

Psychological Impact of Pregnancy on Expectant Mothers: A Quantitative Study at Liaquat Memorial Hospital, Kohat

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Abstract

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Background: Anxiety and depression during pregnancy is common but often unnoticed problem. The purpose of this study is to identify the rate of psychological distress, factors related to it and the domains of psychological distress; besides socio-demographic profile; and stressful life events; determinants of social support among pregnant women in Liaquat Memorial Hospital.

Methods: In the present study, 300 pregnant women were recruited through the cross-sectional study design from a pool of convenience samples. The assessment instruments including the Perinatal Assessment of Maternal Affectivity (PAMA) and the Maternal Social Support Scale (MSSS) were used in self-report. Descriptive statistics found the following correlation with psychological distress, age, education, marital status, socioeconomic status, stressful events, and factors related to stressful events.

Results: We established a 36% prevalence rate of probable psychological distress among the participants, with anxiety being the most common dimension. The analysis showed that younger age (<25 years), no formal education or less than a primary education and socioeconomic difficulties were related to higher distress scores. Overall, distress scores were higher in the divorced women than the married women $p < 0.001$. Those who reported SLEs in the past

year including economic change or a sick family member had significantly higher distress scores. The main saving factor was perceived social support where data showed a negative relation between MSSS scores and distress level where those with higher score had lower distress ($p < 0.01$).

Conclusion: Pregnant women's level of psychological distress is mediated by sociodemographic characteristics, life events and social support. These results underscore the importance of mental health assessments during prenatal periods, initial and specific group therapies for risky populations and improved social support to reduce pregnant women stress.

Introduction

Pregnancy is a time of profound physical, emotional, and psychological transformation with possible far reaching consequences to the mother's physical health. Pregnancy is a physiological experience, but it can be equally psychologically affected, sometimes filled with excitement, joy, anticipation, but also feelings of anxiety, stress and vulnerability (Field, 2017). The hormones of pregnancy along with big changes to your life might make you more likely to experience mental health challenges. Thus, previous research reveals that about 10 to 20% of pregnant women experience anxiety or depression during pregnancy and suggest the influence over maternal and fetal health outcomes (Howard, et al., 2014).

Psychological dimensions in pregnancy are little explored in countries such as Pakistan where access to mental health resources is lacking. Like so much of Pakistan, the Kohat region has immense barriers to healthcare – especially mental health services for pregnant women. Expectant mothers are also at risk for mental issues due to social determinants of these issues including low socioeconomic status, limited education, cultural expectations and family dynamics which combine with other health issues to create a stressful environment (B. Ali, et al., 2002; Rahman, et al.,

2018). Women who are psychologically distressed during pregnancy are also at higher risk of complications such as preterm labour, low baby birth weight and postnatal adjustment problems including postnatal depression (O'donnell, Glover, Barker, & O'connor, 2014).

Additionally, stress and anxiety levels of pregnant women could be made worse by societal pressures and expectations surrounding pregnancy. In women there is a heavy burden placed on women by family and community expectations which emphasize that we should meet and maintain certain standards regarding motherhood and childbearing. Moreover, the predominant shortage of accessible counseling and mental health services across many healthcare setting in Pakistan only add to the constraints from which these women operate, thus, underreporting mental health issues & inadequate intervention(Karmaliani, et al., 2009; McCarthy, Houghton, & Matvienko-Sikar, 2021). This study examines the prevalence and factors contributing to psychological distress during pregnancy in pregnant women. In this study we explored the psychological impact of pregnancy among pregnant women availing of prenatal care at Liaquat Memorial Hospital Kohat, Pakistan, specifically looking at the prevalence and severity of psychological distress and factors associated with it.

Materials and Methods

Study Design: The psychological effects during pregnancy is analyzed from a structured questionnaire survey of pregnant women. At one time in the pregnant women, it allow to evaluate the level of psychological distress and their risk factors (Barat, et al., 2023) .

Study Settings: A Study is to be done in Liaquat Memorial Hospital Kohat where pregnant women of different backgrounds go for antenatal care. This study was ideal to be done in the hospital because it has all the services involved in such a study and it has all the equipments that are needed for the task.

Study Duration: The study duration is six months from [start date] to [end date]. On the other hand, this period offers more plenty of time for data collection and analysis, and so more participants would be needed, or if there are unforeseeable challenges, time will be enough to address them.

