eye contact and spoke looking at her hands. I wondered if this was due to shyness or because of her history of dental problems.

We discussed a range of health promoting behaviours and while Louise did not do regular exercise she had a physical job doing housekeeping and was kept busy

looking after her children. Her children were a motivating factor in providing healthy food options and she described herself as a role model for their food choices. Growing up, Louise spent time living with her grandparents who provided food from a large vegetable garden and she cited them as an influence on the food she eats as an adult. Louise participated in screening tests to maintain good health but hardly visited the doctor because she rarely became unwell.

Louise's husband had recently quit smoking using Champix and Louise reported that she was cutting down on her smoking. She had no formal plan for this and the amount she smoked varied from day to day. Factors such as stress involved with having the children at home during the school holidays, challenged her smoking cessation attempt. Motivation to quit smoking had come from a desire to live longer and to save money as she reported the rising cost of living while wages stay the same. I gained the impression that finances were a source of stress for Louise. She had previously ceased smoking when pregnant to avoid having small babies. The majority of the discussion around smoking cessation took place when Louise's husband was outside the room. When I raised it again later after he had returned to the room he indicated skepticism regarding her smoking cessation attempt.

We spoke of Louise's future plans for her health. She expressed a desire that she would be able to maintain her current level of fitness, including her pelvic floor muscle strength, into her sixties or seventies but with the additional statement of "if I live that long". This suggested to me that Louise had relatively low expectations of what her own efforts to maintain good health can achieve. Louise felt that once all her children had grown up and left home she would find it easier to maintain her health. This showed that Louise considered that the needs of her family were competing demands in terms of her motivation to undertake health-promoting behaviours.

Even though Louise was identified as non-adherent to the PFMT trial protocol she reported doing the exercises three to five times a day. This prompted me to consider that there may be differences in how adherence to a PFMT regime is perceived by the woman and the clinician.

The third interview was with the PREVPROL physiotherapist, Lisa, and took place in my small office on an evening after work. We had met each other several times previously, mainly through her assistance in recruiting the two other case participants from the PREVPROL study. From my association with Lisa, I knew that she was middle aged, and probably identified as New Zealand European. I had also long known of Lisa's work as a physiotherapist working with women with pelvic floor dysfunction in the public setting.

Lisa arrived dressed in jeans and a colourful jersey. We sat opposite each other and quickly proceeded to the interview. Lisa was at ease throughout the interview and answered questions rapidly with a ready answer indicating to me that she was extremely knowledgeable, articulate and able to express ideas and information without pause. I had expected this given Lisa's background as a physiotherapist specialising in women's health and her own research involving POP. This interview was the longest of all the interviews and was data rich.

Lisa spoke of the number of roles that she has had, and currently holds, as a physiotherapist in the primary and secondary care settings. The arm of the PREVPROL trial that Lisa was involved in was conducted in the primary care setting, however she also undertakes the same assessment and PFMT instruction in the secondary care setting. She spoke of her involvement in research and teaching, both of which she has become more involved in since completing her own research. Lisa explained her role in teaching and supporting colleagues from a range of clinical backgrounds and also her increasing involvement in the teaching of undergraduate health professional students.

Lisa noted that the vast majority of women she sees for pelvic floor dysfunction are symptomatic therefore most of her work is aimed at tertiary prevention. Health promotion is a large part of managing women with POP as risks for POP are major public health promotion foci such as weight loss, smoking cessation and exercise. Lisa viewed health promotion as integral to the management of POP symptoms.

4.2.2 Examining the theoretical proposition in case two

4.2.2.1 Individual characteristics and experiences

The previous case description identified a number of personal biological factors as determinants of health for Louise and Jane. Both had a chronic condition affecting their health, both were smokers, aged in their forties and identified their ethnicity as NZ European.

Jane described her health as "less than ideal" largely due to chronic sinus allergies that had an impact on her everyday function (a biological factor in health). This meant that she was unable to live her life according to her definition of good health (a personal psychological factor). She said;

> So if you're healthy you can do whatever it is that you want to do…and if you're not there will be limits on what you can do.

Louise, like Jane, believed that to be in good health meant no restrictions on what you want to do in life. Louise described her health as "pretty good" despite chronic dental problems. Louise's statement regarding life expectancy, where she expressed some doubt that she may live into her sixties or seventies, may have been influenced by the fact that her mother has cancer. Louise appeared to believe that she has the potential to develop this cancer and that it just requires some form of trigger to "set it off". She perhaps appreciated that smoking is a carcinogen and stated that a benefit of smoking cessation is that "I might live a bit longer". For Louise good health was a requirement to be able to look after her family. She said;

> …if I wasn't a 100% well… running around after all my children yes. Well.

Both Louise and Jane's definition of health implied that health gave them freedom to live life in the way that they would choose. According to Pender's model, a positive perspective on health increases the likelihood of a health promoting behaviour. However, for Louise and Jane, the value of specific health promoting activities varied according to the behaviour and context. For example Jane

rationalised her smoking habit as a way of managing her stress. Whereas Louise managed to quit smoking during her pregnancies for the health of the babies but resumed smoking once they were delivered.

During the interview Louise appeared to be shy and avoided eye contact. I considered that her chronic dental issues might have included a cosmetic aspect, which could have made her feel self-conscious about her appearance. It is also possible that Louise perceived a potential power imbalance between us, related to my role as an interviewer and health professional. This may explain my observation of diminished eye contact. In contrast Jane spoke confidently and often made eye contact. These differences in eye contact left me with different impressions of self-esteem, with Jane's being higher and Louise's lower. Self-esteem is a personal psychological factor and is positively correlated with motivation to engage in health promoting behaviours. Interestingly, Jane apparently had higher self-esteem and was assessed by the treating physiotherapist as adherent to PFMT in the PREVPROL trial, whereas Louise seemingly had lower esteem and was assessed as non-adherent to PFMT by the same person. While the differences in adherence during the trial were possibly real, I also speculate that the way the two women presented in the relationship with the physiotherapist gave rise to contrasting perceptions of their PFMT adherence.

Socio-cultural factors also influence the outcome of health promoting behaviours. Lisa, the physiotherapist, found that the majority of women with POP have limited understanding of the nature of POP and welcome an explanation. She appreciated that women do not generally discuss PFD with their peers because of the social stigma surrounding the condition. In relation to SUI Lisa stated;

> I guess there's a social stigma attached to leakage and and also it's perceived as being a loss of control over your body…an undignified… and something perhaps people feel a little bit like is a weakness that they don't want to discuss like um a physical weakness but also some other kind of weakness in themselves that they've got this kind of problem.

Despite possible social stigma Jane discussed PFMT with her work colleagues, and Louise spoke to her pregnant daughters about the importance of PFMT. It is

possible that being part of the PREVPROL trial gave them the language and confidence to speak more openly about PFD. Alternatively Louise and Jane participated in PREVPROL and the current study because they possessed a pre-existing 'openness' and were prepared to discuss PFD.

Jane and Louise were overall very positive in their attitude towards PFMT and saw it as a useful preventative measure for POP. However all three participants in this case spoke of fear of developing symptoms, especially in older age, as a motivator to perform PFMT, something that Pender's HPM specifically does not include. Jane and Louise both spoke of fear of PFD related symptoms and their comments evoked a sense of the stigma associated with them. Jane stated, "as a preventative…I don't want to be an… older woman needing incontinence pads." This was echoed by Louise who also spoke in fearful terms about the effect of age on the pelvic floor, "just as you get older…when you get to fifty, sixty, you think oh, bladder problems". She also spoke about a conversation regarding the pelvic floor she had with her doctor "when you get a bit older and older and older and apparently you just…everything just falls to pieces as the doctor said." This statement is indicative of normalisation of POP as a consequence of aging and could also be perceived as fatalistic. This could have a negative effect on women's motivation to perform PFMT because the statement implies that PFD is inevitable with age, and also that women lack the ability to prevent it.

Lisa stated that she does not take a fear motivation approach to teaching PFMT, and nor did she speak of fear being a motivator for Louise or Jane to perform PFMT. Lisa did however describe a consultation she had undertaken with an asymptomatic postpartum woman, who wanted PFMT instruction to prevent POP. She had seen a photo of severe POP and was anxious to avoid this herself. Lisa spoke of fear as a motivator for this woman "…it was a fear of developing something awful that she never wanted to develop so fear for her was a motivator…"

Lisa described the common perception that PFD is a normal consequence of childbirth and as such it is something that is to be accepted. Jane and Lisa both expressed their concern regarding the marketing of continence products that

attempt to normalise urinary incontinence, thereby promoting it as a health state that is to be accepted. Jane illustrated this by stating;

> Those adds on telly about oh it's OK it's just LBL [light bladder weakness] and that's all natural, they really really piss me off because there's no need for that…it shouldn't BE normal. You know? When they're so so easy to do your pelvic floor exercises you know?

Financial considerations can also impact on people's choices to participate in health promoting behaviour. Both Louise and Jane talked about financial difficulties at some stage in their life; Louise's circumstances appeared to suggest some current financial hardship. Neither Louise nor Jane were required to pay for their PFMT instruction as this was free as part of trial participation. However when Jane discussed her preference for 'simple' and healthy foods she mentioned that she could not move to organic food choices because of the increased cost. In Louise's case, she had waited several years to receive the more affordable care she required for her chronic dental issues. This may well be because she could not afford to pay for a private dentist.

Unlike Mary, the influence of prior related behaviours on motivation to perform PFMT was clearly evident. Jane and Louise have both been involved in PREVPROL for 15 years and received supervised PFMT by Lisa and the option of attending a group Pilates class. They both reported that they performed PFMT on a daily basis. This is apparently discordant with data collected in the trial; Jane was suggested to me as a study participant on the basis of her PFMT adherence during the trial, and Louise on the basis of her seeming non-adherence. Current adherence to PFMT means that if Louise or Jane were to experience a disruption to their PFMT routine, their prior experience of PFMT would be a motivating factor to re-engage with their previous routine. However this was not specifically explored in the current study.

The influence of personal factors, and prior related behaviour as motivation for PFMT for prevention of POP in case two is summarised in Figure 4-2 page 77. The most significant elements of Pender's component *individual characteristics and*

experiences that were identified in this case were personal psychological and socio-cultural factors. Both Louise and Jane had similar definitions of health but their expectations of what good health can offer varied. I also perceived contrasting self-esteem and differences in socio-economic status. All these factors combined indicate, according to Pender's Model, that Jane was more likely to engage in PFMT as a health promoting behaviour compared to Louise, which was congruent with the PREVPROL exercise diary data although not in accord with Louise's report of her current PFMT regime.

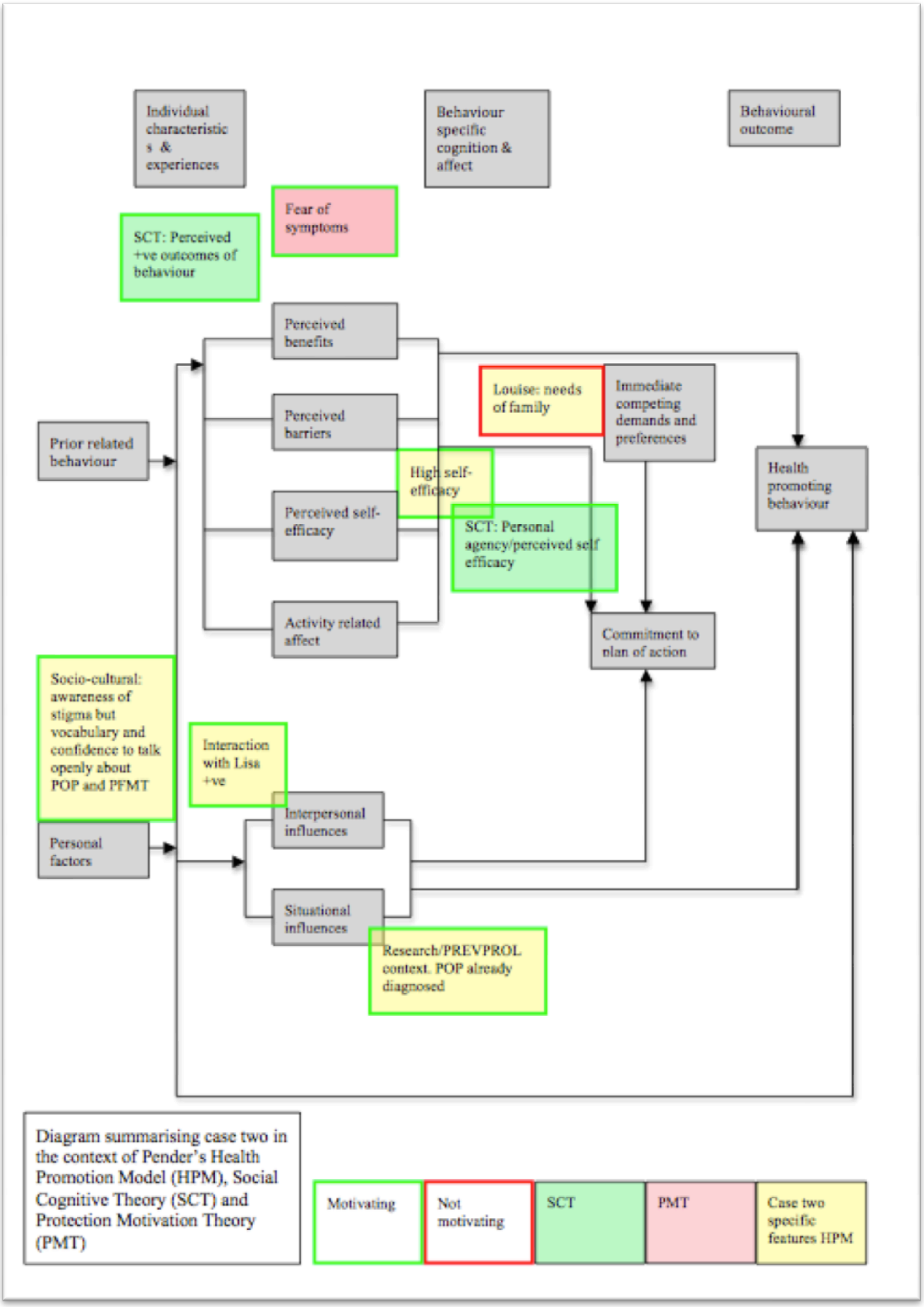

Figure 4-2: Figure summarising the main influences in case two

4.2.2.2 Behaviour specific cognitions and affect

Refer to Chapter Two, Section 2.9 Models of health promotion for a description of this component of Pender's HPM. Jane and Louise both had a long-term, secondary prevention perception of the benefits of PMFT, which was consistent with participation in PREVPROL. They saw PFMT as effective in the prevention of SUI and POP. Louise's husband was a PFMT champion for Louise, particularly at the beginning of the study, as both he and Louise noticed an added, more immediate, benefit of PFMT, that of increased sexual pleasure from Louise's increased pelvic floor tone. Louise's husband provided Louise with both an internal and external motivation in the beginning stages of the trial to continue PFMT.

Lisa described the nature of PFMT for prevention of POP as a strengthening exercise for primary or secondary prevention. PFMT does not have the same extrinsic reward that other exercises may provide. Lisa described it in this way;

> they're [PFMT] not glamorous and you know you don't really look like you're bulking up your muscles and tucking your tummy and getting something visible…that you think looks fabulous because it's just no one can see those muscles.

Jane and Louise both had a high degree of self-efficacy about PFMT and had faith that these exercises will help to prevent symptomatic PFD. Louise felt confident in her ability to do the exercises because she noticed that "everything's getting all tightened". Jane described how she mastered the acquisition of PFMT as a skill;

> It [PFMT] wasn't like super super hard…yeah, it is hard when you have to try and identify a set of muscles and just concentrate on contracting that you know? But once you can do it, it's quite good.

In concordance with case one, this case showed self-efficacy may be linked with normalisation of PFD. Lisa described how women express their feelings about PFD and PFMT;

> Or maybe this is hopeless and I'm not sure. Um so I haven't got high expectations of you being able to help because I know that this is a problem and it's normal and it's just something you have from having babies isn't it. Yeah, no that's the sort of thing people will say to you.

Normalisation and acceptance of PFD as a consequence of childbirth may decrease women's expectations of a solution to their PFD. Normalisation potentially decreases women's outcome expectancies of PFMT, impacting negatively on their perceived self-efficacy in regards to PFMT, thereby decreasing motivation.

Both Jane and Louise experienced positive activity related affect when performing PFMT. Louise used those moments that she takes for PFMT as relaxation opportunities and said that while doing the exercises she has "not a care in the world". Jane spoke of how she has positive feelings about herself when she performs PFMT stating that she feels "slightly virtuous…it's a good thing to be doing".

The three participants in this case all spoke of interpersonal influences in developing PFMT as a behaviour. Louise's husband had a role to play in this in the initial stages of the PREVPROL trial, and Jane spoke about how she had received some PFMT instruction from a midwife when she had her children. However the primary influence in this case was between Lisa the PREVPROL physiotherapist and the two PREVPROL participants (Louise and Jane). Louise and Jane both found the training and the ongoing feedback from Lisa beneficial. Louise and Jane also attended the Pilates exercise group, which Jane found useful in developing her PFMT technique. However Louise had varying experiences of this.

> (Louise) Pilates is just more inspiring - and more like a whole lot of women that get together…
>
> (Interviewer) Did you enjoy that group concept?
>
> (Louise) Well yes and no. It depended on the day and who was there and if anyone just bitches and whinges about everything else and I just thought nah.

Louise herself became an interpersonal influence about PFMT, when she encouraged her pregnant daughters to do PFMT and included an education aspect to this advice.

> I says you don't realise that it's actually a muscle [the pelvic floor]…I says how do you think…what holds everything in there? I says it's muscle!

Jane also influenced others when she became an advocate for PFMT particularly with one of her workmates that had urinary incontinence. Through encouraging her workmate and discussing PFMT with her peers, Jane experienced an affirmation about her own PFMT regime and what she has managed to achieve.

(Jane) …I've got no problems about talking about her [workmate] pelvic floor or lack of exercises in front of other people, trying to use ridicule to get her to do it [PFMT]…we'll have little groups…and other people are agreeing with me.

(Interviewer) …how do you find that makes you feel about your own regime?

(Jane) Oh good, virtuous! [laughs]

As the primary interpersonal influence in this case, Lisa described how education regarding pelvic floor dysfunction is important to promote self-efficacy and adherence to PFMT.

> …if you're trying to get people to be adherent to the things that you're saying to them you really need to give them written information you need to give explanations, you need to show them models and pictures you need to get them to do exercises in the clinic when you're there. So you need a whole lot of things to have any hope of getting good adherence rates to the things that you're suggesting to the patient.

She also spoke of a variety of strategies she used to teach women how to contract their pelvic floor muscles. This included careful choice of language to convey what it feels like to contract pelvic floor muscles. She also used biofeedback in the form of ultrasound to show women when they were performing the exercises effectively.

As a physiotherapist working in this area she needed to be aware of people's co-morbidities and medications that may contribute to their pelvic floor dysfunction, as well as using specific knowledge of the pelvic floor and related structures. The following statement from Lisa is an example of how she used her specialist skills and knowledge to teach PFMT;

> Another tactic that can be used is that we know that more often than not there's a co-contraction that exists between the transverse abdominus muscle and the pelvic floor muscles and so sometimes I can trick the pelvic floor muscle into working by engaging the transverse abdominus.

In Lisa's role as a physiotherapist subspecialist, she had the time she needed to undertake a thorough history and assessment with women. This is a situational influence that positively affects women's motivation to perform PFMT. This was followed by individualised instruction, which Lisa felt was key to successfully maintaining PFMT as an ongoing health behaviour;

> …so people know what they're doing from week to week…and so that information is explained, it's written down, it's checked up…we have lots of conversations about how and when and why people do exercises and what's acceptable and the fact that routines are important and things might be different for you than for another person and we've just go to work with that person…for their individual needs

How information was provided to clients was also important. Lisa recognised that in discussing potentially sensitive issues such as smoking cessation and weight loss, both risk factors for POP, women may not be in a frame of mind where they are prepared to hear these messages. She said;

> Well you've got to be tactical if you're going to have that person being receptive to your advice…you can't throw information down their throat that they're not willing to hear.

Lisa spoke passionately about her approach to dealing with clients, a philosophy of care that views a women's pelvic health within the wider health picture. Lisa seeks to empower and enable women with the tools to manage their own health.

Lisa considered that a range of health professionals are often required to help women manage their PFD. She also stated that part of her role was to guide women through the system to get the care that they need. Again, this demonstrates Lisa's personal influence on women's motivation to perform PFMT. She said;

> And so I consider my role to be getting the patient better. And of course physiotherapy is going to provide some of the answers but not all of the answers. So my job is to be seated within that bigger picture and if you haven't got a multidisciplinary team around you have to create the links.

Lisa believed that the women in the PREVPROL trial were motivated, to some degree, externally by their desire to see the research meet its aims regarding the role of PFMT in prevention of POP. She did not feel that women were motivated to do PFMT because of a fear that they would get negative feedback or "told off" by her as a physiotherapist if they had not been adherent to the study protocol. Lisa understood the power of her role as an interpersonal influence with Louise and Jane and both women articulated the positive part she he had to play in their respective PFMT outcomes.

A situational influence that positively affects the success of a PFMT outcome is the importance of routine. Louise and Jane both described daily practice of PFMT. However Louise relied on an opportunistic, ad hoc approach where she did her exercises just when she remembered. Whereas Jane had a definite routine associated with brushing her teeth. This has helped to ensure PFMT as an ongoing health promoting behaviour for Jane and it also meant that if she had a change in daily routine, for example going on holiday, she managed to maintain the routine because teeth-brushing is a routine that does not tend to change with circumstance.

