



"Psychological Interventions for Menstrual Pain: Comparative Effects of Psychoeducation and Progressive Muscle Relaxation on College Students' Well-Being"

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Abstract

Menstrual pain is a prevalent concern among young adults, often affecting their daily functioning and overall well-being. This study examined the effectiveness of two psychological interventions—psychoeducation and progressive muscle relaxation (PMR)—in alleviating menstrual pain and enhancing psychological well-being among college students. Participants were randomly assigned to either a psychoeducation-only group or a psychoeducation plus PMR group. Pre- and post-intervention measures assessed pain intensity, emotional well-being, and functional outcomes. Paired-sample t-tests revealed significant improvements in psychological well-being and reductions in pain severity in both groups, with the psychoeducation plus PMR group demonstrating greater improvements. These findings suggest that integrating relaxation techniques with psychoeducational approaches may offer a more effective, non-pharmacological strategy for managing menstrual pain in young adults. The study contributes to the growing body of literature supporting holistic and accessible interventions for menstrual health.

Keywords: menstrual pain, psychoeducation, progressive muscle relaxation, psychological well-being, college students



Introduction

Menstrual pain, often referred to as period pain, is a pervasive experience among women of reproductive age and is one of the most common gynecological complaints worldwide. Estimates suggest that between 50% and 90% of menstruating women report some degree of menstrual discomfort, with approximately one in ten experiencing symptoms severe enough to disrupt daily activities, academic participation, and social engagement (Ju et al., 2014). While the condition varies in intensity and duration, it is often characterized by cramping in the lower abdomen, which may radiate to the back and thighs, accompanied by symptoms such as nausea, headaches, dizziness, and fatigue (Iacovides et al., 2015). This constellation of symptoms not only affects physical functioning but also impacts mental health, contributing to irritability, mood swings, and reduced quality of life (Proctor & Farquhar, 2006).

The physiological mechanisms underlying menstrual pain are primarily linked to elevated levels of prostaglandins—hormone-like substances that induce strong uterine contractions, restrict blood flow, and amplify pain signals (Harel, 2006). While these contractions facilitate the shedding of the endometrium, excessive prostaglandin production leads to heightened muscle ischemia and pain perception. Research also indicates that individual variations in pain thresholds, hormonal fluctuations, and co-existing conditions such as endometriosis may influence symptom severity (Latthe et al., 2006). Furthermore, menstrual pain is not merely a biological phenomenon; it is shaped by psychological, cultural, and social factors. For instance, cultural attitudes toward menstruation can influence how women perceive, report, and manage their symptoms, with stigma often leading to underreporting or neglect in seeking care (Ussher, 2006).

Pharmacological interventions, particularly non-steroidal anti-inflammatory drugs (NSAIDs) and hormonal contraceptives, are widely recognized as effective first-line treatments (Marjoribanks et al., 2015). NSAIDs work by inhibiting prostaglandin synthesis, thereby reducing uterine contractions and associated pain. Hormonal contraceptives, on the other hand, regulate or suppress ovulation and stabilize hormonal fluctuations. However, despite their efficacy, these treatments may cause side effects, be unsuitable for certain medical profiles, or conflict with personal preferences. These limitations have driven increased interest in non-pharmacological approaches, particularly those grounded in psychological and behavioral principles (Armour et al., 2019).



Among these approaches, progressive muscle relaxation (PMR) has garnered attention as an accessible and cost-effective technique for managing both physical and psychological symptoms associated with menstrual pain. Developed by Edmund Jacobson in the early twentieth century, PMR involves systematically tensing and relaxing specific muscle groups in sequence to promote a state of deep relaxation (Jacobson, 1938). This method is grounded in the principle that mental calmness can be achieved through the deliberate reduction of muscular tension, which in turn modulates the physiological arousal associated with stress and pain (Conrad & Roth, 2007). Neurophysiological evidence suggests that relaxation training, such as PMR, can influence autonomic nervous system activity by reducing sympathetic arousal and enhancing parasympathetic dominance, thereby lowering heart rate, blood pressure, and muscle tension (Varvogli & Darviri, 2011).

