Original Article

Mitigating Symptoms of Premenstrual Syndrome and Enhancing Quality of Life among School Students

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ABSTRACT

Objective: To assess the effects of group counseling in mitigating symptoms of premenstrual syndrome, and examine the quality of life in students based on group counselling sessions.

Study Design: Quasi-experimental pre–post study

Place and Duration of Study: This study was conducted in the Lahore School of Nursing, The University of Lahore from March 2025 to June 2025.

Methods: In this study sample was of 44 female students was taken aged 13 to 16 years from Government Higher Secondary School City DG Khan after the permission of school authority. This study investigated the connection between group counseling interventions and the enhancement of quality of life among a sample of the students. The data was collected using the Premenstrual Symptoms Screening Tool (PSST) and WHO Quality of Life-BREF (WHOQOL-BREF).

Results: The total mean score on the Premenstrual Symptoms Screening Tool (PSST) decreased significantly from 35.02 to 29.20 (p<0.001). Significant improvements were noted across all domains, including affective (p=0.001), behavioral (p<0.001), cognitive (p=0.001), somatic (p=0.001), and functional impairment (p<0.001). Specifically, severe interference with education decreased from 15.9% to 2.3%. The general quality of life score saw a substantial increase from 80.43 to 91.70 (p<0.001). A Pearson correlation analysis showing negative correlations was significantly reduced. This suggests the intervention effectively mitigated the negative effect of symptoms on daily functioning, helping students build better coping abilities and adaptability.

Conclusion: Group counseling intervention is effective in significantly reducing PMS symptoms across all observed domains, including affective, behavioral, cognitive, somatic, and functional impairment. Early intervention can encourage positive attitudes toward premenstrual syndrome and help manage symptoms before they escalate into more severe conditions.

Key Words: Premenstrual syndrome, Group counseling, Quality of life

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INTRODUCTION

Menstruation is a normal physiological process, which is cyclically associated with the flow of endometrial and blood from uterus cavity. The physical and psychological symptoms that often accompany this episodic hormonal pattern are known as premenstrual syndrome (PMS). A constellation of cyclic and recurrent physical, cognitive, emotional, and behavioral symptoms affecting women which occur during the luteal phase of the menstrual cycle that commonly ends at or shortly after menstruation is referred to as premenstrual syndrome.[1]

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Menstrual discomfort, or dysmenorrhea, is brought on by the prostaglandins produced throughout the menstrual cycle and the adequate contraction of the uterine muscles to expel menstrual blood.[2] Premenstrual syndrome is a pathological state of premenstrual symptoms. Premenstrual syndrome which are a group of illnesses that can impair quality of life and cause difficulties with day-to-day functioning.[3]

The most frequently reported symptoms of PMS include mood fluctuations, anxiety or tension, feelings of sadness, abdominal bloating, breast tenderness, pain, headaches, body aches, reduced concentration, diminished interest in activities, social withdrawal, irritability, and a perceived loss of control. These symptoms may vary in severity and can be classified as mild, moderate, or severe.[4] The academic study and other facets of life were negatively impacted by somatic symptoms including lower backache, fatigue, breast soreness, etc., as well as certain psychological symptoms like loneliness, irritation, and outbursts of wrath. Both, doing daily tasks and paying attention in class become difficult as a result of this. This makes

determining how much PMS affects students vital to take the appropriate steps to lessen it.[5]

Premenstrual mood and physical symptoms are prevalent and have a big impact on students' lives. Nevertheless, approximately 20% of women are thought to experience premenstrual symptoms of sufficient severity to be considered clinically significant.[6] The excess consumption of certain foods increases inflammation in the body, impacting a person's mental health. Consuming these meals regularly makes the inflammation worse. Numerous lifestyle factors, including inactivity, sleep deprivation, caffeine use, and eating unhealthy meals, have been linked to PMS, according to a study.[7] Menstrual issues like PMS can affect students' academic performance, emotional well-being, and quality of life. Over 2.5 million women are thought to suffer from irregular menstruation each year. Ovulation and hormones are thought to be the causes of PMS imbalances, as well as elevated prostaglandin synthesis, which results in uncomfortable uterine contractions and reduced blood flow. The literature documented a high correlation between the intensity of PMS symptoms and quality of life. The issues because of PMS led to a decrease in academic performance, social life problems, and school absences.[8]

