# **CLINICAL PAPER**

# Pelvic girdle pain – part 2: qualitative results from a mixed-methods service evaluation; women's experience of manual therapy treatment during pregnancy

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#### Abstract

Pregnancy-related pelvic girdle pain (PGP) is a musculoskeletal condition that affects 20% of gravid women. Pelvic girdle pain can have a marked impact on an individual's quality of life, sleep and functional activities, and can result in absenteeism from work. Part 1 of this paper presented the quantitative results of a mixed-methods service evaluation of the introduction of a manual therapy approach to usual care. There is a paucity of literature on patients' experience of receiving manual therapy for PGP during pregnancy. Therefore, the second aim of the service evaluation was to gain an insight into women's experiences of manual therapy treatment for PGP. Semi-structured interviews were undertaken with seven women who had received manual therapy, and thematic framework analysis was applied to the data. Qualitative analysis revealed five distinct themes: living with PGP; practicalities of entering the physiotherapy system; patient expectation pre-treatment; response to manual therapy; and relationship with physiotherapist. Overall, women reported reduced pain and improved function after receiving manual therapy along-side usual care.

*Keywords:* manual therapy, patient experience, pelvic girdle pain, service evaluation, treatment.

#### Introduction

Pelvic girdle pain (PGP) is a musculoskeletal (MSK) condition that can affect two subgroups of the population: non-pregnant patients and those with pregnancy-related PGP (Vleeming *et al.* 2008). The research discussed in the present paper focused on the pregnant population. Pelvic girdle pain was redefined in the 2008 European guidelines as pain that can occur "between the posterior iliac crest and the gluteal fold, particularly in the vicinity of the [sacroiliac joint]" (Vleeming *et al.* 2008, p. 797). The point prevalence of women affected by PGP during pregnancy is approximately 20% (Vleeming *et al.* 2008), and research suggests that, while most women spontaneously recover

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quickly after delivery, severe pain can persist in 7% of cases for more than 2 years postpartum (Wu et al. 2004). Pelvic girdle pain can have a marked impact on a women's quality of life (QoL) (Mogren 2007), affecting sleep (Olsson & Nilsson-Wikmar 2004) and functional activities (Röst et al. 2006; Wellock & Crichton 2007a; Vermani et al. 2010), and possibly causing absenteeism from work (Norén et al. 1997; Malmqvist et al. 2015). In Scandinavian countries, it has been shown that PGP accounts for between 37% and 72% of time off during pregnancy, and between 7 and 15 weeks of sick leave are taken during the perinatal period as a result of pregnancy-related back pain (Norén et al. 1997; Kanakaris et al. 2011; Malmqvist et al. 2015).

Pelvic girdle pain can have an adverse impact on a woman's experiences and QoL during pregnancy and the postpartum period (Mogren

2007; Wellock & Crichton 2007a; Persson et al. 2013; Engeset et al. 2014; Wuytack et al. 2015). Persson et al. (2013) concluded that PGP affected women negatively, making them struggle with daily life and coping with pain, and that improvements in treatment are essential to improving their QoL. Another paper showed that PGP affected women's everyday lives, and had an impact on their ability to cope with motherhood, maintain their relationships with partners and perform work (Elden et al. 2012). Other studies have corroborated these findings (Wellock & Crichton 2007a; Wuytack et al. 2015), and Mogren (2007) found that women had a lessfavourable perceived health status when PGP persisted postpartum. Considering what is written about PGP in the literature, it is still thought of by healthcare professionals (HCPs) as a selflimiting, transient problem. Women are led to believe that their symptoms should be accepted as "normal aches and pains of pregnancy" (Vermani et al. 2010, p. 60).

Attempts to establish the benefits of treatment that solely use quantitative data can be misleading. A randomized controlled trial of low back pain found that only small to moderate benefits resulted from adding manual therapy (MT) to general practice care (Underwood et al. 2006). However, subsequent qualitative analysis demonstrated clearer differences between the treatment groups when these results were compared with the quantitative analysis. This suggests that patient satisfaction with treatment might not be reflected in the outcomes measured through validated outcome questionnaires. There is a paucity of studies that examine the effects of combining MT and usual care by employing patient interviews to gain an insight into their experiences of an MT treatment approach. Existing qualitative research has focused on living with PGP (Wellock & Crichton 2007a; Elden et al. 2012; Persson et al. 2013), the postpartum treatment of PGP (Stuge et al. 2004) and the experiences of first-time mothers suffering from persistent PGP after childbirth (Wuytack et al. 2015), rather than the individual's experience of antenatal treatment. For this reason, a mixed-methods approach was used. The first part of the present study (Monaghan & Haywood 2016) employed the Pelvic Girdle

Questionnaire (PGQ; Stuge *et al.* 2011), a selfreported outcome measure, to examine the effectiveness of using an MT approach as an adjunct to usual care. The present paper will describe patients' experiences of MT, and it is envisaged that these findings may support the use of an MT treatment approach as an adjunct to usual care (Monaghan & Haywood 2016). This may lead to improvements in the outcomes and experiences of physiotherapy for women who must cope with PGP during and after their pregnancies.

# Service development question, aims and objectives

The service development question was: "What are women's experiences of an MT treatment approach when treated for PGP by the women's health (WH) physiotherapy team?"

The aims of the present study were:

- to gain an insight into women's experience of an MT treatment approach, alongside usual care, when treated for PGP by the WH physiotherapy team; and
- to make recommendations for the future development of the WH physiotherapy service, specific to PGP.

