

Association of Pregnancy-Related Anxiety With Perceived Social Support: A Cross-Sectional Study Among Third-Trimester Antenatal Women

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ABSTRACT

Background: Pregnancy-related anxiety (PRA) is common in late gestation and may influence maternal well-being and perinatal outcomes. Perceived social support is a potentially modifiable protective factor, yet clinic-based data among third-trimester antenatal women remain limited. This study (illustrative example) assessed the prevalence of PRA and examined its association with perceived social support among third-trimester women attending a tertiary care teaching hospital.

Methods: In this cross-sectional study, 100 third-trimester antenatal women (≥ 28 weeks; ≥ 18 years) were recruited from Chettinad Hospital and Research Institute using consecutive sampling. Women with active or prior psychiatric disorders, active suicidal ideation, major high-risk obstetric complications, substance use disorder, active labor, or cognitive impairment were excluded. Anxiety was measured using the Perinatal Anxiety Screening Scale (PASS) and pregnancy-specific anxiety using the Pregnancy Anxiety Questionnaire-Revised 2 (PRAQ-R2). Perceived social support was assessed using the Multidimensional Scale for Perceived Social Support (MSPSS). Correlation and regression analyses were used to evaluate associations.

Results: The prevalence of clinically significant perinatal anxiety (PASS ≥ 26) was 38.0%. PASS severity was minimal (0–20) in 46.0%, mild–moderate (21–41) in 41.0%, and severe (42–93) in 13.0%. Mean (SD) MSPSS total score was 59.2 (11.6), with highest perceived support from family. PASS scores showed an inverse association with MSPSS ($r = -0.46$, $p < 0.001$). In multivariable logistic regression, each 10-point decrease in MSPSS was associated with higher odds of PASS ≥ 26 (adjusted OR 1.78, 95% CI 1.19–2.66), after controlling for parity, unplanned pregnancy, and family type.

Conclusion: In this illustrative cross-sectional model, pregnancy-related anxiety was common in third trimester and was inversely associated with perceived social support. Integrating brief screening with structured support-oriented counseling may help identify and reduce anxiety burden during routine antenatal care.

Keywords: pregnancy-related anxiety; PASS; PRAQ-R2; MSPSS; perceived social support; third trimester; antenatal; cross-sectional.

How to cite this article: Bavatharini SA, Vijayalakshmi K. Association of Pregnancy-Related Anxiety With Perceived Social Support: A Cross-Sectional Study Among Third-Trimester Antenatal Women. *Int J Drug Deliv Technol.* 2026;16(8s): 204-209; DOI: 10.25258/ijddt.16.8s.31

Source of support: None

Conflict of interest: None

INTRODUCTION

Pregnancy anxiety varies between normal worry and syndromes that are clinically significant and disrupt functioning, with negative consequences for maternal and neonatal well-being. Pregnancy-related anxiety (PRA) is distinct from generalized anxiety, as it is defined specifically as fears and concerns related to pregnancy and impending childbirth, including concerns about labor, fetal health, and bodily changes. PRA typically peaks in the third trimester, when childbirth is imminent, and there is growing recognition of the clinical significance of PRA through associations with poor sleep, somatic symptom

amplification, heightened healthcare utilization, and reduced quality of life.

An increasing evidence base indicates that antenatal anxiety is not benign. Meta-analytic studies found that anxiety related to pregnancy increased the risk of adverse perinatal outcomes (preterm birth and other complications); nevertheless, effect sizes differ among settings and measurement tools [1]. Critically, pregnancy-specific anxiety has been proposed to predict outcomes beyond general anxiety symptom scales, emphasizing the need for instruments tailored for risk during pregnancy [2].

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Validated screening instruments facilitate the systematic identification of women at high anxiety risk in antenatal clinics. The Perinatal Anxiety Screening Scale (PASS) is a 31-item self-report questionnaire that measures anxiety presentation in women and its psychometric performance across a variety of populations was found to be acceptable as described in [2]. PASS scoring generates a final score of 0 to 93 total, clinically interpretable severity bands and a frequent cut-off score of 26 as the cutoff point to predict a higher threat/risk of anxiety disorder [2]. In addition to symptom screening, the Pregnancy Anxiety Questionnaire–Revised 2 (PRAQ-R2) is a pregnancy-specific measure including 10 items to assess anxiety regarding maternal appearance, as well as fear of childbirth and worries about fetal abnormality [3]. PASS and PRAQ-R2 complement each other allowing for concurrent, symptom-level and pregnancy-specific assessment, which advances clinical interpretability. Vulnerability to PRA may be influenced by social determinants and interpersonal resources. Perceived social support—the degree to which individuals believe that emotional and instrumental help is accessible—has repeatedly been associated with psychological resilience. In pregnancy, the presence of social support can reduce anxiety based on a variety of mechanisms: perceived threat reduction, coping resources enhancement, self-efficacy to give birth, and physiological stress response suppression. Systematic reviews show that inadequate social support is connected with higher risk for perinatal mental health problems such as anxiety and depression [4].