The influence of perceived benefit and barriers, self-efficacy, activity related affect, and situational and interpersonal influences as motivation for PFMT for prevention of POP in case two is summarised in figure 4-2 on page 77. Each concept was identified in this case. However the most significant factors were the interpersonal and situational influences of Lisa the physiotherapist in the primary care/research setting as a positive motivating factor for Louise and Jane to undertake PFMT.

Jane and Louise's perceived self-efficacy and situational influence of routine were also significant but could be considered, at least in part, attributable to Lisa's influence in the training she provided. Key to this case is the concept of perceived benefits, and the difference between the tangible and non-tangible perceived benefits, and the short and longer term perceived benefits of PFMT. Bandura describes how non-tangible benefits, for example Louise feeling "virtuous" for doing PFMT, can sometimes be a stronger motivator for a health promoting behaviour than tangible benefits (Bandura, 2012)

4.2.2.3 Behavioural outcome

(Refer to Chapter Two, section 2.9 Models of health promotion for a description of this component of Pender's HPM). Louise and Jane were both committed to continuing their PFMT regime into older age, as both were motivated to avoid symptoms of PFD. Commitment to a plan of action is an intrinsic motivating factor for a health promoting behaviour. Lisa described how commitment to the long-term nature of PFMT is a challenge for many women;

> The idea of the need for ongoing exercise is something that I need to impart to people and the timeframes. Because we've got such long timeframes, and not only that once you've done all these exercises you've still got to keeping doing some forever and a day…so that's a big ask

Immediate competing demands and preferences are the alternative behaviours that will negatively impact on women's choices to do PFMT. Jane felt she should do more frequent PFMT in order to maximise her pelvic floor muscle strength. However she had not been able to incorporate PFMT into other aspects of her day and cited work and laziness reasons for this. Louise also stated that laziness was a barrier to more frequent PFMT. Louise found that her PFMT routine was challenged by the immediate competing demands of her role as mother. She said;

> Yeah you don't really sort of get your quality time by yourself when they're [children] at home because they're just full on and want, want, want, want, want, can we go here there and everywhere and then you're just…routine just sort of goes out the door.

Lisa described her impression of the reasons why women may not undertake a regular PFMT regime; “Maybe they [women] can’t be bothered, maybe they’re boring [laughs]. You know they’re boring exercises aren’t they?” She spoke of the reasons that women report for not doing PFMT, which included being “time poor…forgetting…being too busy and having other priorities…issues take precedence in the person’s mind”.

The influence of immediate competing demands and preferences, and commitment to a plan of action on motivation for PFMT for prevention of POP in case two is summarised in figure 4-2 on page 77.

4.2.3 Case summary

This case provides a picture of how women with mild asymptomatic POP were managed in the primary care/research setting and the effect of this on ongoing PFMT adherence. In this case the clinician Lisa, describes a situational context where she had sufficient time, resources and expertise to conduct the appropriate assessment and PFMT instruction. Lisa was an effective interpersonal influence for Louise and Jane to develop self-efficacy for PFMT and motivation for subsequent long-term adherence. Self-efficacy is a proposition in Pender’s HPM that is positively associated with a behavioural outcome. However, self-efficacy specific for a skill based behaviour such as PFMT, is represented more effectively in Bandura’s SCT. SCT emphasises the importance of outcome expectations and behavioural skill as important to self-efficacy for a behavioural outcome.

The case also shows how two women’s perspectives and practices of PFMT and POP, who received the same intervention regarding PFMT, are shaped by their beliefs and personalities, and their past and present socio-cultural context. Jane had high expectations of health and was motivated to achieve good levels of health in order to enjoy her life. Louise needed sufficient health in order to care for the needs of her family.

Case two demonstrated that perceived benefits were a motivator for Louise and Jane to adhere to PFMT. Perceived benefits of PFMT were largely long-term preventative perspectives. Yet there were also more immediate tangible benefits

(increased sexual pleasure in Louise's relationship with her husband) and less tangible benefits (Jane's feelings of being "virtuous") that contributed to sustaining PFMT as an ongoing behaviour. However the case also demonstrated that fear of symptoms was a motivating factor for both Louise and Jane to adhere to PFMT, and Lisa acknowledged that fear can be a motivator for some women in this regard. Fear of adverse outcomes is described by Protection Motivation Theory (PMT) but is not a proposition in Pender's HPM. PMT explains how fear of negative outcomes (for example symptomatic POP) motivates individuals to acquire a health promoting behaviour (for example PFMT). Equally in PMT individuals may be motivated to dissociate from a health damaging behaviour (for example smoking).

4.3 Cross case analysis

An overview of the cross case analysis is presented in Table 4-3 pages 86-88. Pender's HPM components are presented in the first column. To the right (columns two and three) contain summaries of the main findings for case one and two relative to the proposition i.e. the intrinsic and extrinsic influences that motivated the women (or not) in their choice to undertake PFMT. The influences are denoted as motivating (+), de-motivating (-), either de-motivating or motivating (+/-), or neither motivating nor de-motivating (0).

Cross case analysis showed that a woman's personal factors of self-esteem and her value and regard for her health are important in determining her choice to perform PFMT as a health promoting behaviour. However, the socio-cultural context influences how much she knows about PFD and PFMT. Mary's case demonstrates that PFD is associated with taboo, making it a stigmatised condition and not spoken of in polite society. Ajzen's TPB places social norms and attitudes as a major influence in an individual's decision to undertake a behaviour, which is particularly relevant in the context of the stigmatisation that it exists around PFD. It could be suggested that Pender's HPM does not adequately represent the significance of the socio-cultural context in women's decisions to undertake PFMT or not.

Clinicians in both cases spoke of PFD as associated with normalisation as part of childbirth and aging, which potentially encourages women to accept PFD as inevitable and something over which they have little or no control. This is a negatively motivating influence in regards to PFMT. This is in contrast to the client/patients who seemed motivated to avoid the physical consequences of aging, including PFD. This implies that aging is also a stigmatised condition. Interestingly, while perceived benefits of action were motivating for Louise and Jane, they seemed to be more motivated by fear of symptoms. Fear of symptomatic PFD could be linked with the stigmatisation and social judgment associated with the perceived loss of bodily control implied in PFD and aging.

A comparison between Louise and Jane in case two and also Mary in case one, clearly shows how the effect of the immediate competing demands of family can take precedence over a woman's decision to do PFMT. The impact of immediate competing demands is clearly represented in Pender's HPM as a negative influence on an individual's decision to undertake a health behaviour. Mary and Jane's children were independent adults, allowing Mary and Jane the freedom to consider their own health priorities. Louise however, still had young children to care for and articulated how difficult it was to remember her PFMT regime when her children needed her. This was an external de-motivating factor in her PFMT regime.

The fundamental difference, however, between case one and two is that while Mary had expressed an intention to undertake PFMT and could articulate the expected outcomes of PFMT, she was yet to undertake the behaviour. Even though Azjen's TPB predicts that intention precedes the behaviour it could be suggested that Mary lacked the necessary skills to be self-efficacious for PFMT. This is in contrast with Louise and Jane, who had received PFMT from an expert physiotherapist (Lisa) and long term follow up. Lisa helped Louise and Jane to increase their knowledge about POP and the benefits of PFMT and combined this with the skills to undertake PFMT. The skills to perform PFMT combined with knowledge of the expected outcomes are important in determining women's perceived self-efficacy for PFMT. Self-efficacy is a key aspect of Bandura's SCT and Self-efficacy is an internal motivating factor that positively affects PFMT outcomes. Interestingly both clinicians felt that women in general find PFMT difficult in terms of isolating the

pelvic floor muscles correctly, creating a barrier to a PFMT routine. However Jane and Louise both described PFMT as relatively easy to achieve. It is possible that any difficulties they encountered early on in their PFMT education were explored and resolved with the assistance of Lisa's expert advice. This may have contributed to Jane and Louise's sense of ease and self-efficacy associated with PFMT.

However the most significant factor in the women's choices regarding PFMT, and well represented in Pender's HPM, was the interpersonal influence of the clinicians involved in the cases. In case one Glenda exerted a neutral effect on Mary's decision to undertake PFMT. However in case two, Lisa had a positive influence on Jane and Louise's choice regarding PFMT. It is clear from each of the two cases that the context of the consultations were different; case one was an opportunistic finding of POP by a Family Planning doctor within set time constraints, and case two was previously diagnosed POP, by a specialist physiotherapist with sufficient time and resources to undertake supervised, individualised PFMT instruction. It could also be suggested that the personal self-efficacy of the clinician for PFMT may have a bearing on the strength of their influence on women's motivation to perform PFMT. While Lisa was a passionate proponent of PFMT, Glenda admitted that, like many women, she struggles to adhere to a PFMT routine. Comparison of the cases shows that a woman will be most likely to be motivated to decide to undertake PFMT if she has received specialist advice with adequate time to provide sufficient education and instruction, and have the opportunity for follow up consultations.

	Pender's Model	Case one: Mary and Glenda	Case two: Louise, Jane and Lisa
Individual characteristics and experiences	Previous related behaviour	No (or limited) previous experience of PFMT. **BUT** experience of related behaviour: general physical activity (+) Previous related behaviour was an intrinsic motivating factor for Mary, and a major influence on her **intention** toward adopting PFMT. However prior PFMT specific behaviour is likely to be more motivating to achieve PFMT as a **behaviour.**	Extensive previous experience of PFMT (+) Previous, PFMT specific, related behaviour was an Iintrinsic motivating factor for Louise and Jane, and a major influence on their continuation of PFMT. Prior PFMT specific behaviour is likely to be a more substantive motivating factor compared to prior related behaviors e.g. general exercise
	Personal factor: Biological	Preparation for aging Intrinsic motivating (+) This played a moderate role in participant's choice to undertake PFMT	Preparation for aging Intrinsic motivating (+) This played a moderate role in participants choice to undertake PFMT
		PMT explains fear of symptomatic PFD associated with aging as a motivator to perform a behaviour	
	Personal factor: Psychological	Positive perspective and definition of health (+) High regard and expectations of health. Intrinsic motivating (+) Major role in participant's choice to undertake PFMT	Positive perspectives and definition of health (+) Varying expectations and regard for health Intrinsic motivating (+/-) Varying role in participant's choices to undertake PFMT
	Personal factor: Socio-cultural (prior to interview)	Stigma and silence limited awareness Fear of symptoms associated with stigmatised condition Taboo subject in social context Extrinsic and intrinsic Motivating (-)	Aware of stigma related to PFD but openly discussed with family and/or peers Extrinsic and intrinsic Motivating (+)
		TPB places more emphasis on role of social norms and expectations of peers compared to Pender's HPM socio-cultural context.	

Table 4-3: Summary of cross analysis

	Pender's Model Perceived barriers	**Case one: Mary and Glenda** <u>Prior to interview</u> Barrier to performing PFMT was lack of knowledge and skills (-) Glenda described how women may often find PFMT difficult and lack confidence in their ability to isolate the pelvic floor muscles. Lack of information/skills was a primary de-motivating influence on adopting PFMT <u>Post interview</u> No perceived barriers Motivating (0)	**Case two: Louise, Jane and Lisa** While Louise and Jane did not perceive any current barriers to PFMT, these may have been resolved early on in their PFMT experiences. Lisa felt that a barrier for some women to achieve PFMT was trying to isolate the muscles to perform an effective contraction. Therefore perceived barriers were not an influential factor in this case but may be in the wider context
	Perceived self efficacy	<u>Prior to interview</u> Generally a person with degree of personal agency. Low PFMT specific self efficacy due to lack of knowledge and skills Intrinsic motivating (-) <u>Post interview</u> Improved sense of self-efficacy Intrinsic motivating (+) This was a major influencing factor	High self-efficacy regarding PFMT Intrinsic motivating (+) This was a major influencing factor
		Self efficacy is a common factor shared with TPB (actual control) and SCT (personal agency and self efficacy)	
	Activity related affect	Yet to be determined in terms of PFMT but enjoys general physical exercise. Intrinsic (possibly) motivating (+)	Relaxation and positive affect Intrinsic motivating (+) This was a moderate influencing factor
	Interpersonal influences	<u>Prior to interview</u> Interaction with Glenda during consultation did not prompt PFMT as a behaviour Extrinsic motivating (-) or (0) <u>Post interview</u> Interaction during interview resulted in participant stating she planned to undertake PFMT Extrinsic motivating factor (+) This was a major influencing factor	Interaction with Lisa influential in PFMT as a behaviour Husband was a influencing factor for Louise Extrinsic motivating **(+)**
		Influences of significant others is a major component of TPB. Significant peers and family members expectation's of the individual performing the behaviour and their support is a significant factor in achieving the health promoting behaviour.	

	Pender's model	**Case one Mary and Glenda**	**Case two: Louise, Jane and Lisa**
	Situational influences	<u>The Family Planning context</u> Opportunistic finding of POP Clinical setting Glenda may not have had the time to discuss POP and PFMT in enough detail External motivating factor (0) or (-) <u>The interview context</u> POP already diagnosed Sufficient time for Mary to ask questions and for POP and PFMT to be discussed sufficiently External motivating factor (+) This was a major influencing factor	POP diagnosed post partum POP and PFMT discussed by Lisa as primary purpose of consultation Clinical/research setting Importance of routine understood Intrinsic motivating (+) This was a major influencing factor
Behavioural outcome	Immediate competing demands and preferences	No apparent immediate competing demands Motivating (0) This was not an influencing factor	"Laziness" a factor in not doing more PFMT i.e. an immediate competing **preference** is to NOT do PFMT rather than to do it. The needs of family were an competing **demand** Being busy and time-poor Intrinsic and extrinsic motivating (-) This was a major influencing factor for one participant in this case and acknowledged by the clinician Lisa as a factor in women's difficulty with adherence to PFMT
		In the TPB, the difference between actual and perceived control in relation to an individual performing a behaviour is those external factors that individuals have little control over – such as the immediate competing demands of family.	
	Commitment to a plan of action	<u>Prior to interview</u> No apparent commitment Motivating (0) <u>Post interview</u> Some suggestion of commitment to implementing a PFMT regime Motivating (+) This was not a major influencing factor	Committed to PFMT as a life long behaviour Intrinsic motivating (+) This was major influencing factor
	Health promoting behaviour	<u>Prior to interview</u> Unlikely to participate in PFMT <u>Post interview</u> More likely to participate in PFMT	Likely to engage with PFMT as a health promoting behaviour.
		Gap between intention or commitment to a plan of action not explained by HPM, SCT or TPB.	

4.4 Results summary

The patient/client participants possessed a unique combination of personal and socio-cultural factors that have a bearing on their ability and motivation to perform PFMT. Their attitudes towards health and the sequelae of aging, as well as the role they played in family life were influential in their decision to undertake PFMT. There was also variability in the way that they understood PFMT, which is situated within the social context of PFD, an array of hidden conditions associated with stigma. Stigma may contribute to a lack of discussion regarding POP and PFMT amongst women and society in general. Although it may seem counterintuitive, the stigmatisation of PFD was also associated with normalisation by both clinicians and women. This combination may result in further reduced understanding and awareness regarding POP amongst women, which is perhaps the foremost barrier to women undertaking PFMT for prevention of POP. The individual woman within her socio-cultural context is a key concept in understanding women's choices to undertake PFMT.

Motivation (or intention) to initiate PFMT for an asymptomatic prolapse may be based on the knowledge of long term perceived benefits such as prevention of symptoms or in the knowledge that it may provide more immediate benefits of positive affect or increased sexual pleasure. However intention is not sufficient for the development of an effective PFMT routine maintained over an extended period of time. A woman's sense of self-efficacy for PFMT is an important factor in determining women's choices to undertake PFMT.

The clinical context and the way in which asymptomatic POP is identified and explained, and in which PFMT is addressed, is important to the understanding and appreciation of both the condition and the success of the health promoting behaviour. How the clinician manages the diagnosis and discussion of POP has the potential to either motivate women to do PFMT or to have a negative impact on how women perceive POP and PFMT. Recognition of how the health promoting moment is managed between the client and clinician has a

valuable role to play in assisting women in their decision to make PFMT a lifelong health promoting behaviour.

Chapter Five

Discussion

This research began with the question of how and why women with mild asymptomatic POP engage with pelvic floor muscle training in a primary care setting. The research proposition was that; *there are internal and external influences that affect women's choices about performing PFMT, and it is the way that these influences are motivating or not that affect their choice. Influences may not be the same for every woman and nor is the degree to which they may, or may not, act as a motivator.*

The analysis generated three major influences. The first was *the individual woman and her socio-cultural context,* which identified the woman's individual and socio-cultural factors that influenced whether she performed PFMT or not. These factors include, social silence, fear of symptoms, aging, and the role of family. The second influence *self-efficacy for PFMT* was evidenced in Mary's lack of experience regarding POP and PFMT prior to her consultation with Glenda and the study interview which contrasted with the self-efficacy demonstrated by Louise and Jane. Mary lacked the knowledge and skills about how to do the exercises and why they are important. She had no outcome expectations about the benefits of PFMT. During the interview she developed an intention towards PFMT, and the role of self-efficacy is explored as a link between intention and action to perform a behaviour. In comparison Louise and Jane, participants in PREVPROL, had received extensive education regarding POP and supervised training in PFMT; both had developed self-efficacy for PFMT. The third influence was *delivery of health education.* Again, there was strong contrast in Mary's experience of being introduced to POP and PFMT compared to Louise and Jane. Particular differences were the clinical setting, the individual clinicians and the purpose

of the interaction. These factors combined resulted in Mary, and Louise and Jane, having different perspectives and attitudes towards PFMT and POP.

While discussed as three influences, there are nevertheless links between them. For example, the concepts of personal agency, self-efficacy, and expectation outcomes are evident in all three influences to a greater or lesser extent. As another example, the ability for women to develop self-efficacy for PFMT is limited when the socio-cultural environment is one of 'social silence' about genital health. If an individual is unaware of PFMT then it is difficult to develop self-efficacy for PFMT.

This chapter begins with a discussion of the three major influences and links between them. These influences are also examined and discussed with reference to other qualitative studies relating to PFMT, POP and SUI. The qualitative literature on PFMT for SUI (a closely related pelvic floor dysfunction) is included because of the limited available literature on POP. The usefulness of Pender's HPM and three rival theories (SCT, TPB and PMT) are considered as explanations of the main influences on women's choices and motivation. A deliberate focus on the meaning and implications of the findings for Family Planning settings is adopted, as my reason for undertaking the research was to understanding more about how to support women to better health in my own practice context. The chapter concludes with a discussion of this study's strengths and limits.

5.1 Socio-cultural context

5.1.1 The 'wider' social knowledge and attitudes to PFD and PFMT

This study shows that the information women receive about POP and PFMT varies. For Mary, Jane and Louise, their main informants about POP and PFMT were clinicians in the primary care setting (Mary) or as part of research (Louise and Jane). Mary mentioned that she had received some information on PFMT more than thirty years ago at the time of having her children. However, she had difficulty recalling this and in fact initially denied that she had ever

heard of PFMT prior to her consultation with Glenda. She said that she had never been told that she needed to do PFMT and had never heard of POP. This is in contrast to the PREVPROL participants who had both received education as part of the study. Understandably, Louise and Jane had greater health literacy specific to POP and PFMT compared to Mary. Mary's experience was more akin to that discovered by Senekijan, Heintz, Egger, and Nygaard (2011) who explored women's health literacy regarding pelvic floor disorders and found that 25% of women understood the term pelvic floor dysfunction, 50% understood POP and almost all women understood the term urinary incontinence (UI) (Senekijan et al., 2011).

There seems to be a lack of information in society for women regarding POP, but comparatively more information regarding SUI than POP due to marketing of medication and sanitary products i.e. information regarding SUI has been moved from the medical domain to common media (Low & Tumbarello, 2012). However the same transition has not occurred for POP and woman are more reliant on clinicians as sources of information on POP compared to SUI (Low & Tumbarello, 2012; Pakbaz, Rolfsman, Mogren, & Lofgren, 2011). The evidence of paucity of information about POP highlights the important role clinicians can play in raising awareness of POP with women and encouraging PFMT. In addition it suggests the need for a social media campaign aimed at promoting PFMT for prevention of POP.

There may be other socio-cultural factors that influence the information women receive about PFMT; for example language barriers and level of education. In the United States (U.S) 200 Hispanic women were surveyed six months postpartum regarding instruction on PFMT and only 20% of them had received information about SUI and PFMT in pregnancy and postpartum. Of the women who had not received information, 81% said they wished they had. The authors concluded that rates of PFMT in Hispanic women were low, and suggested that ethnicity might influence the information offered to women. However, the design did not include women of other ethnic groups so it is unclear whether Hispanic women are disadvantaged. However, the study did show that Hispanic women whose first language was Spanish and women with

lower levels of education were less likely to have received information about PFMT, with the inference that education and language barriers may be a factor in whether women receive PFMT during pregnancy or postpartum (Sangi-Haphpeykar, Mozayeni, Young, & Fine, 2008).

Other demographic facts may affect the quality of PFMT instruction provided to women. Results of a structured cross sectional survey of 289 women in the third trimester of pregnancy in Scotland showed that younger women, first time mothers and women from deprived backgrounds were least likely to have received information about PFMT (Whitford, Alder, & Jones, 2007).

A societal knowledge deficit for POP is likely exacerbated by a 'social silence' that exists around POP. POP is described as a covert or hidden condition (Kiyosaki et al., 2012; Pakbaz, Persson, Lofgren, & Mogren, 2010) and PFMT a silent and private exercise (E. J. Hay-Smith, Ryan, & Dean, 2007). People tend not to discuss POP as it is potentially embarrassing and generally not a culturally acceptable topic of conversation (Low & Tumbarello, 2012). The silence about POP fits with the similar experience of those with SUI. A qualitative interview study of 28 women by Ashworth and Hagan (1993) on the meaning of incontinence to non-geriatric women, found that women described incontinence as a forbidden topic that was not polite to talk about; it was associated with sex, defecation and periods. It seems that POP, another condition associated with genitals, is also considered in the same way.

