EFFECTS OF PREMENSTRUAL SYNDROME (PMS) ON PSYCHOLOGICAL DISTRESS WITH SOCIAL SUPPORT: A MODERATION MODEL

Noor Zainab[*1], Hira Fatima[2], Mishal Zoha[3], Noor Fatima Aziz[4]

[*1]Clinical Psychologist; [2]Lecturer Gift University Gujranwala; [3]M.Phil. Scholar Gift University Gujranwala; [4]M.Phil. Scholar Gift University Gujranwala

[*1]nzainab648@gmail.com; [2]hira.fatima@gift.edu.pk; [3]mishalzoha48@gmail.com; [4]noorf0808@gmail.com

Corresponding Author: *

ABSTRACT

The current study investigates the relationship between premenstrual syndrome and psychological distress with the moderating role of social support. The main objective of the current study was to examine how premenstrual syndrome increase the psychological distress and social support decrease the psychological distress. The data were collected from a sample of N=300 females was included in the study. The purposive sampling was used for collection of sample. The scales used to measure the variables are, The Premenstrual Symptoms Screening Tool (Steiner et al., 2003), Berlin Social Support Scale (Schwarzer & Schulz, 2000) and Depression Anxiety Stress Scale-21(Lovibond et al., 1995). Findings of Pearson correlation shows that premenstrual syndrome had a weak, negative and non-significant relation with social support, significantly positive moderate relation with psychological distress. Social support had a significant, negative and weak relation with psychological distress. Furthermore, findings of regression indicate that premenstrual syndrome is significantly positively predicts the psychological distress explained by 32% variance in psychological distress. Present study also reveals that there was no age difference in premenstrual syndrome. Furthermore, the moderation analysis found that social support had a significant moderation effect on premenstrual syndrome and psychological distress. This shows that the relationship between premenstrual syndrome and psychological distress is fully moderated by social support. So, overall all the findings of research are consistent with previous literature.

Key words: Premenstrual Syndrome, Social Support, Psychological Distress.

INTRODUCTION

Premenstrual Syndrome (PMS)

Frank's 1931 description of the painful symptoms that women experience cyclically before menstruation was the first to be published. Since then, significant effort has been made to characterize this premenstrual syndrome (PMS) clinically and define its pathophysiology. It has long been understood that a temporary worsening in women's interpersonal interactions frequently occurs during the premenstrual week when they become agitated, anxious, or depressed. Such a transformation has been linked to criminal activity, baby abuse, and marital strife. The impact of premenstrual syndrome on absenteeism and productivity at work has

received attention as women's roles in the workforce grow. According to observations, 36% of 1,500 women in one facility sought sedation during the premenstrual week, and estimates indicate that Premenstrual syndrome related absences cost the economy $5 billion in 1969 alone. There are more psychiatric admissions, accidents, and suicide attempts among women during the premenstrual phase, despite the fact that the link between premenstrual syndrome and intellectual impairment has not been conclusively shown. Premenstrual syndrome (PMS) is a blend of emotional and physical signs that emerge during the luteal phase of the menstrual cycle (approximately up to 14 days

before menstruation). It's also characterized by symptoms that typically stop when menstruation concludes, leading to a symptom-free interval until ovulation. To distinguish between normal menstrual symptoms and premenstrual syndrome, the medical practitioner must conduct a comprehensive patient history. The diagnosis of premenstrual hinges on both the timing of the symptoms relative to the menstrual cycle (as described) and their impact on the patient's quality of life.

Progestogen-Induced Premenstrual Disorder (PMDs)

These are triggered by external progestogens present in hormone replacement therapy (HRT) and the combined oral contraceptive (COC) pill. In individuals sensitive to progestogens, these treatments can trigger a recurrence of symptoms.

Premenstrual Disorder with Absent Menstruation

This occurs in women who continue to experience an ovarian cycle but no longer have menstruation due to procedures like hysterectomy, endometrial ablation, or the use of the levonorgestrel-releasing intrauterine system (LNG-IUS).

Premenstrual dysphoric disorder (PMDD) is an additional condition outlined by the American Psychiatric Association. It also manifests during the luteal phase, but it demands adherence to stringent criteria involving intense symptoms that significantly disrupt daily functioning. The Diagnostic and Statistical Manual of Mental Disorders (DSMV) is frequently employed to diagnose this condition, necessitating the presence of five out of eleven specified symptoms, with at least one pertaining to mood. However, these rigid criteria might inadvertently exclude women with a distinct yet severe set of symptoms that warrant treatment. In the case of diagnosing PMS, patients should maintain a record of symptoms and their timing for at least two menstrual cycles.

