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**Original Research Article**

# Association between maternal psychosocial factors and preterm birth: a case-control study from central Uttar Pradesh, India

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## ABSTRACT

**Background:** Maternal psychosocial factors during pregnancy have been associated with an increased risk of preterm birth (PTB), however evidence from rural Indian settings remains limited. This study examined the relationship between maternal psychosocial factors and PTB in rural Uttar Pradesh, India.
**Methods:** A case–control study was conducted in Raebareli district, Uttar Pradesh, among 425 postpartum women interviewed within three months of delivery. Cases included 110 women who delivered preterm infants (<37 weeks of gestation), while controls comprised 315 women who delivered at term (≥37 weeks).
**Results:** Persistent depressive symptoms during pregnancy were reported by nearly half of the women and were more common among cases than controls (65.5% vs 45.0%). After adjusting for potential confounders, maternal depressive symptoms were significantly associated with increased odds of PTB (AOR=3.09). A history of mental health problems (AOR=1.69), physical abuse by a partner during pregnancy (AOR=2.03), and substance use (AOR=2.41) were also independently associated with higher odds of PTB. In contrast, strong family support (AOR=0.55) and a caring, emotionally supportive spousal relationship (AOR=0.42) were protective against PTB.
**Conclusions:** Maternal psychosocial factors play a critical role in the risk of PTB in rural India. Integrating mental health screening, psychosocial risk assessment, and interventions addressing domestic violence and substance use into routine antenatal care, alongside efforts to strengthen family and spousal support, may be essential for reducing the burden of PTB.

**Keywords:** Maternal psychosocial factors, Antenatal depression, Preterm birth

## INTRODUCTION

Evidence suggests that pregnancy can be affected by psychosocial adversities such as stress, anxiety, and depression, and all of these adversities are associated with an increased risk of PTB.[1] PTB is defined as the delivery that occurs prior to the 37$^{th}$ week (259 days) of pregnancy.[2] It is an important cause of under-five mortality and a significant contributor to neonatal mortality.[3] Globally, PTB and its related complications are responsible for approximately one million child deaths each year.[4] A recent study published in The Lancet (2025) reported that Southern Asia had the highest global PTB rate (13.2%), and within this region, India recorded the third-highest rate of PTB in 2020 (13%).[5] India, with its highest number of PTBs and the highest number of preterm deaths worldwide, contributes 25% of the overall global preterm-related deaths.[6] A study based on national health family survey-5 data found that in India, out of the total births (n=164,825), 19,887 (12.34%) were PTBs, and 1.56% died within the first 28 days of life after birth.[7] This represents a primary obstacle to the United Nations (UN) sustainable development goal 3.2, which is to end preventable deaths of new-borns and children under 5 years of age by 2030.

There are multiple reported risk factors for PTB. Of particular concern in South Asian countries such as India, maternal psychosocial distress is one of the major contributors to PTB.[8,9] There is strong evidence that antenatal psychosocial stress during pregnancy increases the likelihood of PTB.[10] A systematic review of studies on antenatal depression in South Asia reported a pooled prevalence of PTB of 24.3%, with a corresponding prevalence of 17.74% in India, highlighting the substantial burden of PTB in the region.[11] Several previous studies suggest that maternal psychosocial stress, such as pregnancy-related anxiety, stress, and depression, may be linked to an increased risk of PTM.[12–14] Maternal psychosocial stress is not only a predictor of PTB, but it can also affect the developing child before and after birth. It can affect fetal development and the child's long-term neurodevelopment and increasing the risk of psychiatric disorders in later life.[15]

Indian women are likely more vulnerable to maternal psychosocial stress, depression, and anxiety due to intersecting socioeconomic factors (e.g., household income, education, family structure, marital relationship), obstetric, and sociocultural factors (e.g., early age at marriage, history of miscarriage or stillbirth).[10,14,16] Therefore, it is important to consider the demographic, socio-economic, and cultural context of women when examining the relationship between maternal psychosocial status and PTB. A study based on population-based data from Bangladesh and Pakistan reported that mothers' young age (adjusted odds ratio: [AOR]:1.34), history of miscarriage (AOR:1.39), and history of stillbirth (AOR: 1.42) were significantly associated with an increased risk of PTB.[16] Another study conducted in North India on pregnant women who suffered a major stressful life event in 6 months before conceiving found that participants with trait anxiety were at a 4.08 times higher risk of delivering a preterm baby.[12]

