Jacobson's Progressive Muscle Relaxation for Enhancing Coping Skills and Reducing Pain in Women with Chronic Pain Conditions: A Narrative Review

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ABSTRACT

Chronic pain in women is increasingly recognized as a sustained biopsychosocial condition that affects not only physical functioning but also emotional regulation, cognitive processing, identity, and long-term coping capacity. Women living with chronic pain are frequently exposed to prolonged physiological arousal, cumulative emotional labour, and sociocultural expectations that emphasise endurance and role fulfilment over emotional expression and self-care. Over time, these pressures heighten stress reactivity, reinforce maladaptive cognitive patterns such as catastrophizing and hypervigilance, and contribute to emotional exhaustion, reduced perceived control, and diminished psychological resilience. As a result, effective pain management requires interventions that address the psychological and psychophysiological mechanisms through which pain is experienced and regulated.

This narrative review integrates psychological theory and empirical evidence to examine the role of Jacobson's Progressive Muscle Relaxation (JPMR) in enhancing coping skills and reducing pain among women with chronic pain conditions. The review synthesises findings across psychophysiological, emotional, and cognitive domains to clarify how JPMR functions as a mind–body intervention within women those lived with experiences of pain. Evidence consistently suggests that JPMR reduces muscle tension and autonomic hyperactivation, facilitating a state of physiological calm that supports emotional regulation, cognitive clarity, and more intentional coping responses. These regulatory shifts are associated with improvements in coping self-efficacy, reduced emotional distress, and more adaptive engagement with persistent pain.

Importantly, JPMR emerges not merely as a relaxation technique but as a coping-enhancement strategy that restores psychological agency often eroded by chronic pain. Its structured, accessible, and self-directed nature makes it particularly suitable for women managing chronic pain alongside caregiving responsibilities, emotional labour, and limited access to specialised psychological care. By strengthening self-regulatory capacity and reducing stress-driven reactivity, JPMR supports sustainable psychological adjustment to long-term pain.

Overall, this review positions Jacobson's Progressive Muscle Relaxation as a psychologically grounded and clinically meaningful intervention that addresses core psychophysiological and emotional mechanisms underlying chronic pain in women.

Keywords: Chronic pain in women, Jacobson's Progressive Muscle Relaxation, coping skills, emotional regulation, psychophysiological intervention, self-efficacy, stress reactivity, women's health psychology, pain management, and mind–body practices.

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INTRODUCTION

Chronic pain is increasingly conceptualized as a sustained **biopsychosocial stressor** that reshapes emotional regulation, cognitive processing, interpersonal functioning, and self-identity. Rather than existing as a purely sensory experience, chronic pain unfolds within psychological and social contexts that determine how individuals interpret, endure, and respond to persistent bodily distress. Women are disproportionately affected, demonstrating higher prevalence, greater pain intensity, and longer duration of pain-related disability compared to men (Saxena & Majumdar, 2018; Sturgeon & Zautra, 2010). These differences reflect not only biological factors such as hormonal variability and central sensitization but also cumulative psychosocial pressures that heighten vulnerability to distress (Fillingim et al., 2009).

Women frequently manage chronic pain alongside enduring emotional labour, caregiving roles, and sociocultural expectations that valorise endurance while discouraging emotional expression. Such contexts amplify stress reactivity and restrict opportunities for psychological recovery, rendering pain an emotionally burdensome and identity-altering experience (Sharma & Manjula, 2022). Over time, this sustained strain erodes coping capacity and increases reliance on **maladaptive cognitive–emotional patterns**. Psychological research consistently demonstrates that catastrophizing, hypervigilance, fear-avoidance, and emotional suppression intensify pain perception, reinforce disability, and perpetuate psychological exhaustion (Quartana et al., 2009). In contrast, adaptive coping strategies such as acceptance, cognitive reframing, problem-solving, and emotional regulation are associated with resilience, better adjustment, and improved quality of life (Carver, 1997).

Contemporary pain psychology emphasizes that coping is dynamic and amenable to intervention, highlighting the importance of approaches that reduce physiological arousal while strengthening emotional self-regulation and perceived control (Gatchel et al., 2007). Within this framework, **Jacobson's Progressive Muscle Relaxation (JPMR)** represents a foundational **mind–body intervention** that directly addresses psychophysiological dysregulation. By systematically alternating muscular tension and release, JPMR attenuates sympathetic nervous system activation, reduces muscle guarding, and promotes autonomic balance (Jacobson, 1938). Empirical evidence demonstrates that JPMR contributes to reductions in **pain intensity, anxiety, sleep disturbance, and emotional distress**, while **enhancing emotional regulation and coping self-efficacy** (Mateu et al., 2018; Mashhadi-Naser et al., 2021; Lim et al., 2023; Akbari et al., 2019).

