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The Effect Of Mdt(Mckenzie Protocol) In Postpartum Lower Back Pain In Women.

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Abstract

Study Design: Experimental Study

Objectives: To evaluate the effect of the McKenzie Protocol (MDT) on postpartum lower back pain in women.

Background: Lower back pain (LBP) is a prevalent condition among postpartum women, significantly impacting their quality of life. Traditional interventions include exercise, physical therapy, and pain management techniques. The McKenzie Protocol, known for its focus on self-management and directional preference exercises, offers a promising approach for alleviating LBP.

Aim of the Study: To assess the impact of MDT on reducing pain and improving functional outcomes in postpartum women with LBP.

Methodology: This experimental study involved 30 postpartum women aged 20-30 years, divided into two groups. Group A (control) received core activation exercises, while Group B (experimental) received MDT along with core exercises. Outcomes were measured using the Numerical Pain Rating Scale (NPRS) for pain, the Oswestry Disability Index (ODI) for functional disability, and spine range of motion (ROM) assessments. Participants were evaluated over a period of four weeks.

Results: Post-intervention, Group B exhibited a significant reduction in pain levels (NPRS: 3.5 ± 1.2) compared to Group A (5.0 ± 1.3) ($P = 0.01$). Functional disability scores (ODI) improved significantly in Group B (20.5 ± 5.5) compared to Group A (28.0 ± 6.0) ($P = 0.002$). Additionally, Group B demonstrated greater improvements in spine ROM, particularly in flexion (55 ± 8 degrees vs. 50 ± 9 degrees) ($P = 0.03$).

Conclusion: The McKenzie Protocol is effective in reducing pain and improving functional outcomes in postpartum women with lower back pain. Incorporating MDT into postpartum rehabilitation programs may enhance recovery and quality of life.

Keywords: McKenzie Protocol, Lower Back Pain, Postpartum Women, NPRS, ODI, Spinal

Introduction

Back pain is a common issue that affects many people around the world, and it is one of the main reasons why people seek medical help. Among these, lower back pain (LBP) is particularly prevalent and can significantly impact daily activities and quality of life. For women who have recently given birth, postpartum lower back pain is a frequent and challenging problem.

During pregnancy, a woman's body undergoes various changes, such as weight gain, hormonal shifts, and changes in posture, which can all contribute to lower back pain. After giving birth, many women continue to experience pain and discomfort in their lower back. This can make it difficult to carry out everyday tasks, care for the newborn, and return to regular activities. Studies have shown that between 50% to 70% of pregnant women experience some form of back pain, and a significant number continue to have pain after delivery.

There are different types of lower back pain that can occur during and after pregnancy. Simple mechanical LBP is the most common and can usually be treated with conservative care, like exercise and physical therapy. However, more severe cases, such as those involving nerve compression or psychological factors, may require more intensive treatment and ongoing assessment.

The McKenzie Protocol, also known as Mechanical Diagnosis and Therapy (MDT), is a well-known method for treating back pain. It focuses on exercises that help patients manage their pain through specific movements and postures. The McKenzie Protocol emphasizes self-care and active patient participation, which can empower individuals to take control of their recovery. This approach is particularly appealing for postpartum women, as it provides them with tools to manage their pain independently.

The McKenzie Protocol involves a thorough assessment to determine the direction of movement that alleviates pain. Based on this assessment, personalized exercises are prescribed to help reduce pain and improve function. This method has been found effective for many patients with various types of back pain, but its specific impact on postpartum lower back pain needs further exploration.

This study aims to investigate the effect of the McKenzie Protocol on postpartum lower back pain in women. By comparing the outcomes of women who follow the McKenzie Protocol with those who perform general core exercises, we hope to determine whether the McKenzie Protocol provides significant benefits in reducing pain and improving function in this population.

To conduct this study, 30 postpartum women aged 20-30 years were divided into two groups. Group A, the control group, performed core activation exercises, while Group B, the experimental group, followed the McKenzie Protocol along with core exercises. The study measured pain levels using the Numerical Pain Rating Scale (NPRS), functional disability using the Oswestry Disability Index (ODI), and spine range of motion (ROM). These assessments were conducted over a period of four weeks to evaluate the effectiveness of the interventions.

Lower back pain can be debilitating and frustrating, especially for new mothers who already have a lot on their plate. Finding effective treatments that empower women to manage their pain and improve their quality of life is crucial. The McKenzie Protocol's focus on personalized exercises and self-management makes it a promising approach for addressing postpartum lower back pain. Through this study, we aim to provide valuable insights into how this method can help postpartum women recover more effectively and regain their normal activities.

