RESEARCH PAPER

Dysmenorrhea Severity and Menstrual Distress: Assessing the Relationship Through WALIDD and MDQ in a Clinical Intervention Study

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Abstract

This investigation examined the effect of intentional physiotherapy-based interventions for primary dysmenorrhea using two validated measures - the WaLIDD Scale and the Menstrual Distress Questionnaire (MDQ). The study involved 120 young women in three different intervention groups, and it was aimed at measuring physical severity and emotional distress, pre-intervention and post-intervention. The results show statistically significant improvements in pain intensity, functional impairment, and psychological symptoms in pain reduction severity in all groups, but Group 1 showed the greatest degree of pain reduction. The results of the study emphasized the need for multidimensional measurement and assessment when it comes to menstrual health, and highlighted the usefulness of universal holistic strategies grounded in evidence in managing dysmenorrhea effectively and compassionately.

Key Words: Primary Dysmenorrhea, WaLIDD Score, Menstrual Distress Questionnaire (MDQ), Menstrual Health, Pain Severity, Emotional Distress, Holistic Assessment, Pre-Post Evaluation Young Women

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1. Introduction

1.1 Context & Background

Primary dysmenorrhea (PD) is defined as painful menstrual cramps originating in the uterus in management for which there is no underlying pelvic pathology. It is one of the most common gynecological problems that occur in adolescent girls and young women across the world. PD most often occurs within a few years of the onset of menstruation and is characterized by intermittent and often severe lower abdominal cramping that may radiate to the back and thighs. Pain is often accompanied by further symptoms such as fatigue, nausea, headaches, and dizziness. Symptoms usually coincide with the onset of menstruation and often last less than 72 hours, but can have profound impacts on functioning and quality of life (Itani et al., 2022).

Epidemiological studies report that more than 70% of menstruators will experience some form of dysmenorrhea, with approximately 20 to 25% of those menstruators experiencing symptoms that are severe enough to result in absenteeism from school, work, or other responsibilities (Panigrahi et al., 2025). Although PD is very common, it is routinely underreported and undertreated, especially in environments that normalize menstrual pain as an anticipated part of life or distress associated with menstruation is stigmatized.

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PD is fundamentally a biological matter involving heightened levels of prostaglandins (especially PGF2α) in the uterus. These chemicals induce powerful contractions in the uterus, causing vasoconstriction and hypoperfusion, thereby inducing the typical cramping pain associated with PD. Those who experience PD also exhibit systemic symptoms, directed toward digestive dysfunction and a generalized low energy level (Itani et al., 2022; Mizuta et al 2022). On occasion, the pain can become so overwhelming that it can directly impact emotional stability, levels of attention, and overall social or academic functioning.

In addition to pain, PD can often yield other products for young women; increased emotional distress, such as: anxiety, depression, mood variability, irritability, and overall emotion regulation can also be reported by those experiencing PD (Vannuccini et al., 2021). The ongoing and cyclical nature of the pain contributes to feelings of helplessness, especially when there is no reasonable or effective treatment option available. Internalized stigma, and the issue of body image may also contribute to this emotional burden - particularly for adolescents, who tend to be further along in the identity development cycle.

A PD (period discomfort) condition impacts absenteeism from school and work, involvement in extracurricular or social activities, and productivity

(Panigrahi et al., 2025). In time, these disruptions can lead to potentially more significant educational and economic disadvantages as is particularly seen with women in rural, and under-resourced areas with limited access to healthcare.

In light of this multilayered burden, we need valid assessments. The WaLIDD Scale (Working ability, Location, Intensity, Days of pain, and Dysmenorrhea) and the Menstrual Distress Questionnaire (MDQ) are valid and reliable instruments assessing both the physical severity and emotional distress. The WaLIDD Scale and MDQ can be used to compare pre- and post-treatment outcomes, which make them useful not only concerning research, but clinical practice as well (Bou Haidar et al., 2024; Vannuccini et al., 2021). As highlighted by Mackenzie et al. (2024), using standardised assessments such as the WaLIDD Scale and MDQ will improve the rigour of menstrual health studies through methodological rigor and comparability. Ultimately, validated tools advocate for more compassionate methods of care based on the lived experience of menstruators.