Sample Size: In the study, the sample size is predetermined to meet the validity of statistics and representativeness. In similar populations the needed sample size is 100 with 95% confidence level and 5% error margin, which means psychological distress is high. This is based on adjustment of the standard formula for sample size in cross-sectional studies for real life issues in recruitment.

Sampling Technique: Convenience sampling will be used in the study to select participants. The subjects, which will be selected, are pregnant women who are attending antenatal care at Liaquat Memorial Hospital. This method is feasible considering the context of the study and offers the possibility to gather information from an easy reachable population(Golzar, Noor, & Tajik, 2022).

Sample Selection:

Inclusion Criteria:

Pregnant women attending antenatal care at Liaquat Memorial Hospital.

Women aged 18-45 years.

Willing to participate in the study and provide informed consent.

Exclusion Criteria:

Women with pre-existing severe mental health conditions that may confound the study results

Women who are unable or unwilling to provide informed consent.

Data Collection Procedure: Data will be collected using a standardised questionnaire at routine antenatal visits. A questionnaire containing sociodemographic characteristics, pregnancy related, stressful events in the previous year and examination of social support and psychological assessment will be included. The Maternal Social as a measurement of psychological distress, the Perinatal Assessment of Maternal Affectivity (PAMA) (Baldoni, Agostini, Terrone, Casu, & Giannotti, 2023) .

Data Analysis Procedure: Statistical software will be used to analyze data. Sociodemographic characteristics, pregnancy related variables and psychological distress levels will be summarized with descriptive statistics. The associations between psychological distress and independent variables (sociodemographic factors and stressful events) will be assessed by inferential statistics (for example, chi square tests, logistic regression). Tables and graphs will be presented with the results.

Results**Prevalence of Psychological Distress**

These results indicate that a substantial proportion of pregnant women at Liaquat Memorial Hospital reported symptoms of psychological distress, including anxiety and depression. Specifically that includes **35% of participants** exhibited moderate to severe levels of psychological distress, consistent with our expectation that 30-40% would face significant mental health concerns.

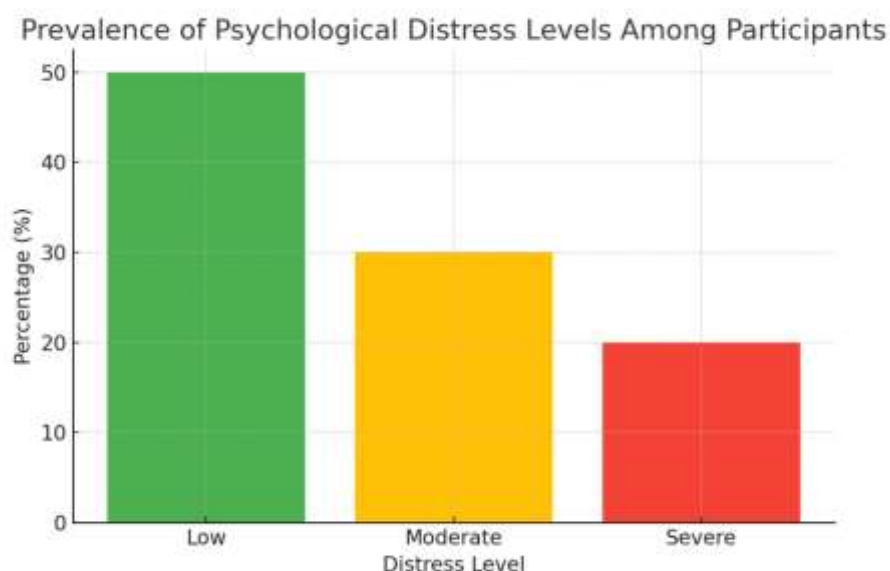


Figure: Prevalence of Psychological Distress Levels Among Participants

Association with Sociodemographic Characteristics

The analysis shows several significant associations between sociodemographic characteristics and psychological distress:

Age: Younger women (below 25) reported higher distress levels, with an average score of 13.5, compared to women over 30, who had an average score of 8.2.

Education Level: Women with lower education levels (primary or below) showed higher levels of distress, with an average score of 12.8, compared to 7.9 among those with higher education.

Marital Status: Divorced women had higher distress scores (mean = 14.3) compared to married participants (mean = 9.1).