The Classical Premenstrual Syndrome

Individuals experiencing severe premenstrual syndrome encounter breast swelling and tenderness, a sensation of abdominal bloating, and varying levels of swelling in the limbs during the latter part of the luteal phase. While actual migraine headaches are infrequent, general headaches during the premenstrual phase and the initial days of menstruation are common. As menstruation nears, these symptoms are often accompanied by feelings of irritability and tension, or alternatively, fatigue.

The Association between Premenstrual Syndrome and Dysmenorrhea

Premenstrual syndrome (PMS) can manifest in both cycles involving ovulation and anovulation, and its occurrence doesn't show any consistent correlation with age or the number of childbirths (parity). Conversely, dysmenorrhea is typically linked to cycles with ovulation, and its frequency tends to decrease as the number of childbirths increases. Many researchers have observed a pronounced clinical connection between premenstrual syndrome and subsequent dysmenorrhea, although there are some conflicting reports that leave this matter without a clear resolution.

Premenstrual Syndrome & Social Support

Throughout more than half of their lives, women go through a monthly menstrual cycle. During this time, discomfort affects 50-80% of women, while approximately 30-40% suffer from premenstrual syndrome (PMS) that requires medical attention (Ryu & Kim, 2015). PMS has enduring negative consequences on women's lives, including distractions from their professional and academic pursuits (Slyepchenko et al., 2017), strained interpersonal relationships (Schmelzer et al., 2015), diminished quality of life (Sharma & Gupta, 2016), and heightened impulsivity (Ducasse et al., 2016), particularly among young adults (Seedhom et al., 2013). PMS also makes students susceptible to academic setbacks, such as increased absenteeism (Tadakawa et al., 2016) and poorer grades (Tolossa & Bekele, 2014). Despite its prevalence among young adults, few seek assistance or display awareness (Cheng et al., 2015), resorting to immature coping mechanisms (Cha & Sun, 2016). Social media serves as a means to access support and foster connections to promote well-being (Valenzuela et al., 2009). Support through social media offers versatile interfaces and delivery methods, helping to alleviate premenstrual distress and address psychological factors like perfectionism and stress.Additionally, social media-based support enhances physical activity by providing a buddy system, phone networks, and timely community updates (Heath et al., 2012). Wearable technology

has further expanded interactive and visual platforms (Butryn et al., 2016). Engaging in physical activity has a protective effect against PMS, mitigating its negative implications (Haghighi et al., 2015). Physical activity may boost the release of endorphins and adrenal cortisol from the anterior pituitary gland, thereby enhancing the secretion of endogenous opioids (Rapkin, 2005). While research on this mechanism is limited, studies among young women recommend incorporating physical activity to alleviate PMS symptoms (El-Lithy et al., 2015).

Social Support (SS)

Dean and Lin (1977) claim that there is no agreement in the literature regarding what social support is. There are numerous definitions. Cobb (1976), for instance, distinguished between three aspects of social support: (a) knowledge that one is cared for and loved (succor, nurturance, and affiliation); (b) knowledge that one is esteemed and valued (recognition and respect); and (c) knowledge that one is a member of a network of communication and mutual obligation.

According to Gore (1973), socially supportive positions are those that "provide for the meeting of dependency needs without loss of respect." The "striving sentiments" for love, security, self-expression, recognition, belonging, and sexual fulfilment can all be helped by social support, which is a benefit to coping. Environments that are socially supportive "(a) pattern interpersonal relationships via common values and feelings.

Social support encompasses a wide-ranging concept that includes both an individual's social environment and the specific roles fulfilled by different interpersonal relationships. The structural dimensions of support are often gauged by assessing social integration, which reflects how much an individual is integrated into social networks. Researchers generally break down functional support into two categories: perceived support, which reflects a person's subjective understanding of the available support, and received (or enacted) support, which refers to the actual help provided by others. Both perceived and received support can manifest in various ways. Informational support entails offering advice, recommendations, and useful information. Tangible (or instrumental) support involves providing financial assistance, material resources, or physical aid, such as giving money or assistance. Emotional (or appraisal) support entails displaying care, empathy, and affection. Belonging (or companionship) support fosters a sense of connection and may involve the presence or availability of others for social interaction. Different aspects of social support often have distinct implications for both mental well-being and physical health. For instance, greater perceived support generally correlates with better mental and physical health outcomes, including a reduced risk of cardiovascular disease (a particularly well-established connection) and overall mortality. The mechanisms through which social support affects health are typically understood within two theoretical frameworks: the buffering model, which asserts that support shields against the negative impacts of stress, and the direct effects model, which suggests that social support can have positive effects even in the absence of stressors. However, not all forms of support are universally advantageous. Links between received support and health are influenced by intricate moderating factors, meaning that support that's helpful in one situation might be ineffective or even harmful in other contexts.