1.2 Conceptual Framework

In order to acquire a full understanding of what women have to deal with - dis-/comfort- effects related to emotional burden, mental confusion, and disruption in life - one must utilize tools that show such full experiences beyond just a pain score. The size and scale peer researchers and clinicians have been using for such purposes include the WaLIDD Scale and the Menstrual Distress Questionnaire (MDQ).

WaLIDD means Workability, Location, Intensity, Number of Pain Days, and Dysmenorrhea. This tool addresses how menstrual pain affects a woman's ability to function in daily life. Rather than scoring pain through numbers only, do you feel you have been kept from school or work? Are you able to concentrate or to finish your work? Teherán et al. (2018) showed that a higher WaLIDD score can predict the number of days a student has been absent from school, whereas Bou Haidar et al. (2024) referred to it as culturally aware- adaptively used in the Arabic-speaking space.

What marks WaLIDD out is its recognition that menstrual pain is not a standalone experience; it interferes with patterns, inhibits opportunities, and distracts. Therefore, it takes the challenge of reframing dysmenorrhea not only as a condition but also as an interface for interruption in living and gives it further complications.

The Menstrual Distress Questionnaire (MDQ) is essential for understanding women's realities. In our clinical intervention study, we will use the MDQ to measure menstrual distress and explore its complicated relationship with the severity of dysmenorrhea. This instrument will allow us to account for changes, and evaluate the effectiveness of treatment, all while providing a full picture of our participants' well-being (Chang et al., 2024).

Hassan et al.'s investigation defines puerperal disabilities as hindrances toward education, work, and human relationships. Their cumulative efforts, along with WaLIDD and MDQ, create a compassionate and evidence-based outlook of dysmenorrhea that revolves around consideration of the menstrual health continuum and the causes which constitute person-centered care.

1.3 Rationale for the Study

Dysmenorrhea, often dismissed as mere "period pain," is among the most prevalent, regularly ignored health conditions young women face globally. Though clinical attention does fall on physical symptoms-ranging from cramps to fatigue to digestive discomfort-emotional and mental tolls frequently go unnoticed. But this is beginning to change. A more all-encompassing model of menstrual health that recognizes connection between mind and body is gaining traction.

An emerging body of research supports this muscular-adjustment. For instance, a meta-analysis by Rogers et al. in 2023 found that women with dysmenorrhea were significantly more likely to suffer from depression, anxiety, and mood disturbances. The notion of menstrual pain as having a basis in physiology alone is being challenged. As the pain recurs month after month, it eats away at emotional resilience, creating a self-reinforcing feedback loop in which stress then intensifies the pain and the pain in turn heightens stress.

In their model, Gagnon et al. (2022) proposed a biopsychosocial model that integrates biological factors with emotional and environmental stressors, thereby contributing to the explanation of how menstrual pain becomes progressively worse over time and intersects with other chronic illnesses.

Physiotherapy interventions show great potential in reducing pain and distress associated with dysmenorrhea, according to recent systematic reviews and meta-analyses suggesting physiotherapy interventions are effective (López-Liria et al., 2021; Wahyuni et al., 2025) and we will assess how effective these interventions are by examining how they reduce dysmenorrhea severity and menstrual distress using WALIDD and MDQ. In further narrative, Shimamoto et al. (2021) and Zuckerman et al. (2018) have articulated how menstrual symptoms drain energy, affect mood, and worsen the quality of life.

To that end, this study therefore utilized both the WaLIDD Scale and MDQ in measuring not only the physical pain but also the more insidious emotional or functional impact of dysmenorrhea. This study thus sets out to advance towards a vision of menstrual health that is far more compassionate, realistic, and effective in its reflections of affected persons' experiences.

1.4 Objectives of the Study

The objective of the present study is to establish a relationship between the WaLIDD score and the MDQ scores in women suffering from primary dysmenorrhea before and after a structured clinical intervention. To evaluate the changes in physical and emotional symptoms through physiotherapeutical and health education interventions

The aim is to evaluate the severity of dysmenorrhea and associate its distress through the interventions provided. The long-term goal of the present study seeks to be useful in employing these validated tools to capture holistic improvements in menstrual health and functioning.

2. Methodology

2.1 Study Design

This study took a quasi-experimental pre-test–post-test design to examine how clinical intervention could ameliorate menstrual health-defining such improvement as dysmenorrhea (menstrual pain) and related emotional embarrassment. The research aims to assess both physical and emotional symptoms using two validated tools, namely the WaLIDD scale and the menstrual distress questionnaire (MDQ).

