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Premenstrual symptoms as predictor of quality of life in reproductive-aged women of Rawalakot, Azad Kashmir: A cross sectional study

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Abstract

Objective: To determine the predictive role of premenstrual symptoms in reproductive-aged women's quality of life.

Methods: The cross-sectional study was conducted in Rawalakot, Azad Kashmir, from September 2017 to January 2018, and comprised married women aged 20-45 years. Urdu versions of Greene Climacteric Symptoms Scale and World Health Prganisation Quality of Life scale were used. Data was analysed using SPSS 23.

Results: Of the 300 women with a mean age of 32.59±7.12 years, 245(81.7%) had a regular menstrual cycle. There was significant negative relationship between premenstrual symptoms and all domains of quality of life ($p<0.05$). Somatic symptoms were predominantly affecting the quality of life in more negative manners compared to other symptoms ($p<0.05$).

Conclusion: Premenstrual symptoms disturb the daily activities of reproductive-aged women and adversely affect their educational, occupational and psychosocial functioning.

Key Words: Premenstrual symptoms, Quality of life, Reproductive-aged women.

Introduction

According to the Pakistan Bureau of Statistics (PBS),[1] females comprise 49% of the total population, in which 22.33% of the women belong to 15-45 years of reproductive age. The welfare of family, community and country at large rely on the wellbeing and productivity of this group. The premenstrual stage is a significant cycle that each woman experiences in her life, which is associated with some symptoms and signs due to hormonal imbalances, i.e., excess of oestrogen hormone and deficiency in progesterone.[2] These premenstrual signs or symptoms integrate into a series of somatic, cognitive, emotional and mood alterations that occur periodically in the luteal phase 7-10 days before menses of the menstrual cycle, and lessen or diminish with menstruation.[3] It has been observed that approximately 80-90% of females of childbearing age experience premenstrual symptoms.[4] Approximately 40% of women experience premenstrual/menstrual symptoms of a mild nature and only 2–10% report severe symptoms.[5]

Premenstrual symptoms adversely affect the quality of life (QOL) and wellbeing of reproductive-aged women[6]. These premenstrual symptoms are a serious cause of inefficiency and are also linked with poor productivity at workplace. They also lead to poor quality of work-life, difficulties in domestic work, relation with friends, dealing with colleagues, school or university attendance, family relationships, sexual life and at least one absence from school or college and job.[7,8,9]

A study on 402 women aged 15-49 years from Karachi, Lahore and Islamabad revealed that almost 80% women suffered from some premenstrual symptom. It noted that physical symptoms prevailed high in Pakistani women during their premenstrual experience and had an adverse effect on their activities of daily life, such as domestic chore, peer relation, professional relation, attendance at school or university, family relation, work performance, sexual relation, and free time activities. Overall, 81.3% women did not use any medication to relieve these symptoms, 17.4% used analgesics, and only 1.2% women used various medications, including homeopathic medicines, multivitamins, herbal preparations, antidepressants, and combined contraceptive pill. Lack of energy and muscles weakness were the most common symptoms.[10]

One study explored the healthcare-seeking behaviour of premenstrual symptoms and dysmenorrhoea in 1236 females aged 16-50 years from different hospitals, nursing and medical colleges of Islamabad and Rawalpindi cities. It found that 72% females reported low back pain as the most prevalent premenstrual symptom whereas 40% were with depressed mood, 22% headache, and 18% reported body swelling. The participants also reported social obligations and significant disturbance in domestic chores (37%).[11]

As reproductive-aged women consider premenstrual symptoms normal which decline their productivity in all domains of life, this paradigm should be further investigated. The current study was planned to determine the predictive role of premenstrual symptoms in QOl of women. It was hypothesised that psychological, somatic, and vasomotor premenstrual symptoms were negative QOL predictors of reproductive-aged women.

Subjects and Methods

The cross-sectional study was conducted in Rawalakot, Azad Kashmir, from September 2017 to January 2018, After approval from the ethics review committee

of Preston University, Islamabad, the sample size was calculated with the help of G*power 3.1 for Mac system[12] to obtain sufficient power for multiple regression analysis with a medium standardised effect size (f2) 0.15, power 0.95, and alpha level 0.05 with 3 estimated predictors. Previous studies have reported a wide range of sample from 168 to 500 and even more.[7,10]

The sample was raised using **c**onvenience sampling from the community, approaching potential subjects at their homes and workplaces. Those approached were married women aged 20-45 years. Minimum education of the participants was up to the 8th grade and had to have an intact family. Women with divorce or separation were excluded, and so were those with psychopathology, serious medical condition, and irregular menstrual cycles.

