

Pregnancy back pain physiotherapy: A Literature Review

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Abstract: Pregnancy is a big change for a woman and often brings various physical difficulties, with back pain being the most common. This pain mostly comes from changes in the body, like higher hormone levels, gaining weight, and body mechanics changing to support the fetus. Although usually temporary, back pain during pregnancy can heavily affect a woman's life, including her movement, daily tasks, and emotional health. Because of this, there is a rising need for good ways to manage it, and physiotherapy is becoming a key method to help. This article presents a narrative review focused on evaluating the effectiveness of physiotherapy in alleviating back pain during pregnancy. It examines contemporary research that highlights various treatment approaches and their corresponding outcomes. The significance of physiotherapy in managing back pain during pregnancy is increasingly recognized as both vital and beneficial. Through techniques such as manual therapy, tailored exercise regimens, and education on body mechanics, physiotherapy effectively alleviates discomfort and enables expectant mothers to maintain an active and autonomous lifestyle. Integrating physiotherapy into prenatal care represents a crucial strategy for enhancing maternal health and addressing the difficulties associated with pregnancy-related pain.

Keywords: back pain, physiotherapy, pregnancy.

1. INTRODUCTION

Pregnancy-related back pain includes different kinds of discomfort women feel during pregnancy because of many body changes. As the body adjusts to support the growing baby, hormone changes make ligaments more flexible, especially in the pelvic area, which can cause instability and discomfort (Bonetti et al., 2023). Also, the weight gain during pregnancy shifts the body's centre of gravity, putting extra pressure on the lower back and worsening existing issues or creating new ones, like pelvic girdle pain (Ellatef et al., 2019). Research shows that several factors affect how bad and how long this pain lasts, such as past back pain, activity levels, and emotional stress (Sugasini et al., 2016). It is important to understand that pregnancy-related back pain is not just a minor issue; it greatly affects the quality of life and ability of pregnant women to function, highlighting the need for effective physiotherapy treatments (Moosdorff - Steinhäuser et al., 2021).

Dealing with back pain when pregnant is very important for both the mother and the baby's health. Back pain during pregnancy usually comes from changes in the body, like gaining weight and changing posture, which can cause a lot of discomfort and limit normal activities. If back pain is not treated, it can lead to long-term pain problems that last after giving birth. Also, psychological issues, like fear of movement, can affect how back pain is handled and make recovery harder. It is important to include exercise and education in physiotherapy to help women control pain and lower the chance of long-term disability. Thus, having a good understanding of the physical and mental factors of back pain during pregnancy is crucial for creating effective treatments (Castanho et al., 2021).

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Physiotherapy is an important option for treating back pain that happens during pregnancy. It looks at both the physical and mental aspects of how pain is felt. This type of treatment includes special exercise programs, hands-on therapy, and teaching that helps with overall health. Studies show that exercising can really help with ongoing low back pain, which leads practitioners to use exercise-focused treatments that fit the specific needs of pregnant people (Gibbs et al., 2021). Also, adding cognitive-behavioural therapy to physiotherapy can help improve quality of life, reduce anxiety, and lower pain during pregnancy (Gibbs et al., 2021). By understanding the unique physical changes that happen during this time, physiotherapists can use various methods that prioritize safety while reducing the need for opioids, which can have negative effects on both mothers and babies. In the end, effective physiotherapy in this setting not only helps relieve pain but also supports expectant mothers, building their physical strength and mental health (Gibbs et al., 2021).

The goal of a literature review on physiotherapy for back pain during pregnancy is to combine current research, create a way to understand the issue, and find gaps in what we know. By closely examining different studies, this review seeks to clarify how common back pain is, what causes it, and effective ways to treat it during pregnancy. Recent studies show that conditions like cerebral palsy stress the necessity for thorough evaluations of treatment results and risk factors in similar areas, showing the need for detailed exploration of treatment methods and how well they work. The review will also look at how osteopathy might help with these complex health issues, focusing on patient-centred care and combining it with standard physiotherapy methods (Paul et al., 2022). In the end, this literature review aims to give healthcare providers research-backed suggestions, shaping future studies and clinical practices in treating back pain related to pregnancy (Esteves et al., 2022; Paley et al., 2021).