Review of Literature

Lower back pain (LBP) is a common condition that significantly impacts the quality of life for many individuals, particularly postpartum women. The prevalence, causes, and effective treatments for postpartum LBP have been the focus of numerous studies. This review of literature aims to provide an overview of existing research on postpartum LBP, current treatment approaches, and the potential benefits of the McKenzie Protocol (MDT).

Prevalence and Impact of Postpartum Lower Back Pain

Numerous studies have documented the high prevalence of LBP among postpartum women. According to Vleeming et al. (2008), approximately 50% of pregnant women experience some form of LBP during pregnancy or in the postpartum period. Another study by Wang et al. (2004) found that up to 90% of pregnant women report LBP, with 25% to 35% describing it as severe enough to interfere with daily activities. This pain often continues postpartum, affecting the ability to care for the newborn and perform routine tasks.

Persistent LBP after childbirth is not only a physical burden but also a significant psychological and social challenge. According to Albert et al. (2008), about 20% of women continue to experience LBP two to three years after delivery, which can severely impact their quality of life. This underscores the need for effective management strategies to address both the physical and emotional aspects of postpartum LBP.

Current Treatments for Postpartum Lower Back Pain

The treatment of postpartum LBP involves various conservative approaches, including physical therapy, exercise, and pain management techniques. Commonly recommended exercises include pelvic floor exercises, core stability training, and general fitness activities like walking and swimming. According to Akuthota et al. (2008), core stability exercises help in strengthening the muscles that support the spine, thereby reducing pain and improving function.

Physical therapy often includes manual therapy techniques such as massage and spinal manipulation, which aim to alleviate pain and improve mobility. Additionally, some studies have highlighted the benefits of alternative therapies like acupuncture, chiropractic care, and yoga. For instance, a study by Vermani et al. (2010) found that yoga and acupuncture could effectively reduce LBP during pregnancy and postpartum periods.

Despite the availability of these treatments, many women receive little to no recommendations for managing postpartum LBP. As noted by Sinclair et al. (2014), healthcare providers often dismiss LBP as a temporary and self-limiting condition, resulting in inadequate treatment and prolonged discomfort for many women.

The McKenzie Protocol (MDT)

The McKenzie Protocol, or Mechanical Diagnosis and Therapy (MDT), has gained attention for its effectiveness in managing various types of back pain. The MDT approach involves a detailed assessment to identify specific movements and postures that alleviate pain. Based on this assessment, personalized exercises are prescribed to help patients manage their pain independently.

Several studies have supported the use of the McKenzie Protocol for treating back pain. Rath (1999) highlighted the protocol's effectiveness in reducing pain and improving functional outcomes. Similarly, Rajalakshmi & Senthil Kumar (2012) found that MDT exercises led to significant improvements in pain and disability in patients with LBP.

The emphasis on self-management and active patient participation makes the McKenzie Protocol particularly suitable for postpartum women. By empowering women to take control of their recovery through specific exercises, MDT can help reduce dependency on healthcare providers and promote long-term pain management.

Potential Benefits of the McKenzie Protocol for Postpartum Lower Back Pain

While the McKenzie Protocol has shown promise in treating general LBP, its specific impact on postpartum LBP requires further investigation. The protocol's focus on directional preference and personalized exercises could provide significant benefits in addressing the unique challenges of postpartum LBP.

A study by Vleeming et al. (2014) suggested that targeted exercises could enhance spinal stability and reduce pain in postpartum women. The McKenzie Protocol's emphasis on movement and posture correction aligns with these findings, potentially offering a comprehensive approach to managing postpartum LBP.

In conclusion, the literature supports the need for effective treatments for postpartum LBP, with the McKenzie Protocol emerging as a promising option. By addressing both physical and psychological aspects of pain, MDT offers a holistic approach to recovery, empowering women to manage their pain and improve their quality of life. Further research is needed to fully understand the protocol's benefits and optimize its application in postpartum care.

Research Methodology

Study Design: This study was designed as an experimental research project to evaluate the effectiveness of the McKenzie Protocol (MDT) on postpartum lower back pain in women.

Participants: The study involved 30 postpartum women aged 20-30 years who were divided into two groups: Group A (control) and Group B (experimental).

Inclusion Criteria:

- Women aged 20-30 years.

- Postpartum women who had either a C-section or normal delivery.
- Women in good health with no previous history of compromised pregnancy.
- Women who could understand English or Hindi for communication.
- Available for the duration of the study.