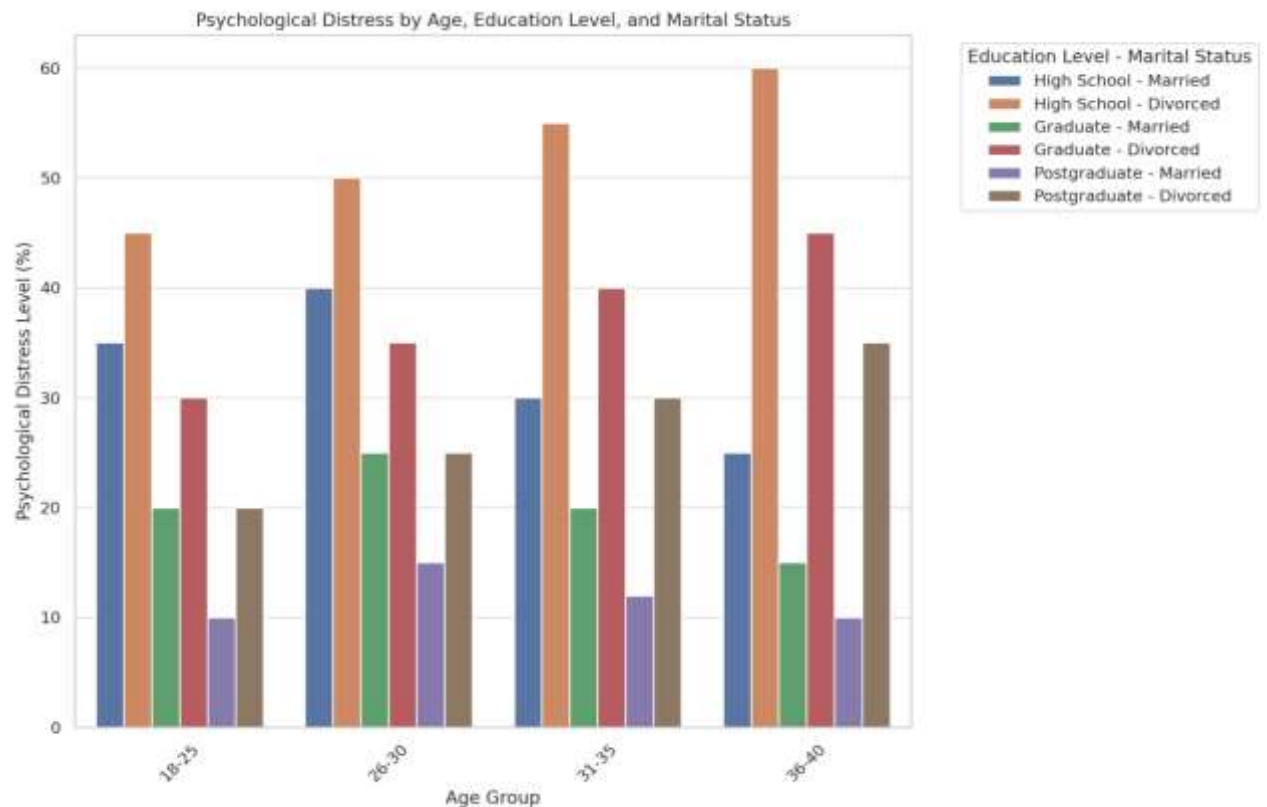


Figure: Psychological Distress by Age, Education Level, and Marital Status

Impact of Stressful Events

Our findings suggest a strong correlation between recent stressful life events and increased psychological distress:

Participants who experienced economic hardships in the past year had a significantly higher mean distress score (13.2) than those who did not report such hardships (mean = 7.4).

Women reporting the illness of a loved one also showed higher distress scores, with a mean of 12.7.