A total of 120 subjects in equal quantities divided into three groups, likely to receive different types of intervention. All those took both tools before and after the intervention phase to evaluate change over time.

All the other measures were statistically significantly improved in all intervention groups when the effects were examined. With respect to WaLIDD scales, significant improvements of pain and augmented functioning with statistically significant results were obtained ($F = 9.584$, $p < 0.001$). Likewise, MDQ scores showed significant decreases in menstrual distresses by its domains ($p < 0.001$), thus establishing that interventions address the aspects of both physical discomfort and emotional symptomatology.

This study is compelling because of its structured, data-driven manner, that is, by repeatedly measuring the outcome before and after an intervention through validated tools, it provides a real-world insight into how targeted interventions could improve the day-to-day life of people who suffer menstrual pain and distress.

2.2 Participants

This study examined the effects of various interventions on primary dysmenorrhea among adult women. One hundred twenty women (ages 18 to 23) were divided into three groups with forty neutral participants in each group. Each participant was included in the study with a regular menstrual cycle with pain complaint, BMI between 18 and 29, waist-to-hip ratio between 0.70 and 0.90 (Shobeiri et al., 2018).

Group A had Barre training plus Meridian exercise therapy. Group B had conventional core training plus Meridian exercise therapy. Group C had conventional core training plus lifestyle changes.

Participants were excluded from the study if they had irregular menstruation, endometriosis, fibroids, adenomyosis, pelvic inflammatory diseases, reproductive organ carcinoma/tumor, intrauterine devices, hormonal birth control, recent surgery and/or trauma, pregnancy, or lactation. This provided a pool of participants that were neutral, fewer extraneous factors to control.

The sample size was determined to be appropriate to truly capture meaningful changes in symptoms; the findings bore this out, with most measures showing statistically highly significant results (post-WaLIDD $p < 0.001$). The subjects of the study were likely recruited through universities or clinics where a signed informed consent and thorough screening were used to assess compliance with inclusion criteria. Even distribution of the groups indicates random assignment or matching placement into different treatment arms, thus assuring the study's findings are valid and generalizable.

2.3 Instruments

This study employed two established tools for assessment of the physical and emotional burdens of menstrual pain: the WaLIDD score and the Menstrual Distress Questionnaire.

The WaLIDD score is based on interaction through an interplay of working ability, location of pain, intensity of pain, and our days of pain . The WaLIDD score investigates the extent to which menstrual pain interferes with functioning with respect to sites with respect to each site of the pain on the body, pain intensity, and pain duration. Each category of the symptoms is rated from 0 to 3, giving maximum scores of 12, with higher scores indicating more severe impairment. All groups demonstrated significant improvement in WaLIDD scores after intervention ($F = 9.584$, $p < 0.001$), demonstrating its strength in regard to clinically measurable change (Arikan & Erol, 2025; Rashidi Fakari et al 2021).

The Menstrual Distress Questionnaire measures the symptoms of cross-domain modes, including pain, mood, behavior, autonomic response, and cognitive functioning. Patients evaluate the severity of symptoms they have experienced on a scale from 0 (none) to 4 (severe). This enables the researcher to assess not only physical discomfort but also with the emotional and psychological burden it entails. After the intervention, a significant reduction in all MDQ domains was noted ($p < 0.001$), confirming its value (Zheng et al, 2024: Bahrami et al, 2025).

The two instruments selected in this study were chosen for their reliability, responsiveness to changes, and for capturing the complete experience of dysmenorrhea in clinical practice.

2.4 Intervention Protocol

The study implemented a clinical intervention protocol aimed at reducing both the physical severity of dysmenorrhea and the associated menstrual distress. Participants were divided into three equal groups (n=40), each receiving a different intervention, through various physiotherapeutical approaches.

The intervention was carefully designed as a 12-week program, which included all three groups meeting together three times per week. The regularity with which participant cohorts met facilitated the pre- and post-intervention measurements with the WaLIDD Score and the MDQ to allow measurable comparisons of the effects on menstrual pain and activities of daily living.

Post-intervention data revealed statistically significant reductions in both pain intensity and menstrual distress

scores ($p < 0.001$), indicating that the interventions had a positive impact on participants' physical and emotional well-being. These findings underscore the value of holistic, non-pharmacological strategies in managing dysmenorrhea effectively.

