Original Article

Examining the Predictive Relationship between Perceived Social Support and Perceived Stress among Pregnant Women

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ABSTRACT

The woman's mental and physical health will unavoidably suffer throughout her pregnancy. Extreme mood swings and, in rare occasions, mental instability can occur. These factors make pregnancy a time when a woman has to undertake bio-psycho-social modifications, such as establishing strong social support systems, in order to alleviate the stress that comes with being pregnant. **Objective:** To investigate the predictive relationship between perceived social support and perceived stress among pregnant women in Pakistan. **Methods:** The study used a correlational cross-sectional research design. The sample consisted of (N=72) pregnant females in their third trimester with an age range between 18 to 37 years (Mean age= 26.3; SD=4.4) was selected from departments of Obstetrics and Gynecology of various hospitals in Karachi, Pakistan by using purposive sampling technique. The data were collected from December 2022 till January 2023. The demographic information form, Multidimensional Scale of Perceived Social Support and Perceived Stress Scale were used, and analysis of data were done by using Regression analysis and One-way ANOVA through SPSS version 25.0. **Results:** The findings revealed a significant negative predictive relationship between perceived social support from friends and perceived stress of pregnant women (b= -.482, p<.05). The analysis of variance reveals that significant mean differences in socioeconomic status and number of miscarriages on perceived stress are present among pregnant women. **Conclusions:** These results emphasize the need to develop comprehensive strategies for assisting pregnant women by taking into account the aspects of social support, and make interventions to tackle stress successfully, and enhance maternal well-being throughout the pregnancy.

INTRODUCTION

Becoming pregnant is a very exciting and wonderful time for most of the women, and may also bring some physical and emotional challenges. According to existing literature, at this time of life, stress and sadness may be more common due to the hormonal changes that occur simultaneously[1]. It has also found that efforts to enhance maternal mental health during pregnancy have positive influence on the well-being of the mother and her children in the long-term [2]. In the third trimester of pregnancy, significant mental and physiological changes take place in anticipation of childbirth. Scientists have examined the prevalence of stress during pregnancy, and found that it differs over the three trimesters. One of the studies from China indicates that stress symptoms were more prevalent during the third trimester of pregnancy [3]. Studies also found out that social support functions as a buffer against the impact of stressful life experiences, and equips individuals with essential coping strategies to manage that stress effectively [4, 5]. Having perception of social support during challenging circumstances might potentially improve health by influencing how one perceive danger, that in turn reduce anxiety, and enhance ones capacity to cope. Perceived social support pertains to an individual's assessment of friends, family members, and others as accessible sources capable to offer assistance of various kinds (i.e., material, psychological, emotional, informational, and financial) in times of need. Consistent associations have been observed between perceived social support and well-being, as the perceived presence of support, affection, and caring tends to contribute to

positive experiences [6]. Perceived stress pertains to the mental interpretations that an individual undergoes regarding the level of stress arising from a specific event or situation, whether at a particular moment or over an extended period of time [7]. Psychological stress in pregnancy is described as the state of disparity experienced by an expectant woman when she is unable to effectively manage the demands placed upon her, resulting in both behavioral and physiological manifestations [8]. Maternal stress during pregnancy fuels the likelihood of complications such as preterm delivery, premature birth, and cesarean section [9]. According to the prospective research, pregnant women who suffer from depression, anxiety, or stress are linked with an increased risk of emotional, cognitive and behavioral impairments in their unborn children [10]. The maternal stress experienced during pregnancy may promote the enhancement of anxiety and psychological health issues in their offspring later in life [11]. Social support networks aid pregnant women in maintaining good health and reducing the negative effects of environmental pressures [12]. Individuals are protected from the negative impacts of stressful events by social support, which is defined as the interaction between a person and their environment that decreases stress and covers their consequences [13]. Additionally, research has demonstrated that expectant mothers who perceived greater social support encountered fewer psychological issues and stressors [13]. Support from friends and family may have a positive impact on an expectant mother's mental health, anxiety levels, and stress levels before and after giving birth, according to previous research [14].