After taking written informed consent, data was collected using a demographic sheet related to age, level of education, marital duration, age when got married, monthly family income, employment status, occupation, menstruation status (regular/irregular), history of any medical disease/psychological illness.

Subsequently, the Urdu version of Greene Climacteric Symptoms Scale (GCSS) [13] was used to measure premenopausal/premenstrual symptoms. The 21 items are answered on a 4-point Likert scale, ranging from 3 (extremely present) to 0 (not at all). It has 3 subscales; psychological symptoms (11items), somatic symptoms (7 items) and vasomotor symptoms (2 items). Item 21 explores sexual dysfunction. High scores indicate high experience of symptoms related to menopause and low scores indicate less experience of symptoms. Alpha reliability of the scale ranged from 0.71 to 0.59.

Also used was the Urdu version of the World Health Organization (WHO_ Quality of Life-Brief scale.[14] The scale has 26 items scored on a 5-point Likert scale (5 = extremely satisfied to 1 = extremely dissatisfied). It has four domains: physical, psychological, social and environmental. The first two items measure the whole

QOL of the respondent. Higher score on WHOQOL-Brief shows high QOL on each domain. The alpha reliabilities of the sub-domains ranged from 0.83 to 0.58. Administration of all the measures for a single participant was done in around 50-60 minutes. Data was analysed using SPSS 23. Descriptive statistics were used and multiple regression analysis was conducted to see the predictive role of somatic, psychological and vasomotor premenstrual symptoms on QOL physical, psychological, social and environmental domains.

Results

Of the 300 women with a mean age of 32.59±7.12 years, 245(81.7%) had a regular menstrual cycle, 115(38.3%) were educated up to high school, 45(15%) higher secondary school, 70(23.3%) undergraduate, and 70(23.3%) were postgraduate, whereas 129(43%) were working women.

Premenstrual symptoms were found to be negatively correlated with QOL (Table 1). Multiple linear regression showed that only somatic symptoms were significant negative predictor of all QOL domains ($p<0.05$) (Tables 2-5). The magnitude of the model fit for somatic symptoms revealed significant relationship by contributing 50% of the variability in the physical domain ($p<0,05$), 32% in the psychological domain, 7% in social and 2% in environmental domains of QOL.

Discussion

The study explored the impact of premenstrual symptoms on married women's QOL because these symptoms can hinder with the regular functioning of a female, like social, professional, interpersonal and even sexual functioning, and these are not associated with any organic and functional disease.[4] There are some cultural taboos attached with menstruation in our society, as enstruation indicates entery into adulthood and families tend to additionally impose strict rules on women's

social behaviour. Most of the women of childbearing age experience psychological and physical premenstrual symptoms,[15] and it might also cause a conflict in women's attitudes towards menses that is articulated negativity.

It was hypothesised that premenstrual symptoms were negatively related to QOL of women. Correlational analyses indicated that premenstrual symptoms were negatively associated with QOL, and the findings also confirmed the link between somatic, psychological and vasomotor symptoms and physical, psychological, social and environmental aspects of women's life. These results are in the line with existing literature on the subject.[6,8.16] Physical changes were the most prevalent premenstrual symptoms in Pakistani women which significantly affect their daily life activities.[4,8] The most often pronounced somatic premenstrual cyclical symptoms involve fatigue, backache, muscle and joints pain, headache and abdominal bloating, whereas the most often reported emotional and psychological signs encompass distress, tiredness, lethargy, low energy level, mood swings, depression, lack of interest in everyday tasks, anger, changes in appetite and lack of attention and concentration.[17,18,19] Limited research literature is available to address the premenstrual problems in Pakistani women, as most of the studies have focussed on prevalence, severity, symptomology and effects on daily activity of women with premenstrual syndrome (PMS) and/or premenstrual dysphoric disorder (PMDD).[10,20,21]

