



Impact of Psychological Distress on Quality of Life of Pregnant Women with History of Spontaneous Abortion. Role of Social Support as a Moderator

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ABSTRACT

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This study aimed to investigate the impact of psychological distress on quality of life among pregnant women, considering moderating role of social support. The quantitative research design was used, using purposive sampling that leads to convenience sampling to draw sample size of (N=120) pregnant women aged 18 to 35 years. The tools used in the study were demographic sheet, Depression Anxiety Stress Scale (DASS-21), EUROHIS-QOL 8-item index and Multidimensional scale of perceived social support (MSPSS). The correlation analysis finds out that psychological distress is negatively correlated ($r = -.49^{**}$) with social support. The regression analysis shows that psychological distress was a significant negative predictor of QOL ($\beta = -.394$, $p = <.001$). Moderation analysis revealed that social support was significantly moderated the association between psychological distress and quality of life. Findings will give awareness on the negative consequences of pregnancy stress, to emphasize the significance of social support in weakening the influence of psychological distress on QOL by suggesting social and psychological strategies to assist pregnant women to improve their quality of life especially those with a prior history of spontaneous abortion.

Introduction

When a pregnancy stops unexpectedly before the 20th week of gestation, it is referred to as a miscarriage or spontaneous abortion. Approximately 10 to 20% of pregnancies are affected by this naturally occurring condition (Quenby et al., 2021). In Pakistan, the projected yearly rate of spontaneous abortion among women aged 15–49 has risen to 29 per thousand. About 890,000 women a year have an incomplete or undetected miscarriage, which affects about 15% of clinically confirmed pregnancies. Of these, 15% experience problems associated to unsafe (SA) procedures (Saleem et al., 2023). Cultural, social, and religious traditions of pregnancy in Pakistan play a critical role in the lives of women, which affect their experience of maternal health, mental distress, and connected support. Socially and filially, the status of a woman in Pakistani society is closely tied to her ability to conceive and bear children (Khan & Saadat, 2024). Culture essentially puts women who have gone through pregnancy loss under extreme emotional distress and societal pressure regarding fertility. Superstitions and personal characteristics of the women are sometimes blamed for causing their miscarriage, which aggravates the sense of guilt and self-blame (Maryam et al., 2024). Currently, Pakistan faces a challenge of lack of mental health awareness and professional services of psychological for pregnant women of any history of miscarriage (Malik et al., 2023).

Psychological distress

Various symptoms, including anxiety, sadness, functional impairment, stress, depression, problematic personality traits, and behavioral disorders, are grouped together as psychological distress in the DSM-5 (American Psychiatric Association & American Psychiatric Association, 2013). Fourteen percent to fifty-nine percent of pregnant women suffer from anxiety (Fernández et al., 2022). Nowadays, losing the baby through abortion, miscarriage or any other method is the hardest aspect of being pregnant. Medical experts pay little attention to the mental health impacts of a miscarriage, over both in the short and long term period (Jacob et al., 2019). There are many harmful effects on the mother and the baby from the mother's depression, anxiety, and stress while she is pregnant. Preeclampsia, low birth weight, early delivery, medically assisted birth, elective and emergency cesarean sections, and difficulties with mother-infant bonding are among them (Dowse et al., 2020; Ghanbari-Homaie et al., 2022). The impact of the spontaneous abortion on the subsequent pregnancy becomes crucially important due to the high rate of conception within 18 months after a loss (Haghpour et al., 2016).

Quality of life

Quality of life described by World Health Organization (WHO) as "the degree to which an individual's subjective experience of well-being corresponds to their concrete goals, objectives, and requirements" (WHO, 2021). There are a lot of physical, mental, and social demands placed on a pregnant woman's body. Quality of life is psychological assessment of physical, emotional, and social health. In Pakistan, where pregnancy is valued, expectant mothers with a history of miscarriage are socially stigmatized and emotionally isolated, which worsens their psychological distress (Asim et al., 2022). Miscarriage and its psychological consequence on QOL are understudied in Pakistan's healthcare, despite their impact on maternal and fetal health (Khan, 2024). Important factor that influences QOL during pregnancy is social support. Emotional and instrumental support from families, partners, and the healthcare providers experienced by women contributes to decrease in their stress level and improved mental health (Biaggi et al., 2016).