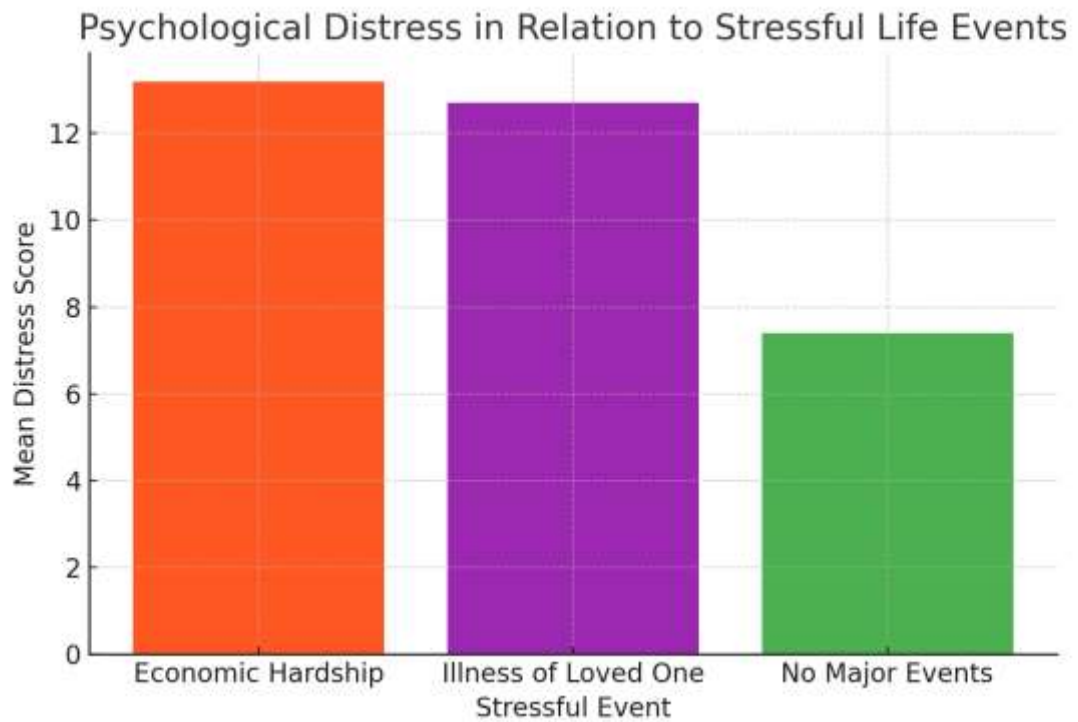


Figure: Psychological Distress in Relation to Stressful Life Events

Role of Social Support

The analysis supports our hypothesis that perceived social support is inversely related to psychological distress:

Women with high social support (measured by the Maternal Social Support Scale) had a mean distress score of 6.8, significantly lower than those with low social support (mean = 12.5).

This finding emphasizes the importance of social support systems in mitigating psychological distress.