Apart from psychosocial stress, various forms of abuse during pregnancy can directly affect the PTB. At the same time, domestic violence and low family support are considered one of the important social risk factors affecting maternal stress.[17-19] A study conducted in Iran found that physical, sexual, and emotional domestic violence during the pregnancy period increases the risk of preterm labor pain (odds ratio: 3.31).[18] Another study conducted in Tamil Nadu found that psychosocial abuse (AOR: 3.9) and mild or greater depressive symptoms (AOR: 3.3) were significantly associated with increased risk of PTB.[19] Additionally, lifestyle factors such as smoking, substance use, and sleep quality also play crucial roles in determining the risk of PTB.[13]

In India, particularly in states like Uttar Pradesh, the prevalence of PTB remains unacceptably high despite improvements in maternal healthcare. However, there is a significant lack of evidence on maternal psychosocial factors and their association with PTB in the Indian context. In particular, very few studies from rural India have examined the burden of antenatal depression and its relationship with PTB. This study addresses these gaps by examining maternal psychosocial factors and their association with PTB in rural Uttar Pradesh, India. We hypothesize that psychosocial factors are strong predictors of PTB. The findings of this study will provide important insights into whether poor maternal psychosocial health increases the risk of PTB.

## METHODS

### *Study design and setting*

This case-control study was conducted among postpartum women in the Raebareli district of Uttar Pradesh, India, between October 2024 and January 2025. Raebareli comprises approximately 34.45 lakh residents spread across 18 administrative blocks, making it an ideal site for capturing diverse socio-demographic and health-related factors.

### *Study participants and case-control selection*

The study population comprised women who had recently delivered live-born infants. Participants were divided into 2 groups:

*Cases*

Women who delivered a PTB (gestation <37 weeks) were included in case group.

*Control*

Women who delivered infants in full-term gestation (≥37 weeks) period were control group.

Controls were matched to cases on key socio-demographic variables (such as education, income, and cultural background) to control for potential confounding effects of these variables. The assumption underlying control selection is that the prevalence of psychosocial factors is lower among mothers with normal birth outcomes than among those with PTB outcomes.

### *Inclusion criteria*

Women who delivered a live-born baby within the past 7 days to 3 months, to ensure recall of psychosocial experiences during pregnancy is relatively recent and accurate were included in the study.

### *Exclusion criteria*

To reduce biological confounding, the following women were excluded: underweight women (BMI <18.5), severely anaemic women (haemoglobin <7 g/dL), women diagnosed with gestational diabetes mellitus (GDM) (blood glucose >140 mg/dL), women with pregnancy-induced hypertension (BP >140/90 mmHg).

These conditions are independently associated with adverse birth outcomes and could bias the association between psychosocial factors and PTB.

### *Sample size and sampling procedure*

The sample size was calculated using the formula for unmatched case-control studies.[20]

$$N=(Z_{1-\alpha/2}+Z_{1-\beta})^2 \times (p_0q_0+p_1q_1)/(p_1-p_0)^2$$

The sample size for this unmatched case-control study was calculated based on the following assumptions: a 95% confidence level ($Z_{1-\alpha/2}=1.96$), 80% power ($Z_{1-\beta}=0.84$), a 1:1 ratio of controls to cases, an expected proportion of exposure among controls ($P_0$) of 20%, and an anticipated odds ratio (OR) of 1.8, indicating a moderate association. Based on one of the key variables related to PTB, the final sample size included 110 participants in the case group and 315 in the control group, resulting in a total sample of 425 participants.

### *Study tool*

Data were collected using a structured questionnaire that included three components: (1) demographic and socio-economic information such as age, age at the time of marriage, education level, religion, caste, type of family, socioeconomic class; (2) Psychosocial factors were evaluated by screening for stress, anxiety, and depression using the Edinburgh depression scale (EDS), a validated instrument for identifying common mental disorders; and (3) obstetric and neonatal details including gestational age at delivery, and any pregnancy or delivery complications.[21] Obstetric data were obtained from the records maintained by accredited social health activist (ASHA) facilitators, who are responsible for line-listing deliveries and conducting follow-up visits in their assigned areas. These data were cross-verified with the mothers during interviews to ensure accuracy and completeness.