Role of social support as a moderator

Social support refers to a specific kind of aid that helps people overcome adversity by drawing on their own inner resources and strengths. It is connected with an overall evaluation of quality of life, helps reduce health-related stress, and influences many facets of psychophysical well-being for the better (Sereshti et al., 2016; Tabali et al., 2015). Pregnant women have been found to have social support as crucial protective factor in combating psychological distress (Altaf et al., 2023). In Pakistan, where family and the community are an integral part of social life, support from spouses, in laws, and friends is a source of support against emotional distress (Ashfaq, 2024). However, because of cultural dynamics, open communication and emotional expression are often hindered, leaving social support less effective (Nazir et al., 2022). Healthcare professionals play a significant role in providing emotional and informational support, which helps women manage distress and improve pregnancy outcomes (Lebel et al., 2020).

Pregnant women with a prior pregnancy loss face heightened psychological challenges, particularly during the early stages of subsequent pregnancies. Research consistently shows that such women experience significantly high level of stress, especially concerning medical and obstetric risks, as well as fetal health during the first trimester (Barbe et al., 2023). Psychological distress, including symptoms of anxiety, depression, and stress, has been diagnosed as a key factor influencing pregnancy outcomes. For example, study found that these negative emotional states are independently linked with an increased risk of spontaneous abortion. Women with prior pregnancy loss may be particularly vulnerable to such psychological challenges during early pregnancy, which underscores the importance of psychological health screening and intervention in this population (Li et al., 2023). Besides emotional turmoil the other factors are cultural and it includes societal stigma surrounding miscarriage. In studies taken place in the country, women often bear in silence due to lack of open discussion and mental health awareness for infertility and pregnancy loss (Maryam et al., 2024). Researchers looked at how anxious, depressed, and fearful women were who had spontaneous abortion. In the analysis, 208 women with pregnancy were included, with an average gestational age of 34.68 weeks. From 159 women that were part of the study, 49 experienced a miscarriage in the past. Women who had never suffered prenatal loss expressed less sadness and worry about giving delivery compared to those who did (Smorti et al., 2021). Studies have shown that partners, family members, and healthcare providers provide social support that enhances a person's psychological resilience and decreases depressive symptoms as well as improve overall well-being (Martin & Brock, 2023).