Several studies have examined the application of PMR in the context of menstrual pain. Clinical trials have found that women practicing PMR regularly during the luteal and menstrual phases report significantly reduced pain intensity, improved emotional well-being, and enhanced quality of life (Dehkordi et al., 2020; Ozgoli et al., 2021). In a study involving adolescent students, PMR not only reduced pain severity but also improved academic attendance and concentration, highlighting its functional benefits beyond symptom relief (Shahrjerdi et al., 2012). Another investigation revealed that combining PMR with complementary techniques, such as massage therapy, produced greater reductions in menstrual distress than either intervention alone (Niranjan et al., 2022). These findings suggest that PMR's benefits extend beyond pain modulation, potentially improving mood regulation, resilience, and overall coping capacity.

Parallel to PMR, psychoeducation has emerged as a valuable intervention for menstrual pain, focusing on providing individuals with structured knowledge, self-management strategies, and coping skills. Psychoeducation, as defined by Lukens and McFarlane (2004), involves systematically sharing relevant information about a health condition, its causes, and strategies for managing its effects, thereby empowering individuals to make informed decisions about their health. In the context of menstrual health, psychoeducational programs often draw upon theoretical frameworks such as Leventhal's Self-Regulation Model (Leventhal et al., 1984), which emphasizes the role of cognitive and emotional representations of illness in determining coping behaviors and health outcomes.



Empirical evidence supports the role of psychoeducation in reducing the severity and impact of menstrual pain. Structured programs delivered over several menstrual cycles have been shown to significantly lower pain intensity, enhance functional capacity, and reduce emotional distress (Aksoy Derya et al., 2024; Kilic et al., 2023). For example, interventions that include education about menstrual physiology, pain mechanisms, lifestyle modifications, and stress management have led to measurable improvements in self-efficacy and coping among adolescents and young adult women (Delara et al., 2012). These programs also challenge maladaptive beliefs about menstruation, thereby reducing anticipatory anxiety and catastrophic thinking, which are known to exacerbate pain experiences (Chen et al., 2015).

The benefits of psychoeducation are not confined to menstrual health. In chronic pain populations, psychoeducational interventions have been shown to reduce symptom severity, enhance adherence to self-care behaviors, and improve psychological outcomes such as depression and anxiety (Bernard et al., 2015). These cross-domain findings lend credibility to psychoeducation as a mechanism for improving menstrual health outcomes through improved understanding, active engagement, and behavioral change.

The potential synergy between PMR and psychoeducation lies in their complementary mechanisms. PMR directly targets physiological tension and autonomic regulation, reducing the somatic component of pain, while psychoeducation addresses cognitive and emotional dimensions, reshaping beliefs, expectations, and coping strategies. By integrating these approaches, interventions could simultaneously reduce physiological arousal, promote adaptive cognitive appraisals, and encourage self-directed management behaviors. Though empirical research on combined approaches is still emerging, preliminary evidence suggests that multi-modal interventions are more effective in reducing menstrual symptoms than single-component programs (Tsai, 2016).

Beyond individual-level interventions, it is important to consider the broader socio-cultural and public health contexts of menstrual pain management. In many parts of the world, menstruation remains a stigmatized topic, leading to insufficient awareness, lack of appropriate care, and educational disruptions for young women (Sommer et al., 2016). School and university settings often lack adequate menstrual health support, further exacerbating the impact of symptoms on academic performance. Interventions such as PMR and psychoeducation, which are low-cost,



scalable, and easily taught, hold promise for bridging gaps in menstrual health care, particularly in resource-limited settings.