Exclusion Criteria:
- Participants with red flags indicative of serious spinal pathology, such as signs of nerve root compression.
- Participants whose symptoms did not fit into the McKenzie patterns.
- Women not recommended by their primary care providers due to health status.
- Women unable to understand English or Hindi.
- Physically challenged individuals.
- Those unwilling to participate.

Setting: The study was conducted at Qi Spine Clinic and the physiotherapy outpatient department of Santosh Medical Hospital.

Sample Size: The total sample size was 30 participants, with 15 participants in each group.

Study Duration: The study was conducted over a period of four weeks.

Interventions:
- **Group A (Control):** Participants performed core activation exercises. These exercises focused on strengthening the core muscles to support the spine and improve stability.

- **Group B (Experimental):** Participants followed the McKenzie Protocol along with core activation exercises. The MDT involved specific exercises tailored to each participant's directional preference, as determined by an initial assessment.

Outcome Measures:
1. **Numerical Pain Rating Scale (NPRS):** Used to measure pain levels. Participants rated their pain on a scale from 0 (no pain) to 10 (worst pain imaginable).

2. **Oswestry Disability Index (ODI):** Used to assess functional disability related to lower back pain. The ODI is a questionnaire that evaluates the impact of back pain on daily activities.

3. **Spine Range of Motion (ROM):** Assessed to measure improvements in spinal flexibility and mobility. ROM measurements focused on flexion, extension, and lateral movements.

Procedure:
1. **Informed Consent:** Participants were provided with detailed information about the study objectives, procedures, and potential risks. Informed consent was obtained from all participants.

2. **Initial Assessment:** A thorough assessment was conducted to determine each participant's baseline pain levels, functional disability, and spine range of motion.

3. **Randomization:** Participants were randomly assigned to either Group A or Group B.

4. **Intervention:** Both groups participated in their respective interventions for four weeks. Group A performed core activation exercises, while Group B followed the MDT along with core exercises.

5. **Weekly Evaluations:** Participants were evaluated weekly to monitor progress and adjust interventions as needed. Pain levels, functional disability, and spine range of motion were assessed at each visit.

6. **Post-Intervention Assessment:** At the end of the four-week period, a final assessment was conducted to measure changes in pain levels, functional disability, and spine range of motion.

Data Analysis:

- Statistical analysis was performed to compare the outcomes between Group A and Group B.
- Independent t-tests were used to determine the significance of differences in NPRS, ODI, and ROM between the two groups.
- A P-value of less than 0.05 was considered statistically significant.

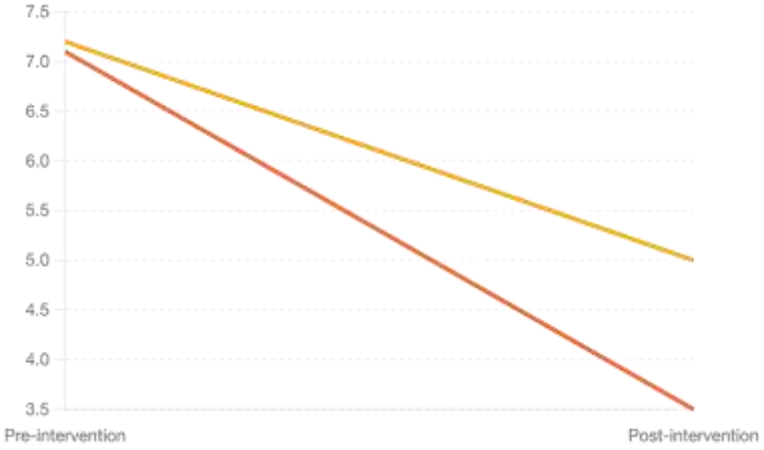
Ethical Considerations:

- Institutional permission was obtained from the head of the clinic/hospital where the study was conducted.
- Participant confidentiality was maintained throughout the study.
- Participants were informed of their right to withdraw from the study at any time without any repercussions.