Recent research has delved into the factors determining the impact of received social support, suggesting that support is most beneficial when it aligns with the receiver's needs and is offered unobtrusively. Conversely, unhelpful or unsolicited support can feel controlling, cause frustration, or lower self-esteem and self-efficacy. Furthermore, recent studies are investigating the balance of costs and benefits in providing social support, particularly in the role of caregiving for family members with chronic illnesses. Increasingly, interventions, especially for caregivers and those with unmet needs, are recognizing the significance of social support. Additionally, there is a growing body of literature exploring the connections between computer-mediated communication, online social networks, and social support. (Pinar et al.,2011)

Research has demonstrated that social support contributes to enhancing mental well-being and functions as a safeguard against the impact of stressful life events (Dollete & Phillips, 2004). Social support emanates from a network of individuals encompassing family, friends, and the broader community (Awang et al., 2014). The absence of social support is a determinant of mental health issues, including depressive symptoms among university students (Bukhari & Afzal, 2017), and it

exerts a detrimental influence on students' quality of life (Dafaalla et al., 2016).

Research findings consistently indicate a significant inverse correlation between social support and psychological disorders such as depression and stress (Bukhari & Afzal, 2017). These cross-sectional studies consistently underscore the pivotal role of social support in the well-being of students. For instance, a study involving 115 university students revealed that those with higher levels of social support experienced lower stress levels and better adaptation to university life (Friedlander et al., 2007).

Proposed Model
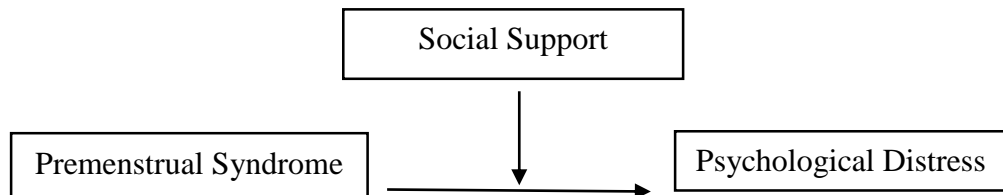
Figure 3; Research Model

Literature Review

Research was conducted by Saglam & Orsal in 2020 for investigating the effect of exercise on premenstrual symptoms. Total 361 articles were used for this study. The articles were collected from the different sites e.g., EBSCO host, PubMed, Google Scholar, Science Direct and Cochrane Library. The Result of this study shows that exercise is effective in improving physical symptoms such as pain, constipation, breast sensitivity and also improving psychological symptoms such as anxiety and anger. The study conclude that exercise is an effective intervention in reducing premenstrual symptoms in women with premenstrual syndrome.

Selectable conducted research in 2019 to investigate the prevalence and severity of premenstrual syndrome and its relationship with psychological well-being in the students of Qom University of Medical Sciences. Total 226 female students of the University were used for the research. Different scales like premenstrual syndrome scale, Ryff psychological well-being scale and demographic checklist were used as an instruments. The result of this research shows that 37% students have mild symptoms, 49.8% moderate symptoms and 13.2% severe symptoms of premenstrual syndrome. The severity symptoms have significant relation with psychological well-being. The research conclude that premenstrual syndrome has a high prevalence and psychological wellbeing in female students.

In 2012, Nazari conducted research to check the effect of cognitive behavior therapy with group counseling on psychological symptoms of premenstrual syndrome (PMS). 34 women participants with age range of 25 to 45 years were used for this research. All these participants were the staff member of Iran University of Science and Technology. Experiment was conducted and participants were divided into two groups one is experimental group and second is control group. Premenstrual syndrome questionnaire was used as an instrument. A total of ten training sessions were given to the experimental group. On the other hand, no intervention was used on control group. The result of this experiment showed that cognitive behavior therapy is significantly affecting in reducing psychological and physical symptoms of Premenstrual syndrome (PMS). The research conclude that CBT is effective in reducing psychological symptoms of women with Premenstrual syndrome.