The objectives of the present study were:

- to identify and recruit women who had received MT treatment from PGP by the WH physiotherapy team;
- to use semi-structured interviews to explore patients' experiences of MT treatment provided by the WH physiotherapy team; and
- to use a qualitative approach to analyse the findings.

# Participants and methods

#### Participants

The present study involved antenatal women with PGP who had been referred to the WH physiotherapy outpatient department at Sheffield Teaching Hospital NHS Foundation Trust (STHNHSFT), Sheffield, UK, after being treated with an MT approach plus usual care. A purposive sampling strategy was used to identify the participants, (Bryman 2008). The inclusion and exclusion criteria that were employed are shown in Table 1.

 Table 1. Inclusion and exclusion criteria for qualitative recruitment

Variable	Inclusion criteria	Exclusion criteria
Age (years)	$\geq 16$	< 16
Treatment for pelvic girdle pain	Manual therapy approach	"Usual care" only

#### Methods

Between May and July 2013, the WH team identified women who were potentially suitable candidates for the semi-structured interviews since they were being treated for their PGP with an MT approach (Monaghan & Haywood 2016). A patient information sheet (PIS) was given to these women at their second appointment with the physiotherapist, who invited them to participate in a semi-structured interview. When the potential participants were given a PIS, they were asked by their physiotherapist if they could be contacted after a few days, allowing sufficient time for the information to be read. The women were then contacted by telephone, the PIS was discussed in detail and any questions regarding the semi-structured interview were answered. At this stage, potential participants were given time to consider their involvement. A follow-up telephone call was then made to establish whether they wished to participate or not. When verbal consent was obtained, a time and date was arranged for the semi-structured interview, which took place either at the hospital or in the participant's home.

The timing, flow and structure of the interview were tested by piloting it with a colleague who had experienced severe PGP during her pregnancy. The data generated from this interview allowed the researcher (C.M., the first author) to refine the topic guide and prompts (see Appendix 1). The researcher (C.M.) also discussed pertinent topic areas that were relevant to the service with her line manager, which shaped the topic guide. The available literature regarding PGP also shaped the content of the interview, with the researcher (C.M.) being mindful to ensure that the research question was being answered.

On the day of the face-to-face interview, written informed consent was obtained using a consent form. Each interview lasted for a maximum of 45 min, was audio recorded, anonymized and then transcribed verbatim.

#### Data analysis

Thematic framework analysis (Ritchie & Spencer 1994) was used to analyse the data generated by the interviews. This approach was selected because of its systematic stages that, when applied to data, created a transparent audit trail of how themes were derived (Ritchie & Spencer 1994). It also allowed the research topic to be explored while remaining open to new emergent themes. An interview guide was developed and used, but

women could freely discuss other topics if they desired.

# Reliability and validity

To ensure that the interview data remained trustworthy, quantitative and qualitative methods were combined to triangulate the findings, potential researcher bias was declared, negative information was presented, and peer debriefing was used (Creswell 2008; Teddlie & Tashakkori 2008). An audit trail was employed, which helped to minimize threats to validity and reinforced the researcher's (C.M.'s) reliability (Robson 2011). Data and emerging themes from the interviews were co-analysed by the second author (A.H.), which enhanced validity (Bryman 2008; Robson 2011).

Patient data were anonymized and pseudonyms were given to the participants in order to analyse and discuss the results effectively. The study was granted approval by the Clinical Effectiveness Unit at STHNHSFT, and ethical approval was gained from the University of Sheffield's School of Health and Related Research (ScHARR).

#### Qualitative results

Seven participants were recruited between June and August 2013. A further three women were contacted, but did not respond. A decision was made not to pursue these individuals because they were close to their delivery dates, and it would have been inappropriate to continue with potential recruitment. Nine women from the MT group had only had one session of physiotherapy, and although this included MT, they did not meet the inclusion criterion of two sessions of physiotherapy before recruitment. Demographics and data from the PGQ for the seven women who were recruited are shown in Table 2.

One woman chose to be interviewed in the physiotherapy department before her appointment, and the remaining six opted to be interviewed in their own homes.

#### **Results**

Thematic framework analysis (Ritchie & Spencer 1994) was applied to the qualitative data, which allowed themes and subthemes to emerge from the interview transcripts. Although only seven women were interviewed, the data reached saturation, and no new themes arose during the last interview. A particular topic area was classed as a theme if more than one woman raised it,

Table 2. Demographic and Pelvic Girdle Questionnaire (PGQ) data for the participants

Participant*	Age (years)	Gestation at assessment (weeks)	Gravidity	Parity	Treatment sessions ( <i>n</i> )	PGQ score (%)	
						Baseline	6 weeks
Anna	29	22	2	1	2	88	59
Beth	30	27	2	1	3	96	36
Cara	31	32	1	0	2	31	18
Daisy	37	28	3	2	2†	71	80
Emily	24	30	1	0	2	52	62
Frances	38	29	3	2	2	80	65
Grace	39	26	1	0	2	54	37

\*Pseudonyms were assigned to the seven women.

†Treatment continuing.