The literature on the perceived social support and perceived stress in the third trimester of pregnant women in developing countries specifically in Pakistan is scarce, that's why this research was necessary to see these factors together, for which following hypotheses were made.

1. A predictive relationship will exist between perceived levels of social support and the perceived stress of pregnant women.
2. A predictive relationship will exist between subscales of perceived social support and the perceived stress of pregnant women.
3. Demographics such as socioeconomic status and no of miscarriages will affect the study variables.

METHODS

The cross-sectional research design was used to determine the predictive relationship between perceived social support and perceived stress among pregnant women. The sample of the study includes 72 pregnant ladies in their third trimester of pregnancy with age range of 18 to 37 years ($\bar{x}$= 26.3; SD= 4.4). The study was conducted in maternal health departments of public and private hospitals in Karachi, Pakistan. Purposive sampling technique was used to get more variation in the sample characteristics. To maintain a balanced sample, females below 18 years and those above 37 years were excluded, as well as women who already have children. Moreover, individuals with pre-existing medical conditions like cardiac diseases, anemia, and diabetes were not part of the study to isolate the effects of pregnancy on healthy individuals. Additionally, women with diagnosed mental or psychiatric disorders or that on psychiatric medication was not the part of current study that allowed for a clearer examination of pregnancy's impact on mental well-being. By carefully selecting participants from this specific group, the research aims to shed light on the distinct experiences of first pregnancies within this age range. First of all, permission to collect data were taken from hospital authorities, and the participants were asked to sign a consent form, which was used to get their permission to participate in the research. The participant's freedom to withdraw from the research at any moment was discussed, and it was made clear that the data collected would be completely voluntary, will be kept confidential. The current study incorporated the use of the informed consent form, demographic form, and the Urdu versions of Perceived Stress Scale, and the Multidimensional scale of Perceived Social Support [15, 16]. The Perceived Stress Scale (PSS-10) is a 10-item questionnaire [15], used to evaluate stress levels in individuals aged 12 and older, including young children and adults. It assesses the extent to which a person has regarded life as unexpected, uncontrolled, and overwhelming in the last month. The scoring system uses a five-point scale, with a range from 0 (never) to 4 (very frequently). Items 4, 5, 7, and 8 are scored in the other direction. In order to calculate the overall scores, positive statements (4, 5, 7, and 8) are inverted, with a score of 4 representing "Never" and a score of 0 representing "Very often." The PSS total score runs from 0 to 40, with higher values indicating greater levels of perceived stress. The psychometric qualities of the Perceived Stress Scale-10 are deemed adequate, as shown by a Cranach's α value of .78, suggesting a high level of internal consistency. The Multidimensional Scale of Perceived Social Support (MSPSS) is a brief assessment measure [16]. This scale is especially created to examine people's subjective evaluations of the sufficiency of social support, with a specific emphasis on the assistance they get from family, friends, and significant others. The MSPSS consists of 12 questions and measures views of social support using a 7-point rating scale that ranges from "Very Strongly Disagree" (1) to "Very Strongly Agree" (7). The MSPSS yields a comprehensive score ranging from 12 to 84, where larger

cumulative values indicate heightened levels of perceived social support. The study's variables were examined using SPSS version 25.0, a statistical tool for the social sciences. To evaluate the demographics of the whole sample, descriptive statistics were used. Linear regression analysis was applied to the study variables i.e., perceived social support and perceived stress as well as factors of perceived social support and perceived stress to make inferences about the data whereas, one-way ANOVA was used to analyze the differences in the scores on demographic variables such as socioeconomic status and no. of miscarriages, perceived social support and perceived stress.

RESULTS

Table 1 outlines demographic information of the research participants, screening that a significant portion of the cohort possessed a graduate degree (32 participants; 44.4%) and belonged to the lower middle class (33 participants; 45.8%). 58 participants (80.6%) had no history of abortion, while 12 (16.7%) participants reported having 1 abortion prior to current pregnancy. These demographic details offered a thorough insight into the characteristics of the individuals involved in the study.

