

Pregnancy-related Pelvic Girdle Pain: Irish Physiotherapists' Perspectives

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Abstract

Background: Pregnancy-related pelvic girdle pain (PPGP) represents a common condition with implications for persistence. Currently, a practice gap appears to exist related to the assessment and management of pregnancy-related PGP. This study explored Irish physiotherapists' perspectives of PPGP.

Methods: A survey from previous Canadian research was adapted and used to determine Irish physiotherapist's perspectives regarding PPGP. Women's health physiotherapists, private and public sector, were invited to complete an electronic survey. **Results:** Sixty of the 122 invited physiotherapists completed the survey for a response rate of 49%. Of these, 98% agreed that relevant health care providers need to be able to recognize a PPGP presentation, and 80% believed PPGP to be a complex clinical presentation requiring early detection and associated care. The vast majority of perspectives related to etiology and treatment focused on musculoskeletal influences, however addressing fear (84%) and employing pain neuroscience education (82%) were also indicated to be very important.

Conclusion: Pregnancy-related PGP is a distinct presentation of PGP impacting women in the perinatal period and beyond differs in etiology due to perinatal and associated bio psychosocial influences. Irish physiotherapists perceive a number of important evolving psychosocial characteristics of PPGP, however unsubstantiated strong perspectives related to biomechanics and pelvic stability were also found. Knowledge translation efforts to support the provision of evidence-informed care are needed.

Background

Pregnancy related pelvic girdle pain (PPGP) is a common clinical presentation and represents a significant health problem among women throughout and beyond the perinatal period [1]. Essentially, PPGP denotes a specific category of PGP presenting in the perinatal period and differs in its etiology as it relates to perinatal and associated biopsychosocial influences. Global prevalence has been reported as high as 46-58%.² In Ireland, the prevalence of PPGP ranges from 23-65% [1] Despite resulting in significant morbidity, including persistence well beyond the first post-partum year and associated negative impact on quality of life [3], the underlying etiology of PPGP continues to be poorly understood. The lack of understanding of PPGP translates to poor management [3]. Increasingly PPGP is associated with significant maternal morbidity, inclusive of negative physical, physiological and social outcomes [4, 6]. There continues to be a very strong link between PPGP and both pregnancy-related anxiety and depression [7, 8], implicating central physiological, rather than peripheral biomechanical etiological mechanisms. Women experiencing postpartum PPGP have higher rates of depressive symptoms compared to women without postpartum PPGP.⁷ Emotional distress [8], catastrophizing and poor patient expectation of recovery [12], are associated with the occurrence of PPGP. Importantly, persistence of PPGP beyond the perinatal period is

estimated to occur in 7-25% of women, where 8-10% continue to have PPGP two years after the birth [13]. In fact, very recent research indicates the likelihood of pain and depression represent an important interface of common neurobiological and environmental mechanisms that need to be explored among women with persistent pelvic pain [14]. Thus, PPGP represents an extremely important women's health issue [15].

As pain science literature increases, perspectives of PPGP have evolved, and are moving away from a biomechanical framing [16]. This shift can be seen when comparing the PPGP clinical practice recommendations published in 2008 [17], to those published in 2017 [13]. Emotional distress, depression, anxiety, and stress perception, are considered strong prognostic indicators of ongoing disability in PPGP [6, 8, 18]. These psychological health indicators mark a three-fold risk of developing postpartum depression [7], and also demonstrate high correlations with disability and fear of movement [19], including avoidance of future pregnancies [20]. Interpersonal relationships have been found to suffer during the transition to the role of motherhood [21]. The most recent peer-reviewed published clinical practice guidelines reflect these advances in understanding [13]. However, assessment of physiotherapist's clinical decision making processes highlight that physiotherapists continue to follow previously accepted practice approached rather than current evidence-based approaches. Two recent studies determined that Canadian

physiotherapists lacked both awareness and implementation of PPGP best practices [22, 23]. As such a gap appears to exist between evidence informed practice and actual practice. To date, research has only determined how Canadian physiotherapists make clinical decisions regarding PPGP. The purpose of this study was to capture perspectives of Irish physiotherapists, both public and private sectors, regarding general awareness, etiology and treatment of PPGP.