It was also hypothesised that premenstrual symptoms negatively predicted QOL in women. The results suggested that somatic symptoms were significant predictor for the QOL in reproductive-aged women of Rawalakot. Married women report the greater influence of somatic premenstrual cyclical symptoms on activities of daily life, work level, family relationship, and at least one absence from school or college and job.[7,8] Similarly, a study suggested that premenstrual symptoms significantly affect women's household functioning as well as their performance at

job or workplace. Apart from it, relation with family members and spouse are also affected during their premenstrual cycle.[22] A 2014 cross-sectional study on a sample of 258 females aged 18-25 years assessed the prevalence, impact and management of premenstrual symptoms, and results demonstrated that premenstrual symptoms were prevalent in 37% women. Physical symptom abdominal bloating and psychological symptom loss of interest in work responsibilities were most commonly reported. About 28.3% females report absence from school or class due to premenstrual symptoms. Also, the results indicated that treatment methods for premenstrual symptoms used included painkillers, massage, hot coffee or tea and exercise. The study also concluded that these symptoms had a negative impact on work responsibilities.[17] Comparable results were reported in another cross-sectional study on 240 females aged 17-25 years. It concluded that premenstrual symptoms had significant negative impact on QOL of the participants.[23]

The current study highlighted the adverse effects of premenstrual symptoms on women's daily life. Clinical practitioners and pharmacists should improve the identification and management of such common conditions by educating women on premenstrual symptoms and by counselling women on lifestyle interventions and pharmacotherapy to alleviate their distress. The current study will be helpful for young females to understand the impact of premenstrual symptoms and it will certainly provide psychological awareness to healthcare officials and psychologists to understand the negative influence of premenstrual symptoms. Literature[24,25] also suggested that relaxation techniques, spousal social support, and mindfulness-based practices lead to improvements in psychological and physical premenstrual symptoms.

Conclusion

Premenstrual somatic symptoms, like headache, fatigue, backache, muscle and joints pain, abdominal bloating, etc., negatively affected all aspects of females' life, their psychological and physical wellbeing, their social life and even made them inefficient in terms of having a control on their environment during this phase.

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Table 1: Correlation between premenstrual symptoms and quality of life.

Variables	Quality of Life			
	Physical Domain	Psychological Domain	Social Domain	Environmental Domain
Psychological Symptoms	-.62**	-.44**	-.23**	-.05
Somatic Symptoms	-.70**	-.56**	-.27**	-.12*
Vasomotor Symptoms	-.45**	-.31**	-.15*	-.06

*P< 0.05, **P< 0.01,

Table 2: Association of quality of life (physical domain) with premenstrual symptoms

Variables	Unstandardised Coefficients		Standardised Coefficients	t-statistics	P-value
	B	Std. Error	Beta		
(Constant)	27.831	.554		50.267	.000
Psychological Symptoms	-.118	.070	-.125	-1.681	.094
Somatic Symptoms	-.484	.064	-.548	-7.567	.000
Vasomotor Symptoms	-.315	.182	-.087	-1.733	.084

Table 3: Association of quality of life (psychological domain) with premenstrual symptoms

Variables	Unstandardised Coefficients		Standardised Coefficients	t-statistics	P-value
	B	Std. Error	Beta		

(Constant)	20.539	.529		38.856	.000
Psychological Symptoms	.058	.067	.075	.864	.388
Somatic Symptoms	-.439	.061	-.606	-7.186	.000
Vasomotor Symptoms	-.109	.173	-.037	-.626	.532

Table 4: Association of quality of life (social domain) with premenstrual symptoms

	Unstandardised Coefficients		Standardised Coefficients		
Variables	B	Std. Error	Beta	t-statistics	P-value
(Constant)	9.646	.239		40.346	.000
Psychological Symptoms	-.011	.030	-.036	-.359	.720
Somatic Symptoms	-.067	.028	-.240	-2.436	.015
Vasomotor Symptoms	.001	.078	.001	.013	.990

Table 5: Association of quality of life (environmental domain) with premenstrual symptoms

	Unstandardised Coefficients		Standardised Coefficients		
Variables	B	Std. Error	Beta	t-statistics	P-value
(Constant)	21.810	.843		25.881	.000
Psychological Symptoms	.149	.107	.145	1.392	.165
Somatic Symptoms	-.216	.097	-.225	-2.223	.027
Vasomotor Symptoms	-.085	.277	-.022	-.307	.759