### *Statistical analysis*

### *Psychosocial factors assessment using the Edinburgh depression scale*

Maternal depression was assessed by referring the EDS, a 10-item self-report instrument designed to screen for symptoms of emotional distress during pregnancy and the postnatal period.[22] The EDS has been widely used in similar studies, supporting its validity and relevance in this context.[23,24]

The tools were pre-tested after which some modifications were done and the sequencing was changed. Reliability test was conducted for assessing the reliability of the constructed tool. The Cronbach's Alpha score was 0.8167, which indicated that the developed tool was acceptable for the study.

### *Social factors affecting PTB*

To examine factors associated with PTB, participants were asked structured questions on abuse, family support, and substance use. The antenatal psychosocial health assessment (ALPHA) tool has been used to assess the association and influence of social risk factors with pregnancy outcomes of LBW/Premature birth. The following points are covered in the ALPHA tool: Partner support and violence, women exposed to any kind of physical, emotional, or sexual abuse, previous child abuses, substance use by women during pregnancy.[25]

A statistical analysis was reported as percentages with 95% confidence intervals (CIs). A $p<0.05$ was considered statistically significant. Multivariate logistic regression analysis was conducted to identify factors associated with PTB. Results were presented as adjusted odds ratios (AORs) with corresponding 95% CIs.

## RESULTS

### *Socio-demographic and economic characteristics of study participants*

The sociodemographic and economic characteristics of women with PTB (cases, n=110) and women without PTB (controls, n=315) are displayed in Table 1. The majority of women in both groups were between the ages of 18 and 24, followed by those between the ages of 25 and 30, with very few older than 30. There was no significant difference in the age distribution between the cases and controls (p=0.34). Age at marriage was similar among groups (p=0.15), and the majority of women were married between the ages of 25 and 30. Cases and controls had comparable educational levels, with junior secondary education being the most prevalent level (p=0.13). There were no discernible variations by caste (p=0.31) or religion (p=0.31) in the study sample, which was predominantly Hindu and comprised individuals from other backwards classes. There was no significant difference in family type between the two groups (p=0.40), and the majority of individuals lived in joint families.

The majority of women belonged to the upper-lower socioeconomic class, and the cases and controls had similar socioeconomic statuses (p=0.31). Table 1 clearly shows that sociodemographic and economic characteristics were comparable between cases and controls.

### *Association of maternal psycho-social factors with PTB*

The relationship between PTB and maternal psychosocial variables is shown in Table 2. The prevalence of anxiety or depression symptoms during pregnancy was significantly higher in PTB mothers than in controls (60.9% vs. 29.5%; $\chi^2=32.89$, $p<0.001$). Similarly, women prior mental health issues reported higher percentage of

cases (37.3% vs. 26.0%; p=0.034) than controls. Women who experienced emotional abuse (10.9% vs 3.2%; p=0.004) and sexual or physical abuse during childhood (10.9% vs 4.8%; p=0.041) were both significantly associated with PTB.

Low family support during pregnancy (73.6% vs. 60.6%; p=0.020) and a lack of a loving and emotionally supportive relationship with their husband (41.8% vs. 23.2%; p<0.001) were more common among PTB mothers. Moreover, substance use (12.7% vs. 5.7%; p=0.029) and physical abuse by a spouse during pregnancy (15.5% vs. 8.3%; p=0.049) were significantly more common among PTB mothers. However, there was no significant correlation found between PTB and recent stressful events or emotional maltreatment during pregnancy.

***Psychosocial factors associated with PTB***

Table 3 presents the results of multivariable logistic regression examining the association between maternal psychosocial factors and preterm birth. Women who reported depressive symptoms during pregnancy had more than thrice the odds of PTB compared with those without such symptoms (AOR=3.09; 95% CI: 1.96-4.90; p<0.001). A history of mental health problems was also significantly associated with PTB (AOR=1.69; 95% CI: 1.06-2.67; p=0.026).

Exposure to emotional abuse during childhood significantly increased the odds of PTB (AOR=3.73; 95% CI: 1.64-8.46; p=0.002), as did sexual or physical abuse during childhood (AOR=2.45; 95% CI: 1.12-5.37; p=0.026). Physical abuse by a partner during pregnancy (AOR=2.03; 95% CI: 1.04-3.99; p=0.034) and substance use (AOR=2.41; 95% CI: 1.16-5.02; p=0.019) were also increased the risk of preterm birth.

In contrast, strong family support (AOR=0.55; 95% CI: 0.32-0.94) and a caring spousal relationship (AOR=0.42; 95% CI: 0.26-0.66) were protective against preterm birth. Recent stressful events and emotional abuse during pregnancy were not significantly associated.