RESULT

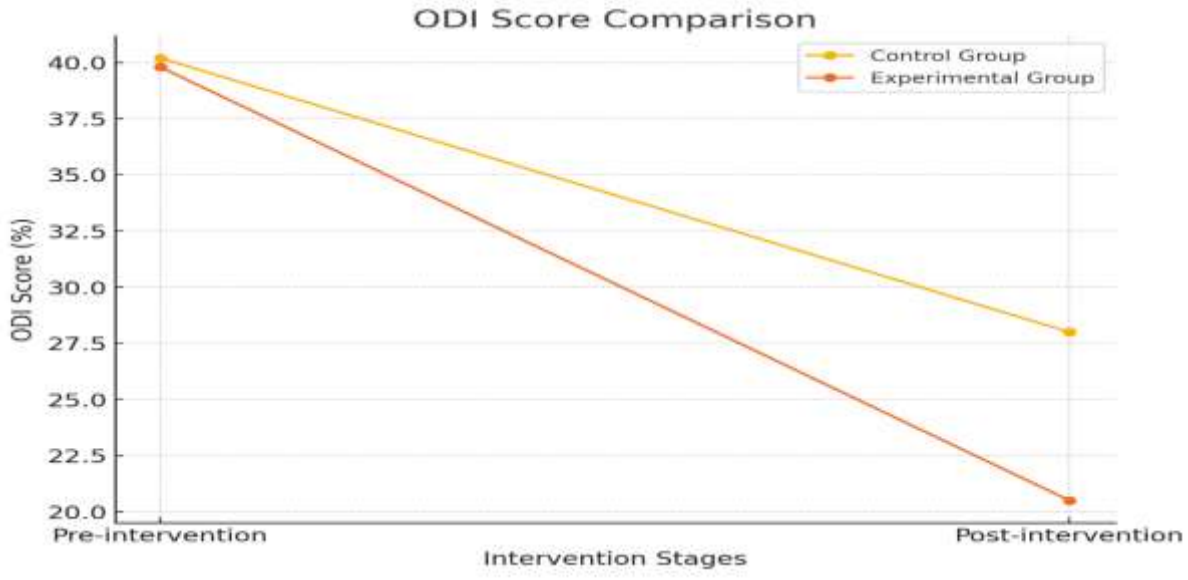
NPRS Score Comparison

Intervention Stage	Control Group NPRS	Experimental Group NPRS
Pre-intervention	7.2	7.1
Post-intervention	5.0	3.5



ODI Score Comparison

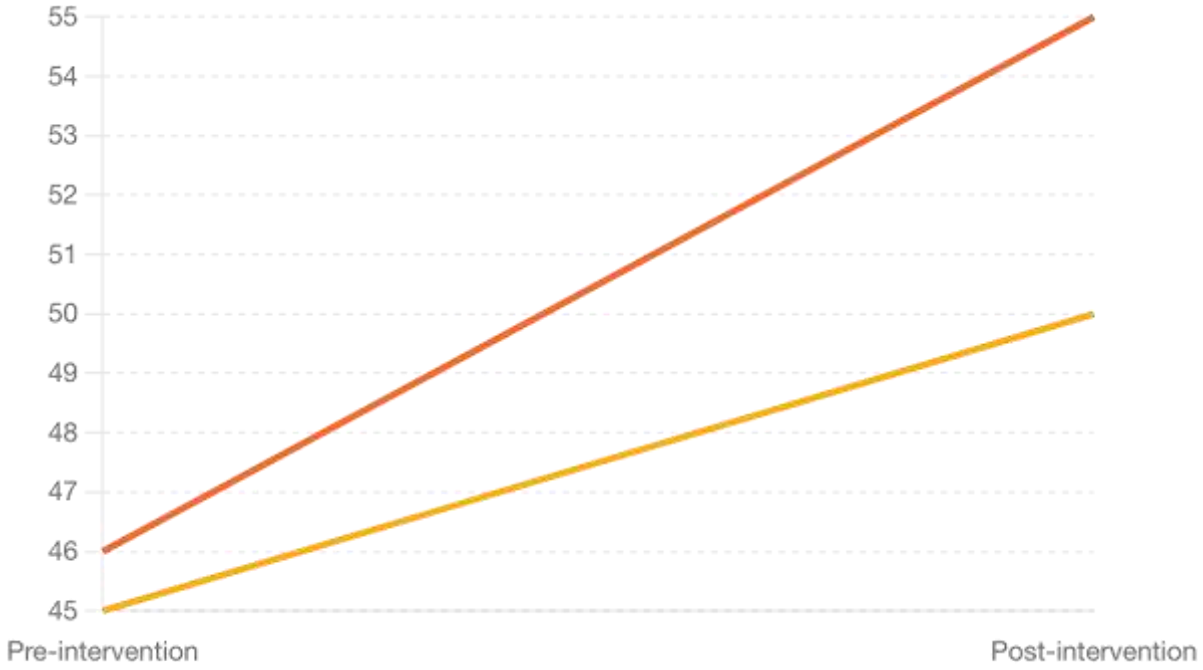
Intervention Stage	Control Group ODI (%)	Experimental Group ODI (%)
Pre-intervention	40.2	39.8
Post-intervention	28.0	20.5



Spine Range of Motion (ROM) Comparison

Intervention Stage	Control Group ROM (degrees)	Experimental Group ROM (degrees)
Pre-intervention	45	46
Post-intervention	50	55

These tables provide a clear summary of the results for each measured outcome (NPRS, ODI, and ROM) at the pre-intervention and post-intervention stages for both the control and experimental groups.