Rationale of the study

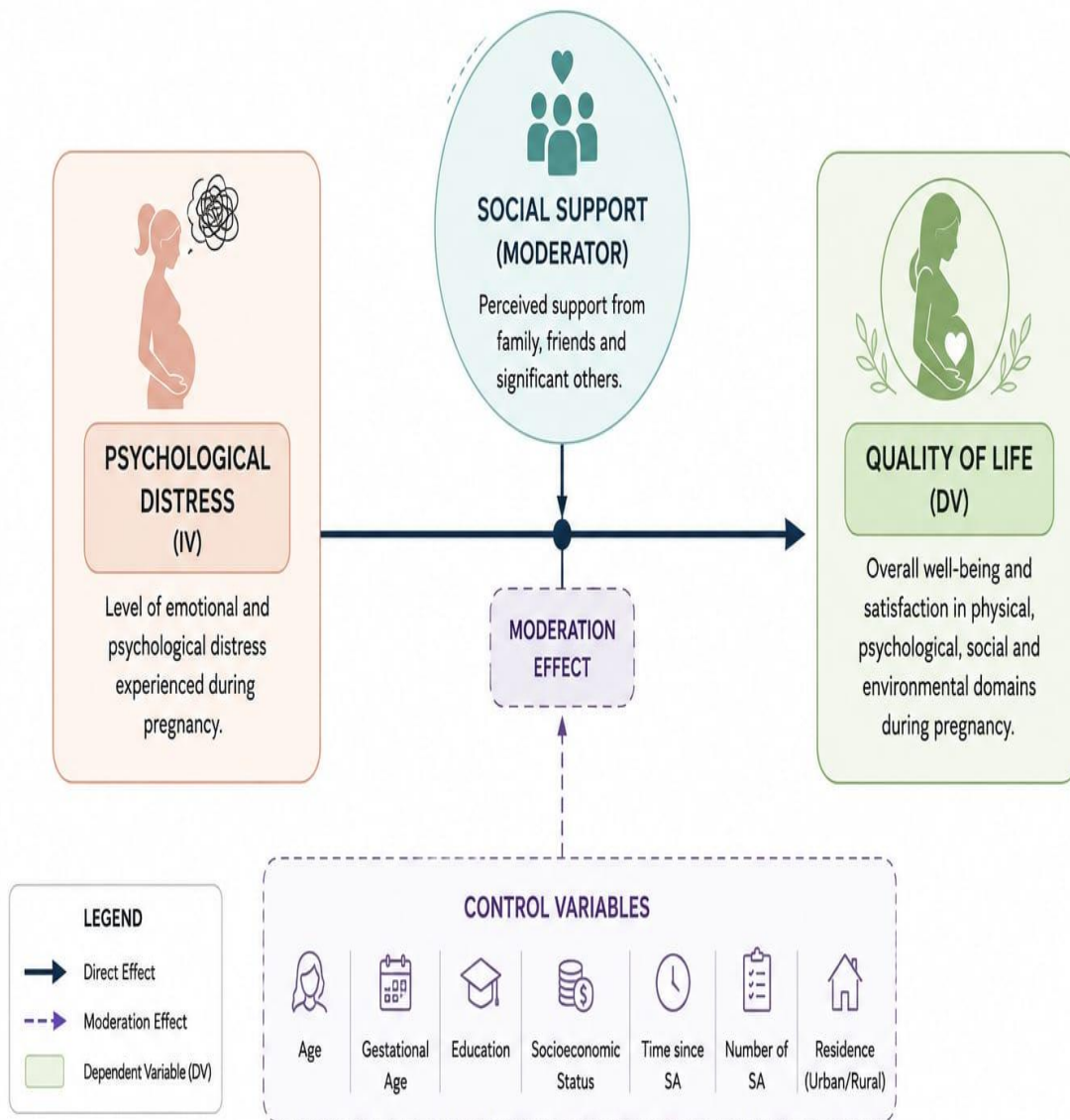
This study aims to fill the gap by investigating the impact of psychological distress on quality of life of pregnant women who have history of spontaneous abortion and also a role of social support as a moderator. This study will also fills the gap as these three variables have not been find out together in Pakistan. This research will be helpful in maternal health psychology by bringing a neglected group into focus which contributes to better maternal and newborn health outcomes.

Theoretical Background

The Stress-Buffering Model assumes that social support serves to buffer or moderate the negative impact of stressors including psychological distress, on health outcomes such as life quality and mental well-being. Psychological distress can negatively influence total quality of life of pregnant women who had a previous history of spontaneous abortion. However, there is protective potential in adequate social support – from partners, family, friends or healthcare professionals – serving as a protective mechanism against the harmful effects of distress to improve QOL (Cohen & Wills, 1985).

Figure 1

CONCEPTUAL FRAMEWORK



Note. IV = Independent Variable; M = Moderator; DV = Dependent Variable

Figure 1 shows that the relationship between psychological distress (IV) and quality of life (DV) is moderated by social support (M).

Objectives

- To examine the link between psychological distress and social support among pregnant women.
- To determine the impact of psychological distress on the quality of life of pregnant women with history of spontaneous abortion.
- To explore the role of social support as a moderator between psychological distress and QOL of pregnant women with and without prior spontaneous abortion.