In 2015, Sabaei conducted a research to find out the relationship between premenstrual syndrome, physical activity and aerobic power in Female High School students. 367 total female with the age range of 15 to 17 years of high schools students were used for this study from the district of Tehran. Different questionnaires was used as an instruments for this study. The result of this study showed that the students who involved more in physical activities are not having premenstrual syndrome. Conclusion of

this study is that regular physical activities especially aerobic activities can be effective in reducing the symptoms of premenstrual syndrome.

Abu Alwafa conducted a research in 2021 to investigate the prevalence of premenstrual syndrome and their association with psychosocial status and lifestyle of female students. Total 398 female students from An-Najah National University of Palestine were used for this research. Different self-reported questionnaires were used for collecting the data. All the data were evaluated by SPSS softare version 23. The result of this research showed that all the 398 participants suffered from some kind of premenstrual syndrome symptoms, 398 had physical symptoms, 397 had psychosocial symptoms and 339 had behavioral premenstrual syndrome symptoms. All the premenstrual syndrome symptoms were significantly associated to psychosocial status and lifestyle of the females. The conclusion of this research showed that high prevalence of premenstrual syndrome with a significant relationship of dietary habits and psychosocial status.

Wang (2019) conducted a research to explore the relationship between positive psychological variables and symptoms of psychological distress following stroke is of great significance for further psychological interventions. Total 710 stroke patients were involved as a sample in this study. Different scales were used to evaluate the symptoms. The result showed that depressive and anxiety symptoms were present in 600 of 710 and 537 of 710 and 537 of 710 stroke patients enrolled, respectively. Social support and hope were negatively associated with both depressive and anxiety symptoms. Resilience was negatively related to depressive symptoms. Self-efficacy was negatively related to anxiety symptoms. The research conclude that the elevated prevalence of depression and anxiety symptoms in Chinese stroke survivors warrants concern from various parties. The results indicate the potential for developing intervention approaches targeting activities of daily living, social support, hope, resilience, and self-efficacy to enhance the psychosocial well-being of individuals who have experienced a stroke.

Methodology
Study Design
A cross sectional analysis was used in the research. The cross sectional study design is a survey research design in which the researcher at one time take one or more sections from one population for collecting survey from them and compare them with each other to find the difference between their characteristics.

Objectives
1. To explore the relationship between Premenstrual Syndrome, Social Support and Psychological Distress
2. To evaluate the predictive relationship between Premenstrual Syndrome and Psychological Distress
3. To study the moderating role of Social Support among premenstrual syndrome and psychological distress
4. To explore the mean difference of different age groups for premenstrual syndrome.

Hypothesis
H1. Premenstrual Syndrome will have negative relationship with Social Support

H2.There will be a positive relationship between Premenstrual Syndrome (PMS) and Psychological Distress (PD)

H3. Social Support will have negative relationship with Psychological Distress

H4. Premenstrual Syndrome will have positive impact on Psychological Distress

H5. Social support will moderate the relationship of Premenstrual Syndrome and Psychological Distress

H6. There will be a mean different among different age groups for premenstrual syndrome.

Sample
Total 300 female participants with the age range of 18 to 35 years was used for this study. Purposive sampling was used for collection of sample. Purposive sampling is a type of non-probability sampling in which the researcher randomly by purpose select the sample and collect data from it.

Inclusion Criteria
Educated people who can easily respond. Married and divorced females were included. The female participants with the age range of 18 to 35 years were included.

Exclusion Criteria
No male participation. The females above 35 were excluded. Illiterate females were not the part of current research.

Research Instruments
The Premenstrual Symptoms Screening Tool (PSST)

The PSST was open to females in their reproductive years who were over 18, capable of giving written informed permission, and had regular menstrual cycles. The questionnaire's premenstrual symptoms and impairment criteria are in line with the PMDD criteria in the DSM-IV. Do you suffer any or any of the premenstrual symptoms listed below, which begin before your period and end a few days after bleeding? The symptoms include physical symptoms, a depressed mood (hopelessness), anxiety (tension), tearfulness (increased sensitivity to rejection), anger (irritability), difficulty concentrating, lack of energy, overeating (food cravings), insomnia, hypersomnia, feeling out of control, and decreased interest in work, home, and social activities. Women are asked, "Have your symptoms as listed above, interfered with:" any of the following five domains in order to capture the DSM-IV criteria of impairment at work, at school, in typical social activities, and in relationships with others: productivity or effectiveness in work, relationships with coworkers, family relationships, social life activities, and/or housework obligations. We asked women to rank their experience with symptoms and impairment as "not at all," "mild," "moderate," or "severe" although the DSM-IV criterion does not indicate the degree of severity. We also gathered other demographic data on these women, such as their age, the number of children they had, whether or not they used hormonal contraception, the start and length of their cycles, the frequency of their periods, the number of days their premenstrual symptoms lasted, and the number of years they had premenstrual symptoms. Several family doctors and nurse practitioners work at the primary care center where the PSST was piloted. Women who visited the clinic for their annual flu shot were chosen at random and asked to complete the questionnaire over the course of a few months. (Steiner et al., 2003)