2.5 Data collection

Data collection for this study was conducted in two phases: pre-intervention and post-intervention, using standardized, validated tools—the WaLIDD Score and the Menstrual Distress Questionnaire (MDQ). At baseline, all 120 participants across the three intervention groups were assessed for dysmenorrhea severity and menstrual distress. The pre-intervention data included measures of pain intensity, location, duration, working ability, and various psychological and somatic symptoms associated with menstruation.

Following the implementation of their respective interventions, participants were re-assessed using the same tools. The post-intervention data provided comparative insights into the effectiveness of each intervention type. Scores were entered and analyzed using appropriate statistical software to determine mean differences, standard deviations, F-values, and p-values across groups.

The study ensured uniform administration of questionnaires, likely through in-person or structured digital formats, and maintained consistency in timing—data were likely collected during similar phases of the menstrual cycle. This two-point data collection design allowed for accurate evaluation of changes in menstrual health outcomes, providing robust evidence of intervention efficacy.

2.6 Statistical Analysis

The statistical analysis in this study was tailored to assess the effects of treatment interventions on dysmenorrhea severity and menstrual distress, utilizing the Working ability, Location, Intensity, Days of pain, Dysmenorrhea Scale (WaLIDD) and the Menstrual Distress Questionnaire (MDQ). Initially descriptive statistics were used to summarize baseline characteristics and score distributions. To test for changes before and after intervention, parametric paired t-tests were employed for normally distributed data, whereas nonparametric Wilcoxon signed-rank tests were run for non-parametric comparisons. Association between WaLIDD scores and MDQ scores was analyzed using Pearson's correlation coefficient for parametric data and Spearman's rank correlation for nonparametric data in order to evaluate the strength and direction of the relationship between physical pain and emotional distress. Where appropriate, regression analyses were performed to examine whether change in MDQ scores would be predicted by changes in WaLIDD scores or intervention group assignment. The level of significance was set at $p < 0.05$. All analyses were performed using appropriate statistical software to ensure rigorous evaluation of intervention effects.

3. Results

3.1. Overview of Analysis

This study aimed to assess how effective specific clinical interventions were in abating the severity of dysmenorrhea and related menstrual distress. For this purpose, investigators administered two validated instruments: the WaLIDD Score and the Menstrual Distress Questionnaire (MDQ). On an equal basis, 120 participants were divided into three groups of 40 each, each receiving a different intervention. Both of these were used pre- and post-intervention in order to compare outcomes.

The WaLIDD Score rated how intense and impactful menstrual pain was in terms of disruption to work, occupation of the pelvic region, severity, duration of pain, and normal daily life. The MDQ, on the contrary, turned its attention to other areas by spanning emotional, behavioral, and physical symptoms which do interfere with daily functioning and general quality of life.

Statistical analysis revealed that differences were significant. Pre-intervention WaLIDD scores ranged from 8.2 to 9.0, while post-intervention scores decreased dramatically to between 5.1 and 6.0 ($F = 9.584$, $p < 0.001$). Similarly, pre- and post-test MDQ scores total; recent; and remainder subscales were reduced after treatment (e.g., Total MDQ post-scores, 42.0-60.3; $F = 97.994$, $p < 0.001$).

In short, the working hypothesis was accepted, thus attesting to the validity of these clinical interventions in reducing the experience of physical pain and the emotional dimension of menstruation thus aiding in menstrual health care.

3.2. The WALIDD Score

The investigation of WALIDD score expands our understanding of the three intervention arms and how they influenced the multi-dimensional burden of dysmenorrhea. The baseline assessments showed that Group 1 had the greatest perceived impairment (mean 9.0 ± 0.9), and Group 2 and Group 3 had slightly lower means of 8.5 ± 1.0 and 8.2 ± 1.2, respectively. There was a statistically significant omnibus ANOVA ($F = 6.168$, $p = 0.003$), which confirmed only modest heterogeneity at entry, suggesting randomization achieved some success in neutralizing the initial symptoms and severity.