Mary's experience was suggestive of 'social silence.' She had never heard of POP and had limited understanding of PFMT. When I asked Mary if she had ever discussed PFMT with her friends or mother she replied "certainly not," suggesting to me that conversations regarding topics such as PFMT were taboo for Mary. In contrast the PREVPROL participants did report talking with others about PFMT. Louise reported discussing PFMT with other women at work and used the stigma associated with SUI to "ridicule" one particular co-worker into doing PFMT, while Jane shared her knowledge of PFMT with her pregnant daughters. Jane and Louise were much more comfortable in

discussing PFMT and POP; they had much more (both health professional contact and time) opportunity to become familiar with the language and concepts of PFD. It is possible that education and opportunity to discuss the topic with a trusted health professional extinguishes the social silence around PFD and gives women the confidence and knowledge to be able to discuss PFD with ease. It is conceivable that, in the Family Planning setting, women opportunistically identified with POP could be invited to return for one or more follow up consultations to address the information deficit, build their confidence and knowledge about POP, gradually filling the social silence.

Normalisation is potentially a further contributor to the lack of social knowledge about PFMT and POP. People may normalise conditions such as SUI as an expected consequence of aging or childbirth (Ashworth & Hagan, 1993; Basu & Duckett, 2009). As a consequence of normalisation, women may consider that their symptoms usual and unremarkable, are not severe enough to require treatment, that there is no treatment, or that other conditions are more worthy of treatment (Basu & Duckett, 2009; Jackson, Botelho, Welch, Joseph, & Tennstedt, 2012). Normalisation of SUI decreases motivation for help seeking and effective symptom management (Jackson et al., 2012). Symptomatic women may blame themselves for not doing PFMT or not doing it effectively, and these factors may also result in an acceptance of SUI and a lack of help-seeking (Ashworth & Hagan, 1993; Mitteness & Barker, 1995).

Normalisation appeared in the current study when Glenda described how clinicians might normalise PFD in order to allay women's potential anxiety that there is something wrong with them. However in doing so the risk is that clinicians may create a false sense of security for women (and perhaps themselves as women and clinicians) and perhaps unwittingly decrease women's motivation to perform PFMT. In the current study normalisation did not occur for Louise and Jane. This was probably related to their contact with Lisa, who clearly showed her opposition to normalisation of PFD. It is also likely that there was a lower risk of anxiety associated with the diagnosis because of the ongoing contact and support from Lisa. Mary however is likely

to have experienced normalisation during her consultation at Family Planning, as Glenda acknowledged that when discussing POP she describes it as a common consequence of childbirth. However Mary experienced an increase in anxiety because she was asymptomatic for POP and the diagnosis was an unexpected finding for her. Women in other qualitative studies also describe their experience of clinician dismissal of women's concerns regarding PFD attributing them to aging or childbirth and indicating that PFD is something that needs to be lived with, for example (Ashworth & Hagan, 1993). Normalisation of POP and SUI, acceptance, guilt, and a lack of help seeking may all contribute further to the silence that exists around PFD and PFMT.

In regards to Pender's HPM, social attitudes (including stigma) of the health condition are incorporated in the socio-cultural context. However social attitudes also overlap with interpersonal influence as the expectations of significant others represent social norms. Social stigma is an external factor that has the potential to negatively influence women's motivation to perform PFMT for prevention of POP because it has the potential to limit awareness of the condition.

5.1.2 Social attitudes/beliefs about ageing

The results of this study showed that the women with POP did associate this with aging and that age is perhaps seen as an inevitable decline in bodily function. Mary, the oldest client/patient participant, portrayed a relatively positive perspective on aging, while Louise and Jane conveyed a more negative sense of the physical consequences of aging. Louise expressed that she was not even sure she would live into older age, while Jane, who experienced chronic sinus allergies, displayed most clearly her aversion to the negative consequences of aging. What all three women had in common was that they considered it important to guard against the physical sequelae of age, and saw there was a role for PFMT as part of this. This was congruent with Lisa and Glenda's beliefs that the risk of PFD increases with age, and that

PFMT is an important PFD preventive health behaviour across the lifespan and into older age.

Aging as a socio-cultural construct in western countries is associated with positive and negative connotations. It can be seen as an undesirable degenerative disease process, which is perhaps the prevalent view perpetuated in society (Dionigi, Horton, & Bellamy, 2011). The other perspective is a more positive one where successful ageing is associated with physical and mental activity, personal contentment and development and meaningful social interaction (Dionigi et al., 2011). Dionigi et al. (2011) conducted in-depth interviews with 21 women aged between 75 and 92, who were predominantly white, middle class, American women. The women were classified in terms of their level of physical activity. Active women spoke about "old" in terms of other people whereas inactive women self-identified with "old" and did so in a positive way. Active older women were more likely to identify aging in terms of a degenerative process whereas less active women focused less on the physical aspects of aging and more on the benefits that older age can provide. All women spoke of setting goals, overcoming challenges and having a positive frame of mind. Taking responsibility for their own health was an empowering experience (Dionigi et al., 2011). While Mary, Louise and Jane were younger than the women in the previous study, taking responsibility for health was a strong influence in the decisions that all three women, (but especially Mary) made regarding health. For example, during the interview Mary formed an intention to undertake PFMT as part of her plans for her future health stating "it's something I have to do".

Aging can represent an additional set of challenges to people living with chronic conditions. Mary (hip osteoarthritis), Louise (sinus allergies) and Jane (ongoing dental issues) all had chronic conditions. Giddings, Roy, and Predeger (2007) undertook a qualitative study using focus groups to determine the attitudes towards getting older amongst seven women living with chronic conditions (rheumatoid arthritis, Parkinson's, multiple sclerosis and chronic pain) living in Aotearoa New Zealand. The women were aged between 50-58 (similar to Mary and a little older than Louise and Jane) and the authors

described this age group as “almost old”. Results showed that these women saw age as an equaliser as the women around them developed difficulties that were already a part of the participant’s reality, for example pain and decreased mobility. The women were quite matter of fact regarding aging and felt already prepared (compared to their peers who did not have a chronic condition) for the physical consequences of aging. However they were also aware that further health effects associated with age could negatively impact on their current chronic condition. They described this as a “double whammy,” and the women were motivated regarding their health and participated in a variety of health promoting behaviours to try and prevent this from occurring. The women described the importance of “living in the moment” and valued social support via family, friends, and the role of trusted health professionals (Giddings et al., 2007). This interpersonal influence is reflected in Mary’s case where she valued the contribution her surgeon made to her management of her hip osteoarthritis (refer to 4.1.2b). The value of the trusted health professional was also shown in Louise and Mary’s case by the role that Lisa played in delivering the PFMT education and ongoing support (refer to 4.2.2b).

Women’s views of aging in developed countries are formed within a culture rich with anti-ageing messages. There is much in the literature regarding perspectives on aging, and the role of media and popular culture in promoting a youth orientated culture, which does not value the positive aspects of aging. Fashion magazines largely represent images of young women and portray messages that fuel fear of aging and potentially damage self-esteem for older women. Older women celebrities are honoured for sending the message that ageing is acceptable but only in the context of fame and wealth. These older women are described in the context of “agelessness.” “Anti-aging” skin products to promote youthful appearance send a clear message that wrinkles and fine lines are an unacceptable and unattractive feature in older women (Lewis, Medvedev, & Seponski, 2011).

The cosmetic and pharmaceutical industries have contrived to create a culture where women are “at risk” of aging and that signs of age must be treated.

Further to this message, women have a responsibility to promote youthfulness. Cosmetics companies provide the answers to women's quest for youthful beautify and normalise this as a social desire (Smirnova, 2012). Western society has a youth orientated culture and women may deny or conceal the effects of age on their bodies. Whereas menopause used to be considered a natural transition it is now an undesirable indicator of old age and perceived as an illness that requires medical intervention. This reflects general attitudes towards midlife and aging where women perceive a loss of control over the changes that occur to the body (Utz, 2011). Given that PFD is associated with aging it is not surprising then that PFD is also associated with lack of control over the body and an overall negative connotation.

Women's perceptions about a loss of control over their bodies, and their fatalistic sense that this control is irretrievable, were identified by Lisa. She reported that this perception made some women feel that PFMT may not make any difference to their pelvic floor and then wonder if it was worth doing the exercises at all. This is also suggested by Basu and Duckett (2009) who state that women may feel that as the pelvic floor continues to lose strength with age that perhaps treatments, such as PFMT, may be less effective as women get older (Basu & Duckett, 2009).

Aging may be a motivating or de-motivating influence on women's decisions to perform PFMT depending on women's perception of aging. A positive perception of aging may be an intrinsic motivating factor to undertake PFMT in order to achieve a strong pelvic floor as part of positive aging. Equally, negative perceptions (due to stigmatisation) of aging as a 'loss of control' may be either an extrinsic de-motivating or motivating influence on women's motivation to perform PFMT. Normalisation of POP as an inevitable decline of the body to be accepted is a de-motivating influence for women to perform PFMT. Aging and stigmatisation of aging associated with PFD in both the biological and socio-cultural context are personal factors in Pender's HPM. However the 'directness' and significance of the role socio-cultural context plays in women's motivation to perform PFMT is not clearly articulated in Pender's model.

5.1.3 Social attitudes/beliefs about the expected social role of women as mothers

Mary, Louise and Jane were all mothers, however Louise was the only client/patient participant who had young children, and whose children lived at home with her. The expected social roles of women in their families may act as a negative, de-motivating influence on PFMT. The concept of mothers placing the needs of their children before their own is widely known. The term 'communion' as a personality trait that refers to the connection that we have with others. Greater levels of 'communion' are more commonly associated with women, evidenced by women's closer relationships and superior interpersonal skills compared with men (Helgeson & Fritz, 1998). 'Unmitigated communion' is also more commonly associated with women but is characterised by an excessive concern for the welfare of others to the detriment of the individual's own needs and often results in psychological distress. 'Unmitigated communion' and 'communion' are gender-related traits developed through sex-role socialisation (Helgeson & Fritz, 1998).

Those individuals who demonstrate 'unmitigated union' are more likely to hold negative self-views, low self-confidence and underestimate their abilities. Women high in 'communion' are more likely to give and receive support whereas women high in 'unmitigated communion' give support but are less likely to receive it. The adverse effect of 'unmitigated communion' is that women neglect their own needs to the extent that they suffer poorer physical and psychological health (Helgeson & Fritz, 1998).

The 'mother' role as a barrier to performing PFMT was most apparent in the case of Louise; she was the only participant in the current study who was caring for young children. She spoke directly of the fact that when her children were at home, her PFMT regime was forgotten, and her smoking cessation effort challenged, as she attended to their needs and wishes. Furthermore, Louise displayed behaviours consistent with low self-esteem; such as avoiding eye contact, looking at her hands when speaking, and she

also appeared shy. Low self-esteem is a feature of 'unmitigated communion' (Helgeson & Fritz, 1998).

More widely, and not confined to mothering, caring for family as priority was a significant theme in a qualitative study on women's experiences of PFMT for symptomatic POP by Hyland et al. (2014). Some women in the study were able to maintain a PFMT and meet the needs of their families, while other women were less able to do this. All participants placed the needs of their family as a high priority. Hyland et al. suggested that adherence to PFMT is likely to decline if the needs of the family are placed first.

A mixed methods study of women's experiences of POP and health seeking practices in a hill district of Nepal demonstrated family as a barrier to seeking care for symptomatic POP (Shrestha et al., 2014). Gender roles in Nepal are traditionally divided so that women are responsible for child rearing and domestic tasks. Women experience lower levels of literacy, and social and financial status compared to men. Many women in the study did not share the nature of their PFD with their husbands or seek help for the shame of the intimate nature of prolapse and anything to do with sex and genitalia. They feared their husbands would abandon or divorce them. Women whose husband and husband's family knew about their POP suffered ridicule or abuse. A major barrier to seeking medical treatment was a lack support from their husband (Shrestha et al., 2014). The culture and the sharp division of gender roles in Nepalese culture are less evident in Aoteaora New Zealand. Nevertheless, Hyland et al. (2014) also found that women were unlikely to receive familial support for their PFMT endeavours.

Pender's HPM does not explain this relationship between the social context knowledge, and skills as well as Ajzen's TPB (see Chapter Two, section 2.5 Models of health promotion). The TPB concept of actual control includes having the appropriate knowledge and skills, combined with the necessary resources, social support and behavioural affect. When these requirements are met and there is sufficient actual control, the individual has a high degree of intention and this predicts the behaviour (Ajzen, 2012). The socio-culturally

perpetuated concept of women as ‘self-less’ carers, where the needs of the children come before the needs of the mother was a negative motivating factor in women’s choices to perform PFMT.

5.2 Personal agency and PFMT self-efficacy

5.2.1 Personal agency for general health

Many of the interview questions in this study were designed to explore the participant’s experiences and attitudes towards health. In the current study all three clients/patients had the experience of a chronic health condition and displayed varying ways of managing and coping with this. For Mary, hip surgery provided a dramatic increase in quality of life and a positive experience of a private health care system. Louise was close to achieving her long awaited dental surgery for chronic dental issues. Jane spoke of the limitations that her sinus allergies placed on her ability to function day-to-day and her lack of control over her symptoms. Responses to these individual circumstances showed how personal agency and self-efficacy are important concepts in achieving health promoting behaviours. Bandura describes personal agency and self-efficacy thus, “to be an agent is to influence the course of events by one’s actions. In this view, people are contributors to their life circumstances, not just products of them” (Bandura, 2012, p. 349). Underlying personal agency is the concept of self-efficacy. “Perceived self-efficacy refers to beliefs in one’s own capabilities to organize and execute the courses of action required to produce certain attainments” (Bandura, 1997, p. 3).

People with high degrees of self-efficacy set higher goals (Bandura, 2012). Mary displayed a high level of personal agency in maintaining her health and demonstrated self-efficacy by setting a goal of being “100%” in regards to health and having a plan to achieve this. She evocatively described the challenges she faced and the determination she applied in order to receive the hip surgery she required. She did not accept that waiting for her condition to

deteriorate in order to get surgery in the public system was an option for her. Mary was absolutely committed to regaining her fitness and mobility after surgery and had both a high regard for the benefits of health in general and high expectations in terms of her health. In the current study Glenda identified the importance of individual self-agency in health promotion. She described how during a consultation she will seek to work with women on a health issue, provide information and advice, but then women need to take responsibility for working on this themselves, "it's part of their working on it".

Louise appeared to have relatively low levels of personal agency and self-efficacy regarding particular aspects of her health. Louise managed to quit smoking during her pregnancies and was motivated do this by the knowledge that smoking in pregnancy can lead to lower birth weights. She knew that this was potentially harmful for the baby's health. This was a strong motivation for her but once the babies were born the motivation to stay smoke free was lost. Her current smoking cessation plan to gradually cut down on cigarettes was not associated with a strategy on how she will manage challenges to her goal, nor was it bound by a timeframe. This attempt to reduce smoking was motivated by a desire to live longer and may well have been influenced by her husband's successful quit attempt. However, both her motivation to quit and self-efficacy to maintain a downwards trend in the number of cigarettes she smoked are not currently sufficient to achieve her goal of smoking cessation. Louise admitted that when she stressed, for example with having the children home for the school holidays, her smoking level increased.

Jane's level of agency and self-efficacy regarding her health varied according to the health issue. Despite the limitations of her chronic sinus allergies Jane was motivated to improve her general fitness in order to support her daughter to pass a fitness test. Jane started running with her daughter and achieved a level of fitness where she started to notice increased well-being. This perceived benefit provided further motivation to continue the behaviour. However summer and increasing air-borne allergens, combined with an injury, reduced her ability to be an agent in achieving the degree of personal fitness she aspired to.

Like Louise, Jane was also a smoker and had previously been successful in quitting twice. The first attempt at smoking cessation was externally motivated by her first husband; his death and the associated stress resulted in a return to smoking. The second time Jane was successful in smoking cessation was more internally motivated by the knowledge that smoking cessation is good for your health, that is, her expected outcome was improved health. However another stressful event prompted a return to smoking. Jane's rationale for smoking was that it is the only way she knows how to manage her stress. From an outside perspective, particularly a clinician, this would seem a mal-adaptive strategy for stress management, given that there are recognised ways of managing stress that are not associated with the harmful effects of smoking. However outcome expectations are highly subjective and sometimes irrational when perceived by others. People do not always consider alternative forms of action and their probable outcomes which may often result in poor choice of behaviour (Bandura, 1997).

Perceived benefits of behaviour change, or expectation outcomes, have been shown to be a useful self-regulatory way to initiate a health behaviour. Perceived benefits motivate the individual to reduce the perceived difference in current health status with that of the desired health status. However perceived benefits are not effective in behaviour maintenance. Instead, behaviour maintenance is achieved when the individual is driven to maintain their present health status (King, Rothman, & Jeffery, 2002). King et al. (2002) develop this further to describe behaviour initiation as an approach based self-regulatory process whereby a favourable health behaviour is acquired. Whereas health maintenance is an avoidance process (i.e. avoidance of a perceived undesirable health state), where the satisfaction that comes with acquiring the behaviour affirms the decision for the initial behaviour change, and provides the motivation to sustain the effort to continue the behaviour.

In a smoking cessation intervention study involving 452 college students in America, outcome expectancy and motivation to quit were found to be predictive of smoking cessation but not maintenance. However while motivation was strongly related to the quit attempt, overall expectation

outcomes were not found to be strongly associated with smoking outcomes. Conversely, self-efficacy was found to be strongly predictive of smoking cessation maintenance but less predictive of quitting (Lee, Catley, & Harris, 2014). These results were echoed in the secondary data analysis of 214 smokers motivated to quit within the next six months, who were allocated to the control arm of a web based smoking intervention study. Motivation or intention to quit predicted the quit attempt but self-efficacy predicted maintenance success (Smit, Hoving, Schelleman-Offermans, West, & de Vries, 2014). The result of these studies would appear to be congruent with both Jane and Louise's smoking cessation experiences.

5.2.2 Self-efficacy for PFMT

Both Jane and Louise had significant and specific experience of PFMT from their involvement in PREVPROL and ongoing performance of the behaviour. They had achieved PFMT as a behaviour and this had clearly motivated them to continue, creating a positive feedback loop where the behaviour reinforces the motivation. Mary had minimal previous experience of PFMT but a high degree of agency for her own general health, including physical activity. If a specific or related behavior has been accomplished previously, the individual has a greater self-efficacy for the behaviour in the future (Tompkins, 2013). A positive perspective on Mary's lack of PFMT specific experience is that she had no negative experiences of trying to do PFMT with subsequent failure and demoralisation. However, due to the 'social silence' that exists around POP and PFMT, nor did she have positive role models for vicarious learning. By the end of the interview Mary did have a positive outlook on her ability to control her future pelvic health.

Jane, Louise and Mary felt that they did not specifically need support people to help them with their PFMT endeavours. However, Lisa did get encouragement from her husband initially in the PREVPROL trial due to an increase in sexual pleasure associated with the increased tone of her pelvic floor. Jane and Louise used their knowledge of the benefits of PFMT to actively persuade family or friends to engage in the behaviour. However a

major influence on Louise and Jane's self-efficacy for PFMT was the education provided by Lisa as part of the PREPVROL trial. Lisa has significant experience in PFD and PFMT education. She has a variety of ways in which she can teach PFMT, despite the fact that from a skill perspective, PFMT is not a behaviour that can be learnt by watching. Lisa has been involved in delivery of PFMT in both the PREVPROL and the POPPY trials. In these trials PFMT instruction was carried out by physiotherapists specialised in women's health over a number of visits. A Cochrane review found that women who are seen for a number of visits during the supervised PFMT period are more likely to experience an improvement in their pelvic floor function (E. J. Hay-Smith, Herderschee, Dumoulin, & Herbison, 2011). However several appointments for each woman referred to a specialist physiotherapist is potentially problematic as there are only a small number of physiotherapists who specialise in women's health and they already have large caseloads (Hagen, Stark, et al., 2014). During the interview Lisa spoke about the demand for her clinics and services, and Glenda also described how she felt the current service for specialist physiotherapy support would be unable to cope with an increase in referrals to provide more extensive supervised PFMT. Historically much of specialist physiotherapy work has been regarding SUI. Hagen, Stark, et al. (2014) suggest that such services be expanded to be able to manage referrals for POP.

Jane was assessed as adherent to PFMT in the PREVPROL trial. Jane's mastery of PFMT as a skill and the ability to incorporate it so effectively into her life, gave her a sense of control that she was unable to achieve with her sinus allergies. Despite Louise being assessed as non-adherent to PFMT in the PREVPROL trial, she articulated during the interview that she was adherent most of the time, confident in her ability to perform the exercises and perceived both long and short term benefits from PFMT. Both Jane and Louise experienced tangible and non-tangible benefits of PFMT. Perceiving benefits, and meeting outcome expectancies, are likely motivating influence on the women's choices to perform PFMT. By contrast, Mary had minimal knowledge of how to do PFMT or outcome expectancies of the behaviour.

Clinicians have the ability to prompt women to consider expected outcomes of PFMT to increase women's motivation to initiate PFMT. This could potentially be PFMT in order to prevent symptoms of PFD or PFMT to ameliorate symptoms. Outcome expectancy can be demonstrated with the two cases in this study. Mary, who was at the point of behaviour initiation, was motivated to begin PFMT as an approach self-regulatory process, in order to achieve her goal of a strong pelvic floor in order to prevent deterioration of her POP and potential SUI. Louise and Jane were in the maintenance process, whereby they not only perceived the long-term prevention benefits but each articulated more immediate benefits of PFMT. For Louise this was increased sexual pleasure for her and her husband, and Jane it was the feeling of being "virtuous" for doing the exercises. Sometimes these more subtle expectancy outcomes, such as feeling virtuous for performing a given behaviour, are in essence realisation of personal standards, and may often be valued more highly than tangible benefits (Bandura, 1997). This is particularly significant for performing a health behaviour like PFMT for prevention of POP when the tangible outcome is the 'absence' of symptoms over a prolonged period. This is in contrast to PFMT for management of symptomatic POP where a reduction in symptoms has the potential to positively influence the performance of the behaviour.