Despite growing empirical support, the role of JPMR in **strengthening coping skills among women** with chronic pain remains insufficiently integrated within narrative reviews. This review therefore seeks to synthesize psychological theory and empirical findings to clarify how JPMR functions as a psychophysiological and psychological intervention, and to highlight its relevance within women-centred, psychosocially informed chronic pain management.

BACKGROUND OF THE STUDY

The growing burden of chronic pain among women necessitates a psychologically grounded understanding of how pain is shaped and sustained by emotional, cognitive, and social processes. While epidemiological research consistently reports higher prevalence and disability related to chronic pain in women, psychological evidence suggests that these disparities arise from cumulative stress exposure, emotion regulation demands, and gendered role expectations rather than biological factors alone (Fillingim et al., 2009; Saxena & Majumdar, 2018). Chronic pain in women is frequently embedded within daily contexts marked by emotional labour, caregiving responsibilities, and limited opportunities for psychological recovery, which progressively erode coping capacity.

Psychological models emphasize that chronic pain is maintained through reciprocal interactions between physiological arousal and cognitive–emotional responses. Persistent sympathetic activation, muscle tension, and stress reactivity heighten pain sensitivity while impairing emotional regulation and coping flexibility (Gatchel et al., 2007). Over time, repeated cognitive demands associated with fatigue, sleep disruption, and emotional strain increase vulnerability to **maladaptive coping patterns**. Gender norms that valorize endurance and

emotional restraint further intensify this process by discouraging emotional expression and self-focused coping strategies (Sharma & Manjula, 2022).

In this context, **mind–body interventions** have gained prominence for their ability to address both physiological and psychological dimensions of pain. Jacobson's Progressive Muscle Relaxation (JPMR) is particularly relevant, as it systematically reduces muscular tension and autonomic hyperarousal while fostering emotional stability and cognitive clarity. Empirical studies involving women with chronic pain demonstrate reductions in pain severity and emotional distress, alongside **improvements in perceived control and coping self-efficacy** following regular JPMR practice (Mateu et al., 2018; Akbari et al., 2019; Lim et al., 2023).

This evidence positions JPMR as a psychologically informed **coping-enhancement intervention** with specific relevance to women's chronic pain experiences, providing a strong foundation for the present narrative review.

Need for Research

Although relaxation-based interventions are well established within chronic pain care, the specific psychological role of **Jacobson's Progressive Muscle Relaxation (JPMR)** in enhancing coping among women with chronic pain has not been adequately synthesized. Existing research has largely prioritized symptom reduction, particularly pain intensity, while offering limited integration of key psychological mechanisms such as emotional regulation, coping self-efficacy, and adaptive cognitive processing that are central to long-term adjustment (Fisher et al., 2020). Moreover, many reviews aggregate diverse mind–body techniques or overlook gender-specific pathways, limiting understanding of how JPMR uniquely addresses women's pain experiences shaped by emotional labour, caregiving roles, and sustained stress exposure (Sharma & Manjula, 2022).

As contemporary pain management increasingly emphasizes non-pharmacological, self-managed, and accessible interventions, JPMR aligns closely with biopsychosocial models that view coping as dynamic and modifiable (Gatchel et al., 2007). A focused narrative review is therefore necessary to integrate empirical findings with psychological theory, clarify gender-sensitive coping mechanisms, and identify gaps to inform women-centred chronic pain management and future research (Akbari et al., 2019).

REVIEW OF LITERATURE

Akbari et al. (2019) reported that progressive muscle relaxation enhances self-efficacy and emotional stability in chronic illness populations. Increased perceived control was associated with stronger coping responses. For women managing chronic pain alongside ongoing emotional and role-based pressures, JPMR strengthens confidence and psychological resilience.

Fillingim et al. (2009) conceptualized women's chronic pain as the outcome of heightened biological sensitivity interacting with sustained psychosocial stress. Their findings illustrate how emotional reactivity and persistent physiological arousal intensify pain experiences and undermine coping stability. This work underscores the relevance of interventions such as JPMR that reduce arousal and support emotional regulation in women living with chronic pain.