Methods

Participants

This study included registered public and private sector physiotherapists registered with the Irish Society of Chartered Physiotherapists. All physiotherapists registered with an associated interest in women’s health were invited to participate. The research team followed Dillman Method principles to enhance recruitment efforts [24]. Informed consent was obtained from all participants in the study. This study was approved by the ethics committee of the Hamilton Integrated Research Ethics Board (Project 1625).

Survey Development

The electronic survey was based on a tool used in two previous Canadian studies that examined PPGP practice patterns and clinical decision making [22, 23]. The survey was adapted and updated based on the current state of the science regarding PPGP and was administered using SurveyMonkey®. Since this tool was adapted from a tool that has previously been used in two research studies no pilot testing of the tool was required.

Data Collection

Consenting participants completed an online survey through SurveyMonkey®. All survey data was then exported into Microsoft Excel (2016) on a password protected computer. All participant identifiers were removed.

Data Analysis

Descriptive statistics were completed within excel. Given the very small number of public sector participants (N=5), no between groups analysis were completed.

Results

Of 122 invited participants, 60 responded for a response rate of 49% (Table 1).

Characteristics	Proportion n (%)
N = 60	60
0-5 y	2 (33.3)
6-10 y	14 (23.3)
11-20 y	24(40)
over 25 years	20 (33.3)
Average	15 (32.5)
Education	

BSc	43 (72.8)
MSc	20 (33.9)
PhD	0
Practise Setting	
Rural	19 (31.7)
Urban	42 (70)
Academic	2 (3.3)
Practise Setting	
Public	39 (66)
Private	21 (35)
Gender	
Male	2 (3.3)
Female	57 (95)
Prefer not to choose	17 (1.7)

Table 1: Participants Characteristics

Almost all participants (98%) agreed that relevant health care providers need to be able to recognize a PPGP presentation, 93% agreed PPGP was a category of lumbopelvic pain with distinct characteristics and 80% agreed PPGP is complex and requires early identification and associated care. Etiology was primarily perceived in terms of musculoskeletal factors (Table 2)

Cause	Always n (%)	Sometimes n (%)	Never n (%)
Degree of pelvic stability or instability	14 (23.33)	45 (75)	1 (1.67)
Pelvic Trauma	2 (3.33)	58 (96.67)	0 (0.00)
Fear	8 (13.56)	44 (74.58)	7 (11.86)
Back Pain during Pregnancy	7 (11.67)	53 (88.33)	0 (0.00)
Distortion of the Pelvic Joints	8 (13.79)	36 (62.07)	14 (24.14)
Emotional Stress	5 (8.33)	52 (86.67)	3 (5.00)
Degree of Balance of the Autonomic Nervous System	3 (5.08)	48 (81.36)	8 (13.56)

Degree of Core Strength	10 (16.67)	48 (80.00)	2 (3.33)
High Body Mass Index	2 (3.33)	53 (88.33)	5 (8.33)

Table 2: Potential Causes or Contributing Factors of PPGP

As was treatment, although 84% indicated the importance of addressing fear, 82% indicated pain neuroscience education to be a very important treatment approach and 75% considered addressing lifestyle factors to be very important (Table 3).

Treatments	Very Important (%)	Important (%)	Not Important (%)
Address pelvic mechanics and biomechanics loading	36 (60.00)	23 (38.33)	1 (1.67)
Explain Pain	49 (81.67)	11 (18.33)	0 (0.00)
Stability Exercises	32 (53.33)	27 (45.00)	1 (1.67)
Address fear issues	50 (83.33)	10 (16.67)	0 (0.00)
Manual therapy and mobilisation techniques	15 (25.00)	33 (55.00)	12 (20.00)
Lifestyle factors	45 (75.00)	15 (25.00)	0 (0.00)
Prescribing general exercise	39 (65.00)	19 (31.67)	2 (3.33)
Address Pelvic Floor Musculature	33 (55.00)	27 (45.00)	0 (0.00)