Berlin Social Support Scales (BSSS)
The Berlin Social-Support Scales (BSSS) are a multidimensional measure of social support that was developed by Ralf Schwarzer and Ute Schulz in 2000. The BSSS is designed to assess both the perceived and received levels of social support in individuals. The answering format is the same for all subscales: Participants indicate their agreement with the Statements on a four-point Likert-type scale. Possible endorsements are strongly disagree (1), somewhat disagree (2), somewhat agree (3) and strongly agree (4). Negative items need to be reversed. Scale scores are obtained either by adding up item responses (sum scores) or by generating the scale mean score.

Depression, Anxiety and Stress Scale -21
The Depression, Anxiety and Stress Scale - 21 Items (DASS-21) is a collection of three self-report scales used to assess depression, anxiety, and stress-related emotional states. There are seven items total on each of the three DASS-21 scales, which are broken up into subscales with related material. The dysphoria, hopelessness, life-value reduction, self-deprecation, lack of interest or involvement, anhedonia, and inertia scales measure depression. By measuring autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experiences of anxious affect, the anxiety scale evaluates anxiety. Levels of persistent non-specific arousal can affect how sensitively the stress scale responds. The test evaluates trouble relaxing, anxious alertness, and a tendency to become easily upset or irritated, irritable or overly sensitive, or impatient. Summarizing the results for the relevant items yields the scores for depression, anxiety, and stress. (Lovibond et al., 1995)

Procedure
Data Collection was accomplished in two-three months. The researcher communicated with each of the subjects on an individual basis. For the goal of obtaining informed permission, a document called the "Informed Consent" which detailed the rationale, objectives and purpose of the study was utilized. The respondents were given assurances that their information would be kept confidential and that it would be utilized exclusively to achieve the objectives of the study. In the addition to the written instructions that were presented at the beginning of the booklet, the responders were given verbal instructions on how to react to the numerous questions that were included in the booklets. Every participant had between twenty and twenty five minutes at their disposal to finish filling out the questionnaire. The response rate was quite high (about greater than 90%), which can be attributed to

the fact that responders were enthusiastic about the topic and were driven to finish the questionnaire. The participants in the study were not financially compensated for their participation, but they did provide their agreement for the study to proceed.

Results

In order to achieve the objectives of the study, the results section consisted of a number of statistical analyses. Descriptive statistics were used to summaries the characteristics of the sample and the measurements used in the study. Using alpha reliabilities, the instruments' internal consistencies were estimated. The relationships between the research variables were examined using correlations. Regression analysis was used to investigate the study variables' prediction. All of the above mentioned statistics were computed using SPSS-23 edition. The using Andrew Hayes' Process Macro in SPSS-23, it was determined whether there was an interaction effect (Moderation) of Social Support between the Premenstrual Syndrome and Psychological Distress in women's.

Data Cleaning and Dealing with Missing Values

A data set of 300 cases was screened out to identify multivariate and univariate outliers and to confirm the data set's accuracy. First, when entry level instances were evaluated, it was discovered that 1% of the cells had incorrect data because of typing mistakes. After that, hard copies of the forms were evaluated to correct the data. After ensuring the accuracy of the data, box plots were analyzed with the objective of identifying univariate outliers. After checking the outliers that no outliers were found. Finally, the data set included the all 300 young people who had undergone through screening and were ready for the final analysis.

Demographic Variables

The frequency and percentage of demographic variables including age, social status, education, residential areas, socioeconomic status and any medicine/therapy of sample were calculated. The demographic characteristics of sample are mentioned in below table.

Table 1

Frequencies and Percentage of Sample of the study (N=300)

Variables	F	%
Age		
18-20	89	29.7
21-26	196	65.3
27-35	15	5.0
Social Status		
Unmarried	278	92.7
Married	21	7.0
Divorced	1	3
Education		
Matric	1	3
Intermediate	10	3.3
Undergraduate	235	78.3
Graduate	30	10.0
Masters	24	8.0
Residential Areas		
Rural	96	32.0
Urban	204	68.0

Note. f=frequency of the characteristics.