Hypotheses

- Psychological distress is negatively correlated with social support among pregnant women with and without history of SA.
- Higher level of psychological distress predicts lower quality of life among pregnant women with history of spontaneous abortion.
- Social support will moderate the relationship between psychological distress and quality of life in pregnant women with and without history of spontaneous abortion.

Methodology

Research Design

Cross-sectional study with quantitative research design was used to collect data in order to determine the impact of psychological distress on quality of life of pregnant women with and without history of spontaneous abortion and the role of social support as a moderator.

Sample and Sampling strategy

In this research, non-probability purposive sampling leading to convenience sampling was used to draw the sample. Sample was consist of (N=120) pregnant women with and without history of spontaneous abortion with age range of 18 to 35 from maternity clinics in Multan.

Table 1: Demographic Characteristics of Pregnant Women (N=120)

Demographic characteristic		N	%	Demographic characteristic		N	%
Age	18-25 Years	63	52.5%	Number of children	0	37	30%
	26- 35 Years	56	46.7%		1	39	32.5%
Education	Uneducated	16	13.3%		more than 2	44	36.7%
	Primary School	25	20.8%	History of pregnancy loss	0	47	39.2%
	Secondary School	42	35%		1	46	38.3%
	University Level	37	30.8%		2	27	22.5%
Socioeconomic status	Lower class	41	34.2%	Gestational age (Weeks)	less than 10 weeks	38	31.7%
	Middle class	59	49.2%		11-20 weeks	59	49.2%
	Upper class	20	16.7%		21-25 weeks	23	19.2%
Area of Residence	Urban	66	55%	Time interval between spontaneous abortion and	less than 1 year	31	25.8%
	Rural	54	45%		more than 1 year	48	40%
					No history of		

			current pregnancy	spontaneous abortion	41	34.2%
Duration of Marriage	1-5 Years	58	48.3%			
	6-10 Years	39	32.5%			
	more than 10 years	23	19.2%			

Inclusion Criteria

The population includes women of reproductive age between 18 to 35 years who are currently pregnant. Participants were included having a gestational age of 25 weeks and below at the time of data collection. Only women who met all the specified criteria and voluntarily agree to participate in the study were included.

Exclusion Criteria

The study excludes women younger than 18 years or older than 35 years. Women with multiple pregnancies including twins or higher order pregnancies were excluded to maintain sample homogeneity. Women who are not currently pregnant at the time of data collection were also excluded. In addition, women with more than 2 previous pregnancy losses were excluded to maintain consistency in participants.

Instruments

Demographic Sheet

Depression, Anxiety, Stress Scale (DASS-21)

DASS-21 is a widely used self-report instrument developed by (Lovibond & Lovibond, 1995) to assess the emotional states of depression, anxiety, and stress. It is a shortened version of the original 42-item scale and consists of 21 items, with seven items allocated to each of the three subscales. Respondents rate the extent using a 4-point Likert scale ranging from 0 (Never) to 3 (Almost Always). The total DASS score is derived by summing the scores of all 21 items and then multiplying the total by two, providing an overall measure of psychological distress. Higher the scores greater will be the levels of distress. The DASS-21 has shown excellent psychometric properties.

Eurohis Qol 8-item index

EUROHIS-QOL-8 originates from WHOQOL-BREF; this shortened version had acceptable internal consistency reliability and Construct validity compared with the full version in other European studies including The European Health Interview Surveys (EUROHIS-QOL-8). The elements in the following scale encompasses all the facets within the psychological, physical, social, environment and each of them is rated on a Likert type scale of one indicating “not at all” and five signifying “completely.” In addition, the applicability of the scale is also evident; the scale is valid, reliable, and appropriate across cultures in European as well as low income countries. The sum score in total can range from 5 to total of 40. Higher scores indicate better QOL (Schmidt et al., 2006).