Quality of life is greatly impacted by premenstrual syndrome. Physical discomfort, mood swings, and burn out are examples of disruptive and periodic symptoms that can cause decreased productivity, elevated stress levels, and emotional difficulties. Improving self-care, increasing knowledge, and putting focused interventions into place is essential for enhancing the general quality of life.[9] Engaging in regular physical activity is highly effective for women in managing stress and promoting chemical balance in the brain. Exercise helps by increasing endorphin levels and lowering adrenal cortisol, which can reduce PMS-related discomfort, enhance pain tolerance, and improve mood by decreasing anxiety, sadness, and other associated issues. Exercises such as walking, cycling, swimming, and jogging are believed to be an excellent ways to control premenstrual syndrome and reduce stress.[10] In certain countries, including Pakistan, women demonstrated lower awareness of PMS compared to their counterparts in Europe which needs to be addressed.[11]

Health professionals need to have a thorough understanding of nutrition and health in order to educate women about the multiple factors affecting PMS and the importance of training and guidance in self-care strategies for its management.[12] Premenstrual syndrome was observed to occur more frequently among students. Group counseling was shown to be highly effective in alleviating PMS symptoms. Some participants suggested that increasing public discussion about PMS could help raise awareness and promote acceptance (e.g. make it more spoken about in public). Premenstrual syndrome clinical manifestations and their impact on daily living activities were studied in Pakistani women. The serious effect of PMS on day to day activities was found to be highly significant. Girls frequently do not get the education they need about menstruation. In Pakistan, girls have a generally bad experience at menarche and during the reproductive years that follow due to a lack of understanding, widespread misconceptions, and the social taboo around menstruation and premenstrual symptoms. The goals of treatment are symptom reduction, and improvement in daily life functioning.[13]

METHODS

This quasi-experimental study was conducted Lahore School of Nursing, The University of Lahore from 1st March 2025 to June 2025. vide letter No. 70146519 date 17th March 2025. In this study sample was of 44 female students was taken aged 13 to 16 years from Government Higher Secondary School City DG Khan after the permission of school authority.

The effects of group counseling among students with premenstrual syndrome and improvement in their quality of life with all its outcomes were observed. A total of 44 students were included. An overall of three tools consisted of the sociodemographic, which includes name, age, education, Premenstrual Symptoms Screening Tool (PSST), which contained 19 items and QOL was measured by the WHOQOL-BREF, which consisted of 26 items. It was rated on a 5-point Likert scale. Before the intervention, they accomplished a structured pre-intervention questionnaire that involved informed consent, demographic information (name, age, and education), PSST, and WHOQOL-BREF Questionnaire for data collection. Likewise they were assessed by PSST and WHOQOL-BREF Questionnaire after intervention for pre-post comparison. The data was entered and analyzed through SPSS-23. A combined sample T-test was practical to compare the status of pre-post data related to PMMS and WHOQOL-BREF having 4 and 8 domains respectively. P-value ≤ 0.05 was statistically significant. Shapiro-Wilk for normality of the PSST and quality of life domains were applied. The paired t-test was used to compare Quality of Life and PMS symptoms before and after the intervention. The significance levels of the results in the study is $p < 0.05$.

RESULTS

There were 90.9% of participants aged 14 to 15 years with mean age was 14.6 years. The majority were enrolled in the tenth grade (n=27; 61.4%), while the remaining 38.7% (n=17) were in the ninth grade. 59.1% (n=26) were recruited from the Government Higher Secondary School (City), and 40.9% (n=18) from the Center of Excellence (Table 1).

The intervention resulted in a highly significant reduction in overall PMS symptom severity, with mean PSST scores decreasing from 35.02 to 29.20 ($p<0.001$). Behavioral symptoms and functional impairment showed the most considerable improvements, indicating a widespread reduction of emotional and physical distress (Table 2).The students showed a statistically significant increase across all WHOQOL-BREF domains, with the overall quality of life score rising from 80.43 to 91.70 ($p<0.001$). The major enhancements occurred in physical health and sleep satisfaction, suggesting that reducing somatic symptoms directly translated into better daily functioning (Table 3). A Pearson correlation analysis was performed to determine the linear associations between the five domains of the Premenstrual Symptoms Screening Tool (PSST) and the four domains of the WHOQOL-BREF. The results indicate a significant statistical relationship between premenstrual distress and quality of life, which indicate a profound shift following the counseling intervention (Table 4).