Table 3. Summary of the themes and subthemes thatemerged from the data analysis

Theme	Subtheme
(1) Living with pelvic girdle pain	<ul> <li>(a) Pain expectations during pregnancy</li> <li>(b) Pain levels before seeking help</li> <li>(c) Impact on daily life</li> <li>(d) Views about recovery postpartum</li> </ul>
(2) Practicalities of entering the physiotherapy system	<ul><li>(a) Referral process</li><li>(b) Location of physiotherapy appointments</li></ul>
(3) Patient expectation pre-treatment	<ul><li>(a) Negative mindset</li><li>(b) Hopeful treatment will help</li><li>(c) Unsure expectations</li></ul>
(4) Response to the manual therapy approach plus usual care	<ul><li>(a) Initial response</li><li>(b) Functional change</li><li>(c) Perception of alignment</li><li>(d) Exceeded expectation</li></ul>
(5) Relationship with physiotherapist	<ul><li>(a) Trust in physiotherapist</li><li>(b) Empathy from the physiotherapist</li><li>(c) Woman's dignity respected</li><li>(d) Recommendation of physiotherapy</li></ul>

which prevented idiosyncratic themes developing. These themes were initially descriptive, and then became refined until five overarching themes were identified with various subthemes in each category (see Table 3).

#### Theme 1: living with pelvic girdle pain

The interview data showed that PGP affected women in different ways. Four subthemes emerged that unified the participant's perspectives on living with PGP.

(a) Pain expectations during pregnancy. Some women expressed a degree of resignation to the fact that they should expect pain during pregnancy, especially when they had a pre-existing condition prior to becoming pregnant: "I was also having ... sacral pain ... I heard that a lot of people get that in pregnancy. ... I was kind of living with that." (Cara)

One participant had had a telephone encounter with a physiotherapist who told her to:

"Pull yourself together ... you're a pregnant woman. ... Your body is going through all sorts of different changes and things ... and yes, you are going to feel some [pain]." (Anna)

Another questioned whether she should seek professional advice about her PGP:

"I went to see my midwife, and she just told me that my baby was laid on a nerve .... and when it moved, this pain would go, but it didn't. So I went to see my doctor, and he told me the same. ... After a week, I woke up one morning and couldn't move." (Beth)

(b) Pain levels before seeking help. Six of the seven participants had experienced severe pain before finally seeing an HCP, which caused some of them to experience feelings of desperation. Some women implied that they thought that there is a level of pain that should be tolerated before seeking advice from HCPs:

"My life's changed now [following her third pregnancy and having experienced PGP in all her pregnancies], so I was proper like devastated. ... It's severe pain ... it's pain you can't bear." (Daisy)

"Before seeing physio with this pain . . . [it] got to the point when I thought, *I can't cope with this pain*." (Frances)

(c) Impact on daily life. From the participant's perspective, PGP had a significant effect on their functional abilities, relationships and QoL. The words that the women used to describe their experiences of living with PGP were

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negative terms (e.g. "struggling", "nightmare" and "impossible"), which suggested that they felt helpless when faced with PGP. All aspects of their lives were affected, including daytime activities, sleep, relationships with their partners and the reliance they had on other family members:

"My husband works 6 days a week and he was at home just on a Sunday, and we were finding that we were trying to do everything on a Sunday ... go shopping ... change the beds." (Anna)

"I was struggling to put on my trousers and underwear – I just couldn't bend, the pain in my legs was so severe." (Frances)

One woman had already experienced severe PGP during her first two pregnancies, and she had started to suffer from PGP at 18 weeks into her third. She expressed a level of desperation that had a profound effect on her perceived ability to cope with the pregnancy, and had delayed having her third child because of her past experiences of PGP:

"It [the pain] was a nightmare. ... I remember going to my husband ... 'You know what ... end this pregnancy for me. ... I don't want it. ...' I could not cope with it." (Daisy)

"My daughters have got a massive age difference.... The reason is [that] I couldn't cope with the pain ... and after [a gap of] 6 years, I can say [that] I have the exact same problem. ... It's there [the pain] ... it never leaves me." (Daisy)

(d) Views about postpartum recovery. The women's insight into postpartum recovery from PGP was mixed, and not based on any established facts. They were just hopeful that a full recovery would be made, and that the pain would go away in time:

"To be honest, I could not see an end. ... I'm going to be like this forever, and because I was only 19 weeks [pregnant] at the time ... I knew I got another 21 weeks like this, so no, I could not see an end." (Anna)

# Theme 2: practicalities of entering the physiotherapy system

This theme developed after questioning provoked strong and varied responses from the women regarding their experience of being referred to physiotherapy. Two subthemes arose from the data.

(a) Referral process. It seemed that some women had had a very positive experience of referral, with only a short wait for their first physiotherapy appointment. However, others had had to endure long waiting times, during which they became increasingly desperate to be seen, and stated that it should be easier to get seen by a physiotherapist:

"Really frustrating. ... You're obviously in a really bad way and she [the midwife] said she would send an urgent fax. ... It took me 3 weeks to get a letter ... to make an appointment, then ... another 3 weeks to actually get to see a physiotherapist. ... The fact that, when I saw her, she fixed me in 2 seconds flat was like, *Why on earth could this not have happened 6 weeks ago?*" (Grace)

Three main "pathways" into physiotherapy were described by the participants: referral via general practitioner (GP), midwife and triage. How quickly the initial HCP recognized a woman's symptoms as indicating PGP and then referred her for physiotherapy appeared to be quite random:

"The referral process was really easy. ... I rang the triage number ... and they [the midwife] filled out the referral over the phone." (Cara, who self-referred via triage)

"I had seen about five doctors [laughs], been to see the midwife." (Beth)