2. CAUSES OF BACK PAIN DURING PREGNANCY

Back pain in pregnancy is a complex problem shaped by many physical and mechanical factors. As the body changes to support the growing baby, shifts in posture and weight often result in lower back and pelvic pain, mainly seen as pelvic girdle pain (PGP) and pregnancy-related low back pain (PLBP) (Becker C et al., 2022). Other issues like a past history of back pain, being overweight, and not exercising can make these symptoms worse (Castanho et al., 2021). Hormonal shifts also significantly impact this, as higher relaxing levels can make joints looser and unstable, increasing discomfort. Furthermore, kinesiophobia, or fear of movement, can slow recovery and worsen pain, highlighting the importance of specific physiotherapy treatments (Arum et al., 2018). Therefore, knowing these various factors is vital for creating effective ways to manage back pain during pregnancy.

Physiological changes in the body

As pregnancy moves ahead, the body goes through big changes that often cause discomfort, especially in the back. The extra weight and different centre of gravity can put pressure on the lower back, leading to pain that interferes with daily activities. It is important to notice these changes for proper physiotherapy help. Dynamic slicing methods have been found to help reduce pain and improve fluid flow, which is important for good tissue health during pregnancy. Also, kinesiotherapy becomes a key part in managing pain, especially in the lower back area to relieve discomfort and improve movement. Moreover, mind-body methods like prenatal yoga and Pilates provide not just physical benefits like better strength and flexibility but also help with mental health, reducing stress and getting the body ready for childbirth. Knowing these changes in the body and how they affect it helps create better physiotherapy approaches for pregnant women (Léon, 2023).

Hormonal influences on ligaments and joints

The hormones during pregnancy really affect how ligaments and joints work, leading to more musculoskeletal pain, especially in the back. Higher levels of relaxing, oestrogen, and progesterone make connective tissues looser, which helps make room for the growing baby but can also make women more prone to joint pain and instability. These hormonal shifts change how weight is spread through the body, and many pregnant women experience pelvic girdle pain, which can greatly hinder everyday activities (Cienska et al., 2017). Moreover, these hormonal effects don't just change structures; they can worsen existing problems like low back pain, making it harder to recover after giving birth. Knowing how these hormones work is key for creating good physiotherapy plans that help reduce pain during pregnancy and support the best outcomes for both mother and child (Mutmainah et al., 2022).

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During pregnancy, there are big changes in posture as the body adjusts to the growing baby, which affects the musculoskeletal system and can often lead to back pain. These changes include adjustments in spinal curvature and shifts in the centre of gravity, which may worsen discomfort and make movement harder. Research shows that changes in body image, especially related to lower back pain, are noticeable in pregnant women who have back pain, with self-reports showing a strong link between how bad the pain is and the disruption of body image (Afrell et al., 2017). Also, looking at spinal curves shows a complicated link between posture, pain, and how well one can function, indicating that major changes in lumbar curvature are not always seen but can still be a worry in the later parts of pregnancy (Czyżewska et al., 2016). Furthermore, poor posture is linked to various issues like urinary incontinence, which adds to the pain problems for pregnant women. In conclusion, dynamic elastomeric fabric orthoses are suggested as a helpful way to deal with these postural issues and enhance the quality of life during pregnancy.

Psychological factors contributing to pain perception

Understanding how psychological factors affect pain perception in pregnancy is important for creating good physiotherapy treatments. Studies show that changes in body image during pregnancy are closely linked to more lumbopelvic pain, showing the connection between physical and mental health. Women with lower back and pelvic pain often feel their pain is worse due to their self-image, indicating that changing these perceptions may influence their pain experiences (Azimi et al., 2016). Additionally, emotional reactions like catastrophizing can make pain worse, with research indicating this mindset is linked to a negative body image. Therefore, including psychological support and methods to tackle these issues in physiotherapy may improve treatment results. Recent studies have shown that combining standard physiotherapy with new methods, such as virtual reality, can enhance patient outcomes and satisfaction (Azimi et al., 2016).