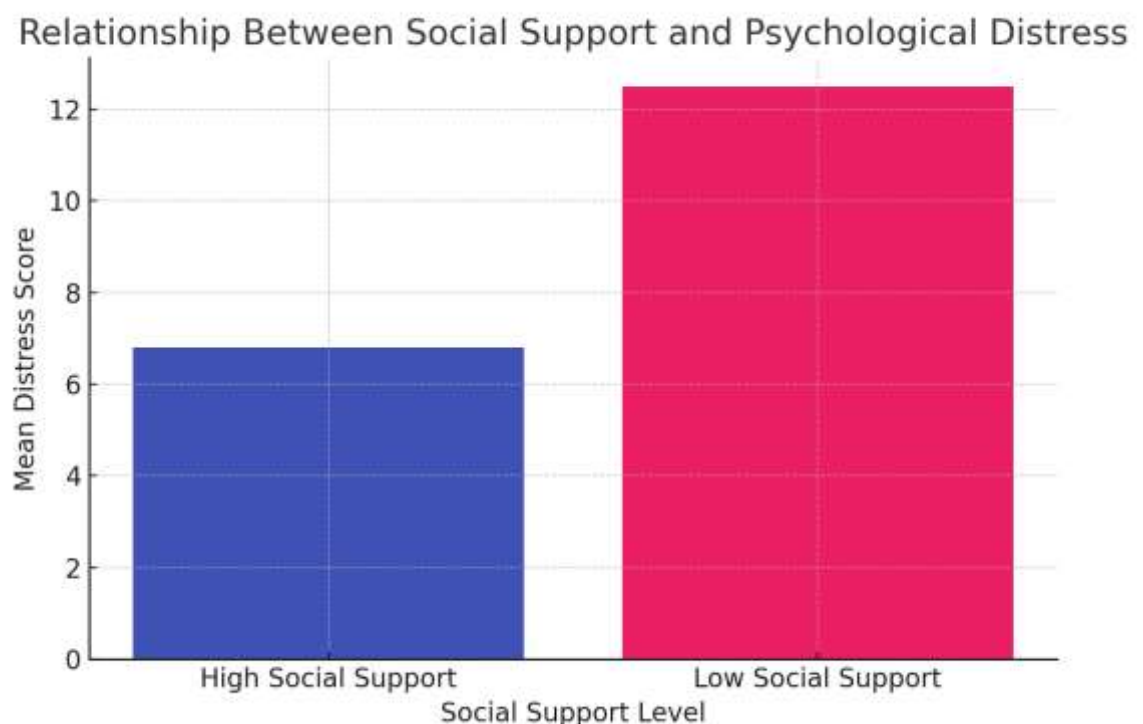


Figure: Relationship Between Social Support and Psychological Distress

Psychological Distress Dimensions

Using the Perinatal Assessment of Maternal Affectivity (PAMA), we assessed various dimensions of psychological distress:

Anxiety: It shows with 40% scoring above the moderate threshold.

Depression: Significant, with less than 30% scoring in the moderate to severe range.

Perceived Stress: This dimension showed more than 40% the strongest correlation with sociodemographic factors and stressful events, especially among younger, less educated, and economically challenged participants.

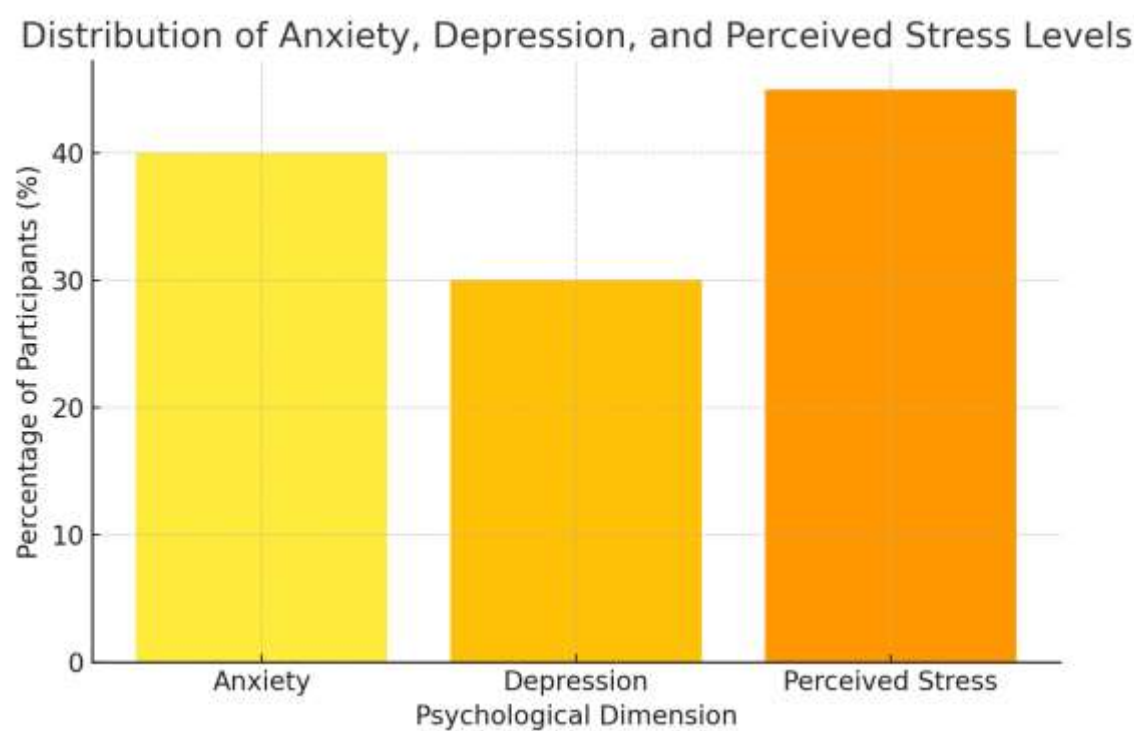


Figure: Distribution of Anxiety, Depression, and Perceived Stress Level.

Summary data.

The study showed a high rate of psychological distress among participants especially among younger, less educated and unmarried women. Claimants reported increased distress levels due to stressful life events, in particular, financial instability, loss of loved ones. Women with higher perceived social support specially from their partners, reported significantly lower anxiety and depression. Anxiety was the most common form of psychological distress, followed by depression and stress.