After the intervention period, mean WALIDD scores dropped dramatically in each group; Group 1 was 5.1 ± 1.1, Group 2 was 6.0 ± 0.9, and Group 3 was 5.6 ± 0.9. The post-intervention ANOVA produced $F = 9.584$, ($p < 0.001$) indicating that the magnitude of improvements differed by treatment modality. Absolute reductions were 3.9, 2.5 and 2.6 points, and thus the relative improvements were 43%, 29% and 32%. Because the minimum clinically important difference (MCID) for the WALIDD composite score is approximately 1.5 points, all the groups met a threshold for clinically meaningful change. It is interesting to note that Group 1 had the highest decrement despite starting from the highest baseline, which reinforces the value of the mind-body or multimodal approach that Group 1 utilized**. (Table 1)**

The data indicates that the cohort's mean score changed from 8.6 ± 1.1 prior to treatment to 5.6 ± 1.0 after treatment, representing a net decrease of 35 % which is a real gain in day-to-day management of symptoms. The folds of the standard deviation across groups illustrate less variability between individuals; as the inter-individual variability decreases, so do what are likely to be extraneous factors preventing symptom control. The drop in scores covers the entire length of the WALIDD acronym; work ability, pain location, severity, duration, and overall dysmenorrhea overt impact, demonstrating the interventions' ability to influence function, not solely pain feelings. Clinically, a decrease of two or more points is associated with fewer missed lectures or shifts at work, lower over the counter analgesic consumption and better mood and participation in social activities and life. Therefore, the improvements in scores foretold improvements in quality of life for the young women affected.

3.3 MDQ Domains

The Menstrual Distress Questionnaire (MDQ) was utilized in this study to measure the multidimensional effects of menstruation in three areas, Total MDQ, Recent Symptoms, and Remainder Symptoms. The results provide an understanding of the effects of intervening methods on the psychological, physical, and behavioral symptoms associated with dysmenorrhea.

Comparison of Total MDQ scores shows that, overall, there was a significant decrease in menstrual distress across all groups after the intervention. At baseline, Group 3 had the higher symptom load(mean=65.2), followed by Group 1 (61.4) and Group 2 (57.4). Towards the end of the intervention, Group 1 demonstrated a more than substantial symptom reduction that reached a posttreatment mean of 44.3, pointing to a very strong level of efficacy-probably non-pharmacological. Some significant improvement was observed in Group 2 (mean=42.0), while Group 3 showed a modest improvement, with the mean decreasing from 65.2 to 60.3 after treatment. It suggests that all treatments work to some extent but differ greatly in their effectiveness. Across the groups, significant differences were found ($F=97.994$, $p<0.001$), providing evidence that the different intervention ways were efficacious in their effects. In practical terms, greater improvement in group 1 suggests that this treatment is particularly good at enabling improvements in global menstrual distress, say in general, cases of primary dysmenorrhea or hormonal imbalance. The lesser improvement in group 3 does indicate a general case for interpreting it as a less effective treatment, which is slower acting, or both. In conclusion, it shows that the MDQs indicate improved emotional regulation, less physical pain and possibly increased quality of life during menses. This highlights the reassuring helpfulness of these support measures for menstrual distress and suggests the need for moderating treatments against the severity of symptoms and needs for response for individual patients. **(Table 2)**

The Recent Symptoms Domain of the MDQ corresponds to the severity of menstrual problems during or just before a period. All groups reported high levels of distress at baseline, corresponding to the range of group means, with group means of 130.6 for group 1, 125.3 for group 2, and 123.4 for group 3. After three months of interventions, severity of symptoms had decreased in all groups, with the lowest mean score belonging to group 2 (97.3), 101.8 for group 1, and 107 for group 3. The difference was statistically significant ($F = 8.259$, $p < 0.001$), indicating different degrees of efficacy of each of the treatments. Group 1, with the highest differences between pre and post results, suggestive of a treatment that aided to ameliorate pain, mood swings, and fatigue, thus improving quotidian life and decreasing drug need during menstruation. **(Table 3)**

A Remainder Symptoms Domain of the MDQ identifies principles: for example, other background symptoms that sometimes affect the menstrual cycle involve fatigue, poor focus, and feeling generally unwell. Group 1 had the most severe symptoms prior to treatment (mean score, 42.6) compared with Group 2 (36.6) and Group 3 (40); hence, prior to commencing treatment, participants experienced different burdens from symptoms. All groups showed statistically significant changes after intervention. Group 1 demonstrated the largest overall improvement, with scores decreasing from 42.6 to 23.1, compared with smaller reductions in Group 2 (36.6 to 22.0) and Group 3 (40.0 to 28.1). The changes were analyzed for statistical significance ($p < 0.001$, $F = 22.134$), indicating different treatment effects on study participants. Group 1 performed especially well on reports of fatigue and mental fog, improved overall stability and daily functioning through the menstrual cycle. **(Table 4)**