Furthermore, non-pharmacological interventions like yoga, stretching, acupressure, aromatherapy, and dietary modifications have demonstrated varying degrees of effectiveness in alleviating menstrual pain (Armour et al., 2019). Many of these methods incorporate elements of relaxation, mindfulness, and body awareness, suggesting that their benefits may be mediated by mechanisms similar to those underlying PMR. The inclusion of psychoeducational components within such programs further enhances their efficacy by fostering understanding and commitment to practice.

The interplay between menstrual pain, psychological health, and lifestyle underscores the importance of adopting a biopsychosocial approach to intervention. Pain perception is not solely determined by nociceptive input; it is influenced by emotional state, cognitive appraisals, and environmental factors (Gatchel et al., 2007). Stress, anxiety, and depressive symptoms can heighten pain sensitivity by altering central pain processing, while positive coping strategies and supportive social environments can mitigate pain experiences. Consequently, interventions that address both mind and body are likely to yield more comprehensive benefits than those focusing exclusively on either physiological or psychological dimensions.

In conclusion, menstrual pain is a multifactorial condition with significant physical, emotional, and social consequences. While pharmacological treatments remain a mainstay of management, non-pharmacological interventions such as PMR and psychoeducation offer promising, accessible, and holistic alternatives or complements to medical care. The growing body of evidence highlights their potential to not only reduce pain intensity but also enhance emotional well-being, functional ability, and self-efficacy. As research in this area continues to evolve, a greater emphasis on integrated, culturally sensitive, and scalable approaches may pave the way for more effective menstrual health management strategies worldwide.

Objectives

- To assess the effect of psychoeducation on psychological well-being among college students experiencing menstrual pain.
- To assess the effect of psychoeducation combined with Progressive Muscle Relaxation (PMR) on psychological well-being among college students experiencing menstrual pain.



Hypotheses

- There will be a significant effect of psychoeducation on psychological well-being among college students experiencing menstrual pain.
- There will be a significant effect of psychoeducation combined with Progressive Muscle Relaxation (PMR) on psychological well-being among college students experiencing menstrual pain.

METHOD

This study adopted a quasi-experimental research design with a pre–post repeated measures format across two experimental groups: a psychoeducation-only group and a psychoeducation-plus-Progressive Muscle Relaxation (PMR) group. The research aimed to evaluate and compare the effects of psychoeducation and PMR on menstrual pain severity and psychological well-being. The design incorporated four sequential phases to allow both intra-group and inter-group comparisons.

Sample

The initial sample consisted of 60 young adult female college students aged between 18 and 25 years, recruited through purposive sampling. All participants reported experiencing menstrual pain, and pain severity was assessed using a standardized Menstrual Symptom Questionnaire. Based on the baseline results, only those with moderate to high pain severity were retained for further participation, yielding a total of 30 participants for Phase 2. Individuals with chronic illnesses, current psychological disorders, or those on psychiatric medication were excluded.

Intervention Plan:

The intervention was designed in two structured phases over a period of three months. The first phase focused on **psychoeducation** (Month 1), while the second phase emphasized **Progressive Muscle Relaxation (PMR)** training and practice (Months 2 and 3). This sequential approach was adopted to ensure that participants first developed an adequate understanding of menstrual health and coping mechanisms, and then moved on to practice evidence-based relaxation techniques to manage dysmenorrhea more effectively.

Month 1: Psychoeducation Phase

During the first month, all participants attended weekly psychoeducation sessions. The sessions



were interactive and group-based, aiming to enhance awareness, correct misconceptions, and promote healthy coping strategies related to menstrual pain and well-being.

- **Week 1:** The introductory session focused on **understanding menstruation and dysmenorrhea**. Participants were introduced to the physiological processes of the menstrual cycle, causes of menstrual pain, and the distinction between primary and secondary dysmenorrhea. Simple presentations and videos were used to make the content accessible.
- **Week 2:** The second session addressed the **psychological and emotional impact** of dysmenorrhea, highlighting how stress, anxiety, and mood swings interact with physical pain. Participants were encouraged to share personal experiences, which helped reduce stigma and normalize conversations around menstruation.
- **Week 3:** The third session focused on **lifestyle management and coping strategies**. Practical tips regarding balanced nutrition, hydration, regular exercise, sleep hygiene, and yoga were discussed. Participants were guided to track their cycles and symptoms to better understand their body's needs.
- **Week 4:** The final psychoeducation session was dedicated to **debunking myths and taboos** surrounding menstruation. Cultural beliefs such as restrictions on food, movement, or activities were openly discussed, and scientific clarifications were provided to empower participants with accurate knowledge.