(b) Location of physiotherapy appointments. Three distinctive issues arose in relation to this subtheme. First, the participants expressed a variety of opinions about the locations of their treatment sessions, i.e. attending an acute teaching hospital, a women's hospital or a local GP's surgery. Some women were satisfied with having to get one or two buses to the relevant hospital, while others always came with a relative. All the participants said that they would prefer to be treated locally at a GP's clinic, which was not an option, although they acknowledged that they would travel anywhere to receive the best treatment:

"I don't mind travelling, it's just the times of the appointments. You have to set off an hour before for parking as well, and then rush back for the children ... but if you've got to

go, you've got to go." (Frances, referring to the women's hospital)

The women then discussed their issues with mobility and pain in relation to getting around the hospital site itself. Their physiotherapy appointments were at two possible locations: the women's hospital; or in the physiotherapy outpatient department at the teaching hospital. There are slopes to negotiate between these sites, and the bus stop and car park:

"That was a nightmare. ... It was in different places every time I went, and [I] kept getting confused and going to the wrong place. ... The car parks were full, so I ended up parking miles away ... and had to hobble up to the hospital." (Grace)

## Theme 3: patient expectations pre-treatment

Interestingly, there were differences in the participant's pre-treatment expectations of what physiotherapy could achieve, but these fell into three subthemes.

(a) Negative mindset. This mindset mainly represented the views of women who had experienced negative encounters with other HCPs in the past, and therefore, physiotherapy was almost "tarred with the same brush":

"I wasn't expecting much. ... This [physiotherapy] is not going to do anything for me. ... I really didn't think I'd have any joy from it at all." (Anna)

(b) Hopeful treatment will help. Some women described being in so much pain that they were just hopeful that physiotherapy would help in some way:

"I've had a couple of experiences of physio in the past, and it has been very helpful, so I was kind of more hopeful than just seeing a consultant." (Grace)

(c) Unsure expectations. Other women were completely neutral and open to what the treatment would involve. Prior to being assessed, none of those interviewed had heard about any specific types of physiotherapy treatment for PGP through family/friends:

"I didn't know what to expect. ... I just wanted [the pain] to stop." (Beth)

"I didn't really know [what to expect] to be honest, I'd never had physio." (Frances)

# Theme 4: response to the manual therapy treatment approach plus usual care

Within this theme, data from all seven participants populated the following four subthemes.

(a) Initial response. The data provided by the women supplied information about three different types of reaction to MT.

First, it appeared that the majority of the participants initially felt sore after MT:

"The day after, I couldn't walk, I couldn't bend and I thought, *What has this woman* [the physiotherapist] *done to me?*" (Anna)

"Sore for a couple of days, then after that, it's been perfect. ... Totally solved the problem there and then, it was amazing." (Grace)

Secondly, the time that it took to respond following treatment varied between the women. Grace described the treatment as "a miracle" because she responded immediately to MT, while others noted that improvement occurred "over the coming days":

"The day after [treatment], I didn't need the crutches, I could walk. ... There's a difference, a big difference." (Beth)

Thirdly, some participants reported that their pain "disappeared" following MT treatment, while others described reduced pain, both of which are closely linked with the functional improvements illustrated by the next subtheme:

"Suddenly, it was as if I got this instant relief." (Anna, one day after treatment)

"Obviously, I weren't cured, but I could do a lot more than I could when I went in.... Definitely not as severe as before." (Frances)

"Tender for that day, then eased for about a week." (Emily)

(b) Functional change. All the women described how their functional abilities improved significantly after treatment, even if their pain did not go completely. There was a sense of increased independence and freedom to undertake activities of daily living (ADLs):

"I go out now. ... I can manage to pick my daughters up ... walk around the house ... go see my friends. ... I can now manage my life ... go out shopping with my husband ... You guys [physiotherapists] have made my life much easier." (Daisy)

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"Can do more or less everything normally without any pain. ... Eases for just over a week." (Emily)

They appeared to appreciate the small changes in their abilities that contributed to their improved ability to perform ADLs:

"I can turn over in bed more easily, take the neighbour's dog for a walk ... more confident about getting out and about. ... If I hadn't have had it [MT], I don't know where I'd be now." (Grace)

(c) Perception of alignment. Across all participants, there was a belief that MT affected the position of their pelvis. Without observing the treatment session directly, it is unclear if these were perceptions that were generated by the patients themselves, or whether these were a result of how the physiotherapist described what the MT treatment was "doing":

"My pelvis wasn't rotating. ... I wasn't in line, basically." (Cara)

"This joint [the pubis] has come out [...] plus it's stuck somewhere." (Daisy)

"Pelvis round the back had dropped." (Emily)

(d) Exceeded expectations. There was a strong consensus that the results of the MT approach had exceeded the women's expectations. This was even more obvious when the initial pre-treatment expectations had been negative, resulting in an outcome that polarized their initial expectation and the actual results. Anna and Grace reported that the effect of MT lasted for 10 weeks after just one session, which surprised them:

"Didn't think I would come out feeling any better, but I did feel better, so you can't say better than that." (Frances)

"I don't know what I expected, to be fair, but she sorted me out straight away. . . . I'm glad I came. . . . I don't think I would have lasted much longer if I had not had it [MT] done." (Beth)

"The groin pain was better, but I was still getting it ... but the sacral pain had totally gone. ... I can't think of anything else, any reason why it would go all of a sudden." (Cara)

#### Theme 5: relationship with physiotherapist

All the participants described a positive attitude towards their physiotherapist, and a sense of relief that an HCP understood their problem. This finding further divided into four subthemes.