Self-efficacy is a major contributor to the extent to which people will act, particularly when it comes to a skill or competency based behaviour. That is, a person needs to believe that they can perform the behaviour adequately in order to achieve the expected outcome. A low sense of self-efficacy can void a person's motivation to achieve an outcome, but equally a high sense of self-efficacy can sustain personal effort to achieve an expected outcome over a prolonged period of time (Bandura, 1997). Jane and Louise both show PFMT specific self-efficacy. A sense of self-efficacy for PFMT has been shown to be important in long-term adherence to PFMT (Whitford & Jones, 2011). Jane in particular had managed to incorporate the exercises effectively into her daily routine while Louise performed the exercises more opportunistically, a regime which was easily disrupted by the demands of her family. Women who are

able to incorporate PFMT into their daily lives are more likely to demonstrate long-term adherence (Alewijnse et al., 2001).

Mary, at the beginning of the interview demonstrated low self-efficacy for PFMT. She was neither confident in her ability to do the exercises, nor was she aware of the benefits of PFMT. Over the course of the interview, as her knowledge increased, she demonstrated greater personal agency towards PFMT and with it a more positive perspective on PFMT. Mary demonstrated an intention to incorporate PFMT into her daily life. However it is likely that she did not yet have the self-efficacy to transform the intention into the behaviour.

5.2.3 The 'intention-behaviour gap'

During the course of the interview with Mary, where she began to discover the purpose and benefits of PFMT for prevention of POP, she expressed an intention to perform PFMT. She also demonstrated the beginning of a plan; how she might achieve the behaviour by incorporating the exercises into her daily activities. Mary already had a high level of personal agency for health behavours, however she had not yet demonstrated PFMT as a behavioural outcome. According to Ajzen's TPB, intention predicts behaviour. In a study to determine predictors of adherence to PFMT for symptomatic SUI, Alewijnse et al. (2001) used the Attitude-Social influence-Self-efficacy (ASE) model developed to analyse the determinants of adherence to PFMT. This model assumes that a change in behaviour is predicted by the person's intention to undertake that behaviour. Intention is itself determined by; attitudes, social expectations, expected self-efficacy. It is heavily influenced by TPB and SCT (Alewijnse et al., 2001). Alewijnse et al. administered a questionnaire to 129 women with symptomatic SUI. The questionnaire asked questions regarding significant ASE and also external influences that may affect women's intention to adhere to PFMT. Measured variables were intention to adhere to PFMT as instructed by a physiotherapist, attitude measuring perceived benefits and disadvantages of PFMT. Social influence was measured using questions regarding social norms, modeling, social

support and social pressure. Self-efficacy was measured in terms of abilities and difficulties. External; variables: incontinence symptoms and affect of quality of life, self-esteem (body esteem and sexual abuse), subjective general heath, social desirability and socio-demographic variables. Of the ASE determinants self-efficacy was found to be the only variable that significantly predicted intention and of the external variables the woman who lost large amounts of urine per wet episode had a higher intention to adhere to PFMT. Self-efficacy could be assessed by asking women if they feel able to perform PFMT, and incorporate the exercises into their daily lives (Alewijnse et al., 2001).

However a major criticism of the TPB is that it predicts intentions well but intention does not predict behaviour (Sniehotta, scholze, & Schwarzer, 2005). In general the concept of intention in behaviour change is well understood. Translating intention into behavior is often described as the 'intention-behaviour gap' (Sniehotta et al., 2005). Pender's HPM similarly displays this gap with its proposition of 'commitment to plan of action', however Pender's propositions are inter-dependant and fluid, rather than the implied linear structure of the TPB. The 'intention-behaviour gap' is a particular area of research in the area of health behaviour (Sniehotta et al., 2005). Sniehotta et al. undertook a study to investigate the role of action planning, self-efficacy, and action-control as mediators for both intention and subsequent physical activity in cardiac rehabilitation. Action control is an internal force that works to maintain a health behaviour and prevent relapse. The three facets of action control are; awareness of own standards, self-monitoring and self-regulatory effort (Parschau et al., 2013). Action control in this context was defined as the degree of effort the individual made to undertake physical activity in relation to their rehabilitation. Self-efficacy played an important role in action planning. All three factors mediated intentions to exercise and subsequent physical activity (Sniehotta et al., 2005).

Interestingly, the three clients/participants described PFMT as "easy" while Glenda and Lisa's impression was that women find it difficult. This apparent dichotomy in perception may well be explained by the fact that Glenda and

Lisa both see many women in the course of their women's health practice who have tried and potentially failed to either perform an effective pelvic floor contraction or manage a regular PFMT regime. Whereas, Louise and Jane were selected from a homogenous population of the PREVPROL intervention arm who had received superior PFMT training compared to the average female population. Mary, on the other hand, while she had a high degree of personal agency for health promoting behaviour, and demonstrated intention to perform PFMT, had not yet attempted the behaviour and lacked self-efficacy for PFMT. She perhaps did not yet appreciate some of the difficulties that many women face in regards to PFMT. It is conceivable that self efficacy for PFMT; that is the belief in one's own ability to perform the behaviour and confidence that it will achieve expected outcomes, is the gap between intention to perform PFMT and the behaviour itself.

5.3 Health promotion delivery

5.3.1 Education

Health professions tend to provide health information they think clients/patients need to know in order to achieve a health promoting behaviour. Education tends to be done rather well by most health practitioners and while it is essential that people are aware of the risks of unhealthy behaviours and the benefits of health promoting behaviours, education is less important that skills, motivation and opportunity to achieve a health promoting behaviour (O'Donnell, 2005).

Both clinicians, Lisa and Glenda, spoke of the importance of empowerment in their practice. They spoke of empowerment as enabling women to take control of their health. Lisa and Glenda described empowerment as providing women with the information, knowledge, skills and motivation to take with them and utilise in their day to day lives. These clinicians spoke about knowledge and mastery of a skill as the ability to take control of one's own physical health. This is consistent with a description of empowerment by Green and Tones (2010) who state that empowerment is widely understood to be the action of transferring power to those that lack power in order for them to take control of their lives and health and in its broadest sense empowerment means enabling individuals and communities (Zimmerman & Rappaport, 1988).

5.3.2 Fear

In the present study all participants articulated the benefits of PFMT in the prevention of both SUI and POP symptoms. However the way they spoke about motivation to perform PFMT for the prevention of symptoms suggested a fear based motivation. An example of this is when Jane said; "…I don't want to be an… older woman needing incontinence pads." While Mary said, "oh well I have to [do PFMT]…you don't want to end up incontinent".

Pender's HPM deliberately avoids the inclusion of fear or negative reinforcement factors to assist in health promotion. This is to promote a wellness rather than illness orientation to health (Pender et al., 2006). In clinical practice when discussing PFMT with women who are asymptomatic it is difficult to communicate the importance of PFMT to prevent POP and SUI without also conveying the information that the woman is inherently at risk of these conditions by virtue of being a woman, who may well have borne at least one child, and is ageing. Women may receive this as confirmation of their existing thinking and thus the message reinforces the potential for normalisation, or the message may provoke a fear of future risk. It is possible that Louise, Jane and Mary all perceived the education they received about POP and its risk factors as a fear appeal to prompt PFMT. In addition, a socio-cultural context in which PFD is stigmatised may also contribute to a fear of developing symptoms.

Fear appeals can increase intention and motivation but not action (Ruiter, Kessels, Peters, & Kok, 2014). If this is correct then Louise and Jane clearly had other additional sources of motivation to maintain their self-efficacy for long-term adherence to PFMT, such as perceived benefits or outcome expectancy. For Louise, Jane and Mary, fear of developing symptoms was an external motivating factor to perform PFMT for prevention but is unlikely to have played a significant role in Louse and Jane's long-term adherence.

Mary demonstrated intention during the interview and it is not clear how much the intention was in response to an increase perception of future risk and therefore potential fear arousal. Fear appeals in health promotion typically consist of the initial presentation of a threat to which the individual is susceptible, which is designed to evoke a fear. This is followed by advice on how the individual can protect themselves, usually by a strategy that is able to not only neutralise the effect, but is easy to use and accessible to the individual (Ruiter et al., 2001). The basic premise is that the fear appeal elicits a fear response and the subsequent health promotion message results in a fear reduction, prompting acceptance of the desired health promoting behaviour. A

common example of this is the use of condoms to prevent transmission of HIV (Ruiter et al., 2001).

Fear appeals are popular in health education and frequently heavily loaded with information regarding the threat but that this is the least persuasive aspect of the message. In general health education programs based on fear appeal tend to be ineffective in producing permanent behaviour change and may even be counter-productive by inducing risk denial (Ruiter et al., 2014) The key to delivering a health message is to make it personally relevant to the individual and to increase self-efficacy in regards to the suggested health promoting behaviour (Ruiter et al., 2014).

5.3.3 Communication

The interaction and communication between the client and clinician is important for health education (Senekijan et al., 2011). Glenda felt it was important that Family Planning clinicians to provide a safe environment for women to discuss their PFD, and to ask women specifically about potential symptoms or concerns. Glenda felt that women may be more comfortable discussing these issues at Family Planning, an organisation which specialises in sexual and reproductive health, compared to their GP (especially if the GP is male).

In the case of Mary and Glenda there was a disparity in the level of understanding Glenda presumed Mary would have regarding POP and the actual knowledge that Mary possessed. In general clinicians tend to overestimate the degree of health literacy of clients. It is important that clinicians use simple language to describe a client's health condition with an emphasis on the client's experience of the condition rather than the underlying patho-physiology. Clinicians should also take the time to check that the client understands the information that is provided (Safeer & Keenan, 2005).

Use of simple language has also been identified as important to describe the hidden muscles that make up the pelvic floor (E. J. Hay-Smith et al., 2007).

The lack of public knowledge of POP combined with the lack of terminology regarding POP that lay people can easily grasp, means that a knowledge gap exists between women and clinicians (Low & Tumbarello, 2012). A further qualitative study by Kiyosaki et al. (2012) demonstrated the importance of using simple language to describe PFD and also the importance of PFMT instruction following the diagnosis. This study involved 20 women with symptomatic SUI or POP who were interviewed before and after a specialist consultation. The interviews were analysed using grounded theory methodology to determine the effect of the physician consultation on women's understanding of their pelvic floor disorder. During the consultation women had a pelvic assessment to determine pelvic strength and were given information, including the use of pelvic models, to describe the condition. PFMT was discussed and a demonstration of how to perform a pelvic floor contraction was provided. The outcome of the study was that most women could not recall information regarding the diagnosis but had a good understanding of the plan for treatment. Women were relieved that there was something that they could do to improve the condition and that they could control this themselves. The researchers felt that the difficulty in recalling information regarding the diagnosis was related to difficulty in understanding medical terminology. This was despite all women having a higher education (Kiyosaki et al., 2012).

Teaching the skill of PFMT is a core aspect of Lisa's work. She spoke of how choice of language is important when trying to describe a pelvic floor contraction so that women can understand what it feels like to perform a pelvic floor contraction effectively. If ultrasound is available as biofeedback, this was also an important tool to help women achieve a sense of self-efficacy in their PFMT efforts. Glenda and Lisa both felt it important that clients/patients are aware of; the nature of POP, how it is caused and the potential long term effects of PFD, the benefits of PFMT and how to effectively perform the exercises, and how to manage PFMT as a long term behaviour. During the interview with Mary, these were the things that she seemed to want to know. Glenda spoke of how women want explanations of how POP is caused, and value the use of models and teaching aids. In the

study by Hyland et al. (2014) that explored women's experiences of doing PFMT for the management of symptomatic POP, women valued the use of a variety of teaching aids for education on POP and PFMT.

5.3.4 Time and priorities

The purpose of the interaction between the client/participants was an important situational influence that determined the way in which the clinicians were able to provide advice and education about PFMT and POP. In Mary's case, the purpose of the visit was for a cervical smear and the set time for the appointment did not allow for the opportunistic finding of POP to be managed at the same visit. This is in contrast with Louise and Jane, who had already been diagnosed with asymptomatic POP prior to their first and subsequent visits with Lisa.

This shows how the purpose of the visit determines the priority of the consultation, with implications for the time that can be spent on opportunistic findings (such as POP). However finding time, or in the Family Planning context making a subsequent appointment, to provide education and advice on POP and PFMT was found to be important in a study by Low and Tumbarello (2012). Low and Tumbarello (2012) undertook semi-structured interviews with 13 women who had been diagnosed with POP. Content analysis was undertaken using a framework of authoritative knowledge to determine women's knowledge and experience of POP. In discussing diagnosis of POP, the authors suggested that applying a diagnostic term to an opportunistically diagnosed POP does not necessarily increase the women's perception of need for treatment or prevention. In fact giving a name to something that is not causing the woman concerns can cause anxiety and alteration in body image (Low & Tumbarello, 2012). The authors suggest that the value of diagnosis is when it is followed with education regarding prevention of deterioration of the prolapse and development of symptoms.

In the current study Glenda suggested that perhaps Family Planning could become more involved in providing ongoing management for women in the area of PFD and PFMT. While Family Planning clinicians do not have the physiotherapy expertise, there is potential to develop a brief intervention package without the need to refer woman on to specialist services for evaluation of the pelvic floor and supervised PFMT instruction. The feasibility of using a brief intervention to deliver PFMT as a health promoting behaviour, without the need for a specialist examination or advice, was investigated by Henderson, Wang, Egger, Masters, and Nygaard (2013). They undertook a cross sectional study of 779 women with POP, SUI, both or neither. POP was assessed using POP-Q scores and 50% of women had symptoms of SUI or POP. Women were given a simple verbal prompt to perform a contraction of the pelvic floor and assessed by digital examination by a nurse researcher. If there was no contraction, or the contraction involved significant gluteal contraction, or Valsalva, the women were given a further brief verbal cue. Results showed that 84% of women contracted their pelvic floor muscles on the initial request. Of those women who needed a further verbal cue the majority were then able to contract their pelvic floor muscles. Women with both SUI and POP were less able to contract correctly on the initial prompt. Women with POP were less likely to achieve a contraction following the second verbal cue compared to women with neither POP nor SUI. The authors suggested that this brief intervention would avoid the need for a pelvic floor specialist to provide an examination and supervised PFMT, but women with POP would benefit from a more comprehensive PFMT program (Henderson et al., 2013). It seems this initiative offers considerable potential for a setting such as Family Planning and instituting it would potentially help women achieve the basic skill of a correct PFM contraction. With that, women have more confidence and have a foundation for development of skill mastery. Further, Family Planning clinicians could easily add these teaching skills to their toolkit. They already have advanced skills in pelvic examination and consequent familiarity with genital anatomy and physiology, and are comfortable discussing pelvic health with women. With a small amount of extra training, FP clinicians could incorporate the assessment and teaching of a PFM contraction in everyday practice

Health promotion delivery is an external factor, which has the potential to be motivating or de-motivating in regards to a women's decision to perform PFMT. The health promoting moment and the role of the clinician in this is perhaps under represented in Pender's HPM in regards to PFMT and POP. On receiving a diagnosis of mild asymptomatic POP, women benefit from follow through education about the condition and the benefits of PFMT. The clinician has the potential to strongly influence women's self-efficacy for PFMT through education and support. Transferring knowledge and skills to women in a way that she can understand and relate to, is vital for women to achieve a sense of self-efficacy but the way in which it is done is important. Clinicians need to be able to convey the significance of POP as part of pelvic health without normalisation to avoid women becoming complacent and decreasing motivation to perform PFMT.

5.4 Discussion summary

The patients/clients in the study had variable experiences of PFMT education. The PREVPROL participants had good levels of self-efficacy for PFMT resulting in long-term adherence. In contrast, the Family Planning participant, Mary, had low levels of self-efficacy for PFMT; yet high levels of personal agency for general health promoting behaviours such as general physical exercise.

The socio-cultural context was found to be a major influence on women's motivation to perform PFMT for prevention of POP. This includes society's stigmatised attitudes and beliefs about POP and genital health, and how these limit societal knowledge about POP and PFMT creates a 'social silence'. As a proposition in Pender's HPM the socio-cultural context reflects the consequences of social attitudes and norms in undertaking PFMT, however this is augmented by Ajzen's TPB. Attitudes towards aging, also appears to be a factor in POP and PFMT. PFD is associated with aging, and aging has become a stigmatised condition in itself. This further limits the social acceptability of PFD and PFMT and decreases awareness. It is impossible to

develop motivation for a health behaviour (such as PFMT) for prevention of a condition (such as POP) if a woman knows nothing about it. Although it seems contradictory, normalisation of the stigmatised condition PFD, decreases motivation by facilitating acceptance of PFD as a condition that it is inevitable and perhaps incurable.

Personal agency and self-efficacy for PFMT was another strong influence on women's motivation. Self-efficacy is a key factor across Pender's HPM, Ajzen's TPB and Bandura's SCT. The PREVPROL participant's highlighted the importance of having mastery of PFMT as a skill and a good understanding of the outcome expectancies in order to achieve self-efficacy for long-term PFMT adherence. Lisa, the PREVPROL physiotherapist with specialist knowledge and expertise, was a key influence in the way in which self-efficacy evolved for these participants. This was in contrast to Mary, the Family Planning participant, who was opportunistically identified with POP in a setting, which did not allow for the same degree of education and follow up as that provided in the PREVPROL trial. While Mary developed an intention to undertake PFMT, she did not have the self-efficacy to transform intention to behaviour i.e. self-efficacy for PFMT is the key to crossing the 'intention-behaviour gap'.

The final influence on women's motivation was that of health promotion delivery. The nature and type of information delivered to women is important to their future self-efficacy. The education needs to involve clear, simple language and basic concepts. It may also be beneficial to use a variety of teaching aids and ideally involve biofeedback for mastery of the skill aspect of PFMT. This study shows how the setting and priority of the consultation can have a bearing on subsequent attitudes and beliefs about PFMT and POP.

Interestingly fear appeals to motivate women towards PFMT, was identified by the participants/clients. According to PMT, fear appeals, motivate action towards a behaviour but are not generally effective in producing long term adherence. Although clinicians may not intend to utilise fear appeals, it may be difficult to provide education about potential pathophysiology (i.e.

symptomatic POP) without inducing a fear appeal in the woman. In discussing the diagnosis of POP it is essential to follow through with advice and information on how to prevent or manage the condition in order to allay potential anxiety.

5.5 Review of health promotion models

Pender's HPM was overall a useful framework for this research. It provided the basis for the interview questions and guided the analysis of the theoretical propositions in both cases. Particularly relevant to both cases was the significance of the HPM's personal factors, prior related behaviour, interpersonal influences, situational influences and immediate competing demands as either motivating, neutral or de-motivating factors to undertake PFMT.

The contending theories TPB, SCT and PMT overlapped with Pender's HPM in terms of the significance of the socio-cultural context (TPB), perceived benefits of a health behavior and personal agency (SCT). However, it is likely that no one model can be used to fully describe or predict a health behaviour such as PFMT. The rival theory TPB identified the role that fear of symptoms (or poor health outcomes) plays in motivating women to do PFMT which is in contrast to Pender's HPM. The TPB also offered the distinction between Pender's 'commitment to a plan of action' and 'intention' to undertake a health behaviour. It is suggested in this study that self-efficacy is the bridge between intention and PFMT as a health behaviour.

5.6 Strengths and limits

A major strength of this study is the use of two cases that provide a comparison between the 'ideal' (PREVPROL context) way of delivering PFMT instruction and the 'reality' (Family Planning context). In the 'ideal' setting women were already diagnosed with asymptomatic POP and the clinician was an expert physiotherapist in women's health with significant experience in helping women with their PFD. There was also relatively unlimited time. Except for the luxury of time, this data may be representative of specialist women's health physiotherapists working in a hospital-based practice. In the "reality" setting, the Family Planning case provided a comparison to the 'ideal' management, identifying the difficulties clinicians face in trying to incorporate PFMT advice and education into a consultation associated with an opportunistic finding of POP, that is quite separate to the purpose of the visit. This aspect of the study is applicable to the general practice, primary care setting where GPs and practice nurses may perform pelvic examinations as part of smear taking. The deliberate inclusion of a Family Planning case is a strength of the study, because the general practice setting is probably the most common way women are identified with asymptomatic POP.

A further advantage to the study was the immediate rapport experienced during the interviews with the two clinician participants, as they were already known to me in a collegial sense. While the PREVPROL participants, having already been involved in a research study, were perhaps more at ease with talking to a stranger about POP compared to the Family Planning client participant. It is possible that my role as a Family Planning clinician helped in putting the client/patient participants at ease as I am comfortable discussing issues relating to sexual and reproductive health.

In light of the fact that the influence of socio-cultural context was found to be a significant factor in women's motivation to perform PFMT, a major limit to

this study was that the participants, both clinician and client/patients, were all New Zealand European. There were no Māori, Pacific Island or Asian participants. In addition, the clinicians were both women. This means the data may not be able to be interpreted in the light of male clinicians, for example male GPs. This is important because the gender of the clinician may impact on the nature of the interpersonal influence the clinician can exert on women's motivation to perform PFMT.

It is important to consider the potential therapeutic role that the nature of the interview, and my role as a nurse played in providing information and support for Mary regarding POP and PFMT. During the interview Mary asked questions about POP and PFMT and it was both appropriate and important that I answered them, both from a health perspective and to elicit Mary's potential attitude to PFMT as a health promoting behaviour. It was at this time that providing education created a role conflict between that of nurse and researcher. Providing education about PFMT and POP may have influenced Mary's responses during the interview, ultimately affecting the outcomes of the study. However, during the interview Mary developed an intention towards PFMT which provided valuable data about the important difference between intention and action.