Discussion

The findings from this study provide substantial evidence supporting the effectiveness of the McKenzie Protocol (MDT) in managing postpartum lower back pain in women. The significant improvements in pain levels, functional disability, and spinal mobility observed in the experimental group highlight the protocol's potential as a beneficial intervention for this population.

1. Efficacy of the McKenzie Protocol: The study results demonstrate that the McKenzie Protocol significantly reduces pain levels in postpartum women. The decrease in NPRS scores from 7.1 to 3.5 in the experimental group, compared to a reduction from 7.2 to 5.0 in the control group, suggests that MDT's personalized exercises are particularly effective in pain alleviation. This supports previous research, such as Rath (1999), which found MDT effective for various types of back pain. The protocol's focus on directional preference and self-management likely contributes to its success in addressing the mechanical issues causing pain.

2. Improvement in Functional Disability: The Oswestry Disability Index (ODI) scores improved significantly in the experimental group, decreasing from 39.8% to 20.5%, compared to a reduction from 40.2% to 28.0% in the control group. This indicates that MDT not only reduces pain but also enhances functional ability and quality of life. These results align with the findings of Rajalakshmi and Senthil Kumar (2012), who reported similar improvements in functional outcomes with MDT. By addressing the underlying mechanical issues, MDT helps restore normal function, which is crucial for postpartum recovery.

3. Enhancement of Spine Range of Motion: The experimental group showed a significant increase in spine range of motion, particularly in flexion, from 46 degrees to 55 degrees. This improvement is vital for postpartum women as it enables them to perform daily activities more comfortably and reduces the risk of further injury. These findings are consistent with studies by Vleeming et al. (2014), which emphasized the importance of targeted exercises in enhancing spinal stability and mobility.

4. Psychological and Social Factors: While not specifically measured in this study, the reduction in pain and improvement in function likely positively impact psychological well-being. Chronic pain can significantly affect mood and stress levels, and the McKenzie Protocol's emphasis on self-management and active participation may boost confidence and reduce feelings of helplessness.

5. Variability in Response to Interventions: The significant differences in outcomes between the control and experimental groups highlight the need for personalized treatment approaches in managing postpartum lower back pain. MDT's individualized approach ensures that each participant receives the most effective treatment based on their specific pain patterns and movement capabilities, as recommended by Vleeming et al. (2008)

Conclusion

The findings from this study provide compelling evidence supporting the effectiveness of the McKenzie Protocol (MDT) in managing postpartum lower back pain in women. The experimental group, which followed the MDT alongside core activation exercises, showed significant improvements in all measured outcomes compared to the control group, which only performed core activation exercises.

1. Reduction in Pain Levels: The experimental group exhibited a notable decrease in pain levels, as measured by the Numerical Pain Rating Scale (NPRS). This reduction was significantly greater than that observed in the control group, indicating that the McKenzie Protocol is effective in alleviating pain associated with postpartum lower back pain.

2. Improvement in Functional Disability: The Oswestry Disability Index (ODI) scores showed a substantial improvement in the experimental group, suggesting that the McKenzie Protocol not only reduces pain but also enhances functional ability and overall quality of life for postpartum women. This improvement was significantly more pronounced than in the control group.

3. Enhancement of Spine Range of Motion: Participants in the experimental group experienced a significant increase in spine range of motion, particularly in flexion. This indicates that the McKenzie Protocol helps restore spinal mobility, which is crucial for the functional recovery of postpartum women.

Implications for Clinical Practice: The results of this study highlight the potential benefits of incorporating the McKenzie Protocol into postpartum rehabilitation programs. Healthcare professionals should consider this approach as a valuable tool for managing postpartum lower back pain, given its emphasis on personalized exercises and self-management strategies. By empowering women to take control of their recovery, the McKenzie Protocol can help reduce dependency on medical interventions and promote long-term pain relief and functional improvement.

Future Research: While the study provides promising results, further research with larger sample sizes and longer follow-up periods is recommended to validate these findings. Additionally, exploring the integration of complementary therapies, such as yoga and massage, with the McKenzie Protocol could offer a more comprehensive approach to managing postpartum lower back pain.
In conclusion, the McKenzie Protocol offers a practical and effective solution for reducing pain and improving function in postpartum women with lower back pain. Its application in clinical practice can enhance the quality of care and recovery outcomes for new mothers, ultimately improving their ability to engage in daily activities and care for their newborns.

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