



Exploring the Impact of Myofascial Release on Mental Health and Sleep Quality

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Abstract

This literature review examines the interplay between myofascial release, mental health, and sleep quality, utilizing peer-reviewed studies from the National Library of Medicine (2021–2024). Analyzing ten selected articles, findings indicate that myofascial release significantly enhances mental health by alleviating depression and anxiety associated with various physical conditions, such as premenstrual syndrome, chronic pain syndromes, postpartum dysfunctions, and fibromyalgia. These improvements in mental well-being are closely linked to enhanced sleep quality and overall quality of life. For instance, myofascial techniques combined with progressive relaxation improved sleep and reduced pain in premenstrual syndrome, while similar approaches in chronic low back pain and fibromyalgia patients led to better sleep and reduced psychological distress. The review underscores myofascial release as a promising complementary therapy for promoting mental health and sleep, though it calls for more rigorous randomized-controlled trials to further validate these effects and elucidate underlying mechanisms.

Keywords Myofascial release · Mental health · Exploring links

1 Introduction

Myofascial release therapy (MFR) originated in the 1970s in the US. While MFR has gained recognition for its physical benefits, particularly in pain relief and increased mobility, its potential impact on mental health and sleep quality has been less explored. This study aims to investigate the relationship between myofascial release therapy and mental health, specifically to determine how it may contribute to improving sleep quality. By clarifying this connection, the research seeks to broaden the understanding of MFR's benefits beyond physical therapy and highlight its significance as a holistic approach to well-being.

MFR highlights its potential to improve health and sleep quality, particularly in women and individuals with chronic pain. Studies on premenstrual syndrome indicate that MFR can alleviate symptoms, enhance blood flow, reduce pain, and improve sleep quality, presenting a valuable non-pharmacological intervention for mental health. Additionally,

MFR combined with stretching has been shown to positively affect mental health outcomes in patients with adhesive capsulitis. Its effectiveness in addressing postpartum dysfunctions suggests that MFR can enhance the well-being of new mothers by alleviating common physical complaints. Research on chronic prostatitis/chronic pelvic pain syndrome also emphasizes MFR's role in improving quality of life. Furthermore, studies suggest that integrating MFR into therapies for chronic low back pain and tension-type headaches can reduce symptoms of anxiety and depression. Collectively, these findings support MFR as a beneficial treatment approach that can significantly enhance mental health and sleep quality, meriting further exploration and validation through ongoing research.

Between 2021 and 2024, a comprehensive literature review was conducted using peer-reviewed publications from the National Library of Medicine to investigate the impact of myofascial release on mental health and sleep quality. Employing targeted Google search operators, we identified over 100 relevant peer-reviewed articles published within this time frame. Each article was rigorously evaluated and selected based on its focus on mental health and sleep quality. The abundance of recent literature highlights significant trends and advancements in the field of myofascial

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release. This specific time frame was deliberately chosen to ensure that the analysis reflects the most current studies and practices, providing a robust foundation for understanding the evolving landscape of myofascial release research.

Ten carefully selected articles were analyzed. The findings suggest that myofascial release can significantly enhance mental health by alleviating conditions such as depression and anxiety, which are often associated with various physical ailments. These ailments include premenstrual syndrome, adhesive capsulitis, postpartum dysfunctions, chronic prostatitis/chronic pelvic pain syndrome, tension-type headaches, chronic low back pain, and dyspareunia. The studies explored this connection in diverse contexts, highlighting the potential of myofascial release as a complementary therapy for improving mental health and sleep quality.

2 Mechanism of Action

MFR can significantly enhance mental health and sleep quality through several key chemical interactions. By stabilizing mast cells, MFR may reduce pro-inflammatory cytokines, thereby alleviating neuroinflammation linked to anxiety and depression. Lowered cytokine levels, such as IL-6 and TNF-alpha, can decrease cortisol production from the HPA axis, reducing stress and promoting better sleep. Additionally, MFR enhances vagal tone, which releases acetylcholine to facilitate relaxation and improve mood. The activation of endocannabinoid receptors in fascia may yield analgesic and anxiolytic effects, assisting in pain management and anxiety reduction. Furthermore, research has revealed abundant estrogen and relaxin receptors in fascia, particularly in fibroblasts. Hormonal fluctuations throughout the menstrual cycle and perimenopause can influence fascial stiffness and pain sensitization, impacting athletes and those with hyper-flexible fascial systems. Consequently, individuals in perimenopause and menopause may be more susceptible to fibromyalgia without the stabilizing effects of premenopausal hormone levels. These interactions underscore MFR's potential as a therapeutic tool for managing mental health and sleep quality through effective neuroregulation and inflammation management.

3 Conditions Addressed by MFR

Several specific conditions have been studied in relation to MFR, revealing positive impacts on mental health and sleep quality. For instance, in the case of premenstrual syndrome (PMS), research indicates that MFR can alleviate symptoms, enhance blood flow, reduce pain, and improve sleep quality. It is suggested that patients engage in MFR sessions once

or twice per week for a minimum of 4 weeks for optimal results [1].

Another condition, adhesive capsulitis, has shown promising outcomes when MFR is combined with dynamic and static stretching. A study reported that patients who participated in stretching and manual therapy sessions biweekly for 3 months experienced significant improvements in their mental health, particularly reflected in scores on the Short Form-36 (SF-36) [2].