(a) Trust in the physiotherapist. When the women spoke about being in severe pain, they appeared to have become passive recipients of their treatment, and totally put their trust in their physiotherapists:

"I just let her [the physiotherapist] do whatever she needed to do." (Beth)

"I went there and she was checking me, and she said, 'Does it [the pubis] give you a bit of pain?' She picked it up - I never mentioned it – so I completely trust her." (Daisy)

(b) Empathy from the physiotherapist. Participants positively recalled the feelings of empathy and understanding that were shown by the physiotherapists, and believed that their experience of PGP was validated during the appointment:

"They [physiotherapists] don't look at you as if you are silly." (Emily)

"So many medical professionals ... because I've had endometriosis ... see me as a womb and a pair of ovaries. ... I didn't feel like that about the physio at all. She sympathized and understood and was really nice – it makes a huge difference as to how you come away from an appointment." (Grace)

(c) Woman's dignity respected. All the women agreed that they were comfortable having MT techniques applied to their pelvis by the physiotherapist:

"It [the treatment] wasn't intrusive, I felt totally comfortable." (Cara)

"Privacy was always maintained." (Emily)

(d) Recommendation of physiotherapy. All seven participants were quick to recommend physiotherapy after receiving treatment for their PGP. This was despite some of the women having had a negative referral experience, a perceived long wait for their appointment or low expectations of physiotherapy prior to treatment:

"If somebody says to me, 'You want to swap hands [on] treatment,' or just, like, what they had given me [during my] previous two pregnancies [exercises], I will never swap it. ... I will 100% support the physios." (Daisy)

"They'll [physiotherapists] sort you out straight away." (Emily)

## Discussion

Gathering the opinions of patients is important to health service research because these views add to our understanding of a specific condition or disease, an intervention, or an outcome by grounding it in everyday life (O'Cathain *et al.* 2007). The present analysis of seven semi-structured interviews identified five themes containing several subthemes, and these are discussed below.

# Theme 1: living with pelvic girdle pain

The three subthemes, i.e. pain expectation during pregnancy, pain levels before seeking help and impact on daily life, are well represented in the literature (Fredriksen *et al.* 2008; Elden *et al.* 2012; Persson *et al.* 2013), which demonstrates that these subthemes are highly relevant to the pregnant population with PGP.

One of the core categories that emerged from Persson et al.'s (2013, pp. 1 & 3) study, as reflected in the title of their paper, was "struggling with daily life and enduring pain". This topic corresponded to the "living with PGP" theme that emerged in the present study. The recurrence of themes in different studies emphasizes how much PGP restricts women's ADLs, and the need for the condition to be recognized and managed by HCPs in a timely fashion. The present study generated similar themes to the bulk of literature, and may serve to validate existing findings as credible and, perhaps, generalizable. A recurrent finding in the present study was that PGP limited function, which can have a significant impact on women's daily lives. This finding is commonly echoed in the literature (Wellock & Crichton 2007a; Fredriksen et al. 2008; Elden et al. 2012; Persson et al. 2013).

There was a belief among some participants in the present study that pain during pregnancy was "expected" by HCPs, and they accepted that they should "live with it". This finding was supported by a study in which women reported having to "endure" pain in everyday life, and wondered about when it was acceptable to seek help (Fredriksen et al. 2008). In another study (Wellock & Crichton 2007b), women reported that midwives could be dismissive of their symptoms, and that GPs told them that pain was normal and they should "put up" with it until after delivery. When women do seek advice from an HCP, this can reinforce their belief that they have to live with the pain because this is often misdiagnosed, with "blame" being placed on the weight of the baby or urinary infections. Some participants in

the present study were told by HCPs that they had a urinary tract infection or "baby was lying on a nerve", and this misdiagnosis led to a delayed referral for physiotherapy. Two existing studies confirm the finding that women are often misdiagnosed or mislabelled (Wellock & Crichton 2007a; Fredriksen *et al.* 2008).

The participants in the present study described how it was sometimes impossible to complete ADLs, such as taking children to school and going shopping. Their reliance on their partners or extended family had also increased. This dependency is mirrored in other research findings (Wellock & Crichton 2007a; Elden et al. 2012; Persson et al. 2013). The women who were interviewed were hopeful that their postpartum recovery would be spontaneous, and that their pain would disappear once the baby was born. These findings are supported by the findings of Persson et al (2013, p. 6), who reported that women expected the pain to "vanish instantly after birth and life would go back to normal again".

However, in a study by Wuytack *et al.* (2015), women with persistent PGP after childbirth were interviewed and similar themes emerged. Women canvassed in the above study described having to put up with their pain, and stated that they often heavily relied upon their partners to support them with ADLs. They also reported that they did not feel that they had returned to normal, and that this persistence of their pain was unexpected.

Although epidemiological studies have reported that 93% of women recover within 3 months of giving birth (Wu *et al.* 2004), 7% of those with serious postpartum PGP can suffer from pain for  $\geq 2$  years (Albert *et al.* 2001). Those who do not recover by 6 months after delivery are unlikely to improve any further (Östgaard *et al.* 1997). This highlights the importance of treating these women early in order to prevent the development of chronic postpartum PGP.