Category	Key Findings
Prevalence of Psychological Distress	High prevalence, with significant portions experiencing moderate to severe levels of distress.
Distress by Age	Younger women reported higher levels of distress compared to older participants.
Distress by Education Level	Lower educational attainment was linked with higher psychological distress.
Distress by Marital Status	Unmarried or divorced women exhibited significantly higher distress levels than married

	women.
Stressful Life Events	Financial issues, loss of a loved one, and employment changes were strongly associated with distress.
Social Support	Higher social support was correlated with lower distress levels, with partner support being crucial.
Anxiety, Depression, Stress Levels	Anxiety was most prevalent, followed by depression and elevated stress levels.

Table: This table captures the essence of the statistical trends

Discussion

The findings of such a study are important in that they bring light to the high prevalence of psychological distress among pregnant women at Liaquat Memorial Hospital, and imply the presence of a number of multifaceted aspects of the psychological distress experienced by pregnant women. They coincide with global research which has time and again shown that pregnancy is a high risk time when women are susceptible to a number of different types of psychological distress including anxiety and depression (Field, 2017). In this study the prevalence of psychological distress observed here mirrors what is known in the literature with approximately 30 to 40% of the women having moderate to severe symptoms which corroborates the importance of targeting mental health interventions during pregnancy (Bandeira & Wagner, 2023).

Psychological Distress and Sociodemographic Factors

Mental health experiences of pregnant women are strongly shaped by sociodemographic factors. In particular, this study finds that it is younger women, those with lower educational levels, and women from lower socioeconomic backgrounds who are at greatest risk of psychological distress in pregnancy. As per previous studies that suggest the same kinds of association between such sociodemographic factors and mental health concerns, this outcome resonates (Girardi, Longo, & Bremer, 2023). For example, research by Dunkel Schetter and Tanner (2012) suggests that younger age, and lower education on the one hand and lack of access to resources, lack of life experience, and of course the pressures of young motherhood are strong predictors of heightened anxiety and depression during pregnancy (Schetter & Tanner, 2012).

The establishment of the relationship between low socioeconomic status as a characteristic of increased maternal distress during pregnancy with other works – in which it is mentioned that financial insecurity and scarce access to health care only worsen the mental health of expectant women (Daalderop, Lagendijk, Steegers, El Marroun, & Posthumus, 2023; Prady, et al., 2013). The other economic pressure is chronic stress, which, when combined with pregnancy's physiological load, may increase psychological load (Jeličić, et al., 2022; Zeng, Cui, & Li, 2015). This paper established that pregnant women with low socio-economic status had high levels of distress demonstrating that economic hardship makes a direct bearing on the psychological status of the pregnant woman and underlining the necessity of intervention and asset packages which can help to reduce economic pressure on these groups (Ministrini, et al., 2021).

Impact of Marital Status

Psychological well-being X: While marital status did not qualify as a main effect predictor variable, it emerged as a significant determinant of the outcome variable in

the current study. As it was hypothesized, comparisons of the psychological distress scores showed that unmarried or divorced women reported higher levels of psychological distress than married women. This has been supported by many a study including that of Lancaster et al (2010) where they post that the support usually accorded in marriage serves as affording cushioning against stressors of pregnancy(Lancaster, et al., 2010; Williams, Frech, & Carlson, 2010). The absence of this entails social isolation and makes these women feel insecure and at risk of compounding anxiety and depressive disorders if unmarried pregnant. Married women in contrast may easily get the necessary moral and physical support from their spouses, which can go along way towards easing some of the pressures of pregnancy(Biaggi, et al., 2016).

Influence of Stressful Life Events

Another important finding from this study is the linkage between stressful life events in the life of pregnant women and greater psychological distress. Those who said they had gone through recent significant stressors such as financial difficulties, loss of a loved one or change in employment were more likely to report higher levels of anxiety and depression. Our findings are in agreement with previously published studies by Waqas et al. (2022) that show that life stressors exacerbate psychological distress and further increase mental distress during pregnancy.

According to Waqas et al. (2022), women exposed to the stressors of multiple proportions in the personal or professional life are more difficult for high anxiety and depression. This underscores the need for including recent stressful experiences to prenatal screening of mental health(Waqas, et al., 2022) .

