PARADIGMS

Pregnancy-related pelvic girdle pain and low back pain: the Pelvic, Obstetric and Gynaecological Physiotherapy teaching model

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Abstract
The Pelvic, Obstetric and Gynaecological Physiotherapy workshop entitled "Physiotherapy Assessment and Management of Pregnancy-Related Musculoskeletal Conditions: Part I – Lumbar Spine and Pelvis" has been taught since 2008. It utilizes a teaching model to describe the breadth of knowledge and skills that are required to assess and manage this client group. This paradigm describes the incidence of presentation and the treatments required, and raises awareness of external factors relating to the individual. The teaching model provides a way of successfully managing a range of causes of pregnancy-related pelvic girdle pain and/or low back pain.

Keywords: education, low back pain, pelvic girdle pain, pregnancy, teaching model.

Introduction
Pelvic, Obstetric and Gynaecological Physiotherapy (POGP) tutors have been teaching the workshop entitled "Physiotherapy Assessment and Management of Pregnancy-Related Musculoskeletal Conditions: Part I – Lumbar Spine and Pelvis" since 2008 (POGP 2017). They have developed a five-layer teaching model to simplify the wide-reaching remit of this course (Fig. 1). This has been used successfully since the workshop's pilot, and is explained below. The layers describe both the incidence of presentation, and the corresponding frequency of treatment types carried out by a physiotherapist. The overview provided below is based on the tutors' opinions, and their extensive combined experience of treating these common conditions.

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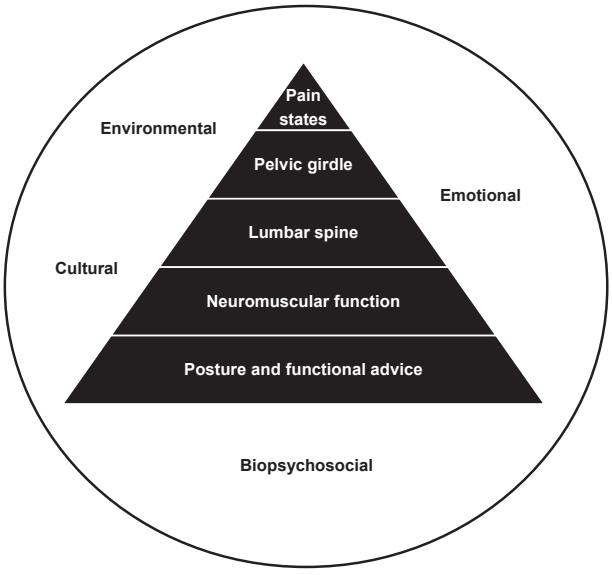

Figure 1. Pelvic, Obstetric and Gynaecological Physiotherapy model of patient-centred physiotherapy intervention for pregnancy-related pelvic girdle pain and low back pain.

Layer 1: posture and functional advice

Posture and functional advice are central to all physiotherapy assessments and treatments. Without an appreciation of an individual's posture, and how he or she uses this in a functional way, other treatments are unlikely to provide long-lasting relief. Similarly, the correction of static and dynamic postures, and the functional implementation of these improvements, may relieve a patient's symptoms with little requirement for any other input. Therefore, this is termed layer 1 since it is the foundation of physiotherapy assessment and treatment, and is required by all patients.

Layer 1 includes foot posture, which is known to change during pregnancy, as well as the exaggeration of certain types of weight-bearing with advancing pregnancy, which affect spinal and pelvic biomechanics. Heavily pregnant women often develop substitution strategies, adapting their movements around their "bump" in order to complete functional tasks. The correction of these postures may require nothing more complicated than verbal cueing and visualization of an improved technique, and this can be reinforced by an appropriate home exercise programme.

Layer 2: neuromuscular

Secondary to layer 1, most patient presentations will have a neuromuscular component. This may consist of muscles that have become lengthened or shortened, or are weak in/through range or overactive. Muscles do not have independent thought, of course, but are subject to input from the motor cortex. Patterns of muscle overactivity or underactivity are common, and can be altered effectively by physiotherapy. Course participants learn about pregnancy-related changes that may affect abdominal and pelvic floor muscles (PFMs). They also study strategies to employ in the rehabilitation of the PFMs, and those of the pelvic girdle, hip and other trunk muscles.

Manual therapy techniques targeted at muscles may be very effective at relieving symptoms. Similarly, providing an appropriate home exercise programme is essential to the maintenance of tone and prevention of symptoms.

Layer 3: lumbar spine

In addition to layers 1 and 2, a smaller number of women are thought to have a lumbar spine component to their symptoms, whether these are pelvic or lumbar in presentation; i.e. many women reporting PGP have an articular dysfunction originating in their lumbar spine. Much of this can be addressed through work solely conducted within layer 1 before moving on to layer 2 for those women who have neuromuscular aspects to their presentation. However, a smaller number of women will require manual therapy and specific home exercises for their lumbar spine problems. These include individuals with acute or chronic lumbar diagnoses, including prolapsed intervertebral discs, spondylolisthesis, zygapophyseal joint pathology and degenerative changes.

It must be remembered that pregnancy does not protect against the development of any other musculoskeletal (MSK) conditions, including red-flag symptoms relating to the lumbar spine, and therefore, knowledge of neurological screening, including testing for cauda equina, is essential.