MFR has also been effective in managing postpartum dysfunctions, which can include conditions such as rectus abdominis diastasis and pelvic floor dysfunction. Recommendations indicate that engaging in six MFR sessions over 2 months can lead to significant pain reduction and improvements in mental health for postpartum women [3].

When examining chronic prostatitis/chronic pelvic pain syndrome (CP/PPPS), a randomized-controlled trial demonstrated that MFR, when used alongside extracorporeal shockwave therapy, significantly enhances the quality of life for patients. The treatment protocol involved ten sessions over 5 weeks, leading to noteworthy alleviation of symptoms and improvements in mental well-being [4].

A study aimed to assess the feasibility and acceptability of four osteopathic interventions for improving mental health outcomes in adults with mild-to-moderate symptoms [5]. They evaluated the interventions' effectiveness on psychophysiological measures and mental health outcomes. Their results could provide preliminary evidence on the benefits of osteopathic approaches for mental health, even in pain-free individuals, and inform the development of future randomized-controlled trials [5].

A review and update of the evidence on the effectiveness of myofascial release on fibromyalgia symptoms showed that myofascial release significantly reduced pain and improves sleep and quality of life in patients with fibromyalgia syndrome, thereby potentially enhancing their mental health [6]. However, more high-quality randomized-controlled trials were needed to generalize these findings [6].

In the context of chronic low back pain, studies suggest that incorporating MFR into a comprehensive pain management plan can significantly reduce symptoms of anxiety and depression. For optimal outcomes, a treatment plan involving eight sessions over 6 weeks is recommended [7].

A study examined the impact of Clinical Pilates exercises on tension-type headaches in higher education students [8]. Their exercises were found to reduce pain intensity, improve daily function, and alleviate negative emotional states, thereby enhancing mental health. Although not explicitly mentioned, such exercises often incorporate elements of myofascial release, which could contribute to these positive outcomes. However, more research was needed to confirm these findings and explore the specific role of myofascial release in this context [8].

Finally, regarding dyspareunia, systematic reviews have highlighted the effectiveness of MFR and other interventions for treating this condition. Interventions such as pelvic floor training may alleviate pain and improve the quality of life for affected women. Customizing sessions based on individual responses over several weeks of ongoing treatment is advised for achieving the best results [9].

A framework for managing sexual disability related to low back pain, which incorporates myofascial release among other physical therapies, has been proposed [10]. This approach could help clinicians effectively manage patients with such disabilities. However, more rigorous randomized-controlled trials are needed to confirm these results and further explore the specific role of myofascial release in these contexts [10].

Table 1 provides a summary of the reviewed studies, detailing treatment durations and the corresponding mental health outcomes along with their effect sizes. Notably, two studies reported specific effect size values, while four studies indicated measurable improvements in mental health. The effect size values ranged from 0.6 to 0.89.

4 Practical Implementation of MFR Techniques

The practical application of MFR can enhance its effectiveness. Key strategies for implementing MFR include ensuring that practitioners are well trained in techniques and best practices, which is crucial for delivering effective care. Additionally, educating patients about the benefits of MFR can lead to increased engagement and compliance with treatment. Incorporating at-home self-release practices may empower individuals to take a proactive role in their recovery. It is also essential to create individualized treatment plans to optimize results based on each patient's unique needs or conditions. Combining MFR with psychosocial therapies and relaxation techniques can further enhance mental health outcomes.

Table 1 Reviewed studies on treatment duration and mental health outcomes

Condition	Study reference	Treatment duration	Effect size	Mental health outcome
Premenstrual syndrome	[1]	4 weeks	N/A	Improved mood
Adhesive capsulitis	[2]	3 months	0.85	Better mental health perception
Postpartum dysfunctions	[3]	2 months	N/A	Reduced anxiety
Chronic prostatitis/CPPS	[4]	5 weeks	0.6–0.89	Enhanced quality of life
Chronic low back pain	[7]	6 weeks	N/A	Decreased anxiety
Dyspareunia	[9]	Variable	N/A	Improved quality of life

5 Limitations of Current Research

Despite having promising findings, several limitations within current MFR research warrant attention. One major issue is the variability in study design, with many lacking rigorous methodologies such as randomized-controlled trials, which affects the reliability and validity of outcomes. Furthermore, the lack of standardized protocols leads to differences in MFR techniques and treatment durations, complicating comparisons between studies and limiting generalizability.

Additionally, unclear dosage recommendations create confusion, as optimal frequency and treatment duration are often inconsistently reported across studies.

6 Future Research Directions

To advance the understanding of MFR's impact and address current gaps in research, several areas should be prioritized. Standardization of MFR protocols would provide universally accepted guidelines, enhancing the rigor and comparability of studies. Longitudinal research assessing the long-term effects of MFR on mental health and sleep quality is necessary to understand the sustainability of its benefits as a therapeutic intervention.

Furthermore, additional mechanistic studies investigating the specific biochemical processes influenced by MFR can elucidate how these mechanisms contribute to improved mental health. Comprehensive meta-analyses of existing studies would also offer clearer insights into the effectiveness of MFR across diverse populations and health conditions.

7 Conclusion

This comprehensive review indicates a promising link between myofascial release therapy and improved mental health and sleep quality across various conditions, including PMS, chronic pain syndromes, and postpartum dysfunctions. MFR appears capable of alleviating pain, enhancing overall

well-being, and improving sleep quality. Although many studies warrant further investigation with robust designs, this growing body of evidence highlights the potential for MFR as a complementary therapy to promote mental well-being in conjunction with other evidence-based practices.

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