5.7 Implications for future research and clinical practice

This research has prompted the idea to conduct further research on the implementation of strategies for Family Planning clinicians to promote good pelvic health with clients. For example, research could be undertaken by a group of Family Planning clinicians to determine 'how to enable women to have the skills to prevent POP as part of our work in promoting good pelvic health'. The Family Planning group could work together to develop a range of strategies, including a brief intervention package around an agreed health promotion framework. Topics could cover PFMT and other lifestyle measures important for pelvic health (for example smoking and weight loss). However, it could also involve the development of a CD or DVD, webpage, or pamphlet.

Such packages could potentially enable staff to provide more effective health promotion advice and instruction about POP and PFMT within the time constraints of a typical consultation. The interventions would be implemented and evaluated by both women and staff to determine their usefulness in the clinical setting. Evaluation would also assess the intervention's effectiveness and acceptability in promoting and improving uptake and adherence to PFMT, and other health behaviours that are important in maintaining good pelvic health.

References

Ajzen, Icek. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179-211. doi: http://dx.doi.org/10.1016/0749-5978%2891%2990020-T

Ajzen, Icek. (2012). The theory of planned behavior. *Van Lange, Paul A*(Kruglanski, Arie W [Ed]; Higgins, E. Tory [Ed]. (2012). Handbook of theories of social psychology (Vol 1). (pp. 438-459). 562 pp. California, USA:), Sage Publications Ltd.

Ajzen, Icek, & Sheikh, Sana. (2013). Action versus inaction: Anticipated affect in the theory of planned behavior. *Journal of Applied Social Psychology, 43*(1), 155-162. doi: http://dx.doi.org/10.1111/j.1559-1816.2012.00989.x

Alewijnse, D., Mesters, I., Metsemakers, J., Adriaans, J., & van den Borne, B. (2001). Predictors of intention to adhere to physiotherapy among women with urinary incontinence. *Health Education Research, 16*(2), 173-186. doi: http://dx.doi.org/10.1093/her/16.2.173

Altman, D., Forsman, M., Falconer, C., & Lichtenstein, P. (2008). Genetic influence on stress urinary incontinence and pelvic organ prolapse. *European Urology, 54*(4), 918-922. doi: 10.1016/j.eururo.2007.12.004

Ashton-Miller, J. A., & DeLancey, J. O. (2007). Functional anatomy of the female pelvic floor. In K. Bo, B. Berghmans, S. Morkved & M. Van Kampen (Eds.), *Evidence-based physical therapy for the pelvic floor: bridging science and clinical practice*. London, UK: Churchill Livingstone Elsevier.

Ashworth, P. D., & Hagan, M. T. (1993). The meaning of incontinence: a qualitative study of non-geriatric urinary incontinence sufferers. *Journal of Advanced Nursing, 18*(9), 1415-1423. doi: http://dx.doi.org/10.1046/j.1365-2648.1993.18091415.x

Baessler, K., & Schuessler, B. (2003). Childbirth-induced trauma to the urethral continence mechanism: review and recommendations. *Urology, 62*(4 Suppl 1), 39-44.

Balmforth, J., & Robinson, D. (2007). Pelvic floor dysfunction and evidence-based physical therapy. In K. Bo, B. Berghmans, S. Morkved & M. Van Kampen (Eds.), *Evidence-based physical therapy for the pelvic floor: bridging science and clinical practice*. London, UK: Churchill Livingstone Elsevier.

Bandura, A. (1997). *Self efficacy: the exercise of control*. New York, USA: W.H Freeman and Company.

Bandura, A. (2012). Social Cognitive Theory. *Van Lange, Paul A*(Kruglanski, Arie W [Ed]; Higgins, E. Tory [Ed]. (2012). Handbook of theories of social psychology (Vol 1). (pp. 438-459). 562 pp. California, USA), Sage Publications Ltd.

Baracho, S. M., Barbosa da Silva, L., Baracho, E., Lopes da Silva Filho, A., Sampaio, R. F., & Mello de Figueiredo, E. (2012). Pelvic floor muscle strength predicts stress urinary incontinence in primiparous women after vaginal delivery. *International Urogynecology Journal, 23*(7), 899-906. doi: http://dx.doi.org/10.1007/s00192-012-1681-7

Basu, M., & Duckett, J. R. (2009). Barriers to seeking treatment for women with persistent or recurrent symptoms in urogynaecology. *BJOG: An International Journal of Obstetrics & Gynaecology, 116*(5), 726-730. doi: http://dx.doi.org/10.1111/j.1471-0528.2008.02098.x

Benner, P. (1984). *From novice to expert: excellence and power in clinical nursing practice*. California, USA: Addison Wesley Publications Co.

Bidmead, J., & Cardozo, L. D. (1998). Pelvic floor changes in the older woman. *British Journal of Urology, 82 Suppl 1*, 18-25. doi: http://dx.doi.org/10.1046/j.1464-410x.1998.0820s1018.x

Blumer, H. (1969). *Symbolic interactionism*. London, UK: Prentice-Hall International, Inc.

Bø, K. (2004). Pelvic floor muscle training is effective in treatment of female stress urinary incontinence, but how does it work? *International Urogynecology Journal, 15*(2), 76-84. doi: 10.1007/s00192-004-1125-0

Bø, K. (2006). Can pelvic floor muscle training prevent and treat pelvic organ prolapse? *Acta Obstetricia et Gynecologica Scandinavica, 85*(3), 263-268. doi: http://dx.doi.org/10.1080/00016340500486800

Boreham, M. K., Wai, C. Y., Miller, R. T., Schaffer, J. I., & Word, R. A. (2002). Morphometric analysis of smooth muscle in the anterior vaginal wall of women with pelvic organ prolapse. *American Journal of Obstetrics & Gynecology, 187*(1), 56-63. doi: http://dx.doi.org/10.1067/mob.2002.124843

Boyle, Rhianon, Hay-Smith, E. Jean C., Cody, June D., & Morkved, Siv. (2012). Pelvic floor muscle training for prevention and treatment of urinary and faecal incontinence in antenatal and postnatal women. *Cochrane Database of Systematic Reviews*(10). doi: http://dx.doi.org/10.1002/14651858.CD007471.pub2

Bradley, C. S., Zimmerman, M. B., Qi, Y., & Nygaard, I. E. (2007). Natural history of pelvic organ prolapse in postmenopausal women. *Obstetrics & Gynecology, 109*(4), 848-854. doi: 10.1097/01.AOG.0000255977.91296.5d

Braekken, I, Majida, M, Engh, M, & Bo, K. (2010a). Morphological changes after pelvic floor muscle training measured by 3-dimensional ultrasonography a randomized controlled trial. *Obstetrics and Gynecology, 115*(2), 317-324. doi: http://dx.doi.org/10.1097/aog.0b013e3181cbd35f

Braekken, I. , Majida, M., Ellstrom, Engh M., & Bo, K. (2010). Pelvic floor muscle strength, endurance and vaginal resting pressure are positively associated with muscle thickness, size of levator hiatus and position of the bladder in women with prolapse stage I, II and III. A 3d/4d sltrasound study. *International Urogynecology Journal, 21*, S363-S364. doi: http://dx.doi.org/10.1002/nau.22384

Braun, Virginia, & Clarke, Victoria. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101. doi: http://dx.doi.org/10.1191/1478088706qp063oa

Brinkman, S. (2013). *Qualitative interviewing: understanding qualitative research*. New York USA: Oxford University Press.

Brubaker, L. , & Sacralides, T.J. (Eds.). (1996). *The female pelvic floor: Disorders of function and support*. Philadelphia, USA: F.A. Davis Company.

Buchsbaum, G. M. (2006). Urinary incontinence and pelvic organ prolapse. *Minerva Urologica e Nefrologica, 58*(4), 311-319. doi:

http://ovidsp.ovid.com/ovidweb.cgi?T=JS&CSC=Y&NEWS=N&PAGE=fulltext&D=med4&AN=17268396
http://rb6fc7tv6s.search.serialssolutions.com?url_ver=Z39.88-2004&rft_val_fmt=info:ofi/fmt:kev:mtx:journal&rfr_id=info:sid/Ovid:med4&rft.genre=article&rft_id=info:doi/&rft_id=info:pmid/17268396&rft.issn=0393-2249&rft.volume=58&rft.issue=4&rft.spage=311&rft.pages=311-9&rft.date=2006&rft.jtitle=Minerva+Urologica+e+Nefrologica&rft.atitle=Urinary+incontinence+and+pelvic+organ+prolapse.&rft.aulast=Buchsbaum

Buchsbaum, G. M., & Duecy, E. E. (2008). Incontinence and pelvic organ prolapse in parous/nulliparous pairs of identical twins. *Neurourology & Urodynamics, 27*(6), 496-498. doi: http://dx.doi.org/10.1002/nau.20555

Bugge, Carol, Adams, Elisabeth J., Gopinath, Deepa, & Reid, Fiona. (2013). Pessaries (mechanical devices) for pelvic organ prolapse in women [Systematic Review]. *Cochrane Database of Systematic Reviews*, 2. doi: 10.1002/14651858.CD004010.pub3

Bump, R. C., Mattiasson, A., Bo, K., Brubaker, L. P., DeLancey, J. O., Klarskov, P., . . . Smith, A. R. (1996). The standardization of terminology of female pelvic organ prolapse and pelvic floor dysfunction. *American Journal of Obstetrics & Gynecology, 175*(1), 10-17. doi: http://dx.doi.org/10.1016/s0002-9378(96)70243-0

Bump, R. C., & Norton, P. A. (1998). Epidemiology and natural history of pelvic floor dysfunction. *Obstetrics & Gynecology Clinics of North America, 25*(4), 723-746. doi: http://dx.doi.org/10.1016/s0889-8545(05)70039-5

Cardozo, L., & Staskin, D. (Eds.). (2001). *Textbook of female urology and urogynaecology*. London, UK: Isis Medical Media Ltd.

Carriere, B., & Markel Feldt, C. (2006). *The pelvic floor* (O. French, Trans.). New York, U.S.A: Georg Thieme Verlag.

Casey, B. M., Schaffer, J. I., Bloom, S. L., Heartwell, S. F., McIntire, D. D., & Leveno, K. J. (2005). Obstetric antecedents for postpartum pelvic floor dysfunction. *American Journal of Obstetrics & Gynecology, 192*(5), 1655-1662. doi: 10.1016/j.ajog.2004.11.031

Chaliha, C., & Stanton, S. L. (2002). Urological problems in pregnancy. *BJU International, 89*(5), 469-476. doi: http://dx.doi.org/10.1046/j.1464-410x.2002.02657.x

Chiarelli, P., Murphy, B., & Cockburn, J. (2003). Women's knowledge, practises, and intentions regarding correct pelvic floor exercises. *Neurourology & Urodynamics, 22*(3), 246-249. doi: 10.1002/nau.10119

Crotty, M. (2002). *The foundations of social research: meaning and perspective in the research process* (2nd ed.). London: Sage Publications.

Daniel, Rebecca, Mallen, Christian David, & Cooper, Jason. (2010). 10-minute consultation Female stress urinary incontinence. *British Medical Journal, 340*, b5533. doi: http://dx.doi.org/10.1136/bmj.b5533

Davis, K. J., Kumar, D., & Wake, M. C. (2010). Pelvic floor dysfunction: a scoping study exploring current service provision in the UK, interprofessional collaboration and future management priorities. *International Journal of Clinical Practice, 64*(12), 1661-1670. doi: http://dx.doi.org/10.1111/j.1742-1241.2010.02509.x

Delancey, J. O., Kane Low, L., Miller, J. M., Patel, D. A., & Tumbarello, J. A. (2008). Graphic integration of causal factors of pelvic floor disorders: an integrated life span model. *American Journal of Obstetrics & Gynecology, 199*(6), 610.e611-615. doi: http://dx.doi.org/10.1016/j.ajog.2008.04.001

Deng, D. Y. (2011). Urinary incontinence in women. *Medical Clinics of North America, 95*(1), 101-109. doi: http://dx.doi.org/10.1016/j.mcna.2010.08.022

Dhital, Rolina, Otsuka, Keiko, Poudel, Krishna C., Yasuoka, Junko, Dangal, Ganesh, & Jimba, Masamine. (2013). Improved quality of life after surgery for pelvic organ prolapse in Nepalese women. *BMC women's health, 13*, 22-22. doi: http://dx.doi.org/10.1186/1472-6874-13-22

Dietz, H. P. (2008). Prolapse worsens with age, doesn't it? *Australian & New Zealand Journal of Obstetrics & Gynaecology, 48*(6), 587-591. doi: http://dx.doi.org/10.1111/j.1479-828X.2008.00904.x

Dietz, H. P., Clarke, B., & Vancaillie, T. G. (2002). Vaginal childbirth and bladder neck mobility. *Australian & New Zealand Journal of Obstetrics & Gynaecology, 42*(5), 522-525. doi: http://dx.doi.org/10.1111/j.0004-8666.2002.00522.x

Dionigi, Rylee A., Horton, Sean, & Bellamy, Joselyne. (2011). Meanings of aging among older Canadian women of varying physical activity levels. *Leisure Sciences, 33*(5), 402-419. doi: http://dx.doi.org/10.1080/01490400.2011.606779

Dumoulin, C., & Hay-Smith, J. (2010). Pelvic floor muscle training versus no treatment, or inactive control treatments, for urinary incontinence in women. *Cochrane Database of Systematic Reviews*(1), CD005654. doi: http://dx.doi.org/10.1002/14651858.CD005654.pub2

Family Planning. (n.d.). Family Planning NZ. Retrieved 12/11/14, from http://www.familyplanning.org.nz/

Folland, J. P., & Williams, A. G. (2007). The adaptations to strength training : morphological and neurological contributions to increased strength. *Sports Medicine, 37*(2), 145-168. doi: http://dx.doi.org/10.2165/00007256-200737020-00004

Fritel, X., Varnoux, N., Zins, M., Breart, G., & Ringa, V. (2009). Symptomatic pelvic organ prolapse at midlife, quality of life, and risk factors. *Obstetrics & Gynecology, 113*(3), 609-616. doi: http://dx.doi.org/10.1097/AOG.0b013e3181985312

Ghetti, C., Lowder, J. L., Ellison, R., Krohn, M. A., & Moalli, P. (2010). Depressive symptoms in women seeking surgery for pelvic organ prolapse. *International Urogynecology Journal, 21*(7), 855-860. doi: http://dx.doi.org/10.1007/s00192-010-1106-4

Giddings, Lynne S., Roy, Dianne E., & Predeger, Elizabeth. (2007). Women's experience of ageing with a chronic condition. *Journal of Advanced Nursing, 58*(6), 557-565. doi: http://dx.doi.org/10.1111/j.1365-2648.2007.04243.x

Green, J., & Tones, K. (2010). *Health promotion: planning and strategies* (2 ed.). Los Angeles, U.S.A: SAGE.

Hagen, S., Glazener, C., McClurg, D., MacArthur, C., Herbison, P., Wilson, D., . . . Elders, A. (2014). A multicentre randomised controlled trial for a pelvic floor muscle training intervention for the prevention of pelvic organ

prolapse (PREVPROL) [Abstract]. *Neurourology & Urodynamics, 33*(6), 852-853.

Hagen, S., Stark, D., Glazener, C., Dickson, S., Barry, S., Elders, A., . . . Collaborators, Poppy Trial. (2014). Individualised pelvic floor muscle training in women with pelvic organ prolapse (POPPY): a multicentre randomised controlled trial. *Lancet, 383*(9919), 796-806. doi: http://dx.doi.org/10.1016/S0140-6736(13)61977-7

Hagen, Suzanne, & Stark, Diane. (2011). Conservative prevention and management of pelvic organ prolapse in women. *Cochrane Database of Systematic Reviews*(12). doi: http://dx.doi.org/10.1002/14651858.CD003882.pub4

Hagen, Suzanne, Stark, Diane, Glazener, Cathryn, Sinclair, Lesley, & Ramsay, Ian. (2009). A randomized controlled trial of pelvic floor muscle training for stages I and II pelvic organ prolapse. *International Urogynecology Journal, 20*(1), 45-51. doi: 10.1007/s00192-008-0726-4

Hay-Smith, E. J., Herderschee, R., Dumoulin, C., & Herbison, G. P. (2011). Comparisons of approaches to pelvic floor muscle training for urinary incontinence in women. *Cochrane Database of Systematic Reviews*(12), CD009508. doi: http://dx.doi.org/10.1002/14651858.CD009508

Hay-Smith, E. J., Ryan, K., & Dean, S. (2007). The silent, private exercise: experiences of pelvic floor muscle training in a sample of women with stress urinary incontinence. *Pysiotherapy, 94*, 53-61. doi: 10.1016/j.physio.2006.10.005

Hay-Smith, J., Morkved, S., Fairbrother, K. A., & Herbison, G. P. (2008). Pelvic floor muscle training for prevention and treatment of urinary and faecal incontinence in antenatal and postnatal women. *Cochrane Database of Systematic Reviews*(4), CD007471. doi: http://dx.doi.org/10.1002/14651858.CD007471

Hay-Smith, J., Morkved, S., Fairbrother, K. A., & Herbison, G. P. (2009). Pelvic Floor Muscle Training for Prevention and Treatment of Urinary and Faecal Incontinence in Antenatal and Postnatal Women. *Obstetrics and Gynecology, 113*(3), 733-735. doi: doi: 10.1097/AOG.0b013e31819b3a07

Helgeson, Vicki S., & Fritz, Heidi L. (1998). A theory of unmitigated communion. *Personality and Social Psychology Review, 2*(3), 173-183. doi: http://dx.doi.org/10.1207/s15327957pspr0203_2

Henderson, J. W., Wang, S., Egger, M. J., Masters, M., & Nygaard, I. (2013). Can women correctly contract their pelvic floor muscles without formal instruction? *Female Pelvic Medicine & Reconstructive Surgery, 19*(1), 8-12. doi: http://dx.doi.org/10.1097/SPV.0b013e31827ab9d0

Hendrix, S. L., Clark, A., Nygaard, I., Aragaki, A., Barnabei, V., & McTiernan, A. (2002). Pelvic organ prolapse in the Women's Health Initiative: gravity and gravidity. *American Journal of Obstetrics & Gynecology, 186*(6), 1160-1166. doi: http://dx.doi.org/10.1067/mob.2002.123819

Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research, 15*(9), 1277-1288. doi: 10.1177/1049732305276687

Hunskaar, S. A systematic review of overweight and obesity as risk factors and targets for clinical intervention for urinary incontinence in women. *Neurourology & Urodynamics, 27*(8), 749-757. doi: 10.1002/nau.20635

Hyland, G., Hay-Smith, J., & Treharne, G. (2014). Women's experiences of doing long-term pelvic floor muscle exercises for the treatment of pelvic organ prolapse symptoms. *International Urogynecology Journal, 25*(2), 265-271. doi: http://dx.doi.org/10.1007/s00192-013-2202-z

Ismail, Sharif I., Bain, Christine, & Hagen, Suzanne. (2010). Oestrogens for treatment or prevention of pelvic organ prolapse in postmenopausal women. *Cochrane Database of Systematic Reviews*(9). doi: 10.1002/14651858.CD007063.pub2

Jackson, C. B., Botelho, E. M., Welch, L. C., Joseph, J., & Tennstedt, S. L. (2012). Talking with others about stigmatized health conditions: implications for managing symptoms. *Qualitative Health Research, 22*(11), 1468-1475. doi: http://dx.doi.org/10.1177/1049732312450323

Jelovsek, J. E., Maher, C., & Barber, M. D. (2007). Pelvic organ prolapse. *Lancet, 369*(9566), 1027-1038. doi: 10.1016/S0140-6736(07)60462-0

Kegel, A. H. (1951). Physiologic therapy for urinary stress incontinence. *Journal of the American Medical Association, 146*(10), 915-917. doi: http://dx.doi.org/10.1001/jama.1951.03670100035008

King, C. M., Rothman, A. J., & Jeffery, R. W. (2002). The Challenge study: theory-based interventions for smoking and weight loss. *Health Education Research, 17*(5), 522-530. doi: http://dx.doi.org/10.1093/her/17.5.522

Kiyosaki, K., Ackerman, A. L., Histed, S., Sevilla, C., Eilber, K., Maliski, S., . . . Anger, J. (2012). Patients' understanding of pelvic floor disorders: what women want to know. *Female Pelvic Medicine & Reconstructive Surgery, 18*(3), 137-142. doi: http://dx.doi.org/10.1097/SPV.0b013e318254f09c

Kuncharapu, I., Majeroni, B. A., & Johnson, D. W. (2010). Pelvic organ prolapse. *American Family Physician, 81*(9), 1111-1117. doi: http://ovidsp.ovid.com/ovidweb.cgi?T=JS&CSC=Y&NEWS=N&PAGE=fulltext&D=medl&AN=20433127 http://rb6fc7tv6s.search.serialssolutions.com?url_ver=Z39.88-2004&rft_val_fmt=info:ofi/fmt:kev:mtx:journal&rfr_id=info:sid/Ovid:medl&rft.genre=article&rft_id=info:doi/&rft_id=info:pmid/20433127&rft.issn=0002-838X&rft.volume=81&rft.issue=9&rft.spage=1111&rft.pages=1111-7&rft.date=2010&rft.jtitle=American+Family+Physician&rft.atitle=Pelvic+organ+prolapse.&rft.aulast=Kuncharapu

Lee, Hyoung S., Catley, Delwyn, & Harris, Kari Jo. (2014). Improving understanding of the quitting process: psychological predictors of quit attempts versus smoking cessation maintenance among college students. *Substance Use & Misuse, 49*(10), 1332-1339. doi: http://dx.doi.org/10.3109/10826084.2014.901386

Lentz, G.. Lobo, R., Gershenson, D., & Katz, V. (Ed.). (2012). *Anatomic Defects of the Abdominal Wall and Pelvic Floor: Abdominal and Inguinal Hernias, Cystocele, Urethrocele, Enterocele, Rectocele, Uterine and Vaginal Prolapse: Diagnosis and Management.* (6th ed.). Philadelphia, U.S.A: Mosby, Elsevier.