By the end of the first month, participants had developed a stronger understanding of menstrual health, learned coping strategies, and reported greater self-efficacy in managing their symptoms.

Months 2 and 3: Progressive Muscle Relaxation (PMR) Phase

The second phase of the intervention was implemented over two months and focused on **Progressive Muscle Relaxation (PMR)**. This technique was introduced to half of the participants (experimental group) while the other half continued with only psychoeducation, allowing for a comparative analysis.

PMR sessions were conducted daily for about 20–25 minutes in a quiet, comfortable



environment. During the first week of training, sessions were guided by the researcher to ensure correct practice, after which participants were encouraged to practice independently with the help of written/audio instructions.

The PMR technique followed a **step-by-step sequence**:

1. **Hands** – clenching fists and releasing.
2. **Wrists and Forearms** – bending wrists back, holding, and relaxing.
3. **Biceps and Upper Arms** – tensing elbows and releasing.
4. **Shoulders** – shrugging toward ears and dropping them.
5. **Forehead** – wrinkling into a frown and relaxing.
6. **Eyes and Nose** – squeezing eyes shut and letting them rest.
7. **Cheeks and Jaws** – smiling widely and releasing tension.
8. **Lips and Mouth** – pressing lips tightly and relaxing.
9. **Neck** – pressing head gently back and then chin to chest.
10. **Chest** – holding a deep breath and releasing.
11. **Back** – arching slightly and letting spine relax.
12. **Stomach** – tightening abdominal muscles and releasing.
13. **Hips and Buttocks** – squeezing and relaxing.
14. **Thighs** – pressing legs together and relaxing.
15. **Calves and Feet** – pointing toes upward and downward, then releasing.

Each contraction was held for about 5 seconds, followed by slow release for 10 seconds, allowing participants to experience the contrast between tension and relaxation. Sessions concluded with a **closing phase** of deep breathing and whole-body awareness, leaving participants in a state of calm relaxation.



- **Week 5 (Month 2, Week 1 of PMR):** Introduction to PMR, guided demonstrations by the researcher. Participants practiced basic muscle groups.
- **Week 6–7:** Expansion to full-body PMR practice with close supervision. Emphasis was on building consistency and awareness of relaxation.
- **Week 8:** Independent practice was encouraged; participants reported their experiences and challenges in weekly check-ins.
- **Month 3 (Weeks 9–12):** Participants continued daily practice independently with periodic check-ins. The focus was on integrating PMR into their daily routine, particularly during premenstrual and menstrual phases, to manage cramps, stress, and mood disturbances.

By the end of the PMR phase, participants reported reduced muscle tension, fewer cramps, improved stress regulation, and enhanced overall well-being.

Closing Evaluation

After completion of the three-month program, both groups were reassessed using the Menstrual Symptom Questionnaire and the Psychological Well-Being Scale. Results indicated that while psychoeducation alone had a significant positive impact, the combined intervention of **Psychoeducation + PMR** was more effective in reducing menstrual pain and enhancing psychological well-being.

Instructions and Procedure

Phase 1 – Screening and Baseline Assessment:

Sixty participants were initially assessed for menstrual pain severity using the Menstrual Pain Rating Scale. Based on the inclusion criteria, 30 participants with moderate to high pain levels were selected. They also completed the Ryff's Psychological Well-Being Scale to establish baseline psychological functioning.