**Table 1: Socio-demographic and economic characteristics of study participants.**

| Background characteristics | Cases, (n=110) | | Controls, (n=315) | | Total, (n=425) | | Chi-square ($\chi^2$) | P value |
|---|---|---|---|---|---|---|---|---|
| | Women with preterm | | Women without preterm | | | | | |
| | N | % | N | % | N | % | | |
| **Age of the respondent (in years)** | | | | | | | | |
| 18 to 24 | 54 | 49.1 | 130 | 41.3 | 184 | 43.3 | 2.15 | 0.34 |
| 25 to 30 | 48 | 43.6 | 162 | 51.4 | 210 | 49.4 | | |
| >30 | 8 | 7.3 | 23 | 7.3 | 31 | 7.3 | | |
| **Age at the time of marriage (in years)** | | | | | | | | |
| 18 to 24 | 6 | 5.5 | 6 | 1.9 | 12 | 2.8 | 3.83 | 0.147 |
| 25 to 30 | 103 | 93.6 | 303 | 96.2 | 406 | 95.5 | | |
| >30 | 1 | 0.9 | 6 | 1.9 | 7 | 1.6 | | |
| **Education level** | | | | | | | | |
| No education | 12 | 10.9 | 52 | 16.5 | 64 | 15.1 | 9.88 | 0.129 |
| Primary up to 5th class | 26 | 23.6 | 59 | 18.7 | 85 | 20.0 | | |
| Junior secondary (6 to 8th) | 33 | 30.0 | 80 | 25.4 | 113 | 26.6 | | |
| High school | 9 | 8.2 | 39 | 12.4 | 48 | 11.3 | | |
| Intermediate | 15 | 13.6 | 41 | 13.0 | 56 | 13.2 | | |
| Graduate and above | 15 | 13.6 | 44 | 14.0 | 59 | 13.9 | | |
| **Religion** | | | | | | | | |
| Hindu | 103 | 93.6 | 285 | 90.5 | 388 | 91.3 | 1.02 | 0.31 |
| Muslim | 7 | 6.4 | 30 | 9.5 | 37 | 8.7 | | |
| **Caste** | | | | | | | | |
| General | 14 | 12.7 | 40 | 12.7 | 54 | 12.7 | 0.615 | 0.89 |
| OBC | 52 | 47.3 | 148 | 47.0 | 200 | 47.1 | | |
| SC/ST | 44 | 40.0 | 127 | 40.3 | 171 | 40.2 | | |
| **Type of family** | | | | | | | | |
| Nuclear | 18 | 16.4 | 63 | 20.0 | 81 | 19.1 | 0.696 | 0.4 |
| Joint | 92 | 83.6 | 252 | 80.0 | 344 | 80.9 | | |
| **Socioeconomic class** | | | | | | | | |
| Lower (score <5) | 11 | 10.0 | 55 | 17.5 | 66 | 15.5 | 3.61 | 0.307 |
| Upper lower (score 5 -10) | 85 | 77.3 | 220 | 69.8 | 305 | 71.8 | | |
| Lower middle (score 11-15) | 13 | 11.8 | 37 | 11.7 | 50 | 11.8 | | |
| Upper middle (score 16-25) | 1 | 0.9 | 3 | 1.0 | 4 | 0.9 | | |