Lewis, Denise C., Medvedev, Katalin, & Seponski, Desiree M. (2011). Awakening to the desires of older women: deconstructing ageism within fashion magazines. *Journal of Aging Studies, 25*(2), 101-109. doi: http://dx.doi.org/10.1016/j.jaging.2010.08.016

Liu, X., Zhao, Y., Pawlyk, B., Damaser, M., & Li, T. (2006). Failure of elastic fiber homeostasis leads to pelvic floor disorders. *American Journal of Pathology, 168*(2), 519-528. doi: 10.2353/ajpath.2006.050399

Low, L. K., & Tumbarello, J. A. (2012). Falling out: authoritative knowledge and women's experiences with pelvic organ prolapse. *Journal of Midwifery & Women's Health, 57*(5), 489-494. doi: http://dx.doi.org/10.1111/j.1542-2011.2012.00187.x

Maddux, James E., & Rogers, Ronald W. (1983). Protection motivation and self-efficacy: A revised theory of fear appeals and attitude change. *Journal of Experimental Social Psychology, 19*(5), 469-479. doi: http://dx.doi.org/10.1016/0022-1031%2883%2990023-9

Maher, Christopher, Feiner, Benjamin, Baessler, Kaven, & Schmid, Corina. (2013). Surgical management of pelvic organ prolapse in women. *Cochrane database of systematic reviews (Online), 4*, CD004014-CD004014. doi: 10.1002/14651858.CD004014.pub5

Mattox, T. F., Lucente, V., McIntyre, P., Miklos, J. R., & Tomezsko, J. (2000). Abnormal spinal curvature and its relationship to pelvic organ prolapse. *American Journal of Obstetrics & Gynecology, 183*(6), 1381-1384; discussion 1384. doi: 10.1067/mob.2000.111489

Mitteness, L. S., & Barker, J. C. (1995). Stigmatizing a "normal" condition: urinary incontinence in late life. *Medical Anthropology Quarterly, 9*(2), 188-210. doi: http://dx.doi.org/10.1525/maq.1995.9.2.02a00050

O'Donnell, M. P. (2005). What works best? Knowledge, skills, motivation, and opportunity. *American Journal of Health Promotion, 19*(5), iv. doi: http://dx.doi.org/10.4278/0890-1171-19.5.iv

Pakbaz, M., Persson, M., Lofgren, M., & Mogren, I. (2010). 'A hidden disorder until the pieces fall into place'--a qualitative study of vaginal prolapse. *BMC women's health, 10*, 18. doi: http://dx.doi.org/10.1186/1472-6874-10-18

Pakbaz, M., Rolfsman, E., Mogren, I., & Lofgren, M. (2011). Vaginal prolapse--perceptions and healthcare-seeking behavior among women prior to gynecological surgery. *Acta Obstetricia et Gynecologica Scandinavica, 90*(10), 1115-1120. doi: http://dx.doi.org/10.1111/j.1600-0412.2011.01225.x

Parschau, L., Fleig, L., Koring, M., Lange, D., Knoll, N., Schwarzer, R., & Lippke, S. (2013). Positive experience, self-efficacy, and action control predict physical activity changes: a moderated mediation analysis. *British Journal of Health Psychology, 18*(2), 395-406. doi: http://dx.doi.org/10.1111/j.2044-8287.2012.02099.x

Pender, N., Murdaugh, C., & Parsons, M. (2006). *Health promotion in nursing practice* (5th ed.). New Jersey, USA: Pearson Education, Inc.

Reay Jones, N. H., Healy, J. C., King, L. J., Saini, S., Shousha, S., & Allen-Mersh, T. G. (2003). Pelvic connective tissue resilience decreases with vaginal delivery, menopause and uterine prolapse. *British Journal of Surgery, 90*(4), 466-472. doi: 10.1002/bjs.4065

Reddy, J., Barber, M. D., Walters, M. D., Paraiso, M. F., & Jelovsek, J. E. (2011). Lower abdominal and pelvic pain with advanced pelvic organ prolapse: a case-control study. *American Journal of Obstetrics & Gynecology, 204*(6), 537.e531-535. doi: http://dx.doi.org/10.1016/j.ajog.2011.01.015

Richardson, K., & Hagen, S. (2009). The role of nurses in the management of women with pelvic organ prolapse. *British Journal of Nursing, 18*(5), 294-296, 298-300. doi: http://dx.doi.org/10.12968/bjon.2009.18.5.40710

Rogers, Ronald W. (1975). A protection motivation theory of fear appeals and attitude change. *The Journal of Psychology: Interdisciplinary and Applied, 91*(1), 93-114. doi: http://dx.doi.org/10.1080/00223980.1975.9915803

Rortveit, G., Brown, J. S., Thom, D. H., Van Den Eeden, S. K., Creasman, J. M., & Subak, L. L. (2007). Symptomatic pelvic organ prolapse: prevalence and risk factors in a population-based, racially diverse cohort. *Obstetrics & Gynecology, 109*(6), 1396-1403. doi: 10.1097/01.AOG.0000263469.68106.90

Rubin, H.J., & Rubin, I.S. (2005). *Qualitative interviewing: the art of hearing data* (2nd ed.). London, U.K: Sage publications: California, U.S.A.

Ruiter, Robert A. C., Abraham, Charles, & Kok, Gerjo. (2001). Scary warnings and rational precautions: A review of the psychology of fear appeals. *Psychology & Health, 16*(6), 613-630. doi: http://dx.doi.org/10.1080/08870440108405863

Ruiter, Robert A. C., Kessels, Loes T. E., Peters, Gjalt-Jorn Y., & Kok, Gerjo. (2014). Sixty years of fear appeal research: Current state of the evidence. *International Journal of Psychology, 49*(2), 63-70. doi: http://dx.doi.org/10.1002/ijop.12042

Safeer, R. S., & Keenan, J. (2005). Health literacy: the gap between physicians and patients. *American Family Physician, 72*(3), 463-468. doi: http://ovidsp.ovid.com/ovidweb.cgi?T=JS&CSC=Y&NEWS=N&PAGE=fulltext&D=med5&AN=16100861 http://otago.hosted.exlibrisgroup.com/openurl/CHRISTCHURCH/CHRISTCHURCH_SERVICES_PAGE?url_ver=Z39.88-2004&rft_val_fmt=info:ofi/fmt:kev:mtx:journal&rfr_id=info:sid/Ovid:med5&rft.genre=article&rft_id=info:doi/&rft_id=info:pmid/16100861&rft.issn=0002-838X&rft.volume=72&rft.issue=3&rft.spage=463&rft.pages=463-8&rft.date=2005&rft.jtitle=American+Family+Physician&rft.atitle=Health+literacy%3A+the+gap+between+physicians+and+patients.&rft.aulast=Safeer

Sampselle, Carolyn M. (2003). Behavioral intervention: the first-line treatment for women with urinary incontinence. *Current Urology Reports, 4*(5), 356-361. doi: http://dx.doi.org/10.1007/s11934-003-0006-2

Sangi-Haphpeykar, Haleh, Mozayeni, Pantea, Young, Amy, & Fine, Paul M. (2008). Stress urinary incontinence and counseling and practice of pelvic floor exercises postpartum in low-income Hispanic women. *International Urogynecology Journal, 19*(3), 361-365. doi: http://dx.doi.org/10.1007/s00192-008-0594-y

Schaffer, J. I., Wai, C. Y., & Boreham, M. K. (2005). Etiology of pelvic organ prolapse. *Clinical Obstetrics & Gynecology, 48*(3), 639-647. doi: http://dx.doi.org/10.1097/01.grf.0000170428.45819.4e

Senekijan, L., Heintz, K., Egger, M. , & Nygaard, I. (2011). Do women understand urogynecologic terminology? *Female Pelvic Medicine & Reconstructive Surgery, 17*(5), 215 - 217. doi: doi:10.1097/SPV. 0b013e31822dcffe.

Shalin, D. (1986). Pragmatism and social interactionism. *American Sociological Review, 51*(1), 9-29. doi: http://www.jstor.org/stable/2095475 .

Shrestha, B., Onta, S., Choulagai, B., Poudyal, A., Pahari, D. P., Uprety, A., . . . Krettek, A. (2014). Women's experiences and health care-seeking practices in relation to uterine prolapse in a hill district of Nepal. *BMC women's health, 14*, 20. doi: http://dx.doi.org/10.1186/1472-6874-14-20

Smirnova, Michelle Hannah. (2012). A will to youth: The woman's anti-aging elixir. *Social Science & Medicine, 75*(7), 1236-1243. doi: http://dx.doi.org/10.1016/j.socscimed.2012.02.061

Smit, Eline Suzanne, Hoving, Ciska, Schelleman-Offermans, Karen, West, Robert, & de Vries, Hein. (2014). Predictors of successful and unsuccessful quit attempts among smokers motivated to quit. *Addictive Behaviors, 39*(9), 1318-1324. doi: http://dx.doi.org/10.1016/j.addbeh.2014.04.017

Sniehotta, F. F., scholze, U., & Schwarzer, R. (2005). Bridging the intention-behaviour gap: Planning, self-efficacy, and action control in the adoption and maintenance of physical exercise. *Psychology & Health, 20*(2), 143-160. doi: 10.1080/08870440512331317670

Stafne, S. N., Salvesen, K. A., Romundstad, P. R., Torjusen, I. H., & Morkved, S. (2012). Does regular exercise including pelvic floor muscle training prevent urinary and anal incontinence during pregnancy? A randomised controlled trial. *Bjog-an International Journal of Obstetrics and Gynaecology, 119*(10), 1270-1280. doi: http://dx.doi.org/10.1111/j.1471-0528.2012.03426.x

Subak, L. L., Richter, H. E., & Hunskaar, S. (2009). Obesity and urinary incontinence: epidemiology and clinical research update. *Journal of Urology, 182*(6 Suppl), S2-7. doi: 10.1016/j.juro.2009.08.071

Swift, S. E., Pound, T., & Dias, J. K. (2001). Case-control study of etiologic factors in the development of severe pelvic organ prolapse. *International Urogynecology Journal, 12*(3), 187-192. doi: http://dx.doi.org/10.1007/s001920170062

Swift, S., Woodman, P., O'Boyle, A., Kahn, M., Valley, M., Bland, D., . . . Schaffer, J. (2005). Pelvic Organ Support Study (POSST): the distribution, clinical definition, and epidemiologic condition of pelvic organ support defects. *American Journal of Obstetrics & Gynecology, 192*(3), 795-806. doi: 10.1016/j.ajog.2004.10.602

Tompkins, Michael A. (2013). Enhancing self-efficacy to achieve competence. *Journal of Cognitive Neuroscience, 25*(2), 71-80. doi: http://dx.doi.org/10.1891/0889-8391.27.1.71

University of Ottawa. (2014, 11/12/14). Categories of prevention. Retrieved 15/12/14, from http://www.med.uottawa.ca/SIM/data/Prevention_e.htm

Utz, Rebecca L. (2011). Like mother, (not) like daughter: The social construction of menopause and aging. *Journal of Aging Studies, 25*(2), 143-154. doi: http://dx.doi.org/10.1016/j.jaging.2010.08.019

Whitford, H. M., Alder, B., & Jones, M. (2007). A cross-sectional study of knowledge and practice of pelvic floor exercises during pregnancy and associated symptoms of stress urinary incontinence in North-East Scotland. *Midwifery, 23*(2), 204-217. doi: 10.1016/j.midw.2006.06.006

Whitford, H. M., & Jones, M. (2011). An exploration of the motivation of pregnant women to perform pelvic floor exercises using the revised theory of

planned behaviour. *British Journal of Health Psychology, 16*(4), 761-778. doi: http://dx.doi.org/10.1111/j.2044-8287.2010.02013.x

Wilson, D., & Herbison, P. (1995). Conservative management of incontinence. *Current Opinion in Obstetrics & Gynecology, 7*(5), 386-392. doi: http://dx.doi.org/10.1097/00001703-199510000-00012

Word, R., Pathi S, & Schaffer, J. (2009). Pathophysiology of pelvic organ prolapse. *Obstetrics & Gynecology Clinics of North America, 36(3):521-39, 2009 Sep.* doi: 10.1016/j.ogc.2009.09.001

Yin, R.K. (2009). *Case study research: design and methods* (4 ed.). Thousand Oaks: California, U.S.A: SAGE.

Zielinski, R., Miller, J., Low, L. K., Sampselle, C., & DeLancey, J. O. (2012). The relationship between pelvic organ prolapse, genital body image, and sexual health. *Neurourology & Urodynamics, 31*(7), 1145-1148. doi: http://dx.doi.org/10.1002/nau.22205

Zimmerman, Marc A., & Rappaport, Julian. (1988). Citizen participation, perceived control, and psychological empowerment. *American Journal of Community Psychology, 16*(5), 725-750. doi: http://dx.doi.org/10.1007/BF00930023

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Appendix One

Ethics approval



H13/087

Academic Services
Manager, Academic Committees, Mr Gary Witte

16 December 2013

Dr J Hay-Smith
Department of Women's and Children's Health
Dunedin School of Medicine

Dear Dr Hay-Smith,

I am again writing to you concerning your proposal entitled "**Women's motivation to perform pelvic floor muscle training for prevention of pelvic organ prolapse**", Ethics Committee reference number **H13/087**.

Thank you for your letter dated 4th November 2013, (received by the Academic Committees office on 13th December 2013) addressing the issues raised by the committee.

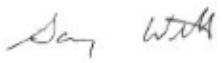
The Committee is grateful for the further consideration and comment given in respect of the reasoning behind the choice of the small number of participants to be selected for the study citing Yin's (2009) approach to case study designs.

The Committee also acknowledges receipt of the Scientific Peer Review letter signed by Professor Stephen Robertson and thanks you for making the amendments to the Information Sheets as requested.

On the basis of this response, I am pleased to confirm that the proposal now has full ethical approval to proceed.

Approval is for up to three years from the date of this letter. If this project has not been completed within three years from the date of this letter, re-approval must be requested. If the nature, consent, location, procedures or personnel of your approved application change, please advise me in writing.

Yours sincerely,



Mr Gary Witte
Manager, Academic Committees
Tel: 479 8256
Email: gary.witte@otago.ac.nz

c.c. Professor W Gillett HOD Department of Women's and Children's Health

Appendix Two

Family Planning Approval

POSITIVE SEXUAL HEALTH
Family Planning

National Office
Level 6
203 - 209 Willis Street
PO Box 11-515
WELLINGTON 6142

T: (04) 384 4349
F: (04) 382 8356
familyplanning.org.nz

Charities # CC11104

13 November 2013

To whom it may concern,

Re Study: Women's motivation to perform pelvic floor muscle training for prevention of pelvic organ prolapse

Family Planning has approved Emma Macfarlane's request to recruit a Family Planning client for the above study, via doctor identification of potential participants.

Support for this study is given, as per the study design documents submitted to the Research Committee, with the amendment of reference to Family Planning in full.

We wish Emma and her co-researchers all the best for the study.

Yours faithfully,

Frances Bird
Chair, Family Planning Research Committee
Director Health Promotion

Appendix Three

Health Research South Approval



Health Research South

20/12/2013 **Project ID** 00963

Dr. Jean Hay-Smith
Women's & Children's Health,

Dear Jean

REF: Women's motivation to perform pelvic floor muscle training for prevention of pelvic organ prolapse (Associated with #00503 Prevprol)

I am writing on behalf of Health Research South to confirm that the project mentioned above has been granted approval to proceed.

According to our records:

This project is due to commence on: 20/12/2013
It is due to be completed by: 31/03/2015

If you have any questions with regards to this process, please contact me quoting the project ID shown above.

Yours sincerely

Ruth Sharpe
CLINICAL RESEARCH ADVISOR

CC.: ELAINE CHISNALL, SOUTHERN DHB
EMMA MCFARLANE, WOMEN'S AND CHILDREN'S HEALTH

Health Research South
University of Otago, Dunedin School of Medicine and Southern District Health Board
PO Box 56, Dunedin 9054
Ruth Sharpe, Clinical Research Advisor, Ph: 03 470 9032 (Hosp 9032); Ruth.Sharpe@otago.ac.nz

Appendix Four

Scientific Peer Review

Department of Women's and Children's Health
Te Tari Hauora Wāhine me te Tamariki
Clinical Genetics Research Group

SCIENTIFIC PEER REVIEW: Letter to researcher to inform of results

Date 29 October 2013

Dear _Emma

Re Scientific Peer Review

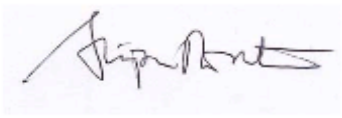
Please find attached your peer review for the following project.

Title: Women's motivation to perform pelvic floor muscle training for prevention of pelvic organ prolapse
Investigator: Emma McFarlane
Department: Women's and Children's Health

Your project is considered to have

- satisfactory peer review

Yours sincerely



Stephen Robertson
Chairperson, Scientific Peer Review Committee,
Department of Women's and Children's Health

Department of Women's & Children's Health, Clinical Genetics Research Group,
Dunedin School of Medicine, University of Otago,
PO Box 913, Dunedin 9054, New Zealand
Tel/Fax: +64 3 479 7469
Web: www.otago.ac.nz

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Appendix Five

Maori Consultation



NGĀI TAHU RESEARCH CONSULTATION COMMITTEE
TE KOMITI RAKAHAU KI KAI TAHU

Wednesday, 18 September 2013.

Dr Elizabeth Hay-Smith,
Dunedin School of Medicine - Womens and Childrens Health,
WSM&HS.

Tēnā Koe Dr Elizabeth Hay-Smith,

Women's motivation to perform pelvic floor muscle exercises for prevention of pelvic organ prolapse

The Ngāi Tahu Research Consultation Committee (The Committee) met on Tuesday, 17 September 2013 to discuss your research proposition.

By way of introduction, this response from The Committee is provided as part of the Memorandum of Understanding between Te Rūnanga o Ngāi Tahu and the University. In the statement of principles of the memorandum it states "Ngāi Tahu acknowledges that the consultation process outline in this policy provides no power of veto by Ngāi Tahu to research undertaken at the University of Otago". As such, this response is not "approval" or "mandate" for the research, rather it is a mandated response from a Ngāi Tahu appointed committee. This process is part of a number of requirements for researchers to undertake and does not cover other issues relating to ethics, including methodology they are separate requirements with other committees, for example the Human Ethics Committee, etc.

Within the context of the Policy for Research Consultation with Māori, the Committee base consultation on that defined by Justice McGechan:

"Consultation does not mean negotiation or agreement. It means: setting out a proposal not fully decided upon; adequately informing a party about relevant information upon which the proposal is based; listening to what the others have to say with an open mind (in that there is room to be persuaded against the proposal); undertaking that task in a genuine and not cosmetic manner. Reaching a decision that may or may not alter the original proposal."

The Committee found the submission to be brief and thus difficult to provide commentary on.

The Committee considers the research to be of importance to Māori health.

As this study involves human participants, the Committee strongly encourage that ethnicity data be collected as part of the research project. That is the questions on self-identified ethnicity and descent, these questions are contained in the latest census.

The Ministry of Health website http://www.health.govt.nz/publications contains a list of Māori health publications. The Committee recommends you review the Māori health publications on this website, eg. Unequal Impact II: Māori and Non-Māori Cancer Statistics by Deprivation and Rural-Urban Status 2002-2006 and Tatau Kahukura: Māori Health Chart Book 2010. Another Publication, Hauora: Māori Standards of Health IV (2000-2005), has its own website, http://www.hauora.maori.nz/. These publications provide information on a range of Māori health issues and will assist in ensuring your research has an appropriate Māori health focus.

The Ngāi Tahu Research Consultation Committee has membership from:

Te Rūnanga o Ōtākou Incorporated
Kāti Huirapa Rūnaka ki Puketeraki
Te Rūnanga o Moeraki

NGĀI TAHU RESEARCH CONSULTATION COMMITTEE
TE KOMITI RAKAHAU KI KAI TAHU

The Committee notes the researchers have identified that, "Maori are less likely to access primary health care services…", and asks where that reference comes from.

The Committee suggests dissemination of the research findings to Māori health organisations regarding this study.

We wish you every success in your research and The Committee also requests a copy of the research findings.

This letter of suggestion, recommendation and advice is current for an 18 month period from Tuesday, 17 September 2013 to 8 March 2015.

Nāhaku noa, nā



Mark Brunton
Kaiwhakahaere Rangahau Māori
Research Manager Māori
Research Division
Te Whare Wānanga o Otāgo
Ph: +64 3 479 8738
Email: mark.brunton@otago.ac.nz
Web: www.otago.ac.nz

Appendix Six

Participation information sheet – Family Planning doctor



Participant Information Sheet

Study title:	**Women's motivation to perform pelvic floor muscle exercises for prevention of pelvic organ prolapse**	
Principal investigator	Name: Dr Jean Hay-Smith Department: Women's and Children's Health Position: Senior Lecturer	Contact phone number: (03) 4740999 ext 8568 jean.hay-smith@otago.ac.nz
Student Researcher	Name: Emma Macfarlane Department: Women's and Children's Health and Centre for Postgraduate Nursing Studies	Contact phone number 0211762265 emma.macfarlane@otago.ac.nz

Introduction

Thank you for showing an interest in this project. Please read this information sheet carefully. Take time to consider and, if you wish, talk with relatives or friends, before deciding whether or not to participate.