Phase 2 – Psychoeducation for All Participants:

The selected 30 participants received psychoeducation sessions designed to enhance awareness of menstrual pain, its physiological mechanisms, lifestyle factors, and effective self-care practices. The sessions also included guidance on diet, hydration, physical activity, and stress



management techniques. After one month, all participants were reassessed on both menstrual pain and psychological well-being to evaluate the short-term impact of psychoeducation.

Phase 3 – Progressive Muscle Relaxation Intervention:

Following Phase 2, 15 participants were randomly chosen from the 30 and provided with PMR training in addition to the previously given psychoeducation. The PMR sessions were based on Jacobson's technique, involving systematic tensing and relaxing of major muscle groups over a 20-minute session. The training was delivered by the researcher and practiced daily for one month.

Phase 4 – Final Assessment and Group Comparison:

At the end of the PMR intervention period, both groups (psychoeducation-only and psychoeducation-plus-PMR) were reassessed on menstrual pain severity and psychological well-being to enable comparative analysis of the interventions' effectiveness.

Tools and Inventory

The psychoeducation content was developed by the researcher using a combination of scientific literature, educational leaflets, and visual aids. PMR sessions were delivered in a quiet, comfortable setting to minimize distractions. The Menstrual Symptom Questionnaire and Ryff's Psychological Well-Being Scale were administered in paper-and-pencil format under standardized conditions.

Statistical Analysis

Data was analyzed using Microsoft Excel to ensure accuracy and reproducibility.

RESULTS

To assess the effects of psychoeducation on psychological well-being (PWB) and menstrual symptoms (MSQ), a paired-samples t-test was conducted. Both variables were measured at pre- and post-intervention phases for a group of participants ($N = 30$). Results indicated a significant improvement in both indicators following psychoeducation. Specifically, PWB scores increased from pre-intervention ($M = 52.67$, $SD = 12.04$) to post-intervention ($M = 114.37$, $SD = 3.05$), $t(29) = -28.26$, $p < .001$, $\eta^2 = .96$. Similarly, MSQ scores improved substantially from pre-intervention ($M = 74.40$, $SD = 7.86$) to post-intervention ($M = 188.77$, $SD = 8.09$), $t(29) = -205.69$, $p < .001$, $\eta^2 = .99$. These findings demonstrate that psychoeducation had a strong



positive impact on enhancing psychological well-being and reducing menstrual-related difficulties among participants. Table 1 presents the means, standard deviations, standard errors, and t-test results for both indicators across the two phases.

Table 1: Summary of Mean, Standard Deviation, Standard Error, and Paired-Sample t-Test Results for Pre- and Post-Intervention Scores on Psychological Well-Being (PWB) (N = 30).

Variable	Phase	Mean	SD	SE	t(df)	p-value	η^2 (effect size)
PWB	Pre	52.67	12.04	2.20	-28.26 (29)	< .001	0.96
	Post	114.37	3.05	0.56			

The analysis of PWB revealed significant differences between pre- and post-psychoeducation conditions. Mean scores increased markedly from the pre-intervention stage ($M = 52.67$) to the post-intervention stage ($M = 114.37$), indicating a substantial improvement in psychological well-being. This change reflects a strong within-subject effect, confirming that participants benefitted significantly from psychoeducation. The trend demonstrates that psychoeducation effectively enhanced psychological well-being across the sample, with post-intervention scores being considerably higher than baseline levels.

Table 2 presents the frequency distribution of MSQ levels before and after intervention. At baseline, the majority of participants reported severe ($n = 25$) or very severe symptoms ($n = 4$). Following psychoeducation, there was a marked reduction, with no participants reporting severe or very severe symptoms. Instead, most participants reported mild symptoms ($n = 23$) and a smaller group reported moderate symptoms ($n = 7$).

Table 2: Frequency Distribution of Pre- and Post-Intervention Levels of Menstrual Symptoms (MSQ) (N = 30).