Table 1 indicates the sample characteristics of sample. Frequencies and percentage of age, social status, education, residential areas, socioeconomic status and any therapy/medication were calculated. 29.7% of responders' females are with the age range of 18-20 years, 65.3% were 21-26 years and 5% were from the age of 27-35years. 92.7% were unmarried, 7% were married and 3% were divorced. In terms of education 3% were from matric, 3.3% were from intermediate, 78.3% were undergraduate, 10% were graduated and 8% were from masters. 32% were from rural area and 68% were from urban area.

Psychometric Properties of Scales Used for Study Variable

Internal Consistency of the study measures was computed by using Cronbach's Alpha Coefficient for reliability. The psychometric properties of study variables are presented in the tables below.

Table 2

Descriptive statistics and sample reliability for the main study variables (N=300)

Scales	K	M	SD	α	Range
PMS	19	46.62	10.45	.871	20-76
SS	15	42.01	7.63	.784	16-69
PD	21	26.25	12.13	.892	.00-63

Note. K= no. of items, M= mean, SD= standard deviation, α= reliability coefficient.

Table 2 shows the mean, standard deviations, and reliability measured by Cronbach's alpha for the research instruments and the corresponding scales used in the current study. The above mentioned table shows that all of the subscales' reliability fall within normal ranges.

Relationship between the Study Variables

In the current study, zero order bivariate correlations were computed to identify the patterns of relationships between the studied variables. The patterns of relationship between the study variables are shown in Table 3. All the variables have both significant, non-significant, positive and negative correlations.

Table 3

Correlation matrix of study variables (N=300)

Variables	*1*	*2*	*3*
1.PMS	-	-.009	.565**
2.SS		-	-.122*
3.PD			-

Note. PMS= premenstrual syndrome. SS= social support. PD= psychological distress. **p<.01,*p<.05.

The relationship between premenstrual syndrome, social support and psychological distress is showed in the table 3. The relationship between premenstrual syndrome and social support is weak, negative and non-significant(r= -.009, p<.05) and significantly positively moderate the relation with psychological distress(r=.565, p<.01).Findings also show that

social support is significantly negative weak related to psychological distress(r= -.122, p<.05).

Predictive Relationship between Study Variables

The current research has identified possible variables that may predict premenstrual syndrome and psychological distress in the females in their menstrual phase. Linear regression is used in the present study to examine the predictive significance of those variables. These regression estimates (F-test, R^2 & Beta values) were used to analyze the relationship between one dependent variable and one independent variable.

Table 4

Linear regression predicting psychological distress from premenstrual syndrome (N=300)

Variables	Estimate	SE	CI 95% LL	UL	p
Constant	-4.37	2.66	-9.610	.862	
PMS	.657	.056	.547	.767	.000

Note. PMS= Premenstrual Syndrome

Table 4 indicates that premenstrual syndrome is significantly positively predict psychological distress (β=.56, p>.05).Finding indicates that 32% of change in psychological distress is accounted for by premenstrual syndrome (R^2= .32).

Effect of Premenstrual Syndrome with different Age Groups

One way ANOVA is used to evaluate the effect of PMS on different age groups among females.

Table 5

One way ANOVA for three age groups (N=300)

	18-20 y		21-26 y		27-35 y		F(2,296)	p	η²	Post Hoc
	M	SD	M	SD	M	SD				
PMS	46.07	10.20	47.05	10.61	44.20	9.85	.690	.50	-	-

Note. PMS = Premenstrual Syndrome, p<.05*.

Table indicates that there is no significant mean difference in premenstrual syndrome of three groups *F (2,296) = .690, p<.05.* Findings also indicates that premenstrual syndrome had very small effect size which is showed their there is no age affect.

Role of Social Support as a Moderator

In the present study, social support was taken as moderator that could possibly moderate the association between premenstrual syndrome and psychological distress. Moderation was computed through PROCESS MACRO by Hayes. Baron and Kenny (1986) proposed a number of criteria for the investigation of a moderating impact. The following
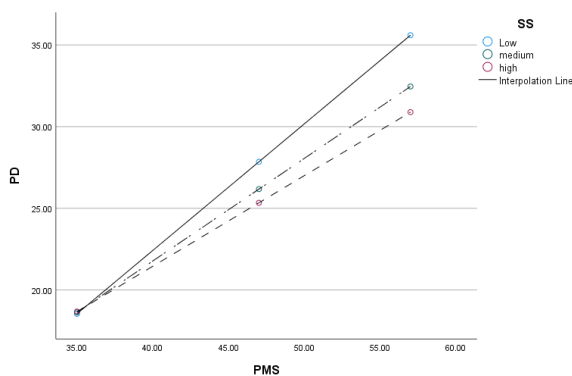
are the finding of present study that investigated the moderating effect of social support in the relationship between premenstrual syndrome (PMS) and psychological distress (PD).