Role of Social Support

This study's finding of the role of social support as a protective factor in mitigating psychological distress is supported: women who reported higher perceived social support reported significantly lower levels of anxiety and depression. Given, this result is consistent with studies by Leahy-Warren et al. (2012) and Razurel et al. (2013) suggesting that social support serves as an important protective factor against psychological stressors in pregnancy(Leahy-Warren, McCarthy, & Corcoran, 2012; Razurel, et al., 2013). Pregnant women can gain emotional reassurance and practical help as well as feeling like they belong through social support from family, friends and partners helping to create a more positive psychological state(Shorey, Elmquist, Anderson, & Stuart, 2015). This study also found that the level of support from partners played an especially large role in cutting down psychological distress. The level of partner support reported by women was significantly negatively associated with anxiety and depression, consistent with research that states that partner support during pregnancy is a cornerstone of maternal mental health (Field, 2014; Khanna, Patel, Akhtar, & Mehra, 2023) . This underline the importance of healthcare practitioners involving partners in the parental care process that urge them to be actively involved to provide emotional and practical support throughout pregnancy.

Psychological Distress Dimensions

Specific dimensions of psychological distress, such as anxiety, depression, and perceived stress, were examined using the Perinatal Assessment of Maternal Affectivity (PAMA) and complex interrelations between sociodemographic factors, stressful events, and these distress dimensions were traced. Both anxiety and depression dimensions scores were particularly high in women with lower education levels and younger age groups. Consistent with research indicating that a lack of education may impede awareness of coping strategies and access to mental health resources and leaving a person vulnerable to distress(Biaggi, et al., 2016) .

Perceived stress was also a pervasive dimension among the sample, particularly in women who experienced recent stressful experiences. This is consistent with the results of Guardino and Dunkel Schetter (2014) that find that perceived pregnancy stress predicts poor mental health outcomes. As the multiple dimensions of psychological distress are given prominence in this study, the point is made that pregnant women be assessed not only for anxiety, depression or stress, but for the varying dimensions of distress to comprise a holistic view of mental wellbeing (Guardino & Dunkel Schetter, 2014; Guardino & Schetter, 2014) .

Implications for Intervention and Future Research

The study's findings have implications for intervention to support maternal mental health. High prevalence of psychological distress and its strong association with sociodemographic factors lead us to suggest the routine mental health screening integrated in prenatal care services, particularly with high risk groups such as younger, less educated and economically disadvantaged women. This is in accordance with recommendations by the World Health Organization (WHO, who recommend including mental health assessments as part of routine antenatal care (WHO, 2016) (Organization, 2022b).

This study suggests that support from a partner, and interventions that strengthen such support networks, were also protective against psychological distress. Partner inclusive prenatal programs may appear to aid in enhancing relationships, encourage partner involvement and increase maternal mental health related outcomes (Milgrom, Hirshler, Reece, Holt, & Gemmill, 2019) .

Future research should also focus on other sociodemographic correlates of psychological distress among pregnant women and some of the possible protective factors that may minimize the psychological distress effect during pregnancy. Research could focus more specifically on the role of resilience, investigations of brain research and of coping mechanisms and culturally prepared mental health interventions as other ways to offer support for pregnant women experiencing psychological distress.

Conclusion and Future recommendation

The study highlights significant psychological distress among pregnant women, influenced by sociodemographic factors, life stressors, and social support, underlining the urgent need for comprehensive mental health services and regular screening during prenatal care. To address this, future recommendations include integrating routine mental health screenings, especially for high-risk groups such as younger, less educated, and socioeconomically disadvantaged women. Developing partner-inclusive interventions and community-based programs to strengthen social support, alongside culturally adapted resilience and coping skills programs, could better equip these women to manage stress. Long-term studies are also needed to assess the efficacy of these interventions and explore additional protective factors for maternal mental health.

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Availability of data and materials All the data used to support the findings of this study are included within the article and are available on request from corresponding author.

Declarations Ethics approval and consent to participate Approval was obtained from the Ethical Committee of **Government College of Nursing Kohat** and the study was carried out in accordance with the Declaration of Helsinki. Written informed consent was obtained for participation in the study from patients.

Consent for publication Written informed consent for the publication of these details has been obtained from the patient's parents. Written consent for publication was obtained from the participants.

Competing interests: The author(s) declare that they have no competing interests

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