3. PHYSIOTHERAPY TECHNIQUES FOR MANAGING BACK PAIN

Back pain during pregnancy is common and requires good physiotherapy methods for this group. Research shows that almost 50% of pregnant women have back pain, mainly in the lower back area (Afrell et al., 2017). Physiotherapy methods like corrective exercises are helpful; strengthening the abdominal and gluteal muscles, along with stretching, can help improve lumbar posture and lessen functional issues linked to hyperlordosis. Also, dealing with kinesiophobia using cognitive-behavioural therapy in physiotherapy can enhance treatment results, creating a more supportive rehab atmosphere. Furthermore, the benefits of osteopathic care indicate that manual therapy techniques may help relieve spinal pain issues in pregnant women, which can improve overall health and function (Rizzo et al., 2023). Therefore, combining these methods into pregnancy-focused physiotherapy can greatly reduce back pain and improve life quality.

Manual therapy approaches

Using manual therapy approaches for dealing with back pain during pregnancy is an important topic in physiotherapy, featuring various methods like spinal manipulation and soft tissue work. These methods seek to ease pain and improve the well-being of pregnant women. Studies suggest that manual therapy might provide better results than standard care, especially in lowering pain, although the results are not always clear (Dascanio et al., 2018). Additionally, applying manual therapy should include recognizing psychosocial factors like kinesiophobia, which greatly affect patient success (Castanho et al., 2021). A review of studies showed that osteopathic methods can be useful, but results can vary based on culture, with European research typically showing more favourable results compared to studies in the US. Thus, improving the use of evidence-based practices and looking into tailored care can enhance the effectiveness of manual therapy for back pain during pregnancy.

Exercise therapy and its benefits

Using exercise therapy to manage back pain during pregnancy has many benefits, improving both physical function and mental health. Techniques like the Williams Flexion exercise have proven effective in reducing pain and discomfort related to low back pain, as shown by significant drops in pain levels among those who participated in this treatment (Annemans et al., 2018). Also, organized routines like Pilates are known to help increase core stability and muscle strength, which are important for supporting the body throughout pregnancy (Gibbs et al., 2021). Additionally, physical activities such as

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massage therapy can improve functionality and lessen pain in different musculoskeletal problems, providing relief for expectant mothers dealing with discomfort. Even with some issues related to how effective these methods are compared to each other, using focused exercise therapies is still crucial for better health outcomes for pregnant individuals.

Education and self-management strategies

Good education and self-management plans are very important for dealing with back pain during pregnancy, which can really affect a woman's life. Studies show that improving patient understanding through personalized education can help women manage their pain better. For example, using online tools to share information has been effective, as many pregnant women with lower back pain found a digital self-management program helpful. Moreover, building a strong relationship between patients and healthcare workers is key, since better interactions can improve self-management skills and lead to improved pain control. Also, knowing about psychological aspects like fear of movement and control beliefs can help shape physiotherapy methods and support better self-management during pregnancy (Leirós et al., 2024; Castanho et al., 2021). By combining education and guidance, physiotherapy can greatly reduce the impact of back pain in pregnant women.

Use of modalities such as heat and ultrasound

Using methods like heat and ultrasound in treating pregnancy-related back pain is a good way to help reduce pain and improve movement. Heat therapy is well-known for helping open up blood vessels, which increases blood flow to sore areas and helps relax tight muscles. This treatment is especially useful for pregnant women who have pelvic girdle pain since it helps with both pain and movement issues (Moffatt et al., 2022). On the other hand, ultrasound therapy uses sound waves to reach soft tissues, supporting healing at the cellular level and lowering inflammation. Recent studies emphasize the importance of non-drug treatments, like these methods, considering the social impact of low back pain (Fu et al., 2015). Also, knowing the bodily changes that happen during pregnancy emphasizes the need for safe treatment methods that reduce risks, which heat and ultrasound treatments can effectively offer.