Table 6

Social Support as a Moderator between Premenstrual Syndrome and Psychological Distress (N=300)

Predictor	Psychological distress	95% CI
	B Value	UL,LL
Constant	-26.40	[-52.83, .0345]
PMS	1.27***	[.7467, 1.8036]
SS	.523	[-.0915, 1.1385]
PMS　x　SS	-.0147*	[-.0270, -.0024]
R^2	.588	
F	51.97***	
ΔR^2	.0123	
ΔF	5.550*	

Note. PMS=Premenstrual Syndrome, SS=Social Support.*p<.05, **p<.01, ***p<.001*

　　　Table 6 indicates that moderating results of the social support for the relationship between premenstrual syndrome and psychological distress. Analysis shows that social support significantly moderated the relationship between the premenstrual syndrome and psychological distress.

Figure 4. Graphical representation of moderating role of social support for the relationship between premenstrual syndrome (PMS) and psychological distress (PD)

　　　The graph represents moderation by social support for the relationship between premenstrual

syndrome and psychological distress. At all the levels of social support (low, medium and high), the relationship between PMS and PD remained positive however the strength of this relationship gets stronger as the level of social support increases.

Summary of the Results

In order to achieve the objectives of the study, the number of statistical analysis were computing using SPSS 23 edition and Andre Hayes Process Macro in SPSS-23 were used for moderation analysis. Table 1 indicates the sample characteristics including frequencies and percentages of Age (17-20= 29.7 %, 21-26= 65.3%, 27-35= 5%), Social Status (Unmarried= 92.7%, Married= 7%, Divorced= 3%),Education, (Matric=3%,Intermediate= 3.3%,Undergraduate=78.3%, Graduate=10%, Master=8%) and Residential Areas(Rural= 32%, Urban= 68%).The research instruments had good coefficient reliability (>.7). Results of the analysis indicated that study variables are significantly related with each other. Premenstrual syndrome is non-significant, negative and weak related to social support and significant positive, moderate relation with psychological distress. While social support is significantly negative, weak related to psychological distress. Also there no age difference in study variables. Furthermore, premenstrual syndrome is significantly positively predicts the psychological distress explained by 32% variance in psychological distress. Furthermore, social support had a significant moderation effect on premenstrual syndrome and psychological distress.

Discussion

The purpose of this study was to explore the relationship between the premenstrual syndrome and psychological distress with social support as a moderating variable. The research was designed to get an understanding of the role of social support in females. For this purpose, self-reported measures were used specifically, the Premenstrual Symptoms Screening Tool (PSST) was used for the purpose of measuring premenstrual syndrome, Depression, Anxiety and Stress Scale (DASS-21) and the Berlin Social Support Scale (BSSS) was used for the purpose of measuring role social support in the females.

　　　The research was conducted on a sample size of 300 young adults' females, and SPSS22 was used for the analysis. The psychometric properties of each

of the scales were assessed. The alpha coefficient for each of the scales were computed. The reliability of Premenstrual syndrome (α = .871), social support (α = .784) and psychological distress (α = .892) respectively. The α-coefficient for all the variables was more than .7 that is a good value. Because all coefficient values are within acceptable bounds, we can conclude that the results of the relevant scales are reliable.

The frequency and percentages for age, social status, education, residential area, socio-economic status and any medication/ therapy were calculated. Findings illustrate that 29.7% of responders' females are with the age range of 17-20 years, 65.3% were 21-26 years and 5% were from the age of 27-35years. 92.7% were unmarried, 7% were married and 3% were divorced. In terms of education 3% were from matric, 3.3% were from intermediate, 78.3% were undergraduate, 10% were graduated and 8% were from masters. 32% were from rural area and 68% were from urban area. The study variable' means and standard deviations were calculated. Findings indicate that our data is normally distributed because the value of skewness was within an acceptable range.

The objective of the current study was to examine how premenstrual syndrome affects the psychological distress. The current study investigate the relationship between premenstrual syndrome and psychological distress among female youth.