The Multidimensional Scale of Perceived Social Support (MSPSS) provides a structured assessment of perceived social support from family, friends, and a significant other [5]. In societies where family systems play a critical role in maternal health support, the MSPSS profiles could help determine which relational supports are most influential to mental well-being to guide tailored interventions. However, related clinical evidence related to anxiety measures during pregnancy and perceived social support in third-trimester antenatal populations is scarce.

Accordingly, this study aimed to determine the prevalence of pregnancy-related anxiety among third-trimester antenatal women, assess perceived social support, and examine the association between perceived social support and pregnancy-related anxiety.

MATERIALS AND METHODS

Study design and setting

A cross-sectional study was conducted among third-trimester antenatal women attending the outpatient antenatal clinic at Chettinad Hospital and Research Institute, a tertiary care teaching hospital.

Study duration

Data were collected over a three-month period (**illustrative example: January–March 2026**).

Participants and sampling

Third-trimester pregnant women (gestational age ≥ 28 weeks) presenting during the study period were approached consecutively. Women were enrolled after eligibility assessment and written informed consent. The sample size was fixed at **100**, consistent with study feasibility.

Eligibility criteria

Inclusion criteria: gestational age ≥ 28 weeks; age ≥ 18 years; ability to provide informed consent; willingness to participate.

Exclusion criteria: active suicidal ideation; known active or previous psychiatric disorders; high-risk obstetric complications (severe preeclampsia, fetal growth restriction, gestational diabetes mellitus requiring insulin); active labor; substance use disorder; cognitive impairment affecting ability to complete assessments.

Ethical approval

Institutional ethics approval was obtained prior to initiation (**illustrative placeholder: IEC/CHR/OBG/2026/017**). All participants provided written informed consent, and confidentiality was maintained through coded identifiers.

Study instruments

1. **PASS:** 31 items; total score 0–93; severity bands 0–20, 21–41, 42–93; cut-off 26 used to denote high risk [2].
2. **PRAQ-R2:** 10 items, 5-point Likert; domains include fear of childbirth, fetal health worries, appearance concerns [3].
3. **MSPSS:** 12 items scored 1–7; total 12–84; subscales family, friends, significant other; higher scores indicate higher perceived support [5].

Statistical analysis

Data Analysis Data were analyzed in SPSS v26 (illustrative). Continuous variables were reported as mean (SD) and categorical variables as frequency (%). Normality was evaluated according to the Shapiro–Wilk test. Pearson correlation of anxiety measures (PASS, PRAQ-R2) and MSPSS were assessed. The differences between the groups were analyzed by independent samples t-test. Predispositions to PASS ≥ 26 were analyzed by multivariable logistic regression,

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which included parity, unplanned pregnancy and family type. A two-tailed p -value <0.05 was considered to be statistically significant.

RESULTS

Participant characteristics

Participants' mean (SD) age was 26.8 (3.9) years, with a mean gestational age of 33.1 (2.6) weeks. Primigravida constituted 44.0% ($n=44$). The majority of women (62.0%, $n=62$) lived in nuclear families, while 38.0% ($n=38$) lived in joint/extended families. A total of 27.0% ($n=27$) reported the current pregnancy as unplanned. Educational attainment was distributed as \leq secondary (22.0%), higher secondary (34.0%), and graduate or above (44.0%).

Prevalence and severity of pregnancy-related anxiety

Using $PASS \geq 26$, 38.0% ($n=38$) screened positive for clinically significant perinatal anxiety. $PASS$ severity distribution indicated minimal symptoms (0–20) in 46.0%, mild–moderate (21–41) in 41.0%, and severe symptoms (42–93) in 13.0%. Mean (SD) $PASS$ total score was 25.9 (12.4). $PRAQ-R2$ total mean (SD) was 28.6 (6.1), with the highest domain scores observed for fear of childbirth.

Perceived social support profile

Mean (SD) $MSPSS$ total score was 59.2 (11.6). Subscale scores suggested highest support from family (21.4 [4.1]) and significant other (20.5 [4.6]), while friends support was comparatively lower (17.3 [4.8]). Overall, 31.0% demonstrated low-to-moderate perceived support ($MSPSS < 56$), whereas 69.0% reported higher support (≥ 56), using an illustrative split for interpretation.