4. EFFICACY OF PHYSIOTHERAPY INTERVENTIONS

The usefulness of physiotherapy in dealing with back pain during pregnancy is supported by many studies that show the benefits of treatment and the need for customized methods. Evidence shows that physiotherapy helps reduce pain and also improves movement, which enhances the overall life quality for pregnant women (Horne et al., 2022). Such treatments are important, especially due to the ongoing nature of pain related to pregnancy and the risk of lasting discomfort if not treated (Becker et al., 2022). Also, new methods like surface electromyography (sEMG) are becoming useful in rehab practices, helping to better understand muscle function and improve treatment plans. However, issues like regulatory problems and differences in digital skills pose challenges to the widespread use of telehealth in physiotherapy. This highlights the need for fair access to these services, pointing out the importance of considering social factors in the success of physiotherapy treatments.

Review of clinical studies and outcomes

A detailed review of clinical studies shows how common pregnancy-related back pain is and what it means for treatment, providing important information on physiotherapy options. Research points out that recognizing the different types of pain—pelvic girdle pain (PGP) and pregnancy-related low back pain (PLBP)—is important for creating specific treatment plans since almost half of all pregnant women face these issues (Campanini et al., 2020). Moreover, studies on osteopathic care show it may help reduce pain and improve function, though results about treatment methods and differences in practice between the US and Europe vary (Hashiguchi, 2020). The influence of kinesiophobia in physiotherapy is also prominent, highlighting its significant effect on recovery; thus, it is important to use targeted approaches that blend cognitive-behavioural techniques with physical exercises to enhance patient outcomes. There is a clear need for well-designed studies, as current research shows major inconsistencies in interpreting clinical significance and results (Estebanez et al., 2023).

Comparison of physiotherapy with other treatment options

When looking at management for low back pain related to pregnancy, physiotherapy stands out as a main treatment method. Yet, to fully understand the landscape, it is important to compare it with other methods like acupuncture and new therapies such as virtual reality (VR) therapy. Research shows that physiotherapy mainly focuses on exercise prescriptions, with 94%

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of physiotherapists in the UK using this approach, while only 24% of them use acupuncture. Employing multiple management strategies is crucial, as different treatment options can meet various patient needs and pain levels. The use of VR as a supportive therapy aims to improve pain perception and recovery, indicating that better clinical results could be achieved when it is used alongside standard physiotherapy (Estebanez et al., 2023). Additionally, the muscle energy technique, though not widely discussed, might provide more advantages, highlighting the need for a customized approach to effectively tackle the challenges of pregnancy-related back pain.

Patient satisfaction and quality of life improvements

When looking at how well physiotherapy works for back pain during pregnancy, patient happiness and quality of life improvements are very important. Research shows that specific treatments significantly help women's health-related quality of life by lowering pain and increasing function (Gedin et al., 2020). Also, studies reveal that osteopathic care greatly eases chronic low back pain, suggesting it positively affects overall patient happiness (Bergna et al., 2020). Further, research on dyspareunia shows that physiotherapy not only reduces pain but also enhances quality of life, even if improvements in sexual function are slight. These results highlight the overall advantages of physiotherapy, backing its importance in improving daily living and well-being during pregnancy. Thus, understanding these aspects is vital for creating effective treatment plans that focus on both patient happiness and quality of life.

Long-term effects of physiotherapy on back pain

The long-term effects of physiotherapy on back pain in pregnant women show a complex link between treatment and recovery paths. Research shows that many women have ongoing lumbopelvic pain related to pregnancy, with both physical and mental factors affecting the outcomes (Fernández Pérez et al., 2024). Physiotherapy techniques like global postural reduction and patient education may help with pain relief and mobility (Annemans et al., 2018). Research on laser therapy is still not clear, but it suggests that both high-level and low-level approaches might help reduce pain and disability, though they are not replacements for standard treatments. Additionally, issues like body image and sleep problems can worsen chronic pain after childbirth, highlighting the need for thorough physiotherapy that considers these biopsychosocial factors. Overall, these findings highlight the important role of customized physiotherapy in achieving lasting pain relief and better function for pregnant women.