Menstruation is defined as a natural physiological process experienced by women of reproductive age, which involves monthly shedding and repairing of the uterine wall (Williams et al., 2017). Menstruation initiates typically at the age of 11, the event is termed as "menarche" and continues until the cessation of fertility. Various physical and psychosocial aspects of menstruation adversely affect females, especially in developing countries (Kumar et al., 2016). In a recent study from Manipur, India, the prevalence of dysmenorrhea was reported to be 76%, and about 20% of participants experienced severe dysmenorrhea. The study claimed that due to the severity of these symptoms, the participants had to miss school that further deteriorated their academic performance, concentration in class and affected their social relationships and intervened with their daily physical activities (Kumar et al., 2016). The constellation of the physical and psychological symptoms that appear several days before the menstrual period is known as the premenstrual

syndrome (PMS) (Yonkers & Simoni, 2018). Findings of present study revealed that premenstrual syndrome has positive relationship with psychological distress. It was also hypothesized that premenstrual syndrome (PMS) had significant positive relation with psychological distress. Findings reveal that premenstrual syndrome and psychological distress have significant positive relation. These findings are also consistent with previous literature that suggested that the findings showed a significant relationship of premenstrual syndrome and psychological distress among different age groups of females (Abbas et al., 2020). In fact, there was a correlation between premenstrual syndrome and psychological distress, which was positive and also statistically significant.

Another objective of the study was to predict the relationship between premenstrual syndrome and psychological distress among female youth. Findings revealed that premenstrual syndrome significantly positively predicts psychological distress. This results confirms the by Apeeribai & Alonoso-Arbiol (2020) that there was a significant correlations between premenstrual syndrome and mental health variables (anxiety, depression, neuroticism) and coping strategies, suggesting the potential for interdisciplinary training programs to address Premenstrual syndrome related distress and the need for further research on the impact of severe depression and intervention strategies to improve women's quality of life worldwide. It was hypothesized that premenstrual syndrome had significant impact on psychological distress among females. The current research demonstrates that there was a significant impact of premenstrual syndrome on psychological distress. Premenstrual syndrome (PMS) is a set of symptom that occurs repeatedly in the luteal phase of the menstrual cycle is marked by Chang of physical, psychology and behavior that may affect the relationship interpersonal (Yonkers et al., 2008). Premenstrual syndrome can occur several days to weeks before menstruation and subside after a menstrual period appears (Canning et al.,2012). The impact of premenstrual syndrome also disrupts family relationships, work, social activities and difficulty in concentrating (Tolossa & Bekele, 2014). More than 85% of women had been experienced physical and psychological discomfort that may affect the quality of life and daily productivity (Pinar et al., 2011). The prevalence of premenstrual syndrome as much as 99.5% of adolescents had at

least one premenstrual symptom (Yang et al., 2015). The cause of premenstrual syndrome is unknown with certainty, it is estimated influencing by biological, psychological, and social environments. Biological factors include hormonal imbalance, abnormal neurotransmitter response (Wong et al., 2011). Symptom that is often complained by the teenagers is emotional symptoms such as irritability, depression, irritability, anxiety or tension, mood swings, while physical symptoms are breast tense, distended stomach, headache and fatigue (Qiao et al., 2012).

Implications

- The study will make a significant contribution as it emphasized an understanding of the importance of the social support and its impact on enhancing psychological distress of the females.
- Different seminars, programs and awareness campaigns should be introduced that include such education that improves psychological distress and premenstrual syndrome and raises awareness of how social support affects the distress affectively.
- The study will help the future researches to identify the prevalence rate of PMS and sample and also helps them to choose more sample.
- It will help the future researchers to better understanding the impact of social support on premenstrual syndrome and psychological distress.
- The study also provides a direction to the researchers to cover the limitations of the current study and it provide some fruitful, pragmatic and applied results.

Limitations and Suggestions

The current study has the following limitations and suggestions;

- The research time was limited and there was no much time do research on whole population. Therefore, the future studies should done the research a long time to get more authentic results.
- The sample was limited because it was collected from those who have knowledge about the premenstrual syndrome, so the results cannot be applied to Pakistan's

different sample from different geographical region. Therefore, future studies should collect sample from different geographic regions to ensure that the findings can be applied to the different sample from different areas of Pakistan.

- Females were very shy to share their personal information, so only willing participants were included in this study. For future studies, it should suggested that before conducting research on these sensitive topic, an informative seminar would be conducted to attract more participants to be the part of the study.

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