MENSTRUAL SYMPTOM QUESTIONNAIRE [MSQ]			
PRE		POST	
Very Severe Symptoms	4	Very Severe Symptoms	0
Severe Symptoms	25	Severe Symptoms	0
Moderate Symptoms	1	Moderate Symptoms	7
Mild Symptoms	0	Mild Symptoms	23

To further assess the combined effect of psychoeducation and Progressive Muscle Relaxation (PMR), paired-samples t-tests were conducted on a subgroup of participants ($n = 15$). Results showed significant improvements in both indicators. For PWB, scores increased from pre-intervention ($M = 112.73$, $SD = 2.71$) to post-intervention ($M = 117.60$, $SD = 2.61$), $t(14) = -4.55$, $p < .001$, $\eta^2 = .60$. For MSQ, scores decreased from pre-intervention ($M = 37.27$, $SD = 3.51$) to post-intervention ($M = 32.67$, $SD = 4.03$), $t(14) = 3.84$, $p = .002$, $\eta^2 = .51$. These results highlight that the addition of PMR produced further improvements, particularly in reducing menstrual symptoms.

Table 3: Summary of Mean, Standard Deviation, Standard Error, and Paired-Sample t-Test Results for Pre- and Post-Intervention [PMR] Scores on Psychological Well-Being (PWB) and Menstrual Symptom Questionnaire (MSQ) ($n = 15$)

Variable	Phase	Mean	SD	SE	t(df)	p-value	η^2 (effect size)
PWB	Pre	112.73	2.71	0.70	-4.55 (14)	< .001	0.60
	Post	117.60	2.61	0.67			
MSQ	Pre	37.27	3.51	0.91	3.84 (14)	.002	0.51
	Post	32.67	4.03	1.04			

The paired-samples t-test conducted on the subgroup of participants ($n = 15$) who received both psychoeducation and Progressive Muscle Relaxation (PMR) revealed significant improvements in psychological well-being (PWB) and menstrual symptoms (MSQ). For PWB, the mean score increased from pre-intervention ($M = 112.73$, $SD = 2.71$) to post-intervention ($M = 117.60$, $SD = 2.61$), and this difference was statistically significant, $t(14) = -4.55$, $p < .001$, with a large effect size ($\eta^2 = .60$), indicating that participants experienced a marked enhancement in psychological well-being after the intervention. Similarly, MSQ scores decreased from pre-intervention ($M = 37.27$, $SD = 3.51$) to post-intervention ($M = 32.67$, $SD = 4.03$), showing a statistically significant reduction, $t(14) = 3.84$, $p = .002$, with a large effect size ($\eta^2 = .51$), suggesting that the intervention was effective in reducing menstrual-related difficulties. Taken together, these results demonstrate that the combined use of psychoeducation and PMR not only

enhanced psychological well-being but also alleviated menstrual symptoms, with large effect sizes underscoring the practical significance of these improvements.