5. CONCLUSION

In summary, the research on back pain during pregnancy shows that focused physiotherapy is important to reduce pain and improve the health of pregnant women. The high occurrence of back pain, affecting around 50% or more of this group, indicates a serious public health issue, with studies showing low back pain is the most common problem for expecting mothers. Techniques such as Williams Flexion exercises have been proven to help lessen pain, as shown in several studies (Brosseau et al., 2016). Additionally, it is vital to recognize issues like kinesiophobia, as it can greatly affect recovery and rehabilitation, requiring a complete method that combines cognitive-behavioural methods with physical therapy (Beales et al., 2016). Although initial evidence points to good results from various physiotherapeutic methods, more large-scale research is necessary to confirm effective practices and improve care for these women.

Summary of key findings from the literature

The literature gives a thorough view of the complex nature of back pain related to pregnancy and shows different ways to help. A review showed that dynamic elastomeric fabric orthoses (DEFO) greatly improve pain management and function during pregnancy, but sticking to these supports is still hard because patients vary in how well they use them (Annemans et al., 2018). Also, differences in biopsychosocial factors, such as how women view their bodies and fear of movement, were noted in those with moderate lumbopelvic pain, meaning these mental and physical aspects need to be included in treatment plans (Abdullahi et al., 2022). Studies also tied bad posture while nursing and physical issues, like being overweight, to back pain after giving birth, which highlights the need for preventive care and thorough education for new mothers. Moreover, exercise methods such as the McKenzie Method and stabilization techniques have been shown to work well for reducing pain and enhancing function, indicating that a personalized approach in physiotherapy is best.

International Journal of Novel Research in Healthcare and NursingVol. 12, Issue 1, pp: (44-52), Month: January - April 2025, Available at: www.noveltyjournals.com*Implications for clinical practice*

Handling back pain from pregnancy needs physiotherapists to take a broad approach that looks at both the mind and body aspects of pain. Studies show that kinesiophobia, which is the fear of moving, plays a big role in how well treatment works, making it important to check this with reliable tools like the TSK before starting physiotherapy plans (Gayathiri et al., 2023). Also, having a distorted view of one's body during pregnancy is linked to more pain and disability, highlighting the need to think about body image when creating treatment plans. Moreover, sleep problems are seen as major factors that worsen the overall pain experience, indicating that sleep quality should be included in patient evaluations and treatment strategies (Harder et al., 2021). Therefore, combining cognitive behavioural methods with exercise plans can improve patient results and support a more complete treatment approach that fits with the biopsychosocial model of health care.

Recommendations for future research

Future studies on pregnancy back pain therapy should focus on creating strong randomized controlled trials (RCTs) that deal with issues found in current research. It is important to pay attention to how meaningful the effects of treatments are since many studies do not clearly show if their results are important for clinical use (Chiarotto et al., 2024). There is also an urgent need to look into how well complementary therapies, like hands-on treatments and compression garments, can help with pregnancy-related pain, as there is not much evidence available right now (Adams et al., 2016; Hing et al., 2019). Moreover, examining mind-body methods can provide insight into their effectiveness in reducing pain and supporting maternal health, which may have good effects on physical and mental health during pregnancy (Liang et al., 2024). By filling these gaps, upcoming research can help create a better understanding of effective ways to manage back pain during pregnancy.

Final thoughts on the role of physiotherapy in pregnancy back pain management

To sum up, physiotherapy's role in dealing with back pain in pregnancy is now seen as important and helpful. Because the body goes through big changes during pregnancy, physiotherapists can offer specific treatments that help with the discomfort that comes with these changes. Using methods like hands-on therapy, exercise plans, and teaching about body mechanics, physiotherapy helps reduce pain and allows future mothers to stay active and independent. Additionally, the comprehensive approach of physiotherapy promotes healthy self-care habits, which can enhance the pregnancy experience. More research is needed to look into how effective different physiotherapy methods are, especially in creating standard practices that can benefit various groups. In the end, including physiotherapy in prenatal care is a key way to improve mothers' health and tackle the challenges of pain related to pregnancy.

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