Layer 4: pelvic girdle

Although many pregnant women with MSK conditions present with PGP, relatively few require manual therapy for the pelvic joints in practice. Many women who present with pain in the pelvic girdle will obtain symptom relief from assessment and treatment within layers 1–3. Therefore, by the time layer 4 (i.e. true articular and myofascial pelvic girdle signs) is reached, it may be necessary to use only one or two manual therapy techniques. However, from a practice perspective, several pelvic girdle techniques need to be learned in order to select the most appropriate technique, and course participants use clinical reasoning to determine this.

In practice, the accurate assessment and application of an appropriate manual therapy technique often results in a significant and immediate reduction in pain. This may only need to be carried out once, or may form part of regular manual therapy throughout an individual's pregnancy. This approach must be supported by treatment within layers 1–3 as indicated, i.e. it is very unlikely that a woman would only require manual therapy for her pelvic joints.

Layer 5: pain

Of all the layers, the lowest incidence of presentation is of women with chronic and/or severe pain. However, these individuals may require more-protracted physiotherapy input. Their pain may be long-standing, or relate only to the current pregnancy. Clinicians often believe

that these women will be more difficult to treat; however, they often respond well to simple interventions within layers 1 and 2. They may or may not respond well to manual therapy for the lumbar spine or pelvis. In addition to the techniques described above, these women may require adjuncts such as pain education, pacing, hydrotherapy, acupuncture and transcutaneous electrical nerve stimulation. All women require pain education at some level, of course.

Conclusion

All women who receive physiotherapy treatment need to be considered within an individual context that includes biopsychosocial, emotional, environmental and cultural factors. Failure to address relevant issues relating to the home environment, social history, the workplace and yellow flags will result in a poorer treatment outcome. Successful integration of these constructs alongside appropriate physiotherapy assessment and treatment using the five-layer model described above will enable physiotherapists to effectively manage and treat women with symptoms that range from mild to disabling.

In addition, a POGP workshop entitled "Physiotherapy Assessment and Management of Pregnancy-Related Musculoskeletal Conditions: Part 2 – Trunk and Hip" is now taught regularly (POGP 2017). This course uses a teaching model developed and expanded from that described above (Fig. 2).

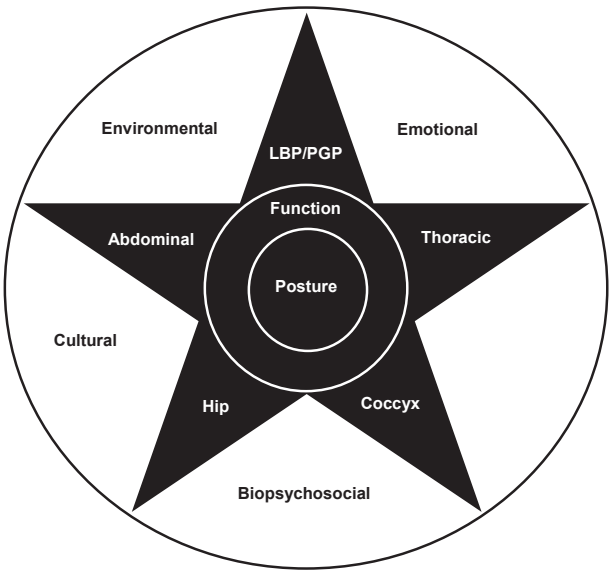

Figure 2. Pelvic, Obstetric and Gynaecological Physiotherapy model of patient-centred physiotherapy intervention for pregnancy-related musculoskeletal conditions: (LBP/PGP) low back pain/pelvic girdle pain.

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Reference

Pelvic, Obstetric and Gynaecological Physiotherapy (POGP) (2017) *POGP Short Courses and Events.* [WWW document.] URL http://pogp.csp.org.uk/courses-events

Clair Jones MSc BPhty MCSP MPOGP and Dr Yvonne Coldron PhD MSc GradDipPhys MPOGP MMACP were among the original members of the workshop development group, and have been tutors ever since.

Clair qualified in New Zealand in 1997, and is a team lead and clinical physiotherapy specialist in women's health at the Norfolk and Norwich University Hospitals NHS Foundation Trust.

Yvonne has worked in the MSK field for many years, and developed an interest in MSK pregnancy conditions over 20 years ago. She has taught in various universities at both the undergraduate and postgraduate levels. Yvonne was awarded a doctorate for her research into neuromuscular physiology from St George's, University of London, in 2006. Her thesis examined changes to postpartum abdominal and spinal muscles using real-time ultrasound scanning and electromyography. She now works part-time as a private women's health physiotherapist at North Downs Hospital in Caterham, and also as an advanced practice physiotherapist (MSK) at Frimley Park Hospital NHS Trust.

Becky Aston MA BSc MCSP MPOGP qualified from the University of East London in 1997. She completed the University of Bradford's women's health diploma in 2002, and gained her Master's degree from the University of Brighton in 2010. Becky has predominantly worked in the National Health Service as a team lead for women's health and pelvic floor dysfunction services. She now works in private practice in Buckinghamshire, assessing and treating men and women with pelvic health and other conditions. Becky has been a POGP tutor since 2013.

Helen Keeble BSc MCSP MPOGP has been a POGP tutor since 2015. Day to day, she works full-time at a private clinic in London. Helen

has been working in pelvic health since 2008, and combines a high level of MSK, biomechanical and anatomical knowledge in her approach. She has a wealth of experience in treating simple and complex pelvic presentations of all kinds.