Gatchel et al. (2007) presented the biopsychosocial model, demonstrating how chronic pain is maintained through reciprocal interactions among physiological activation, maladaptive cognition, and avoidance behaviours. Their framework explains the emotional exhaustion commonly reported by women with chronic pain. JPMR addresses this cycle by lowering sympathetic activation and promoting emotional and behavioural regulation.

Mateu et al. (2018) demonstrated that progressive muscle relaxation reduces pain intensity, emotional strain, and functional interference in chronic pain conditions. Their results suggest that repeated relaxation practice restores psychophysiological balance and emotional clarity, supporting women's ability to cope more effectively with persistent pain.

Quartana et al. (2009) highlighted catastrophizing as a central cognitive process that magnifies pain perception and emotional distress while draining coping resources. Persistent negative appraisal increases mental fatigue and reinforces helplessness, particularly in women. JPMR is psychologically pertinent in this context because relaxation-induced calm may weaken catastrophic thought patterns and foster more adaptive coping responses.

Sharma and Manjula (2022) examined how sociocultural expectations of endurance and caregiving restrict women's expression of pain, leading to emotional suppression and reduced coping capacity. Their findings reveal how pain becomes embedded within gendered emotional demands. JPMR offers a self-directed method for releasing internalized tension and enhancing emotional awareness within these constraints.

Objectives of Research

- To understand how emotional regulation, cognitive appraisal, stress reactivity, and sociocultural expectations interact to shape women's experiences of chronic pain and influence both adaptive and maladaptive coping responses.

- To explore the psychological and psychophysiological processes through which Jacobson's Progressive Muscle Relaxation supports pain reduction and strengthens coping, with particular focus on autonomic regulation, muscle tension reduction, emotional stability, self-efficacy, and healthier cognitive processing.

- To evaluate the relevance and clinical usefulness of Jacobson's Progressive Muscle Relaxation as an accessible mind–body intervention for women with chronic pain, while identifying gaps that can guide future research and women-centred pain management practices.

RESEARCH METHODOLOGY

This narrative review adopts a psychologically oriented methodological approach to examine how Jacobson's Progressive Muscle Relaxation (JPMR) enhances coping skills, reduces emotional and physiological distress, and improves pain experiences among women with chronic pain conditions. A narrative review design is particularly appropriate for this topic because research on women's chronic pain, coping processes, and psychophysiological regulation is conceptually diverse and methodologically heterogeneous. Rather than statistical aggregation, an interpretive synthesis allows for deeper examination of how emotional regulation, cognitive appraisal, stress reactivity, and self-efficacy interact within women's biopsychosocial pain experiences and how JPMR functions as a mind–body intervention within these dynamics. A comprehensive literature search was conducted across PubMed, PsycINFO, Scopus, Web of Science, ScienceDirect, Google Scholar, and MEDLINE using combinations of keywords related to progressive muscle relaxation, Jacobson's relaxation, chronic pain in women, coping skills, emotional regulation, self-efficacy, stress reduction, and psychophysiological regulation. Peer-reviewed literature published between 1990 and 2025 was considered to capture both foundational and contemporary evidence.

Studies were included if they examined JPMR or progressive relaxation techniques, involved adult women with chronic pain conditions, or assessed psychological and psychophysiological outcomes such as coping strategies, emotional regulation, stress reduction, self-efficacy, autonomic regulation, or pain intensity. Quantitative, qualitative, mixed-methods studies, randomized trials, psychoeducational interventions, and theoretically grounded papers were reviewed. Studies focusing exclusively on acute pain, non-JPMR techniques lacking psychological relevance, or outcomes unrelated to coping were excluded. Screening involved systematic evaluation of titles, abstracts, and full texts. Data extraction focused on coping patterns, emotional stability, catastrophizing, perceived control, stress reactivity, pain severity, and mechanisms such as muscle tension reduction and autonomic downregulation. Methodological quality was appraised using CASP and STROBE frameworks, emphasizing theoretical coherence, psychometric validity, and relevance to women's biopsychosocial functioning. This approach enables a humanized and integrative understanding of JPMR's clinical significance in strengthening coping and psychological resilience among women with chronic pain.