Table No. 1: Sociodemographic data (N=44)

Variable	No.	%
Age (years)		
13	4	9.1
14	19	43.2
15	21	47.7
Class		
Ninth	17	38.7
Tenth	27	61.4
Institute		
Govt. Higher Secondary School	26	59.1
Center of Excellence	18	40.9

Table No. 2: Mean of different domains of PMS Symptoms pre-post Intervention (N=44)

PSST Symptom Domain	Pre-Test	Post-Test	Mean difference	p-value
Affective Symptoms	7.23±2.32	6.00±2.32	1.23	0.001
Behavioral Symptoms	6.11±2.17	4.86±2.17	1.25	<0.001
Cognitive Symptoms	3.82±1.42	3.07±1.42	0.75	0.001
Somatic Symptoms	9.18±2.25	7.98±2.25	1.20	0.001
Functional Impairment	8.68±2.01	7.30±2.01	1.39	<0.001
Overall PSST Score	35.02±6.91	29.20±6.91	5.82	<0.001

Table No. 3: Mean of different domains of WHOQOL-BREF pre-post Intervention (N=44)

QOL Domain	Pre-Test	Post-Test	Mean difference	p-value
Physical Health	22.86±4.54	27.09±4.54	–4.23	<0.001
Psychological Health	18.41±4.94	22.23±4.94	–3.82	<0.001
Social Health	11.77±2.45	12.66±2.45	–0.89	0.021
Environmental Health	27.39±5.63	29.73±5.63	–2.34	0.008
Overall QOL Score	80.43±10.18	91.70±10.18	–11.27	<0.001

Table No. 4: Pearson Correlation between PSST Domains and WHOQOL-BREF (Pre / Post Intervention, N=44)

PSST Item	Mean ± SD (Pre/Post)	Physical (Pre/Post)	Psychological (Pre/Post)	Social (Pre/Post)	Environmental (Pre/Post)	Overall QOL (Pre/Post)
Affective	7.23±2.3/6.00±2.3	-.496**/-.207	-.474**/.205	.149/.168	.078/-.132	-.359*/-.077
Behavioral	6.11±2.2/4.86±2.2	-.475**/.192	-.276/-.161	.139/-.233	-.058/.228	-.323*/.153
Cognitive	3.82±1.4/3.07±1.4	-.550**/-.087	-.336*/-.061	-.096/-.213	-.120/.381**	-.455**/.196
Somatic	9.18±2.3/7.98±2.3	-.597**/-.007	-.352*/-.014	.237/-.020	.214/.133	-.278/.095
Functional	8.68±2.0/7.30±2.0	-.441**/-.111	-.324*/-.025	.259/.132	.065/-.020	-.253/-.047
Overall	35.02±6.9/29.20±6.9	-.512**/-.044	-.352*/-.011	.137/.033	.019/.118	-.333*/.064

** Relationship is significant at the 0.01 level (2-tailed); * Significant at the 0.05 level (2-tailed)

DISCUSSION

The premenstrual syndrome (PMS) is a multidimensional illness that impacts the emotional, behavioral, cognitive, somatic, and functional well-being of women and it is known that quality of life is highly disrupted. The major purpose of the research