Table 3: Treatment Approaches

Discussion

Etiology-Related Perspectives

The cause of pregnancy-related PGP is complex and multifactorial [1, 3]. Evidence has shown an alteration in motor control in pregnant women [3], and more recently, central pain mechanisms have been implicated [4, 7]. A strong historical perspective regards PPGP as related to the hormone relaxin. The terms 'pelvic girdle relaxation', 'pelvic instability' and 'pelvic insufficiency' have all been used in the relevant literature to describe PPGP [9]. At the beginning of the 20th century, most authors and health care providers accepted the view that the pelvic joints softened and became more "relaxed" during pregnancy, although this perspective had yet to be substantiated [25]. However, research conducted over the last century attempting to validate the "pelvic instability" hypothesis has yet to realize a clear or meaningful correlation [10, 11]. Our current study highlights an ongoing strongly held perspective among Irish Physiotherapists relating PPGP to concepts of "pelvic stability". This is evidenced through almost 100% of participants (all but one) indicating that "pelvic instability" is an important causative factor in PPGP, 96%

indicating that "core strength" is an important causative factor and 75% indicating that distortion of pelvic joints represents an important causative factor. These perspectives are similar to those found among Canadian physiotherapists [22, 23]. However they are not substantiated by the literature.

To appropriately address the complexity of pregnancy-related PGP, physiotherapists and other health practitioners must both acknowledge and part with common yet unsubstantiated beliefs surrounding the concept of "pelvic instability" [12]. Current advances in pain science support the notion that pregnancy-related PGP is likely to represent sensitization of the pelvic tissues. Central constructs to consider are fear, pain and birth expectations [4, 7]. Fear is indicative of a hyper-vigilant autonomic nervous system which increases sensitivity to pain [32]. Sensitization and hyper-vigilance of hypothalamic pituitary adrenal (HPA) axis can be expressed as pain, depression, fatigue, inflammatory load, status of the gut microbiome and sleep quality to name a few possible associated conditions [5, 7, 8, 12]. Our participants did demonstrate an understanding of some of these evolving perspectives as evidenced by 95% indicating that emotional distress is a key causative factor and 86% indicating that the state of autonomic nervous system balance and associated homeostasis is important. Given that perspectives and beliefs related to etiology and global understanding of a clinical issue will impact the associated care, understanding what and why physiotherapists hold the perspectives they do is important. Research demonstrates that when it comes to lumbopelvic pain, physiotherapists continue to preferentially use a biomechanical approach [13, 15]. Guidance for an evolved evidence-informed approach is available from the most recent published CPGs for PPGP [13]. Further research related to exploring why physiotherapists continue to strongly believe that PPGP is connected to pelvic instability and core strength requires future study.

Care-Related Perspectives

Practice recommendations for PPGP have evolved over the last decade. From an assessment perspective, Clinton and colleagues [13], indicate the use of several patient self-reported outcomes as an important way to capture aspects of pain-related cognitions, fear and catastrophizing. Specifically, among other scales, the Pain Catastrophizing Scale (PCS) is recommended [13]. The PCS has three subscales: rumination, magnification, and helplessness and has been utilized in various populations, including the antepartum population [13, 16]. Using an outcome measure like the PCS is important to aid physiotherapists and other health practitioners in assessing the mental processing that is now clearly associated with PPGP. The significance of patients' beliefs and perceptions about their pain and their pain experience has been well demonstrated across a wide spectrum of orthopedic conditions including in the antepartum population.¹⁸ Perception of pain has also been linked to the development of persistence [19, 21]. Our study did not evaluate assessment but did evaluate management perspectives. The literature indicates that pregnant women's expectations of care are not met and that their knowledge about how to manage PPGP is lacking [21]. Further, a recent qualitative study elucidated women's experience of care for PPGP highlighting the importance of perceived hope and self-efficacy [16]. Thus cognitive care strategies that approach care through a psychologically informed lenses, inclusive of pain neurophysiology and stress response education [4, 6, 7, and 31], mindfulness-based stress reduction, and tailored exercise are advocated [35]. In this study participants acknowledged several treatment domains as being important, however still a preference for biomechanical and stability oriented approaches was evident. Almost 100% (all but one) indicated the need to address biomechanics and mechanical loading as well as the importance of stability exercises.