Multidimensional Scale of Perceived Social Support (MSPSS)

MSPSS is a self-report instrument developed by Zimet et al (1988). It have 12 items and measures perceived social support from friends and family and other important people in a person’s life (Zimet et al., 1988). The questionnaire has four items for all the subscales and the respondent has been required to rate each item on the 7-Likert type of scale which has been defined as follows: Respondents were asked to use their view on the given statements to select one of the ordinal numbers from the scale which is as follows: 1 for Very strongly disagree & 7 for Very strongly agree (Zimet et al., 1988). The higher scores will suggest higher levels of perceived social support.

Ethical Consideration

First of all departmental permission was taken to conduct the study. Oral consent were obtained from patient that are willing to participate in the study after explain the nature and purpose of the study. In addition, anonymity, privacy, freedom to withdraw from the study at any time and confidentiality of data were all emphasized prior starting the interview. The study will ensure that participants do not experience harm due to participation. Questions will be framed sensitively, and interviews will be conducted with empathy and professional ethics.

Results

The hypotheses of the study were tested by using SPSS 27.0. Pearson correlation, regression analysis and moderation analysis were used to test the hypotheses. Frequency and percentages were calculated for demographic variables.

Table 2: Correlation Coefficients for Psychological distress and Social support among pregnant women with and without History of Spontaneous Abortion(N=120).

Variables	M	SD	Psychological Distress	Social Support
Psychological Distress	55.88	18.90	--	
Social Support	4.28	.83	-.49***	--

Results of table 2 revealed significant negative correlation between psychological distress and social support ($r = -.49$, $p < .001$). This indicates that higher level of social support is associated with lower level of psychological distress.

Table 3: Regression Analysis for impact of Psychological distress on Quality of Life among pregnant women with history of spontaneous abortion (N=73).

Variables	B	SE	t	p	95% CI	
					UL	LL
Constant	29.83***	1.70	17.54	.000	33.22	26.44
Psychological distress	-.095***	.026	-3.60	.001	-.043	-.043

Note. $p < .001$

Table 3 confirmed that R^2 value of .155 showed that the predictors defined 15.5% variance in the dependent variable, and the results showed that psychological distress was a significant negative predictor of quality of life ($\beta = -.394$, $p < .001$).

Table 4: Social support moderates the relationship between psychological distress and quality of life (N=120).

Variable	b	SE	t	p	95 % CI	
					LLCI	ULCI
Constant	-3.801	4.322	-.879	.3810	-12.36	-12.36
Psychological Distress	.295	.069	4.25	.000	.1575	.1575
Social Support	7.434	.955	7.783	.000	5.542	5.542
Int_1	-.084	.016	-5.109	.000	-.117	-.117

Note. $p < .001$

The moderation analysis revealed that social support significantly moderates the relationship between psychological distress and quality of life. The interaction term was significant ($\beta = -0.0849$, $p < .001$), indicating that as social support increases, the positive effect of psychological distress on quality of life decreases. At high levels psychological distress is significantly negatively associated with quality of life, while at low levels, the relationship is non-significant. This finding suggests that social support alters the strength and direction of the relationship between psychological distress and quality of life.

Discussion

The first hypothesis examined a negative correlation between psychological distress and social support among pregnant women ($r = -0.49$, $p < .001$), demonstrating that higher levels of perceived social support corresponds to reduce levels of psychological distress. This result is consistent with recent studies emphasizing the protective role of social support in mitigating mental health challenges during pregnancy.

A cross-sectional study conducted in Poland revealed that social support showed a negative correlation with anxiety among pregnant women. The practice also determined sedentary behavior, childbirth classes as the parameters decreasing stress and anxiety in pregnant women underlining the complex concept of support during prenatal period (Kowalska, 2023).

In the context of Pakistan, this was illustrated by a study of exercise of social support among 150 pregnant women whereby it was observed that informational support, tangible support, emotional support, and esteem support had positive influence on mental health.

According to the findings, social support expectedly emerged as the most powerful predictor of mental well-being during pregnancy with huge importance in enhancing the psychological status of pregnant women (Khadija et al., 2021).

