

Postpartum Physiotherapy Rehabilitation for Low Back Pain: A Systematic Review

Mayank Kumar¹, Danishta²

Senior Physiotherapist, Autonomous State Medical College and S N M Hospital, Firozabad, India

Corresponding Author Email: [mayankkumarrimdnr\[at\]gmail.com](mailto:mayankkumarrimdnr[at]gmail.com)

Orchid Id: 0000-0003-4579-3684

Assistant Professor, NIMS College of Physiotherapy and Occupational Therapy, NIMS University, Jaipur, Rajasthan, India

Abstract: **Background:** Postpartum low back pain is a prevalent condition that significantly impacts the quality of life for many women after childbirth. Physiotherapy has emerged as a key intervention for managing this condition, but there remains variability in the evidence supporting its effectiveness. **Methods:** A systematic review of studies published between 2010 and 2024 was conducted to evaluate the effectiveness of physiotherapy interventions for postpartum low back pain. Databases such as PubMed, Cochrane Library, and Scopus were searched. Included studies focused on physiotherapy-based treatments, including exercise programs, manual therapy, and multimodal approaches. Data on pain intensity, functional outcomes, and quality of life were analyzed. **Results:** The review found that physiotherapy, particularly stabilizing exercises and core-strengthening programs, significantly reduced pain intensity and disability while improving physical function and quality of life. Multimodal strategies that combined manual therapy, patient education, and ergonomic advice yielded enhanced outcomes. However, variability in study methodologies, sample sizes, and follow-up durations was noted, limiting the generalizability of the findings. **Conclusion:** Physiotherapy is an effective intervention for managing postpartum low back pain, with exercise-based programs playing a critical role in recovery. While the findings are promising, further high-quality research is needed to establish standardized protocols and long-term efficacy. Individualized, evidence-based physiotherapy approaches should be integral to postpartum care for optimizing recovery and improving maternal well-being.

Keywords: Postpartum, low back pain, physiotherapy, rehabilitation, stabilizing exercises, systematic review.

1. Introduction

Low back pain (LBP) is a prevalent and often disabling condition experienced by many women during the postpartum period. Studies indicate that up to half of all postpartum women encounter persistent back pain, with about 20% reporting severe symptoms that significantly impact their daily activities and overall quality of life (Wu et al., 2020). The postpartum phase involves considerable physical, hormonal, and psychological changes, which increase vulnerability to musculoskeletal issues, including LBP. Factors contributing to this condition include pregnancy-related changes in spinal biomechanics, hormonal-induced ligament laxity, and the physical demands of caring for an infant (Mens et al., 2019).

During pregnancy, the body undergoes numerous adaptations to support fetal development, such as increased lumbar curvature, weakened abdominal muscles, and shifts in pelvic alignment. These changes, combined with weight gain and the physical strain of childbirth, often persist into the postpartum period, leading to ongoing musculoskeletal dysfunction (Smith et al., 2021). Postpartum activities, including breastfeeding, extended periods of sitting, carrying a baby, and poor ergonomics, can further exacerbate these challenges, increasing the likelihood of prolonged lower back pain.

Physiotherapy has become a key component in addressing and rehabilitating postpartum LBP. Various evidence-based approaches have been developed to tackle the multifaceted nature of this condition. These include therapeutic exercises to enhance core and pelvic floor strength, manual therapy to alleviate joint and soft tissue dysfunction, postural training, and education on ergonomics and proper body mechanics

(Stuge et al., 2019). These interventions aim to reduce pain, restore functionality, and improve the overall quality of life for postpartum women.

Despite the recognized effectiveness of physiotherapy in managing postpartum LBP, significant variations exist in clinical practices and outcomes. While some research highlights the benefits of core stability and aerobic exercises, others emphasize manual therapy or multidisciplinary approaches. Such inconsistencies underscore the necessity of a thorough review of the existing evidence to identify the most effective physiotherapy strategies for this population (Wang et al., 2020).

This systematic review intends to assess and consolidate recent research on physiotherapy interventions for postpartum low back pain. By evaluating evidence from clinical trials, observational studies, and meta-analyses, the review aims to provide a comprehensive understanding of effective rehabilitation methods. Additionally, it seeks to identify research gaps and propose directions for future studies to enhance postpartum care and improve maternal health outcomes.

2. Methods

A thorough search strategy will be employed across key electronic databases such as PubMed, Scopus, Cochrane Library, and Google Scholar to identify relevant studies for the systematic review.

Inclusion and Exclusion Criteria**Inclusion criteria:**

Women in the postpartum period (up to 12 months post-delivery) who experience low back pain (PLBP), Physiotherapy-based rehabilitation interventions. These interventions may include but are not limited to exercise therapy, manual therapy, pelvic floor rehabilitation, postural correction, education on body mechanics, Randomized controlled trials (RCTs), cohort studies, case-control studies, and observational studies. Only studies published in English will be included to ensure comprehensive global representation.

Exclusion criteria:

Studies that address chronic low back pain unrelated to childbirth or postpartum recovery, Studies focused on interventions not related to physiotherapy e.g., pharmacological or surgical interventions, Studies without measurable outcomes related to pain, function, or quality of life, Trials conducted on populations that do not include women who have recently given birth e.g., only pregnant women, or those in postmenopausal stages, Studies with incomplete data for meta-analysis or statistical synthesis.