was to determine the effectiveness of the intervention in decrease of PMS symptoms and quality of life among the participants. The findings indicated a statistically significant reduction in the severity and quality-of-life outcomes of PMS symptoms pre-intervention and post-intervention ($p<0.05$). In all domains, most of the participants reported mild or moderate PMS symptoms before the intervention and a significant proportion of the participants reported severe symptoms. At the affective domain, 54.5% of all participants reported moderate levels of anger and irritability, and 36.4% reported moderate levels of anxiety and tension. Tearfulness and emotional sensitivity were also likely, with almost one-third (29.5) having severe symptoms. Low back discomfort was the most reported premenstrual symptom in 72% of females, with headaches (22%), poor mood (40%), and body edema (18%). Also, the participants cited social obligations and an apparent household chores derailment is (37%). This is in line with past[14] where 33.5% of senior high school students had prevalence of PMS. The most prevalent somatic symptom and affective symptoms were unable to concentrate and fatigue respectively.[14] Such behavioral symptoms as lack of interest in work (43.2% moderate, 31.8% severe) and household activities (38.6% moderate to severe) were the leading ones, which means that motivation and productivity are impaired. Cognitive symptoms, especially issues with concentration (43.2% moderate) and somatic symptoms, like fatigue (54.5% moderate), physical discomfort (52.3% moderate) indicate the all-inclusive effect of PMS on the day-to-day functioning. The results of our research are in line with a study which identified that women who had the symptoms of pre-menstrual syndrome had problems that affected their capacity to pursue occupations such as self-care, productivity and leisure which interrupted their work routine and interpersonal relationship.[15] After the intervention, the level of symptoms severely reduced in all domains. The severity of affective symptoms improved significantly and severe anger and irritability dropped to 11.4% to 2.3% and severe tearfulness dropped to 29.5 to 4.5. Behavioral symptoms also improved, disinterest in work reduced to severe (31.8) to mild (11.4), and household activity impairment also had reduced to severe (38.6) to mild (6.8). Cognitive symptoms were dominated by mild levels and somatic symptoms were significantly improved, especially fatigue which fell to 2.3% compared to the 34.1%. The functional impairment also declined, and severe educational interference dropped to 2.3% down to 15.9%. These results are in line with other studies that have employed positive approach to counseling has proved to be effective in reducing severity of PMS symptoms in the short run. Although any woman can be the beneficiary of such interventions, focusing on adolescents is especially a winning move because early interventions can contribute to a positive attitude toward menstruation.[16]

Participants were reporting an average overall quality of life, better social and environmental support, and deteriorated psychological well-being before the intervention. Even though 27.3% of them rated their quality of life as extremely good, a high percentage said they had negative feelings including anxiety and low mood very frequently (45.5%). and other psychological and physical symptoms. 66.2% of the respondents said that PMD symptoms had a negative influence on daily activities. Health-related issues such as headaches, chronic pain, diabetes, thyroid disorders, gynaecological and mood disorders were also shown to have a significant relationship with certain PMS symptoms, such as painful/swollen breasts and food cravings.[17] Quality of life after the intervention also increased particularly across all domains of the WHOQOL-BREF. There was a significant improvement in physical health. The level of psychological health was significantly enhanced, which can be measured by the fact that the enjoyment of life, self-satisfaction, concentration, and emotional distress were improved. The entire quality of life improved substantially by 80.43 to 91.70 ($p<0.001$).These results are consistent with earlier studies showing that effective PMS management is associated with improved physical, emotional, and social well-being. Group counseling improved the students' quality of life and lesser severity of the Premenstrual Syndrome symptoms.[18]

Somatic symptoms demonstrated the strongest negative association with physical health, while affective and cognitive symptoms were closely linked to poorer psychological well-being. Overall quality of life was negatively affected by all PMS symptom domains, with cognitive symptoms exerting the greatest impact. These findings support previous evidence that menstrual disorders were highly prevalent with negative effects on QOL and class attendance.[19] After the intervention, these negative correlations were substantially reduced. PMS symptoms exhibited weak or negligible associations with physical, psychological, and overall quality of life, suggesting that the intervention mitigated the adverse effects of PMS on daily functioning. The findings indicate improved coping ability and resilience among participants, allowing better maintenance of quality of life despite residual symptoms. A study revealed that after intervention for coping with premenstrual symptoms it found to decrease symptoms and improve quality of life.[20]

CONCLUSION

Premenstrual syndrome is a common syndrome among students. The negative relationship between the symptoms of PMS and the quality of life was lowered significantly. Regarding the effectiveness of group

counseling in this study, it can be used to improve the students' quality of life and symptom severity among students with premenstrual syndrome.

Author's Contribution:

Concept & Design or acquisition of analysis or interpretation of data:	Sidra Muzaffar Gondal, Muhammad Saifullah
Drafting or Revising Critically:	Sidra Muzaffar Gondal, Sarfraz Masih
Final Approval of version:	All the above authors
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