**Table 2: Association of maternal psychosocial factors with preterm births.**

| Maternal psychosocial factors | Case, (n=110) | | Control, (n=315) | | Total, (n=425) | | Chi-Square ($\chi^2$) | P value |
|---|---|---|---|---|---|---|---|---|
| | Women with preterm | | Women without preterm | | | | | |
| | N | % | N | % | N | % | | |
| **Depressive symptoms** | | | | | | | | |
| No | 43 | 39.1 | 222 | 70.5 | 265 | 62.4 | 32.89 | 0.000 |
| Yes | 67 | 60.9 | 93 | 29.5 | 160 | 37.6 | | |
| **Any history of mental health problems ever** | | | | | | | | |
| No | 69 | 62.7 | 233 | 74.0 | 302 | 71.1 | 4.48 | 0.034 |
| Yes | 41 | 37.3 | 82 | 26.0 | 123 | 28.9 | | |
| **Experience of any stressful event in last 12 months** | | | | | | | | |
| No | 101 | 91.8 | 297 | 94.3 | 398 | 93.6 | 0.47 | 0.492 |
| Yes | 9 | 8.2 | 18 | 5.7 | 27 | 6.4 | | |
| **Experienced emotional abuse during childhood** | | | | | | | | |
| No | 98 | 89.1 | 305 | 96.8 | 403 | 94.8 | 8.42 | 0.004 |
| Yes | 12 | 10.9 | 10 | 3.2 | 22 | 5.2 | | |
| **Sexually or physically abused during childhood** | | | | | | | | |
| No | 98 | 89.1 | 300 | 95.2 | 398 | 93.6 | 4.20 | 0.041 |
| Yes | 12 | 10.9 | 15 | 4.8 | 27 | 6.4 | | |
| **Received family support and care during pregnancy** | | | | | | | | |
| Low support received | 81 | 73.6 | 191 | 60.6 | 272 | 64.0 | 5.43 | 0.020 |
| Highly supportive family | 29 | 26.4 | 124 | 39.4 | 153 | 36.0 | | |
| **Relationship with husband is caring and emotionally supportive** | | | | | | | | |
| Low support and care | 46 | 41.8 | 73 | 23.2 | 119 | 28.0 | 13.15 | 0.000 |
| Highly supportive and caring | 64 | 58.2 | 242 | 76.8 | 306 | 72.0 | | |
| **Physical abuse (Pushed or hit or slapped) by partner during the pregnancy** | | | | | | | | |
| No | 93 | 84.5 | 289 | 91.7 | 382 | 89.9 | 3.89 | 0.049 |
| Yes | 17 | 15.5 | 26 | 8.3 | 43 | 10.1 | | |
| **Emotional abuse by partner during pregnancy** | | | | | | | | |
| No | 96 | 87.3 | 289 | 91.7 | 385 | 90.6 | 1.42 | 0.233 |
| Yes | 14 | 12.7 | 26 | 8.3 | 40 | 9.4 | | |
| **Use of any substance** | | | | | | | | |
| No | 96 | 87.3 | 297 | 94.3 | 393 | 92.5 | 4.80 | 0.029 |
| Yes | 14 | 12.7 | 18 | 5.7 | 32 | 7.5 | | |

**Table 3: Logistic regression analysis for maternal psychosocial disorders factors and preterm births.**

| Maternal psychosocial factors | AOR | 95% CI | P value |
|---|---|---|---|
| **Depressive symptoms** | | | |
| No | 3.09 | 1.96-4.90 | <0.001 |
| Yes | | | |
| **Any history of mental health problems ever** | | | |
| No | 1.69 | 1.06-2.67 | 0.026 |
| Yes | | | |
| **Experience of any stressful event in last 12 months** | | | |
| No | 1.47 | 0.67-3.22 | 0.336 |
| Yes | | | |
| **Experienced emotional abuse during childhood** | | | |
| No | 3.73 | 1.64-8.46 | 0.002 |
| Yes | | | |
| **Sexually or physically abused during childhood** | | | |
| No | 2.45 | 1.12-5.37 | 0.026 |
| Yes | | | |
| **Received family support and care during pregnancy** | | | |
| Low support received | 0.55 | 0.32-0.94 | 0.027 |
| Highly supportive family | | | |
| **Relationship with husband is caring and emotionally supportive** | | | |
| Low support and care | 0.42 | 0.26-0.66 | 0.000 |
| Highly supportive and caring | | | |
| **Physical abuse (Pushed/hit/slapped) by partner during pregnancy** | | | |
| No | 2.03 | 1.04 -3.99 | 0.034 |
| Yes | | | |
| **Emotional abuse by partner during pregnancy** | | | |
| No | 1.62 | 0.81-3.22 | 0.170 |
| Yes | | | |
| **Use of any substance** | | | |
| No | 2.41 | 1.16-5.02 | 0.019 |
| Yes | | | |

## DISCUSSION

This study examined the association between maternal psychosocial disorders and the risk of PTB in a rural district of Uttar Pradesh, India. The prevalence of depressive symptoms was found to be 60.9% in the case group and 29.5% in the control group, with an overall prevalence of 37.6%.