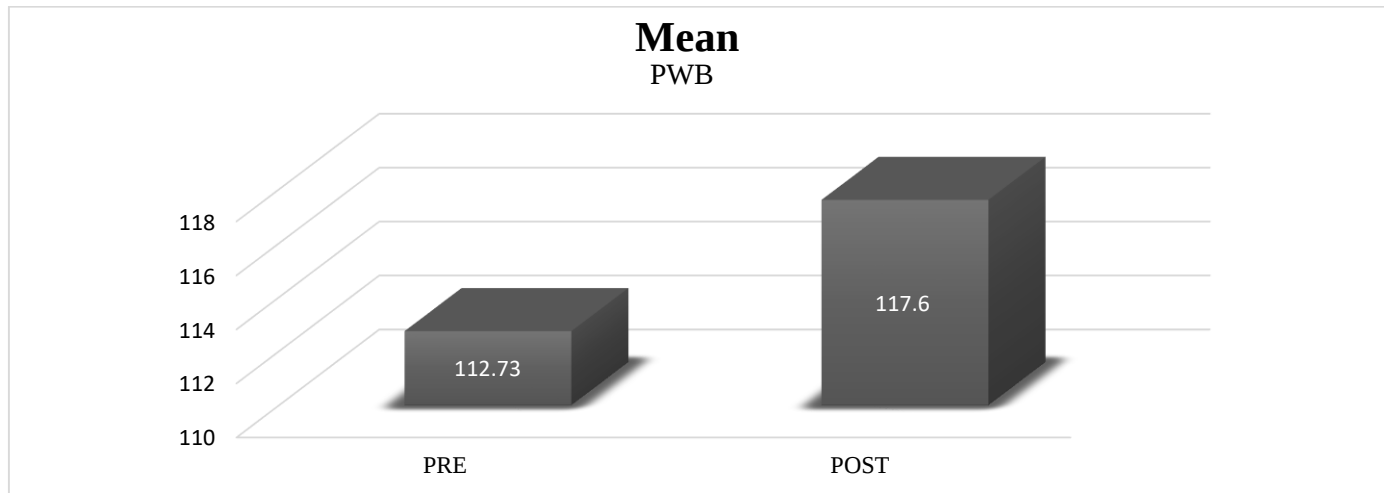


Figure.1: Mean Scores of Psychological Well-Being (PWB) in Pre- and Post-Intervention Conditions (N = 30).

Figure 1 illustrates the mean scores of Psychological Well-Being (PWB) among participants (N = 30) before and after the intervention. The graph indicates a notable improvement in well-being, with mean PWB scores increasing from the pre-intervention stage (M = 112.73) to the post-intervention stage (M = 117.60). This upward shift visually suggests that the intervention contributed positively to participants' psychological well-being, reflecting enhanced coping, resilience, and overall mental health following the program.

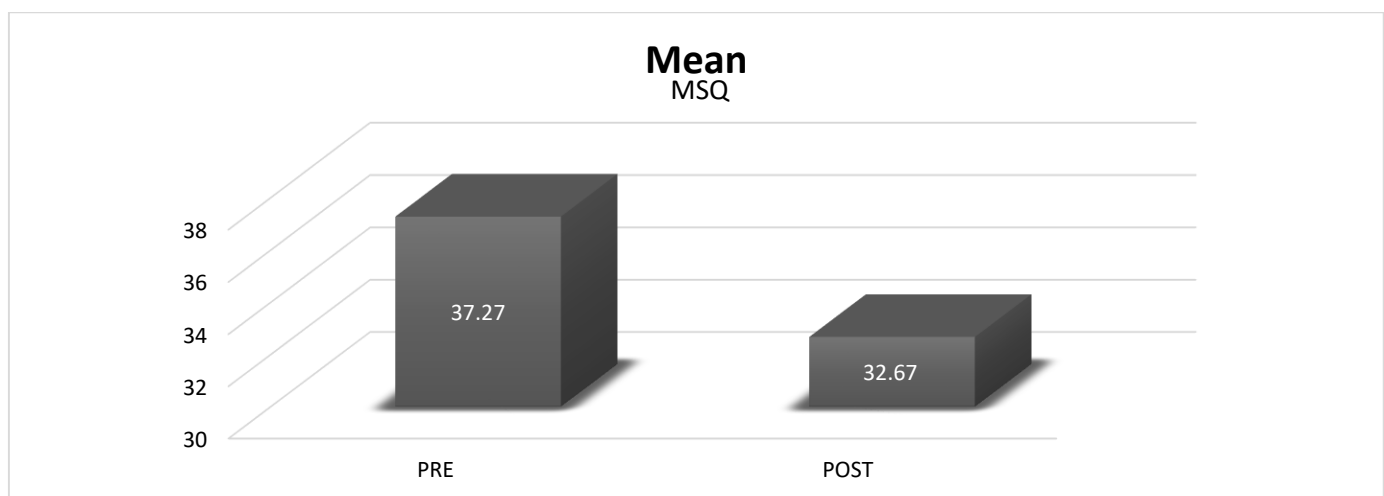


Figure 2. Mean Scores of Menstrual Symptom Questionnaire (MSQ) in Pre- and Post-Intervention Conditions (N = 30).