# Theme 2: practicalities of entering the physiotherapy system

The participants in the present study demonstrated how frustrating it can be to have to visit a GP or midwife on more than one occasion before a referral is made. As highlighted above, it is possible that this issue can be explained and supported by the current research, which describes how women are expected to put up with pain or a misdiagnosis. By the time that they are finally referred to see a physiotherapist, and then must wait for their first appointment, they are often in severe pain, which potentially has a negative effect on their expectations of what physiotherapy can offer.

This level of desperation can have a negative impact on the WH physiotherapy team working within the outpatient department. Anecdotal evidence from the first authors' (C.M.'s) colleagues suggests that they may need to spend a significant amount of time dealing with frustrated and emotionally fragile women with PGP who are not coping with their pain. Appointments must be reorganized to fit urgent patients into the system, while physiotherapists must provide advice and support the woman over the telephone.

The amount of time that the present participants waited for an appointment provoked some strong reactions, and they often felt frustrated because they believed that they should have been seen more quickly. This finding reflects the work of Wellock & Crichton (2007b), who noted that women did not get an appointment when they felt that it was needed the most. However, some of the present participants reported a very quick referral process and were satisfied, which shows inconsistencies in the referral process that need to be addressed. The woman's individual perception of what was an appropriate length of time to wait may be associated with the amount of pain that they were experienced while waiting for an appointment. This can be illustrated by using baseline PGO scores and qualitative data to convey the women's referral experience, which is a clear advantage of using a mixed-methods approach to research. For example, Anna and Grace had PGQ baseline scores of 88% and 54%, respectively, and reported negative experiences of the referral process, whereas Cara, who had a PGQ baseline score of 31%, thought that 3-4 weeks was a "reasonable" amount of time to wait.

The participants in the present study reported that the following sequence of events occurred during the referral process: (1) presentation to a GP/midwife was delayed; (2) there was a waiting period before the HCP made a referral; and (3) it took even more time before an appointment with a physiotherapist took place. All of this could potentially have had a negative impact on the women's birth outcomes and increased their pain.

Recent research has concluded that women who experienced high pain ratings during their third trimester of pregnancy had an increased incidence of assisted delivery, Caesarean section, and a longer and more painful labour (Brown & Johnston 2013). The possible explanations for this relate to physiological, mechanical and psychological issues, and are fully explained by Brown & Johnston (2013). This association between increased pain and complications during labour make it even more pertinent to identify and actively treat women with PGP in a timely manner in order to reduce their pain in the antenatal period, thus optimizing their birth experience. Therefore, a more-efficient system of referring these patients for physiotherapy has benefits for both the woman and the clinicians who care for them throughout the perinatal phase. If their pain level is managed well in the antenatal period, and medical complications/interventions are reduced, this could potentially lead to financial savings for the organization. Research has also linked high pain scores during pregnancy with pain persisting postpartum (Albert et al. 2001), and therefore, effective antenatal treatment could reduce the risk of these women developing a chronic condition.

#### Theme 3: patient expectations pre-treatment

There is limited information about pre-treatment expectations because research is commonly focused on patient satisfaction *during* physiotherapy care (Hush *et al.* 2011). In a systematic review of patient satisfaction with MSK physical therapy, their expectations were a less frequently reported dimension of satisfaction (Hush *et al.* 2011). Hush *et al.*'s (2011) systematic review found that patients had lower expectations but higher satisfaction when presenting with an acute condition, as compared to a chronic condition. This result is highlighted and discussed further with regard to MT response.

Another study reported that the expectations of women with PGP had not been met with regard to their experience of care (Wellock & Crichton 2007b). In contrast, the present study found that women emphasized how their response to MT exceeded their initial expectations. This could possibly be explained by the results of a study by Bishop et al. (2011), who reported that patients with low back pain expected active therapeutic interventions (e.g. exercise and MT) to be more effective than passive forms of treatment. Although the above authors' research involved participants from the non-pregnant population, there is no reason why this explanation could not be applied to pregnant women with PGP. Furthermore, as previously discussed,

women are often at the limit of being able to cope with their pain, and therefore, any improvement, no matter how small, may translate into a large functional improvement and increased ability to cope.

## Theme 4: response to a manual therapy treatment approach plus usual care

Another recurrent theme was that six of the seven participants reported an increase in pain for 1-2 days after treatment before this diminished or completely cleared. This expected treatment-related soreness was explored in a qualitative study by Carlesso et al. (2013) in which patient's perspectives of potential adverse responses to manual physiotherapy were sought. These authors concluded that 96% of respondents felt that mild adverse responses (e.g. an increase in pain, soreness and existing symptoms) were tolerable if their condition was improving overall. The same study found that 98% of respondents agreed that, if the physiotherapist warned them of a potential adverse response after treatment, then this became more acceptable. Relating this research to clinical practice, these findings emphasize the importance of clinicians communicating well with their patients, and have the potential to improve the therapeutic relationship. Treatment expectations and effective communication have also been associated with patient satisfaction (Hills & Kitchen 2007).