In the most recent clinical practice guidelines, the prescription of general exercises is given a grade of C and there is no mention of stability exercises at all [13]. Similarly, a recent systematic review confirms that

exercise has a minimal impact as an effective treatment of PPGP, instead, it highlights education as a more important treatment approach [29]. Further, a recent critical review conducted by a lead author of the European pelvic girdle clinical practice guideline, indicates that there is lack of efficacy and a misguided application of stability exercises for PPGP [36]. Our study corroborates findings from previous studies that highlight physiotherapists preference for biomechanical and stability oriented approaches to PPGP despite a lack of evidence to substantiate these approaches. Instead the research literature tells a story implicating an interplay of biological systems. Elevated levels of stress, and associated cortisol, have been implicated in PPGP. A recent pilot research in Ireland, determined that targeting the stress system rather than the biomechanics of the pelvis, was effective in reducing PPGP and improving function over only two treatment sessions [28]. The stress system was targeted by leveraging the practitioner-patient therapeutic alliance, addressing pain and stress systems through neuroscience education and novel gentle restorative movement [28]. Further, high cortisol in pregnancy is independently associated with adverse maternal and fetal outcomes and long term morbidities such as increased risks of allergy and mental health disorders in the offspring [26, 27]. Women experiencing postpartum PPGP have higher rates of depressive symptoms compared to women without postpartum PPGP. Given that we now have 15 years of research, inclusive of multiple systemic reviews to substantiate the efficacy of pain neuroscience education, in many studies specific to lumbopelvic pain, it is important this literature base is considered within the context of PPGP [30, 31]. In our study, participants did acknowledge the importance of pain neuroscience education; over 80% of participants indicated this particular treatment approach to be very important. However, analysis of the perspective of treatment approaches as a whole suggests an over-emphasis on interventions that are not recommended [13, 29]. Our study did not evaluate how these treatment perspectives are enacted and such research would be important to better understand interactions between physiotherapists and women with PPGP.

Implications for Care

The current barriers to PPGP care are twofold: 1) a clear understanding and universal agreement concerning etiology and 2) enactment of an evidence-informed and effective treatment approach. Research in pain science is progressively creating an impact within health professional practice. The value of cognitive behavioral strategies in physiotherapy is now widely recognized. Pain conditions that are associated with deviations in the stress system, sometimes termed as “stress illness” is not a new phenomenon [33]. The stress system connection in relation to the pain experience is being studied carefully in various populations [34, 35]. The literature base related to psychologically informed care demonstrates that health care practitioners are well positioned to develop cognitively oriented skills to enact this care. Psychologically informed care denotes the most current evidence-informed approach for lumbopelvic pain. Despite encouraging pilot study findings [26], further research in fully powered trials is required to investigate the efficacy of psychologically informed care specific to PPGP.

Limitations

The main limitation is the small number of participants. In addition, only descriptive statistics and frequency distributions could be calculated. Content validity of the original survey was established (a strength), but reliability of the current tool was not.

Conclusion

Pregnancy-related PGP is a distinct presentation of PGP impacting women in the perinatal period and beyond. It may differ from general PGP in etiology due to perinatal and associated biopsychosocial influences.

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Irish physiotherapists perceive a number of important evolving characteristics of PPGP, but unsubstantiated perspectives related to biomechanics and pelvic stability were found. The scientific literature has evolved to clearly guide practice well-beyond a biomechanical approach where PPGP is concerned. Physiotherapists are well-positioned to enact care for PPGP from a psychologically informed perspective. Knowledge translation efforts inclusive of practitioner training to support the provision of this evidence-informed care is needed.

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