Figure 2 presents the mean scores of Menstrual Symptom Questionnaire (MSQ) among participants (N = 30) before and after the psychoeducation intervention. The graph indicates a clear decline in symptom severity, with mean MSQ scores decreasing from the pre-intervention stage (M = 37.27) to the post-intervention stage (M = 32.67). This downward shift visually supports the paired-samples t-test results, $t(14) = 3.84$, $p = .002$, $\eta^2 = .51$, confirming that psychoeducation was effective in reducing menstrual-related difficulties. The figure highlights how the intervention alleviated symptom severity, with participants reporting fewer and milder symptoms following the program.

DISCUSSION & CONCLUSION

The present study examined the effects of psychoeducation and Progressive Muscle Relaxation (PMR) on psychological well-being (PWB) and menstrual symptoms (MSQ) among female participants. The findings strongly supported the hypotheses, indicating that both interventions significantly improved mental and physical health outcomes. Specifically, results from paired-samples t-tests revealed a substantial increase in PWB scores and a marked reduction in menstrual-related difficulties following psychoeducation alone, as well as further improvements when PMR was introduced as an additional intervention.

For the full sample (N = 30), PWB scores improved significantly from pre- to post-intervention, with large effect sizes ($\eta^2 = .96$) confirming the powerful impact of psychoeducation on participants' overall well-being. At the same time, menstrual symptoms showed a categorical shift, with most participants moving from severe or very severe symptoms at baseline to mild or moderate symptoms post-intervention. This demonstrates that psychoeducation not only enhanced coping skills and emotional regulation but also played an important role in alleviating the physiological distress associated with menstruation. These results are consistent with prior studies highlighting the effectiveness of psychoeducation in increasing self-awareness, resilience, and adaptive coping strategies, which in turn contribute to improved health outcomes (Donker et al., 2009; Lucksted et al., 2011).

The subgroup analysis (n= 15) further demonstrated the added benefits of PMR when combined



with psychoeducation. Participants showed significant increases in PWB ($\eta^2 = .60$) and decreases in MSQ scores ($\eta^2 = .51$), confirming that the relaxation-based strategy complemented the cognitive benefits of psychoeducation. PMR likely reduced physical tension and stress-related bodily responses, thereby lessening the severity of menstrual symptoms. These findings align with mind-body frameworks (McEwen, 2007), which emphasize that psychological interventions targeting both cognitive and physiological domains are particularly effective in addressing stress and health-related challenges.

Taken together, the results highlight the transformative potential of integrative interventions such as psychoeducation and PMR in women's health. Psychoeducation provided participants with knowledge and strategies to understand and manage their symptoms, while PMR offered a physiological technique to relax the body and reduce discomfort. *As discussed with Dr. Aruna Maheshwari, these findings also reflect the importance of combining psychological insight with relaxation-based practices for holistic well-being.* The large effect sizes observed across both interventions underscore their practical significance, suggesting that such approaches can meaningfully enhance quality of life and reduce distress in young women experiencing menstrual difficulties.

In conclusion, this study demonstrated that psychoeducation is a highly effective intervention for improving psychological well-being and reducing menstrual-related symptoms, and that its effectiveness can be further enhanced when combined with Progressive Muscle Relaxation. These findings provide strong evidence for the use of low-cost, accessible, and non-pharmacological interventions in educational and community health contexts to support women's mental and physical well-being. While the outcomes are promising, future research should explore the long-term sustainability of these benefits, examine moderating factors such as stress, lifestyle, or cultural influences, and expand the sample size for greater generalizability. Overall, the study affirms the importance of psychoeducational and relaxation-based strategies as valuable tools in women's health promotion, offering both immediate relief and the potential for lasting improvements in psychological and physiological functioning.



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