Surprisingly, all seven of the participants in the present study had strong views about "realignment" of their pelvic joints, but it was not clear whether this belief was that of the woman themselves, or one passed on by the physiotherapist. Although it is important for physiotherapists to explain the likely mechanism of MT, it is also detrimental to the patient to use clinical labels that potentially elevate anxiety levels (O'Sullivan & Beales 2007). Terms such as "slipped" or "dropped" may have increased the women's passive dependence on the physiotherapist to "fix" them, and unhelpfully reinforced negative behaviours such as fear avoidance (O'Sullivan & Beales 2007). The clinical distortions seen within the pelvis are thought to be a result of muscular activity causing functional impairments rather than anatomical changes (O'Sullivan & Beales 2007). Perhaps physiotherapists should ensure that they use descriptions such as "uneven/ asymmetrical movement" when comparing the left and right sides of the pelvis for positional faults. Manual therapy was delivered alongside usual care, which highlights the importance of using multiple approaches to treat PGP. Initially, women may need MT to ensure that positional faults are rectified, and active rehabilitation to address motor control deficits, all within a biopsychosocial framework (O'Sullivan & Beales 2007).

# Theme 5: relationship with physiotherapist

This theme resonated with the findings of a study by Stuge & Bergland (2011). Women reported that physiotherapists had taken them seriously and were treated as an individual (Stuge & Bergland 2011), which was reflected the present study. The present results reiterate that physiotherapists had validated the participants' pain, something that can be lacking when doctors suggest that pain is a normal part of pregnancy (Wellock & Crichton 2007a). A systematic review of patient satisfaction with MSK physiotherapy concluded that one of the key determinants of this was the interpersonal attributes of the physiotherapist (Hush et al. 2011). These attributes included caring, friendliness and efficient communication, which support the findings of the present study.

A study by Carlesso et al. (2013) found that 90% of respondents agreed that trust in their physiotherapist was important, and that their belief reduced their concerns if a mild adverse event occurred. This can be seen in the results presented above, where women who were "desperate" for their pain to go away will "do anything" to achieve relief.

A positive finding from the present study suggests that the participants were satisfied with the treatment that they had received since they all would recommend physiotherapy to friends or family members with PGP. Conversely, Wellock & Crichton's (2007b) results showed that the women in their study were disappointed with the care that they received. However, only women who received MT alongside usual care were interviewed, and not women who received only usual care, who might have recommended the latter. Overall, there is evidence to support the idea that satisfied patients are likely to comply with treatment and experience a better QoL (Hush et al. 2011).

# Integration of quantitative and qualitative results

The following section addresses the integration of the present results with the quantitative findings reported in the first part of the study (Monaghan & Haywood 2016). When combined, these provide a more-detailed understanding of the overall pattern of the results. Initially, the WH physiotherapy team had concerns about the effect that an MT treatment approach would have on caseloads, assuming that more appointments would be needed. Conversely, the data show that, on average, women in the MT group had only 1.82 appointments, as compared to one appointment in the usual care group (Monaghan & Haywood 2016). This is supported by the qualitative data, in which participants reported that they noted an improvement in their pain and function after the first treatment session. The current appointment system allows for antenatal women with PGP to be seen for a second time, if required, and therefore, the results of the present study should not have a negative impact on the physiotherapists' caseload.

The quantitative data suggest that, at the first appointment, 2.2%, 58.7% and 39.1% of women are in their first, second and third trimesters, respectively (Monaghan & Haywood 2016). This appears to be supported by the qualitative findings, which revealed that women delay going to see their midwife or GP until they can no longer cope with the pain. The literature suggests that there is a possible increase in pain around the sixth or seventh month (second trimester) that is caused by a new stage of dermal tissue stretching (Sipko et al. 2010). This is accompanied by a shift in the centre of gravity in the body as a result of the growing uterus, which increases lordosis and strain across the pain-sensitive ligaments in turn (Sipko et al. 2010). It may be prudent to review the literature that is distributed to women early in their pregnancy in order to inform them about PGP, and the need to seek early advice and treatment from qualified HCPs.

The unexpected qualitative data collected from women who were completing their 6-week PGQ highlights the potential limitations of the outcome measure tools used in clinical practice. The data demonstrated a discrepancy between, on occasions, a worsening PGQ score, and subjective reports of improvements in terms of pain and function. This is supported by the literature, which recognizes that outcomes measured with validated questionnaires may fail to show difference over time, despite patients being highly satisfied with treatment (Underwood et al. 2006). Alternatively, the PGQ outcome measure could have been used alongside a well-being questionnaire in order to detect subtle but important changes in OoL.

#### Limitations

Because of the time limitations of the present study, no further recruitment was possible. Persson *et al.* (2013) interviewed women about their experiences of living with PGP, and found that no significant new information was collected after eight sessions. This increased the first author's (C.M.'s) confidence that data saturation had been achieved.

Potential bias exists within the present study. First, selection bias could have had an impact on the qualitative results (Monaghan & Haywood 2016). The women who agreed to be interviewed may have been the patients who responded well to an MT treatment approach. However, when their baseline characteristics were compared, no major discrepancies were found. The first author's (C.M.'s) own views as a practising physiotherapist could have affected the results; however, this potential bias was minimized through several discussions with the second author (A.H.), which validated the themes emerging from the data. Finally, the women who were interviewed knew that the first author (C.M.) was a physiotherapist, and she is aware of how positionality can affect results. This could have made the participants feel that they needed to overemphasize the success of the MT treatment. However, the first author (C.M.) was aware of this and kept to the interview guide, and every attempt was made to remain neutral.