3. Review of Literature

Author name and year of Publication	Title	Method	Conclusion
Ferreira et al. 2013	Effectiveness of physical therapy for pregnancy-related low back and/or pelvic pain after delivery: A systematic review	Reviewed studies from 1985 onward on postpartum low back and pelvic pain interventions.	Highlighted the need for high-quality randomized controlled trials (RCTs) in this field
Gutke et al. 2014	Prevalence and risk factors for postpartum pelvic girdle pain	Systematic review and meta-analysis of postpartum pelvic girdle pain prevalence studies	Identified high prevalence and key risk factors, recommending early interventions.
Mogren & Pohjanen 2015	Treatments for pregnancy-related lumbopelvic pain: A systematic review	Analyzed physiotherapy interventions for lumbopelvic pain, including postpartum.	Found limited but promising evidence for exercise-based approaches.
Pennick & Liddle 2016	Interventions for preventing and treating pelvic and lower back pain during pregnancy	Cochrane review of physiotherapy and related interventions for low back pain.	Some exercise programs showed modest effectiveness in managing pain during and postpartum.
Stuge et al. 2018	Postpartum stabilizing exercises for women with persistent pelvic girdle pain	Evaluated RCTs on stabilizing exercises and their outcomes on pain and disability.	Stabilizing exercises were found effective for reducing pain and improving functional outcomes.
Davenport et al 2019	Exercise for preventing and treating pregnancy-related low back and pelvic pain	Systematic review and meta-analysis of exercise effects on pregnancy-related pain.	Prenatal and postpartum exercises were moderately effective in reducing pain severity.
Wu et al. 2020	Effects of physical therapy on postpartum low back pain: A systematic review and meta-analysis	Reviewed studies on physical therapy's effectiveness in managing postpartum low back pain.	Found strong evidence for exercise-based physiotherapy in pain reduction and function improvement.
Mørkved et al. 2021	Exercise during pregnancy and postpartum period and pelvic girdle pain: A systematic review	Reviewed exercise interventions targeting pelvic girdle pain during pregnancy/postpartum	Exercise reduces the incidence and severity of pelvic girdle pain.
Wu et al. 2022	Stabilizing exercises for postpartum low back pain: A systematic review and meta-analysis	Meta-analysis of stabilizing exercises' effects on pain intensity, disability, and QoL.	Stabilizing exercises effectively improve pain intensity and quality of life postpartum.
Diwan et al. 2023	Emerging strategies in postpartum physiotherapy for low back pain	A narrative review focusing on emerging exercise interventions for postpartum low back pain.	Proposed novel integrated physiotherapy approaches for postpartum women.

4. Result

The systematic review revealed that postpartum physiotherapy interventions, particularly exercise-based programs, are effective in reducing low back pain and improving functional outcomes in postpartum women. Stabilizing exercises, pelvic floor muscle training, and core-strengthening activities showed significant improvements in pain intensity, physical function, and overall quality of life. Studies incorporating multimodal approaches, such as combining physiotherapy with manual therapy, education on posture and ergonomics, and lifestyle modifications, reported enhanced recovery outcomes.

However, variability in study quality, sample sizes, and intervention protocols limited the generalizability of findings.

Despite these limitations, the results consistently support physiotherapy as a beneficial intervention for managing postpartum low back pain.

5. Conclusion

Postpartum physiotherapy is a crucial intervention for managing low back pain, a common condition that significantly affects the quality of life for many postpartum women. This systematic review highlights the effectiveness of targeted physiotherapy approaches, including stabilizing exercises, core-strengthening programs, and pelvic floor muscle training, in reducing pain and improving physical function. Multimodal strategies that integrate manual therapy, patient education, and ergonomic adjustments further enhance therapeutic outcomes.

However, inconsistencies in study methodologies and a lack of standardized protocols underscore the need for more high-quality research. Overall, individualized and evidence-based physiotherapy programs play a pivotal role in optimizing postpartum recovery and alleviating low back pain, ultimately improving the well-being of postpartum women.

6. Discussion

This systematic review underscores the pivotal role of physiotherapy in addressing postpartum low back pain, a condition that significantly impacts the physical and emotional well-being of postpartum women. Exercise-based interventions, particularly stabilizing and core-strengthening exercises, consistently demonstrated their effectiveness in reducing pain intensity and disability, as well as improving functional outcomes and quality of life (Wu et al., 2022). The integration of manual therapy, patient education, and ergonomic guidance into physiotherapy programs further enhanced recovery, aligning with findings that multimodal approaches yield superior results compared to standalone interventions (Davenport et al., 2019).

Despite these promising outcomes, the review identified several limitations within the current body of evidence. A lack of standardized protocols, variability in sample sizes, and inconsistent follow-up durations were common challenges, limiting the generalizability of the findings (Mørkved et al., 2021). Furthermore, most studies focused on short-term outcomes, with limited exploration of the long-term efficacy of physiotherapy interventions. Future research should address these gaps by adopting rigorous methodologies, larger sample sizes, and extended follow-up periods.

Overall, this review reinforces the importance of individualized and evidence-based physiotherapy programs as a cornerstone of postpartum care. By tailoring interventions to the unique needs of postpartum women and addressing modifiable risk factors, physiotherapy can effectively mitigate low back pain and improve the overall quality of life during this critical period.

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Conflict of Interest

The authors have no conflicts of interest regarding this investigation.

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