Table 1: Demographic Properties of Sample

Baseline Characteristics	F (%)
Education	
Middle	2 (2.8)
Matric	7 (9.7)
Intermediate	14 (19.4)
Graduation	32 (44.4)
Masters	14 (19.4)
Post Masters	3 (4.2)
Socioeconomic Status	
Lower	4 (5.6)
Lower Middle	33 (45.8)
Middle	26 (36.1)
High	9 (12.5)
No. of Miscarriage	
No Miscarriage	58 (80.6)
1-time Miscarriage	12 (16.7)
More than 1	2 (2.8)
Age	
Mean±SD	26.32±4.44

As shown in table 2, results suggested that perceived social support (PSS) was not a statistically significant predictor of perceived stress.

Table 2: Coefficients of Regression with Perceived Social Support as a Predictor of Perceived Stress

Variables	Beta	SE	95% CI		B	p-value
			LL	UL		
Constant	17.525	5.161	7.232	27.819	-	0.001
PSS	-0.007	0.076	-0.159	0.146	-0.010	0.930

As shown in table 3, friends' support was found to be a significant predictor of perceived stress, family support and support from significant others did not show significant relationships with perceived stress in this analysis.

Table 3: Coefficients of Linear Regression of Factors of Perceived Social Support as Predictors of Perceived Stress

Variables	Beta	SE	95% CI		B	p-value
			LL	UL		
(Constant)	25.13	6.34	12.48	37.79	-	0.000
Family	-0.115	0.566	-1.24	1.014	-0.029	0.840
Friends	-0.482	0.234	-0.949	-0.016	-0.295	0.043
Sig others	0.147	0.279	-0.409	0.703	0.082	0.599

Dependent Variable: PS

The results indicated that there was no significant difference in perceived social support between the socioeconomic status groups. However, there was a significant difference in perceived stress, with higher levels of stress observed in the Poor and Lower Middle groups compared to the Middle and Upper Middle groups of pregnant women as shown in table 4.

Table 4: Mean Difference between the Scores of Socioeconomic Status, Perceived Social Support and Perceived Stress in Pregnant Women

Variables	Poor (n=4)	Lower Middle (n=33)	Middle (n=26)	Upper Middle (n=9)	$F_{(3, 68)}$	$\acute{\eta}^2$
	Mean±SD	Mean±SD	Mean±SD	Mean±SD		
PSS	62.0±10.58	63.8±15.98	66.73±14.66	73.33±8.57	1.128	.047
PS	28.75±26.17	15.21±6.87	17.12±8.10	17.08±9.35	2.799***	.110

Note. N= 72, PS= Perceived Stress; PSS=Perceived Social Support.
$p > 0.05$ ***$p < 0.001$

The results indicated that there was no significant difference in perceived social support based on the number of miscarriages. However, there was a significant difference in perceived stress, with higher levels of stress observed in the group with more than 1 miscarriage compared to the groups with no miscarriage and 1 miscarriage (table 5).

Table 5: Mean Difference in the scores of Number of Miscarriages, Perceived Social Support and Perceived Stress in Pregnant Women

Variables	No Miscarriage (n=58)	1 Miscarriage (n=12)	More than 1 (n=2)	$F_{(3, 68)}$	$\acute{\eta}^2$
	Mean±SD	Mean±SD	Mean±SD		
PSS	66.6±13.7	63.17±19.7	64.5±4.95	0.279	0.008
PS	16.72±7.67	14.92±4.01	40.5±38.89***	7.93	.187

Note. N= 72, PSS= Perceived Social Support; PS= Perceived Stress
$p > 0.05$ ***$p < 0.001$