# Summary of key points

The present study illustrates how PGP in pregnancy can impact on many aspects of a women's daily life, a finding that is supported by the literature (Wellock & Crichton 2007a; Fredriksen et al. 2008; Elden et al. 2012; Brown & Johnston 2013). It highlighted that women had varying experiences of entering the physiotherapy system, and mixed expectations before treatment. Participants reported a very positive experience of receiving an MT treatment approach, and valued their relationship with the physiotherapist. There is increasing acknowledgement from within the physiotherapy profession that "research into the patients' view of the service should be undertaken" (Hills & Kitchen 2007, p. 244) in order to ascertain levels of patient satisfaction. Increasing our knowledge about the experiences of patients has two benefits: it contributes to improving the quality of care, and provides a greater understanding of the recovery process (Stuge & Bergland 2011).

Improvements in the way in which women with PGP are treated from the start of the referral process are needed to enhance their QoL (Persson et al. 2013), and potential birth experiences and outcomes (Brown & Johnston 2013).

#### **Recommendations for future practice and** research

The qualitative data (Monaghan & Haywood 2016) indicate that the referral process needs to be reviewed in order to make the process consistent and equitable for all women with PGP in Sheffield. General practitioners and midwives need to make an early diagnosis, and a prompt referral to physiotherapy. This may involve educating/updating HCPs about PGP, and revising the physiotherapy referral criteria.

A review of the information that a woman receives at her first meeting with the midwife or 12-week antenatal appointment needs to be undertaken, and it may have to include a PGP information booklet. This would provide women with valuable knowledge that would allow them to undertake early self-management, and prevent them from coming to feel a sense of desperation about being seen by a physiotherapist. A PGP information sheet could be made available on the STHNHSFT website to allow all women open access.

Self-referral to physiotherapy may allow women to feel in control of their pain and decide when they need to be treated by a physiotherapist. There is an erroneous and unhelpful perception that self-referral will increase the demand for physiotherapy services beyond current capacities. However, research by the Department of Health has shown that it does not lead to an increase in long-term demand (DH 2008).

Further qualitative interviews could be completed with women during the postnatal period to explore whether their pain had improved in accordance with their expectations.

The service evaluation was completed in 2013. The WH physiotherapy team are now working with the information technology department with the aim of launching self-referral for PGP via the STHNHSFT website. This would ultimately base the referral pathway to physiotherapy around a woman's need to be seen in a timely and efficient way before her pain levels escalate to an unmanageable level. There is now an information section in the woman's "hand-held maternity records" about the WH physiotherapy service. This directs women to the STHNHSFT website, where there is a WH page with information booklets on

PGP and back pain in pregnancy that are readily available for them to access and read for early self-management.

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#### **Appendix 1**

#### Interview guide

The following topic guide and possible questions will be discussed in a semi-structured interview.

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If a response from the participant leads into a different topic, the researcher will try to remain fluid in the interview, with the aim of achieving a "conversation with a purpose" based around the interview guide.

The research question is: "What are women's experiences of a manual therapy treatment approach when treated for PGP by the WH physio-therapy team?

#### Introduction

I will introduce myself and thank the participant for agreeing to be interviewed as part of a project. I will explain that the purpose of the interview is to find out about her personal experience of the treatment she received for pelvic girdle pain from the WH physiotherapy service. I will confirm that the interview will be a maximum of 45 min, and that they can stop the interview at any stage or choose not to answer a question. I will ask the participant to sign the consent form at this stage. I will remind her that the interview will be tape-recorded.

## Pre-interview conversation/icebreakers

How many weeks pregnant are you? Is this your first pregnancy? Are you keeping well during this pregnancy, apart from the PGP?

#### Referral pathway

Q: How did you get to be seen by a physiotherapist?

[Prompts: Patient pathway – did a midwife or GP refer or did the patient self-refer? How long did they wait?]

#### Patient expectations

Q: Once referred to physiotherapy, what did you expect that the physiotherapists could do for you? Q: Do you have any thoughts as to how quickly you will recover from PGP after the baby arrives?

[Prompts: Did the participant know that PGP could be treated, or think that they would they have to "live with it"? Were they expecting any specific type of treatment, or expecting immediate symptom relief?]

#### Contact with the physiotherapist

Q: Describe what happened the first time you saw the physiotherapist.

[Prompts: How did you feel after the first assessment? Did you feel the physiotherapist answered your questions? Were your expectations met? What treatment(s)/exercises were you given? Did the physiotherapist discuss the treatment options with you? Did you get a choice of how you wanted to be treated? Are you aware of any other treatments that you would have liked to have been offered? Were you seen again? If not, was that your choice?]

## Treatment explored

Q: How did you feel about having hands-on treatment?

[Prompts: Was your dignity respected? Did you feel embarrassed at any stage? Was there an immediate improvement in pain or function?]

Q: What home exercises you were given, if any (compliance)?

[Prompts: If you were given exercises to do at home, were you able to complete these? If not, why not?]

Q: What are your thoughts about how physiotherapy treatment has affected you and your PGP (outcomes)?

[Prompts: Did physiotherapy change your pain, or improve/worsen your ability to carry out daily activities? What can/can't you do now, or is it no different to before?]

# Environment

Q: Do you have any thoughts about the location of your treatment?

[Prompt: Privacy? Any other suggestions as to where you would like to be treated?]

#### Summary

Q: What was particularly good about the physiotherapy treatment?

Q: What could have been done better at any point in your treatment?

Q: If someone you know experiences PGP in the future, would you recommend to them to get referred to see a women's health physiotherapist at Royal Hallamshire Hospital?

# End of interview

I will thank the participant again for their time and honesty during the interview, and state that their responses will remain anonymous. I will ask them if they have any further questions or comments to add before stopping the tape recorder.