If you decide to participate we thank you. If you decide not to take part there will be no disadvantage to you and we thank you for considering our request.

What is the aim of this research project?

Pelvic organ prolapse (the feeling of something coming down inside the vagina) is very common. Many women have it without knowing and without it causing any bother. Pelvic floor muscle exercises might help prevent prolapse. In this project we want to find out what women and health professionals think will help or make it

difficult to do pelvic floor muscle exercises to prevent pelvic organ prolapse. This project is being done as part of a Master of Health Sciences degree.

Who is funding this project?

There is no funding for this project

Who are we seeking to participate in the project?

One Family Planning clinician. We are also seeking two researchers involved in PREVPROL, one Family Planning client and one Family Planning clinician.

If you participate, what will you be asked to do?

Firstly, if you consent to participate in this study I would be grateful if you could select a woman who presents to you in your clinical practice, and who you diagnose with asymptomatic pelvic organ prolapse. It is likely that this woman will present for something other than POP and that this will become an incidental finding. If you feel it appropriate, could you ask the woman during the consultation if she would be interested in participating in a study that is exploring why women engage or not with pelvic floor muscle training for the prevention of pelvic organ prolapse. If she consents to consider participating in the study, I would be grateful if you could give her an information sheet and advise the woman that her contact details will be forwarded to the researcher.

Secondly, you are invited, at a convenient time, to take part in a one on one interview with a researcher (Emma Macfarlane). The interview is semi-structured involving an open-questioning technique. This means the precise nature of the questions which will be asked have not been determined in advance, but will depend on the way in which the interview develops. The general line of questioning may include questions regarding your;

- experiences in managing women with pelvic organ prolapse
- knowledge and attitude towards pelvic floor muscle training in clinical practice,
- perceptions of the consultation you had with the woman you identified for inclusion in this study.

In the event that the line of questioning develops in such a way that you feel hesitant or uncomfortable you are reminded of your right to decline to answer any particular question(s) and also that you may withdraw from the project at any stage without any disadvantage to yourself of any kind.

The interview will take approximately 30-60 minutes and, with your agreement, will be digitally recorded and transcribed. The researcher may also make written notes during the interview. We appreciate that your time is valuable but unfortunately we do not have any funding for this study and therefore cannot offer any reimbursement for your time.

Is there any risk of discomfort or harm from participation?

We do not anticipate you will experience any discomfort or harm from taking part in this study.

difficult to do pelvic floor muscle exercises to prevent pelvic organ prolapse. This project is being done as part of a Master of Health Sciences degree.

Who is funding this project?

There is no funding for this project

Who are we seeking to participate in the project?

One Family Planning clinician. We are also seeking two researchers involved in PREVPROL, one Family Planning client and one Family Planning clinician.

If you participate, what will you be asked to do?

Firstly, if you consent to participate in this study I would be grateful if you could select a woman who presents to you in your clinical practice, and who you diagnose with asymptomatic pelvic organ prolapse. It is likely that this woman will present for something other than POP and that this will become an incidental finding. If you feel it appropriate, could you ask the woman during the consultation if she would be interested in participating in a study that is exploring why women engage or not with pelvic floor muscle training for the prevention of pelvic organ prolapse. If she consents to consider participating in the study, I would be grateful if you could give her an information sheet and advise the woman that her contact details will be forwarded to the researcher.

Secondly, you are invited, at a convenient time, to take part in a one on one interview with a researcher (Emma Macfarlane). The interview is semi-structured involving an open-questioning technique. This means the precise nature of the questions which will be asked have not been determined in advance, but will depend on the way in which the interview develops. The general line of questioning may include questions regarding your;

- experiences in managing women with pelvic organ prolapse
- knowledge and attitude towards pelvic floor muscle training in clinical practice,
- perceptions of the consultation you had with the woman you identified for inclusion in this study.

In the event that the line of questioning develops in such a way that you feel hesitant or uncomfortable you are reminded of your right to decline to answer any particular question(s) and also that you may withdraw from the project at any stage without any disadvantage to yourself of any kind.

The interview will take approximately 30-60 minutes and, with your agreement, will be digitally recorded and transcribed. The researcher may also make written notes during the interview. We appreciate that your time is valuable but unfortunately we do not have any funding for this study and therefore cannot offer any reimbursement for your time.

Is there any risk of discomfort or harm from participation?

We do not anticipate you will experience any discomfort or harm from taking part in this study.

Appendix Seven

Consent form – Family Planning doctor

Women's motivation to perform pelvic floor muscle training for prevention of pelvic organ prolapse

CONSENT FORM FOR PARTICIPANTS

1. I have read the Information Sheet concerning this study and understand the aims of this research project. I have had sufficient time to consider participating and the opportunity to ask questions.
2. I am aware that my participation in the project is entirely voluntary, and that I am free to withdraw from the project at any time without disadvantage of any kind.
3. I know that in the course of my usual clinical practice I will identify a Family Planning client with mild prolapse with no symptoms and invite her to participate in the study. I will also be interviewed about my experiences of pelvic floor muscle exercises and that at anytime during the interview I can decline to answer questions that I feel uncomfortable with. Additionally, you will be giving me the opportunity to read the transcript of the interview and correct any details I am unhappy with.
4. I appreciate that while all the information I provide will be anonymous to others, I may be able to recognise non-identifying information I have provided in the final report.
5. I understand that when the project is completed all personal identifying information will be removed from the paper and electronic records of research data, and that the records will be placed in secure storage and kept for at least ten years.
6. I realise that the results of the project may be published and be available in the University of Otago Library.

Name: ..... Signature: ..... Date: .....

Witness: ..... Signature: ..... Date: .....

Should you wish to discuss anything the research team further please telephone:

Dr Jean Hay-Smith

Tel: 4740999 ext 8568

Email: jean.hay-smith@otago.ac.nz

Emma Mcfarlane

Tel: 0211762265

Email: emma.macfarlane@otago.ac.nz

This study has been approved by the University of Otago Human Ethics Committee (Health). If you have any concerns about the ethical conduct of the research you may contact the Committee through the Human Ethics Committee Administrator (phone +64 3 479 8256 or email gary.witte@otago.c.nz). Any issues you raise will be treated in confidence and investigated, and you will be informed of the outcome.

Appendix Eight

Participate information sheet – Client/Patient

Participant Information Sheet

Study title:	**Women's motivation to perform pelvic floor muscle exercises for prevention of pelvic organ prolapse**	
Principal investigator:	Name: Dr Jean Hay-Smith Department: Women's and Children's Health Position: Senior Lecturer	Contact phone number: (03) 4740999 ext 8568 jean.hay-smith@otago.ac.nz
Student Researcher	Name: Emma Macfarlane Department of Women's and Children's Health and The Centre for Postgraduate Nursing Studies	Contact phone number: 0211762265 emma.macfarlane@otago.ac.nz

Introduction

Thank you for showing an interest in this project. Please read this information sheet carefully. Take time to consider and, if you wish, talk with relatives or friends, before deciding whether or not to participate.

If you decide to participate we thank you. If you decide not to take part there will be no disadvantage to you and we thank you for considering our request.

What is the aim of this research project?

Pelvic organ prolapse (the feeling of something coming down inside the vagina) is very common. Many women have it without knowing and without it causing any bother. Pelvic floor muscle exercises might help prevent prolapse. In this project we want to find out what women and health professionals think will help or make it difficult to do pelvic floor muscle exercises to prevent pelvic organ prolapse. This project is being done as part of a Master of Health Sciences degree.

Who is funding this project?

There is no funding for this project.

Who are we seeking to participate in the project?

One woman who has been recently diagnosed by a health worker as having mild pelvic organ prolapse that is causing no bother or symptoms. We are also seeking two researchers involved in PREVPROL, one Family Planning client and one Family Planning clinician.

If you participate, what will you be asked to do?

You will be invited, at a convenient time, to take part in a one on one interview with a researcher (Emma Macfarlane). The interview is semi-structured which involves an open-questioning technique. This means the precise nature of the questions which will be asked have not been determined in advance, but will depend on the way in which the interview develops. The general line of questioning may include questions regarding;

- current or previous practice of pelvic floor muscle training
- your knowledge, perceptions or attitudes regarding pelvic floor muscle training
- demographic data
- personal and lifestyle factors such as participation in other health maintenance behaviours

Although the University of Otago Human Ethics Committee is aware of the general areas to be explored in the interview, the Committee has not been able to review the precise questions to be used. In the event that the line of questioning does develop in such a way that you feel hesitant or uncomfortable you are reminded of your right to decline to answer any particular question(s) and also that you may withdraw from the project at any stage without any disadvantage to yourself of any kind.

The interview will take approximately 30 minutes to one hour of your time and, with your agreement, will be digitally recorded and transcribed. The researcher may also make written notes during the interview. We appreciate that your time is valuable however there is no reimbursement for the time you may provide.

Is there any risk of discomfort or harm from participation?

We do not anticipate you will experience any discomfort or harm from taking part in this study.

What specimens, data or information will be collected, and how will they be used?

The information that you provide will be analysed to look for themes, and compared and contrasted with information provided by other study participants. The data will be securely stored in such a way that only the researchers directly involved in the

study will be able to gain access to it. Data obtained as a result of the research will be retained for **at least 10 years** in secure storage and then may be destroyed.

What about anonymity and confidentiality?

There are only three people who have access to the information that you provide, the student researcher and her two academic supervisors. There is no commercial use of the data

The results of the project may be published and will be available in the University of Otago Library (Dunedin, New Zealand) but every attempt will be made to preserve your anonymity. Due to the nature of the research and the small number of study participants it is possible that you may be able to recognise some of the information you have provided in the final report.

You will be contacted after the interview to give you the opportunity to read the transcription of your interview. You will also be offered the opportunity to read the analysed interpretation of your information and to subsequently amend or withdraw any of the information you have provided. After this point you will NOT be able to make further changes. You are welcome to receive a copy of the final report if so desired.

If you agree to participate, can you withdraw later?

You may withdraw from participation in the project at any time and without any disadvantage to yourself.

Any questions?

If you have any questions now or in the future, please feel free to contact in the first instance Emma Macfarlane. However you are also welcome to contact the prinicipal investigator. Contact details are at the top of this form.

This study has been approved by the University of Otago Human Ethics Committee (Health). If you have any concerns about the ethical conduct of the research you may contact the Committee through the Human Ethics Committee Administrator (phone +64 3 479 8256 or email gary.witte@otago.c.nz). Any issues you raise will be treated in confidence and investigated, and you will be informed of the outcome.

Appendix Nine

Consent form – Client/Patient

Women's motivation to perform pelvic floor muscle training for prevention of pelvic organ prolapse

CONSENT FORM FOR PARTICIPANTS

1. I have read the Information Sheet concerning this study and understand the aims of this research project. I have had sufficient time to consider participating and the opportunity to ask questions.
2. I am aware that my participation in the project is entirely voluntary, and that I am free to withdraw from the project at any time without disadvantage of any kind.
3. I know that I will interviewed about my experiences of pelvic floor muscle exercises and that at anytime during the interview I can decline to answer questions that I feel uncomfortable with. Additionally, you will be giving me the opportunity to read the transcript of the interview and correct any details I am unhappy with.
4. I appreciate that while all the information I provide will be anonymous to others, I may be able to recognise non-identifying information I have provided in the final report.
5. I understand that when the project is completed all personal identifying information will be removed from the paper and electronic records of research data, and that the records will be placed in secure storage and kept for at least ten years.
6. I realise that the results of the project may be published and be available in the University of Otago Library.

Name: ..... Signature: ..... Date: .....

Witness: ..... Signature: ..... Date: .....

Should you wish to discuss anything the research team further please telephone:

Dr Jean Hay-Smith
Tel: (03) 4740999 ext 8568
Email: jean.hay-smith@otago.ac.nz

Emma Macfarlane
Tel: 0211762265
Email: emma.macfarlane@otago.ac.nz

This study has been approved by the University of Otago Human Ethics Committee (Health). If you have any concerns about the ethical conduct of the research you may contact the Committee through the Human Ethics Committee Administrator (phone +64 3 479 8256 or email gary.witte@otago.c.nz). Any issues you raise will be treated in confidence and investigated, and you will be informed of the outcome.

Appendix 10

Participant information sheet – PREVPROL clinician

Participant Information Sheet

Study title:	**Women's motivation to perform pelvic floor muscle exercises for prevention of pelvic organ prolapse**	
Principal investigator:	Name: Dr Jean Hay-Smith Department: Women's and Children's Health Position: Senior Lecturer	Contact phone number: (03) 4740999 ext 8568 jean.hay-smith@otago.ac.nz
Student Researcher:	Name: Emma Macfarlane Department: Women's and Children's Health and the Centre for Postgraduate Nursing Studies	Contact phone number 0211762265 emma.macfarlane@otago.ac.nz

Introduction

Thank you for showing an interest in this project. Please read this information sheet carefully. Take time to consider and, if you wish, talk with relatives or friends, before deciding whether or not to participate.

If you decide to participate we thank you. If you decide not to take part there will be no disadvantage to you and we thank you for considering our request.

What is the aim of this research project?

Pelvic organ prolapse (the feeling of something coming down inside the vagina) is very common. Many women have it without knowing and without it causing any bother. Pelvic floor muscle exercises might help prevent prolapse. In this project we want to find out what women and health professionals think will help or make it difficult to do pelvic floor muscle exercises to prevent pelvic organ prolapse. This project is being done as part of a Master of Health Sciences degree.

Who is funding this project?

There is no funding for this project.

Who are we seeking to participate in the project?

As part of the present study we wish to interview two clinicians who were involved in the data collection for the PREVPROL study. We are also seeking two researchers involved in PREVPROL, one Family Planning client and one Family Planning clinician.

If you participate, what will you be asked to do?

If you consent to participate in this study you will be invited, at a convenient time, to take part in a one on one interview with a researcher (Emma Macfarlane). The interview is semi-structured which involves an open-questioning technique. This means the precise nature of the questions which will be asked have not been determined in advance, but will depend on the way in which the interview develops. The general line of questioning may include questions regarding your experiences of;

- teaching and supervising pelvic floor muscle exercises
- recommending pelvic foor muscle exercises in clinical practice
- women's adherence to and what may be some of the barriers and facilitators for women to do pelvic floor muscle exercises

Although the University of Otago Human Ethics Committee is aware of the general areas to be explored in the interview, the Committee has not been able to review the precise questions to be used. In the event that the line of questioning does develop in such a way that you feel hesitant or uncomfortable you are reminded of your right to decline to answer any particular question(s) and also that you may withdraw from the project at any stage without any disadvantage to yourself of any kind.

The interview will take approximately 30 minutes to one hour of your time and, with your agreement, will be digitally recorded and transcribed. The researcher may also make written notes during the interview. We appreciate that your time is valuable however there is no reimbursement for the time you may provide.

Is there any risk of discomfort or harm from participation?

We do not anticipate you will experience any discomfort or harm from taking part in this study.

What specimens, data or information will be collected, and how will they be used?

The information that you provide will be analysed to look for themes, and compared and contrasted with information provided by other study participants. The data will be securely stored in such a way that only the researchers directly involved in the study will be able to gain access to it. Data obtained as a result of the research will be retained for **at least 10 years** in secure storage. Any personal information held on participants such as contact details and digital recordings may be destroyed at the completion of the research.

What about anonymity and confidentiality?

There are only three people who have access to the information that you provide, the student researcher and her two academic supervisors. There is no commercial use of the data.

The results of the project may be published and will be available in the University of Otago Library (Dunedin, New Zealand) but every attempt will be made to preserve your anonymity. Due to the nature of the research and the small number of study participants it is possible that you may be able to recognise some of the information you have provided in the final report.

You will be contacted after the interview to give you the opportunity to read the transcription of your interview. You will also be offered the opportunity to read the analysed interpretation of your information and to subsequently amend or withdraw any of the information you have provided. After this point you will NOT be able to make further changes. You are welcome to receive a copy of the final report if so desired.

If you agree to participate, can you withdraw later?

You may withdraw from participation in the project at any time and without any disadvantage to yourself.

Any questions?

If you have any questions now or in the future, please feel free to contact in the first instance Emma Macfarlane. However you are also welcome to contact the prinicpal investigator. Contact details are located at the top of this form.

This study has been approved by the University of Otago Human Ethics Committee (Health). If you have any concerns about the ethical conduct of the research you may contact the Committee through the Human Ethics Committee Administrator (phone +64 3 479 8256 or email gary.witte@otago.c.nz). Any issues you raise will be treated in confidence and investigated, and you will be informed of the outcome.

Appendix 11

Consent form – PREVPROL clinician

Women's motivation to perform pelvic floor muscle training for prevention of pelvic organ prolapse

CONSENT FORM FOR PARTICIPANTS

1. I have read the Information Sheet concerning this study and understand the aims of this research project. I have had sufficient time to consider participating and the opportunity to ask questions.
2. I am aware that my participation in the project is entirely voluntary, and that I am free to withdraw from the project at any time without disadvantage of any kind.
3. I know that I will interviewed about my experiences of teaching pelvic floor muscle exercises and managing women with pelvic organ prolapse. At anytime during the interview I can decline to answer questions that I feel uncomfortable with. Additionally, you will be giving me the opportunity to read the transcript of the interview and correct any details I am unhappy with.
4. I appreciate that while all the information I provide will be anonymous to others, I may be able to recognise non-identifying information I have provided in the final report.
5. I understand that when the project is completed all personal identifying information will be removed from the paper and electronic records of research data, and that the records will be placed in secure storage and kept for at least ten years.
6. I realise that the results of the project may be published and be available in the University of Otago Library.

Name: ..... Signature: ..... Date: .....

Witness: ..... Signature: ..... Date: .....

Should you wish to discuss anything the research team further please telephone:

Dr Jean Hay-Smith
Tel: (03) 4740999 ext 8568
Email: jean.hay-smith@otago.ac.nz

Emma Macfarlane
Tel: 0211762265
Email: emma.macfarlane@otago.ac.nz

This study has been approved by the University of Otago Human Ethics Committee (Health). If you have any concerns about the ethical conduct of the research you may contact the Committee through the Human Ethics Committee Administrator (phone +64 3 479 8256 or email gary.witte@otago.c.nz). Any issues you raise will be treated in confidence and investigated, and you will be informed of the outcome.

Appendix 12

Interview questions

Clients/Patients

. Individual characteristics and experiences

Personal factors

Personal psychological factors
Self-esteem, self motivation, personal competence, perceived health status, definition of health.

Question:

- In this interview I'm interested in talking about keeping in good health.
- **"**How would you describe your general health at the moment?"
- **"**What does it mean to you to be in "good health"?"

Personal socio-cultural factors
Purpose: to determine socio-cultural factors that are linked with health understanding and behaviour.

- "Our upbringing and our life experiences influence what we think about good health and staying healthy.
- Would you tell me, briefly, about the most important things in your life that influence how you think about achieving good health and staying healthy?"

Prompts:

- Education
- Work
- Family
- Major achievements

- What sorts of things motivate you towards achieving goals about your health?

Prompts

- Fear of failure/negative outcome
- Personal satisfaction in achieving a goal
- Potential benefits of achieving the goal
- Encouragement from key people

Prior related behaviour

Purpose: to determine if the woman undertakes regular health promoting

behaviour and how successful she perceives she was with this.

Question:

- What sorts of things do you do or have done to try and maintain or improve your general health?
- How do you feel about your successes?
- How did you achieve your goal?
- What things do you think would have helped you to achieve your goal?
- What has been more difficult in achieving your goals?

Prompts:

- weight loss and maintenance,
- establishing a fitness regime,
- lowering cholesterol
- diabetes management
- Smoking cessation and staying smokefree

. Behaviour specific cognitions or affect

Perceived benefits of action

Purpose: *to determine the degree to which the women understands the potential (or already realized) benefits of PFMT.*

Question:

- Now I'd like to talk specifically about PFMT. This is something some women do as part of their goal for good pelvic health.
- "For you, what are the benefits from PFMT" **AND/OR**
- "In your understanding what are the possible benefits of doing pelvic floor exercises?"
- What concerns do you have, if any, about doing PFMT?

Prompts:

- PREVPROL women
  - reduction of prolapse on examination.
  - Improved control of urine leakage?
  - Reduced risk of developing both SUI and POP.
  - Increased sexual satisfaction.

Perceived barriers to action

Purpose: to understand what women perceive as real or imagined barriers to performing PFMT

Question:

- What do you see as barriers to performing pelvic floor exercises?
- What experience do you have to overcoming those difficulties? AND/OR what thoughts do you have about how those barriers could be reduced??

- Other research has shown it is hard to make PFMT a daily routine. "How has this been for you?"
- If you lose your routine or notice you are doing them less often, how do you find getting back into routine?

Prompts:
- unsure of technique
- not sure that there will be any benefit.

Perceived self efficacy

Purpose: To get a sense of how capable the woman feels to both incorporate the exercises into daily life and if she believes she is doing the exercises effectively.

Question:
- "How confident are you that you can do the exercises correctly?"
- What is the most important reason for you to do the exercises? (If the person is doing some) THEN/OR How confident are you that doing the exercises will give you the effect that you want?

Activity related affect

Purpose: To determine what feelings the women experience from doing or not doing the exercises. How do these feelings impact on future engagement with PFMT.

Question:
- What feelings do you have when you think about doing the exercises?
- How do these feelings influence how often you do the exercises? (also when and where?)

Prompts:

Interpersonal influences

Purpose: To determine the influence of other people on women's motivation to perform PFMT

Question:
- "Who are the people around you that encourage you to do pelvic floor exercises?" How do they encourage you?
- In what ways do other people discourage or prevent you?

Prompt
- Influential people tend to be families, friends or healthcare providers.

Situational influences

Purpose: Situational influences may have direct or indirect influences on health behaviour.