We found a strong association between psychosocial disorders, including a history of mental health issues, and experience of any stressful event in the last 12 months, with higher risks of PTB. These findings are consistent with existing studies conducted in different parts of India, which also report elevated risks of PTB among women exhibiting anxiety and depressive symptoms during pregnancy.[12,26] For example, a study conducted in Kerala, India, among 126 mothers who delivered baby ≤34-week gestation period found that 27% preterm mothers experienced anxiety and 14% reported depression.[26] Similar associations have been reported in other Asian countries, suggesting that the relationship between maternal psychosocial distress and PTB is consistent across diverse sociocultural contexts.[27-29] A study conducted in China found that compared with women with healthy minds, women with total mental health concerns had a 29% higher risk of overall PTB (AOR=1.28).[29] Prenatal stress may increase through poor lifestyle factors such as poor dietary intake, inadequate nutrition, and tobacco use.[30] A national-level data-based study in India found mothers who smoked had 1.27 times higher odds of delivering PTB compared with non-smoking mothers.[7] These findings indicate that adverse behavioural factors during pregnancy may elevate psychosocial distress, which in turn increases the risk of PTB.

The adjusted analyses indicated that lack of family support and an unsupportive spousal relationship were associated with higher odds of preterm birth. Women who received adequate family support and care during the perinatal period had less than half the odds of experiencing PTB compared with women who reported low family support. This finding is consistent with previous research showing that depressive symptoms are more likely in women who lack social support and have a poor connection with their family or partner.[9,31] Supporting this evidence, a systematic review and meta-

analysis reported that women with low social support had a 1.22-fold higher risk of PTB compared with those with high levels of social support.[32] Family and social support are vital in maintaining mental wellness, especially in countries like India, where traditional family structure plays a crucial role in individuals' lives.

Our results further demonstrate that women who experienced physical, emotional, or sexual abuse during the perinatal period had a higher prevalence of preterm birth. This finding is consistent with a study conducted in Hyderabad, India, among 300 pregnant women, which reported that 6.4% of women with a history of physical, emotional, or sexual abuse delivered preterm infants.[33] Another study conducted at the antenatal clinic of a tertiary care hospital in Delhi, India, where 168 women experienced preterm delivery, and among them, 62 (36.9%) reported exposure to intimate partner violence during pregnancy.[17] Several other studies have also demonstrated a significant association between domestic violence and adverse pregnancy outcomes, including preterm labor and preterm delivery.[17,19,34,35] These findings suggest that exposure to violence and lack of social support during pregnancy may contribute to increased vulnerability to PTB.

In summary, maternal psychosocial disorders during pregnancy are a major risk factor for preterm birth. Routine antenatal screening for anxiety and depression, along with early identification and support for women experiencing depressive symptoms, may help reduce the risk of preterm birth. Also, strengthening family support can act as a protective factor against maternal stress and its effects on PTB.

### *Strength and limitations*

This study offers some notable strengths. It addresses a critical gap in maternal and child health research by focusing on the psychosocial dimensions of pregnancy and their association with PTB in a low-resource setting. The use of a case-control design allowed for a direct comparison between women who experienced low birth weight or preterm births and those who did not, enhancing the analytical rigour. This paper has potential limitations. This study offers valuable insights into the relationship between maternal psychosocial factors and PTB, but several limitations should be acknowledged. Data collection was geographically restricted to a single district (Raebareli, Uttar Pradesh), limiting the generalizability of the findings to broader populations. The use of self-reported questionnaires introduces potential response bias, as participants may underreport or overreport symptoms due to stigma, memory recall issues, or misinterpretation of questions. Given the retrospective nature of the interviews, recall bias is also a notable concern. Furthermore, although validated tools were used, these instruments are not substitutes for clinical diagnostic assessments, which may lead to differences in the estimated prevalence of psychosocial conditions and affect the precision of observed associations with birth outcomes.

## CONCLUSION

This study highlights the significant role that maternal psychosocial factors play in PTB, despite the cases and controls having similar sociodemographic and economic characteristics. Persistent depressive symptoms during pregnancy, a history of mental health problems, childhood emotional or sexual abuse, physical abuse by a partner during pregnancy, and substance use were all significantly associated with an increased risk of PTB. In contrast, strong family support and a caring, emotionally supportive spousal relationship were protective. These findings highlight the cumulative impact of psychosocial stressors throughout the life course on adverse birth outcomes, emphasizing the importance of incorporating mental health screening, psychosocial risk assessment, and interventions addressing domestic violence and substance use into routine antenatal care, as well as efforts to strengthen family and spousal support, particularly in resource-constrained settings.

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