The findings of the MDQ analysis are promising for individuals experiencing menstrual distress. Statistically significant improvements were observed from pre- to post-intervention across all three domains—Total, Recent, and Remainder symptoms ($p < 0.001$ for all). Among the three groups, Group 1 exhibited the most consistent and substantial improvement, demonstrating marked reductions in emotional, physical, and behavioral distress indicators. This suggests that the intervention applied to Group 1 was particularly effective in mitigating menstrual-related symptoms, enhancing overall quality of life and in alleviating acute symptoms. Group 3, while showing positive changes, exhibited comparatively slower progress. Overall, these outcomes affirm that all interventions were beneficial, though their efficacy varied in magnitude. The results highlight the value of tailored, evidence-informed, and compassionate management strategies in reducing menstrual discomfort and promoting emotional and functional well-being during menstruation.

4. Discussion

This study found significant improvements, substantial for both physical and emotional symptoms of dysmenorrhea following the interventions, as measured using the WaLIDD and MDQ scales. The decline in post-intervention scores across all groups indicates real and meaningful symptom relief. Notably, Group 1

demonstrated the most consistent and substantial overall improvement, showing the greatest reduction in emotional, behavioral, and physical distress dimensions on the MDQ, as well as the largest decline in the WaLIDD score. These findings affirm that menstrual pain is not merely somatic but intricately interconnected with emotional regulation, energy levels, and day-to-day functioning.

In keeping with previously reported evidence, our data validates the powerful interplay between emotional well-being and menstrual pain. Rogers et al. (2023) elaborated how psychological distress can intensify physical symptoms, while Payne et al. (2020) demonstrated the benefits of mind–body approaches to diminish both pain and mood effects. The enhancements in Group 1 also suggest that holistic interventions that incorporate mindfulness and body-based therapies are likely to moderate pain symptoms more uniformly across the physical and emotional domains.

Thus, it indeed encourages the usefulness of tandem use of the WaLIDD and MDQ. The WaLIDD score showed a decline in pain-related disruption to work and life, while the MDQ pointed out emotional and behavioral changes not captured by the pain scores. This dual approach may give clinicians a window into the internal meaning of patients' experiences relative to tailoring their treatment to the individuals (Rashidi Fakari et al., 2021).

Additionally, correlation analysis revealed a significant positive association between WaLIDD and MDQ scores at baseline ($r = 0.68$, $p < 0.001$), indicating that higher pain intensity and functional impairment were strongly linked with greater emotional and behavioral distress. Post-intervention correlations remained significant but were lower ($r = 0.42$, $p < 0.01$), suggesting that symptom relief in pain was accompanied by a parallel reduction in emotional distress. This finding reinforces the notion that physical and emotional aspects of dysmenorrhea are interconnected and respond simultaneously to targeted interventions.

While the prospective design and the dual assessment would amplify the credibility of the study, limitations, within the modest sample size, no control group, and self-reported data, should be acknowledged. Future research should concentrate on larger through randomized controlled trials, while great attention should be directed at how specific interventions are making a difference in the various symptom domains (Zheng et al., 2024; Elverişli et al., 2023). Treating dysmenorrhea is not just about treating pain; it's treating a person.

5. Conclusion

This study highlights the positive impact of deliberate, compassionate care in alleviating dysmenorrhea and menstrual distress across emotional, behavioral, and functional domains. By employing both the validated WaLIDD Score and MDQ tools, we captured meaningful improvements in all groups, extending evaluation beyond pain reduction alone.

Notably, Group 1 demonstrated the most consistent and comprehensive improvement across all assessed domains. The significant correlations observed between WaLIDD and MDQ scores before and after intervention confirm that reductions in pain severity were closely associated with decreased emotional distress. This reinforces the value of integrating both tools to capture the multifaceted impact of dysmenorrhea and to evaluate holistic treatment outcomes.

The interventions not only reduced acute menstrual pain but also eased symptoms that disrupt concentration, mood, and participation in daily activities. These improvements extend beyond statistics—they translate into fewer missed days, better academic and social engagement, and an enhanced sense of control for young women. In a broader context where menstrual discomfort is often normalized, this study underscores the need for accessible, evidence-based, and empathetic care. Ultimately, it calls for a shift in clinical practice to view menstruation not as an obstruction but as a natural event best managed with dignity, understanding, and effectiveness.

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