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RESULTS AND DISCUSSION

The evidence synthesized across studies indicates that women living with chronic pain experience persistent emotional strain shaped by ongoing uncertainty, functional demands, and sustained vigilance toward bodily sensations. This prolonged stress exposure is associated with heightened anxiety, emotional exhaustion, and regulatory overload, which progressively weakens coping capacity and increases vulnerability to maladaptive cognitive–emotional responses (Fillingim et al., 2009; Quartana et al., 2009). Such conditions function not only as sources of distress but also as recurring internal cues that reactivate fear, worry, and frustration, consistent with psychological models describing how chronic stress amplifies autonomic arousal, emotional reactivity, and cognitive depletion (Gatchel et al., 2007).

Across empirical findings, women experiencing higher emotional burden demonstrate greater tendencies toward catastrophizing, hypervigilance, and emotional suppression, patterns closely linked to internal dysregulation and intensified pain perception. These responses mirror interpersonal reactivity described in other stress contexts, where unregulated internal states translate into maladaptive behavioural and emotional patterns (Sharma & Manjula, 2022). In chronic pain, such internal reactivity disrupts emotional stability and undermines adaptive coping, reinforcing a cycle in which distress perpetuates pain severity and functional impairment.

Within this context, Jacobson's Progressive Muscle Relaxation (JPMR) consistently emerges as an effective regulatory intervention. Studies demonstrate that JPMR reduces muscle tension and sympathetic arousal while enhancing emotional awareness and perceived control (Mateu et al., 2018; Mashhadi-Naser et al., 2021). These psychophysiological shifts allow women to interrupt automatic stress-driven reactions to pain and respond with greater emotional balance and cognitive clarity. Importantly, regular practice is associated with strengthened coping self-efficacy, reduced helplessness, and improved daily functioning (Akbari et al., 2019).

Together, the findings portray chronic pain, emotional dysregulation, and coping as interconnected psychological processes. Persistent pain heightens internal reactivity; maladaptive coping emerges as its expression; and JPMR offers a mechanism that restores physiological calm, emotional regulation, and psychological resilience. This narrative synthesis affirms JPMR as a clinically meaningful, women-centred mind–body intervention capable of improving both pain outcomes and coping capacity through integrated psychophysiological pathways.

CONCLUSION

Chronic pain in women emerges from this review as a persistent psychophysiological condition that extends beyond bodily discomfort to affect emotional balance, cognitive functioning, and self-regulatory capacity. Continuous pain exposure interacts with emotional labour, role demands, and internalised expectations of endurance, leading to sustained stress activation and gradual depletion of coping resources. Over time, these processes heighten vulnerability to emotional exhaustion, reduced perceived control, and maladaptive coping responses, underscoring the necessity of interventions that address the psychological pathways through which pain is experienced and managed.

Within this context, Jacobson's Progressive Muscle Relaxation demonstrates particular psychological relevance. The evidence indicates that by systematically releasing muscle tension and calming heightened physiological arousal, this approach alters the internal conditions that perpetuate pain-related distress. Physiological quieting appears to facilitate emotional regulation and cognitive clarity, allowing women to respond to pain with greater awareness rather than automatic reactivity. As internal regulation improves, women report stronger confidence in managing pain-related sensations and emotions, reflecting meaningful gains in coping self-efficacy and emotional stability.

The findings further suggest that the effectiveness of this intervention lies in its capacity to restore psychological agency. Regular practice supports a shift from passive endurance of pain toward active self-regulation, enabling women to engage with daily demands while maintaining emotional balance. Its structured and accessible format makes it especially valuable for women who manage chronic pain alongside ongoing responsibilities and limited access to specialised psychological care.

Overall, the evidence supports the view that progressive muscle relaxation functions as a psychologically grounded mind–body intervention that strengthens coping capacity, reduces emotional and physiological strain, and promotes adaptive adjustment to long-term pain in women. Incorporating this approach within women-centred pain care has the potential to enhance emotional resilience, restore self-regulatory strength, and improve quality of life through sustainable psychological change.

IMPLICATIONS

This review emphasizes the need to embed psychologically informed, mind–body interventions within women-focused chronic pain care. Jacobson's Progressive Muscle Relaxation offers a structured approach to strengthening emotional regulation, reducing psychophysiological stress, and enhancing coping confidence. Integrating this intervention into clinical and self-management programs can support adaptive pain regulation, promote psychological resilience, and empower women to manage chronic pain with greater autonomy and emotional stability.

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