Question:

- "When and where are you most likely to perform pelvic floor exercises?" Why is this?
- "When and where are you least likely to perform pelvic floor exercises?" Why is this?

Prompt:

- Driving the car, doing the dishes, watching TV?
- Is the routine affected by stress, other commitments, change in lifestyle, illness

Immediate competing demands and preferences

Purpose: To determine what factors influence the woman's decision/motivation to perform (or not perform) PFMT

Question: very similar to perceived barriers to action in regards to PFMT – may be different if was a diet related question e.g. a woman's preference for a chocolate biscuit over an apple……

- Research suggests that many women think of doing the exercises more often than they actually do them because they feel there are other priorities or they get interrupted. At the times when you remember the exercises and don't do them, what sort of things getting in the way of you doing them?

Prompts:

- Time
- Motivation
- Energy
- distractions

Commitment to plan of action

Purpose: The concept of intention and identification of a planned strategy leads to implementation of health behaviour.

Question:

"Thinking to the future, what plans do you have for your health? How does PFMT fit in with this?

Prompts:

- maintaining regime
- increasing adherence
- seeking further management or advice

Interview Questions Clinicians – Lisa

Background questions

Question 1
Question: I know you have a specialist role in the area of women's health. Can you tell me what your role involves?
Purpose: to elicit the role the clinician plays in the women's health arena
Prompts:

- Generally – in women's health
- Specifically – in pelvic floor dysfunction
- What opportunities do you get for health promotion in your role?
- What is the balance of health promotion to 'treatment' in your role?

POP, PFMT and the role of the clinician

Question 2
Question: What is your perspective on the role of PFMT for prevention of POP?
Purpose: to establish the clinician's perspective on the role of PFMT in prevention of POP
Prompts:

- Does the approach you take when providing information about POP and PFMT differ according to whether the woman is
    - Asymptomatic or symptomatic?
    - Diagnosed with POP incidentally?
    - Seen in the clinic or research setting?
- Is it common for you to detect asymptomatic prolapse when assessing someone for SUI?
- Do you always advise the woman and how do you do this?
- What sort of reactions do you get?
- If you don't raise it with her what factors might prevent you from doing this?
- What do you think about the viability of PFMT for prevention of pelvic floor dysfunction as a health promoting behaviour in the general population?

Question 3
Question: When educating women about POP and PFMT what do you think is the most important information to provide?
Purpose: information provided may be influenced by a number of perceived or actual health determinants including physical and social factors.
Prompts:

- How might the information you provide or your approach differ according to the individual characteristics of the woman?
- Is the information you provide influenced by the practice setting?
- If a woman has a greater number of risk factors for POP, how might this influence the information you provide?

- As a clinician how do you manage discord in how you perceive the significance of a risk factor and how the client perceives it?
- Age, co-morbidities, socioeconomic status, level of education, perceived level of cognitive ability.

Question 4

Question: There is much in the qualitative literature describing women's perception of pelvic floor dysfunction as a normal consequence of ageing and having babies, therefore it is something that women just need to put up with. What is your impression of the beliefs that women bring with them about POP and PFMT?

Purpose: To determine the clinicians view of popular attitudes towards POP and PFMT

Prompts:

- Do you agree with the statement that this is a popular belief?
- What knowledge do you find women bring with them regarding POP and PRMT.
- Where do women find information on POP and PFMT?

Question 5

Question: From a clinical perspective, what constitutes adherence to PFMT?

Purpose: To explore the subtlies of adherence and it's definition

Prompts:

- What are the differences in the way you might view adherence as a clinician compared with the women?
- What is the variety in adherence behaviour that you see?
- In your experience, what are the common 'patterns' of adherence?
- What are the most common reasons that women give for finding it difficult to do the exercises?
- What are the things that most commonly support women to take up the exercises?
- Do the barriers and facilitators of PFMT change over time? In what ways?
- In your view what are the common characteristics of women who manage to be adherent to PFMT for prevention of POP?
- How is adherence assessed in the research setting compared to the clinical setting?

Question 6

Question: What are the clues you look for about the woman's readiness to do PFMT?

Purpose: To determine the clinicians strategies for supporting the client who isn't ready for health behaviour change.

Prompts:

- How do you know if a client is uncomfortable with the questions you are asking or the health information you are providing?
-

- What do you do when it seems there might be some 'resistance' to doing PFMT?
- What are some of the things you most commonly do to help women overcome barriers to PFMT?
- What are some of the ways you might help woman to identify strategies that will increase their engagement with PFMT?
- In what ways it the approach you take specific to PFMT for POP?
- How widely do you use similar approaches to supporting behaviour change in your other work? (that is other areas of women's health)

Sensitivity

Question 7

Question: When discussing health issues or behaviours with women, what do you do to try and ensure the health message is received by women in a way that is determined to be acceptable?

Purpose: to ascertain the clinician's use of the therapeutic relationship and communication skills to deploy the "health promoting moment".

Prompt

- Sometimes you might identify a health issue or behaviour that the woman may feel sensitive or defensive about, such as obesity, smoking cessation, previous non-adherence to exercise. How do you try and approach such issues?

Interview Questions Clinicians – Glenda

Background questions

Question 1

Question: Can you tell me what your role involves as a doctor working in Family Planning

Purpose: to elicit the role the clinician plays in the women's health arena

Prompts:

- Generally – in reproductive and sexual health
- Specifically – in pelvic floor dysfunction
- In what way would you say you incorporate principles of EBM in your practice?
- Are some aspects of your practice more evidence based than others?

Question 2

Question: What opportunities do you get for health promotion in your role?

Purpose: to determine the clinician's perspective of the role of health promotion

Prompts

- What are the more common health promotion activities that you would undertake?
- What is the balance of health promotion to 'treatment' in your role?
- What resources do you have for providing health promotion advice
- What factors might prevent you from offering health promotion advice to clients

POP, PFMT and the role of the clinician

Question 3

Question: What is your perspective on the role of PFMT for prevention of POP?

Purpose: to establish the clinician's perspective on the role of PFMT in prevention of POP

Prompts:

- When conducting a routine history what questions would you ask that may pertain to screening for risk factors for POP?
- Is it common for you to detect asymptomatic prolapse when carrying out a routine examination?
- Do you always advise the woman and how do you do this?
- What sort of reactions do you get?
- If you don't raise it with her what factors might prevent you from doing this?
- What resources do you have to provide women with information about PFMT and POP?

- What do you think about the viability of PFMT for prevention of pelvic floor dysfunction as a health promoting behaviour in the general population?

Question 4

Question: When educating women about POP and PFMT what do you think is the most important information to provide?
Purpose: information provided may be influenced by a number of perceived or actual health determinants including physical and social factors.
Prompts:

- How might the information you provide or your approach differ according to the individual characteristics of the woman?
- If a woman has a greater number of risk factors for POP, how might this influence the information you provide?
- As a clinician how do you manage discord in how you perceive the significance of a risk factor and how the client perceives it?
- Age, co-morbidities, socioeconomic status, level of education, perceived level of cognitive ability.

Question 5

Question: There is much in the qualitative literature describing women's perception of pelvic floor dysfunction as a normal consequence of ageing and having babies, therefore it is something that women just need to put up with. What is your impression of the beliefs that women bring with them about POP and PFMT?
Purpose: To determine the clinicians view of popular attitudes towards POP and PFMT
Prompts:

- Do you agree with the statement that this is a popular belief?
- What knowledge do you find women bring with them regarding POP and PRMT.
- Where do women find information on POP and PFMT?

Question 6

Question: what is your understanding of the role of the Family Planning clinician in promoting adherence to PFMT?
Purpose: to determine the clinicians view of their role in promoting adherence to PFMT
Prompts:

- What role do you think the Family Planning clinician plays in preventing POP?
- In an ideal world could Family Planning clinicians potentially play a bigger role in prevention of POP than they do currently?
- What information do you think Family Planning clinicians need to know in order to help women manage their pelvic health?
- Where does the Family Planning clinician sit within the wider multidisciplinary team in relation to PFD?

- What factors may promote adherence to PFMT?
- What factors may reduce adherence to PFMT?

Sensitivity

Question 7

Question: When discussing health issues or behaviours with women, what do you do to try and ensure the health message is received by women in a way that is determined to be acceptable?

Purpose: to ascertain the clinician's use of the therapeutic relationship and communication skills to deploy the "health promoting moment".

Prompt

- Sometimes you might identify a health issue or behaviour that the woman may feel sensitive or defensive about, such as obesity, smoking cessation, previous non-adherence to exercise. How do you try and approach such issues?

Appendix 13

Transcript summaries

Transcript I

17/2/14

Transcript Summary

"Women's Motivation for Performing Pelvic Floor Muscle Training for the Prevention of Pelvic Organ Prolapse"

You describe your current health as "less than ideal" and the primary cause of this is your sinus allergies. This health condition appears to be getting worse as you get older. The sinus allergies affect you both physically and emotionally and interfere with multiple aspects of your life including your ability to function at work and to do exercise. Your sinus allergies are a barrier to good health. Your definition of good health is being able to do whatever you want without limitation.

Last winter you started running with your daughter to help her increase her fitness. Exercise made you feel better and this increased wellbeing was a motivator for you to continue but it made no difference to your allergies. You were also motivated by a sense of competition to try and "outdo" your daughter. However when the weather became warmer you were unable to continue the running because allergen levels in the air restricted your ability to breath sufficiently for this level of activity. You did keep walking but this became difficult at Christmas because of an injury.

Cigarette smoking for you is a way to manage your stress and you find that smoking does not affect your allergies. You have attempted smoking cessation twice in your life. The first time you were encouraged to do so by your previous husband but resumed smoking when he died. However you were self motivated to achieve smoking cessation a second time but started up again when undergoing a traumatic redundancy process.

Your father also suffers a chronic condition and you identify him as a role model for positive attitudes towards health despite the difficulties of living with a chronic health condition. Your Father was a solo Dad and brought you and your sister up on his own. Your family did not have a great deal of money and that time of your life you describe as being pretty basic. You feel that this has shaped how you like to cook now and it is important to you that food is homemade and back to basics.

You have started noticing the effects of ageing such as deterioration in eye-sight and sore knees in your self and peers. This seems to worry and you are motivated to do things to try and improve your health as you get older. You

take advantage of screening tests such as cervical screening as you understand that they are an early warning system aimed at preventing more serious health effects.

PFMT is simple to learn and perform, and you have high confidence that you are doing them effectively. The exercises are discreet and can be easily incorporated into your daily routine by associating them with brushing your teeth. However it is difficult to set time aside specifically to do PFMT. This is particularly the case when you are at work as you have a busy job.

The benefit of PFMT is that it can prevent pelvic organ prolapse and urinary leakage. Also, you feel "virtuous" for doing the exercises. You feel that there is really no excuse for women to experience leakage because PFMT is so easy to do. Urinary leakage should not be considered normal in a developed country such as New Zealand.

You have positive plans for your future health include moving to a warmer climate to help control your allergies and be closer to family. You would also like to work fewer hours in order to reduce your stress levels and so that you can spend more time on health related activities such as more regular exercise and maintaining a vegetable garden. You also plan to expand you PFMT opportunities by incorporating them into your exercise regime.

Emma Macfarlane

No response from participant for validation

Transcript II

17/3/14

Transcript Summary

"Women's Motivation to Perform Pelvic Floor Muscle Training for the Prevention of Pelvic Organ Prolapse"

Currently, you describe your health as being pretty good with no ongoing health concerns. However you have been waiting for three years to get a dental clearance. You had a dental surgery recently in preparation for this and developed thrush in your mouth, which is causing you pain.

For you, good health means you can do anything. It is important to you to have good health because you are busy looking after a number of children, some of whom live with you while others are grown up and have left home. You also work in a job, which requires a moderate degree of physical activity.

Your maternal grandmother had an influence on how you think about health and being healthy. You lived with your grandparents for about six months when you were about six or seven years old. They had a large vegetable garden and a lot of what you ate came from this. Your Dad still has a vegetable garden and you are able to use this as you have only a small vegetable patch yourself. Growing up both your parents worked so there wasn't a lot of time to do things like going for walks as a family.

Regular visits to the doctor are important to you because your mother has leukaemia. You explained to me that everyone has leukaemia and it just takes something to trigger it. You are not overly worried about this and the last time you went to the GP was seven years ago because you don't get sick very often. You see the practice nurse for your cervical smears.

You are a smoker but trying to cut down. In the past you have been motivated to quit smoking while pregnant to avoid having small babies. Currently you don't have a plan for when you are going to quit altogether but rather you are taking it day by day. Smoking is a stress relief for you so you find it difficult to cut down on your smoking at times like the school holidays when your younger children are at home.

One of the benefits of quitting smoking for you is that you feel hungrier and so you eat more. You also believe that quitting smoking will make you live longer. The price of cigarettes keeps rising so this is another reason you have identified to quit. Since cutting down on cigarettes you have gradually noticed that you've got more energy, which means you get your work done more

quickly and have more time for yourself. Your husband is supportive of your effort to cut down on smoking as he has recently quit using Champix.

The school sends home healthy eating messages about what to put in the kids lunch boxes and you feel that this places quite a few restrictions on what they can eat. But you think it's important that you make healthy food choices to role model healthy eating habits for your children.

The benefits of pelvic floor muscle training include stopping prolapse, preventing urinary leakage, but also increased sexual pleasure for both yourself and your husband. Because of this your husband encouraged you with the exercises particularly in the beginning of PREVPROL.

You find the exercises themselves easy to do, you feel confident that you are doing them correctly and you don't see that there are any barriers to doing the exercises. You manage to do the exercises everyday and it tends to be when you are having moments of relaxation such as waiting in the car when picking the kids up from school or when sitting at the computer. You describe doing the exercises as like an instant reflex.

Four of your daughters have had babies, one of whom is currently pregnant. You have talked to all of them about the importance of doing pelvic floor exercises and how the exercises work. Your grandmother has urinary leakage and blames this on having a number of children.

For your future health you plan to live into your 60's or 70's with the same level of fitness that you have now. You think this will be achieved by having more peace and quiet once your children have left home. You also plan to continue your pelvic floor muscle exercises on into older age

Emma Macfarlane

No response from participant for validation

Transcript III

28/4/14

Transcript Summary

"Women's Motivation to Perform Pelvic Floor Muscle Training for the Prevention of Pelvic Organ Prolapse"

Currently, you describe your heath as "excellent" since having a hip replacement at the end of last year. You had a very good result from the surgery, an uneventful recovery, and your mobility is more or less back to normal but you have continued with physiotherapy because you "want to be 100%." For you, to be in good health is when you have the freedom to do what you want to do and you don't restrict yourself. Pain has been a restricting factor for you in achieving good health in the past. However your definition of health is broader than the physical and encompasses the mind, body and spirit. You see these aspects of health as being intrinsically connected.

You value and are interested in health. This is derived from an upbringing with an emphasis on healthy eating and exercise. Just as you learnt to cook from your parents, you have taught your children to cook. You have passed on your ideals regarding health onto your children who are also motivated towards a healthy lifestyle.

To have a plan, routine or structure is important in order to effectively implement a health intervention. Being time poor and "slack" are potential barriers to a health behaviour. You have formed a plan to increase your physical fitness and you feel committed to achieving this. Screening tests such as mammograms, cervical smears and eye examinations are important to you. You believe that you have to take responsibility for your own health.

You had never heard of pelvic organ prolapse before participating in this study. You had heard of pelvic floor exercises and this was possibly when you had your babies in the 1970's. Pelvic organ prolapse and pelvic floor exercises are not something you would have discussed with your Mother or your friends. You have never done the exercises before and you wondered how you would think to do them if there was no particular perceived reason for doing so i.e. if you didn't have symptoms.

At the consultation with the Doctor when you were identified for this study, you were diagnosed with mild asymptomatic pelvic organ prolapse. You didn't feel that you received a great deal of information from the clinician about the condition but you didn't expect to given that this wasn't the reason for your visit. However you weren't particularly pleased to hear that you had

this condition and felt that it was yet another health issue that you have to deal with.

You feel that you can confidently perform pelvic floor exercises and that you are going to try and incorporate them into your life as a health promoting exercise. You believe that muscles should be toned and that this is particularly important as we get older. You are motivated by the knowledge that the exercises are good for you and that they will help prevent incontinence and prolapse. You are also motivated to do the exercises because you don't want your prolapse to get worse.

When trying to get a cure for your pain related to your hip, you spent money and time on a variety of health professionals but it wasn't until you saw an orthopedic surgeon that you had a resolution. From this experience you believe that specialist care is important. Your surgery and consequent recovery was undertaken in a private hospital and this was a very positive experience for you. You believe that to get the best care you have to pay for it.

Emma Macfarlane

Acknowledged by participant as an accurate summary

Transcript IV

26/6/14

Transcript Summary

"Women's Motivation to Perform Pelvic Floor Muscle Training for Prevention of Pelvic Organ Prolapse"

You have a specialist physiotherapist role in women's health managing pelvic floor dysfunction including continence and pelvic organ prolapse. More recently you have become involved in the diagnosis and management of both acute and chronic pelvic pain. In the public sector you are involved in the mentoring of staff from multiple disciplines and are called upon for expert advice. Your role is situated within a diverse multidisciplinary setting.

In the physiotherapy school your role includes teaching, clinical work and developing the physiotherapy service. Your clinical work in this area is more varied but still with an emphasis on women's health. You try and make sure that the students working in this placement get as much women's health exposure as possible.

You have worked in a variety of roles as a physiotherapist but since completing your masters you have gravitated more towards women's health and academic work. In the PREVPROL study, your role was to provide the clinical intervention which, was pelvic floor muscle training and lifestyle advice. Even though women were essentially asymptomatic, if it eventuated that they had possible symptoms then you dealt with this as part of the study.

The multi-disciplinary team approach is important in providing care for women. You described your role as the physiotherapist within a myriad of possible health care providers, and that sometimes it is you that coordinates that care and sometimes it may be another health provider. You feel that part of your role is to help the client navigate the health system to get the best possible health outcome.

Health promotion plays an integral part in managing women with pelvic floor dysfunction. Patients may present with a number of health issues that contribute to their prolapse. You understand that readiness and sensitivity to the context of the health condition is important when working with women to develop a health promoting behaviour.

When women present to you with a POP you often find that they have a limited understanding of what this means. POP is a hidden and potentially embarrassing issue that women generally do not discuss openly with their family or peers. PFMT is a successful treatment for women with mild to moderate POP and also for the prevention of POP. You understand that for

women to develop a successful PFMT regime they need individualized instruction and followup with a physiotherapist.

For PFMT to be effective it needs to be a life long behaviour and this is a significant commitment for many women. Women who have symptomatic prolapse will be motivated to reduce their symptoms. However this is not the case for asymptomatic women performing PFMT to prevent POP. You felt that the women in the PREVPROL study were, at least in part, motivated to perform PFMT to assist in the achievement of the research outcomes.

You describe a patient centred philosophy of working with and alongside women to empower them to take control of their pelvic health. You encourage and support women to develop their own solutions to particular health issues. It is also important to recognize when you have exhausted the possible management strategies that your role can provide and when the patient requires referral to another specialist provider.

Emma Macfarlane

Acknowledged by participant as an accurate summary

Transcript V

18/8/14

Transcript Summary

"Women's Motivation to Perform Pelvic Floor Muscle Training for Prevention of Pelvic Organ Prolapse"

Currently the Family Planning clinician's role in managing women with mild asymptomatic prolapse is to identify the condition to the women and provide some initial instruction on PFMT. Women who have symptoms may then be referred to secondary or tertiary services for more specialized assessment and management. While it is ideal for women to have specialist individual instruction with a physiotherapist, women are not often referred for this, and you questioned whether health services would be able to cope. You considered whether Family Planning could perhaps become more involved in managing women with POP and PFMT, but that this would require clinicians to have further training, and that it would need to be approved by senior management.

Women may often find it difficult to isolate their pelvic floor muscles and there is perhaps a general perception that PFMT is difficult to do. Good instruction is important to overcome this and assist women to be motivated to incorporate PFMT as a life long behaviour. Symptomatic women are likely to be motivated to perform PFMT to reduce their symptoms.

In terms of POP you understand that PFMT is effective in both the management of symptoms and prevention. Mild asymptomatic prolapse is something that is most likely to be detected opportunistically as part of a routine consultation. You felt that you do commonly advise women of your findings, but in regards to how much information you provide on POP and PFMT, this is dictated by the amount of time you have. In general you find that lack of time to undertake consults is a barrier to either providing health promotion information in general, or to document that you have done it. For many consults however, health promotion is integral to the management of a particular health condition.

You feel that women most likely have an understanding of the nature of POP as they have an appreciation of the anatomical changes and physiological processes involved in giving birth. However you doubt whether women understand the long-term consequences of POP. Women may consider that POP is an expected consequence of childbirth and that it is something to be borne. POP is a hidden and potentially embarrassing condition and women may not talk to their family and peers about it. It is important that clinicians take a good gynaecological history, and ask relevant screening questions to assess for risk factors and symptoms of POP, as women may not volunteer this information.

Women have often received PFMT advice at the time of having their children, which for some may have been many years ago. When talking with women about PFMT you attempt to relate back to that advice, drawing on knowledge that they already have. In doing so you hope to emphasise that this information is not new to try and lessen anxieties that may evolve with the diagnosis. Often when talking about POP you acknowledge that there is a tendency to try and normalize POP in an effort to reassure the woman and again lessen potential anxiety. You considered that this might possibly contribute to the perception that POP is a normal health state and reduce women's appreciation of the importance of PFMT.

In discussing health promotion you describe an approach whereby you work alongside women to empower them to take control of their own health. You do not believe that your role is to dictate to women but rather to plant a seed of an idea regarding a health promoting behaviour and to support it to grow. You feel that this is a philosophy that you carry towards your approach to practice and life in general.

Emma Macfarlane

Acknowledged by participant as an accurate summary