DISCUSSION

The current study reviewed the predictive association between PSS and PS and demographic differences in socio-economic status and no of miscarriages. Our results are indicative of no significant predictive relationship of perceived social support. In our results the study on antenatal depression and its predictors reported no significant association linking social support and antenatal stress and depression in pregnant women [8]. This result might also be attributed to the fact that expectant mothers can develop efficient coping methods, resilience, and high self-efficacy to lessen the effects of stress, regardless of the amount of social support a pregnant woman feels [17]. More reasons to support our result can be that living arrangements involving multiple members of a family are prevalent in Pakistan. Despite the positive effects on mental health, this may make it harder to isolate the role of social support in decreasing pregnancy-related stress. Moreover, religious activities and beliefs may help pregnant women in Pakistan deal with stress. Even when controlling for perceived levels of social support, factors such as faith-based support, beliefs about fate, and prayer may have substantial impacts on the perception and management of stress. Another predictive relationship will exist between subscales of perceived social support and the perceived stress of pregnant ladies. A current study reveals a significant predictive association between the subscale 'friends support' and perceived stress. Some studies are consistent with our results such as a study on expectant women in the last trimester resulted that having a strong support system from friends and family has a positive influence on a woman's psychological health and reduces stress levels [18]. Consistent with the above results is another study that revealed an inverse relationship between the presence of pregnancy stress and anxiety and the perception of availability of support from friends and family [19]. In the Pakistani context, the friends' support significantly affects perceived stress levels in pregnant ladies during the third trimester is grounded in social support theory, which emphasizes the role of interpersonal relationships in stress reduction [20]. Similarly, another research found that pregnant women's psychological well-being and stress reduced as the feeling of having the social support of friends and others [21]. Furthermore, this study found no significant predictive association between the sub-scales perceived family and significant others' support that may be attributed to the cultural norms as in Pakistani culture there is strong family and community networks that provide inherent social support to pregnant ladies. So, due to high perceived social support from family and significant others reduce the variation in perceived stress. Furthermore, Pakistani women may underestimate their own stress levels on self-report surveys because they put the health of their families and unborn children ahead of their own, they may feel pressure to appear strong and capable and underreport their stress levels. Furthermore, significant differences were seen in the demographic variables in terms of PSS and PS. The result showed that socioeconomic status had a significant negative relationship with perceived stress but an insignificant relationship with perceived social support. Previous research confirms that worse mental health outcomes are associated with poorer socioeconomic position during pregnancy [22, 23]. There is a heavy emotional and financial strain on expecting mums, and it may be difficult for low-income families to meet the demands of pregnancy, which include better health care, diet, and physical rest [24]. Pre-term births, psychological problems including stress and anxiety, a high prevalence of cesarean sections, and third-trimester hemorrhages are all associated with poor socioeconomic position, according to a large body of research [25]. Furthermore, a research study reports that lower socioeconomic status is correlated with high levels of stress and lower birth weights [23]. Literature indicated that low socioeconomic status is associated with daily stress and depressive symptoms in pregnant women [26]. Another research on prenatal depression in an urban population in Pakistan highlighted that rural areas characterized by higher levels of poverty, insufficient healthcare resources, and lower levels of education may be linked to increased amounts of antenatal stress, depression, and anxiety [22, 23].The findings of current research showed that there is a significant association of number of times one have miscarriages and perceived stress whereas an insignificant relationship was seen between no. of miscarriages and perceived social support. Previous research supports current results that having a history of miscarriage is significantly associated with stress, anxiety and depression [24]. Couples who suffer recurrent pregnancy loss exhibit more pronounced feelings of despair and stress, which last for a longer duration, and have a more significant detrimental effect on their mental well-being throughout future pregnancies, when compared to women who have only had one previous miscarriage [25].

CONCLUSIONS

Results showed that pregnant women had helpful social support, especially through friends. Our results are indicative of no significant predictive relationship between perceived social support as a whole and perceived family and significant other's support as its subscales. Moreover, the current study reveals a significant predictive association between the subscale 'friends support' and perceived stress among third-trimester pregnant women.

This provides further evidence that friend's support is important for reducing stress during the latter stages of pregnancy. It is worth noting that there was no significant predictive association between perceived stress and either family or significant other support in this context. These shows how intricate the dynamics of social support are during pregnancy and how the support of friends may alter stress levels in a unique way. The findings emphasize the importance of reflecting different dimensions of social support separately and tailoring interventions to address specific sources of support that are most relevant for pregnant women. Strengthening friend support networks may be particularly beneficial in promoting maternal well-being and reducing stress during the third trimester of pregnancy.

Authors Contribution

Conceptualization: RM, AA
Methodology: RM, AA
Formal analysis: RM, AA
Writing, review and editing: RM, AA

All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest

The authors declare no conflict of interest.

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