The second hypothesis investigated psychological distress on the quality of life of pregnant women with history of spontaneous abortion. The multiple regression analysis revealed that the overall psychological distress negatively impacted their QOL, whereby larger scores on psychological distress was associated with decreasing scores on QOL, ($B = 0.095$, $t = 5.959$; $p = 0.001$). It is in line with other research studies showing that pregnancy loss has negative psychological effects and its impact on subsequently conceived pregnancies.

A recent longitudinal study on women with history of pregnancy loss revealed that these women manifested higher levels of anxiety and depressive symptoms during subsequent pregnancies, and that the symptoms were negatively associated with physical health, QoL, and social well-being (Chojenta et al., 2014). These psychological problems affect not only the quality of life of the mother, but may affect the bonding between the mother and baby, sleep pattern.

Moreover, most of the literature from Pakistan concludes that women experience social stigma and exclusion after miscarriage and these experiences aggravate the levels of depression in subsequent pregnancies. Such acceptance from society is lacking since other negative feelings can worsen the experience and cause difficulties within the sphere of maternal adjustment, which, in turn, proves that psychological examination is important during pregnancy, especially when women or couples have experienced loss (Parveen et al., 2025).

Third hypothesis investigated the role of social support as a moderator between psychological distress and quality of life in women with and without SA. For moderation analysis, the results showed a moderate regression coefficient ($\beta = -0.084$) and a significance level of .001, suggesting that while having a higher level of social support helps to reduce the influence of PD on QOL by a larger magnitude. This means that the social support are also playing moderator roles in that they explain the reduction of effect of psychological distress on QOL among this group.

The findings presented here similarly consistent with previous studies that established that social support has a role to play in pregnancy. A quantitative cross-sectional study by (Nazza et al., 2024) reported a significant positive correlation between social support and QoL amongst pregnant women; these findings underscore the significance of the social support factor in the improvement of the maternal quality of life. Furthermore, the findings that social support was linked to lower psychological distress supports the stress-buffering hypothesis embraced in the social support theory, which states that social support lessens the impact of stress on different aspects of health. This is more so with pregnant women who have a background of spontaneous abortion since they are susceptible to psychological stress as compared to other women. In another study Zhang et al. (2023), found that there was a strong evidence on how social support moderates perceived stress as the cross-sectional study revealed that women with low social support and who had a history of previous abortion, perceived high levels of stress (Zhang et al., 2023).

Suggestions and Limitations

Future research should recruit a larger and more varied sample to enhance statistical power and generalizability. Conducting studies across different regions and cultural backgrounds can help improve external validity. Longitudinal studies would allow for assessment of psychological distress and social support over time, revealing temporal changes. The study included just 120 participants, which may reduce the generalizability of the findings to a broader population of pregnant women. Use of self-reported instruments may have led to potential biases such as social desirability. Only the quantitative data was used in the study, thus the qualitative data on the participant's individual and emotional process could not be obtained.

Implications

The research emphasizes the concern for mental health assessment during antenatal clinic on women especially those who have records of spontaneous abortion with an aim of identifying those at risk of having psychological distress. Maternity care providers should be trained to recognize and respond empathetically to the psychological impact of pregnancy loss on subsequent pregnancies. Consequently, the findings of the study could encourage people in conservative or traditional settings to break the silence on pregnancy loss by speaking out as they gain a better understanding of the psychological impact of spontaneous abortion.

Conclusion

In conclusion, this study emphasis on the cross-sectional association between psychological distress, perceived social support and quality of life among pregnant women with and without history of spontaneous abortion. Through comprehensive analysis several key findings have been emerged. Firstly, the results showed negative correlation between psychological distress and quality of life which indicates inverse relation if one increases other decreases and vice versa. In addition, findings indicate that psychological distress significantly and negatively impact quality of life. In light of the moderation analysis, social support buffers the negative impact of

psychological distress on quality of life. Accordingly, the present study highlights the potential role for improving the use of psychological screening and increasing the access to improved social support systems for women experiencing pregnancy loss in order to promote a healthier, stronger, and more resilient postnatal well-being in the future mothers.

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