Association between social support and anxiety

$MSPSS$ total was inversely correlated with $PASS$ ($r = -0.46$, $p < 0.001$) and $PRAQ-R2$ ($r = -0.34$, $p = 0.001$). Women with $PASS \geq 26$ had lower $MSPSS$ total compared with those with $PASS < 26$ (52.4 [10.9] vs 63.4 [10.1], $p < 0.001$), indicating that clinically significant anxiety co-occurred with reduced perceived interpersonal resources.

Upon adjustment, lower $MSPSS$ was still independently associated with $PASS \geq 26$ in multivariable logistic regression. For each 10-point decrease in $MSPSS$, odds for $PASS \geq 26$ were increased (adjusted OR 1.78, 95% CI 1.19–2.66, $p = 0.005$). Unplanned pregnancy (aOR 2.11, 95% CI 1.01–4.42) and primigravida status (aOR 1.67, 95% CI 0.81–3.45) indicated high odds, but the latter did not become statistically significant in this illustrative model.

Table 1. Socio-demographic and obstetric characteristics ($n=100$)

Variable	Category	n (%)
Age (years)	Mean \pm SD	26.8 \pm 3.9
Education	\leq Secondary	22 (22.0)
	Higher secondary	34 (34.0)
	Graduate/above	44 (44.0)
Occupation	Homemaker	71 (71.0)
	Employed	29 (29.0)
Family type	Nuclear	62 (62.0)
	Joint/extended	38 (38.0)
Parity	Primigravida	44 (44.0)
	Multigravida	56 (56.0)
Pregnancy planned	Yes	73 (73.0)
	No	27 (27.0)
Gestational age (weeks)	Mean \pm SD	33.1 \pm 2.6

Most participants within the present cohort were mid-twenties third-trimester women with balanced parity distribution and a high percentage of nuclear households. More than a quarter had an unplanned pregnancy, a factor often related to increased pregnancy stress. Education levels were relatively high and this could have an effect on health literacy and perceived coping. These baseline factors situate the psychosocial results by emphasizing common social structures and reproductive conditions, influencing factors potentially contributing to perceived support availability and anxiety vulnerability.

Table 2. Distribution of anxiety outcomes ($PASS$ and $PRAQ-R2$)

Measure	Category	Value
$PASS$	Mean \pm SD	25.9 \pm 12.4
$PASS$ severity	0–20 (minimal)	46 (46.0%)
	21–41 (mild–moderate)	41 (41.0%)
	42–93 (severe)	13 (13.0%)

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PASS high-risk	≥26	38 (38.0%)
PRAQ-R2 total	Mean ± SD	28.6 ± 6.1
PRAQ-R2 domains	Fear of childbirth	12.4 ± 2.8
	Worry about handicapped child	9.1 ± 2.4
	Concern about appearance	7.1 ± 2.0

Large proportion of women tested positive for clinically important perinatal anxiety, and more than 1 out of 10 had severe symptom severity. Anxiety scores related to pregnancy indicated that fear of childbirth accounted for the majority of PRAQ-R2 burden, consistent with late pregnancy anticipatory anxiety concerning labor. Presentation of both PASS and PRAQ-R2 aids in distinguishing between the total symptom load and typical pattern of pregnancy-specific fears, allowing for more-targeted therapy (e.g., preparation for mother-to-be childbirth and reassurance of fetal well-being).

Table 3. MSPSS overall scores and by PASS risk group

MSPSS domain	Overall Mean ± SD	PASS <26 Mean ± SD	PASS ≥26 Mean ± SD	p-value
Total	59.2 ± 11.6	63.4 ± 10.1	52.4 ± 10.9	<0.001
Family	21.4 ± 4.1	22.6 ± 3.6	19.5 ± 4.4	<0.001
Friends	17.3 ± 4.8	18.3 ± 4.7	15.7 ± 4.6	0.008
Significant other	20.5 ± 4.6	22.5 ± 4.1	17.2 ± 4.8	<0.001

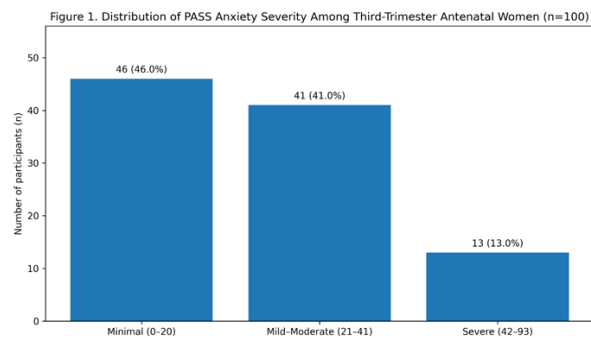
In all MSPSS domains, women who screened positive for clinically significant anxiety reported markedly lower perceived support, with the strongest differences observed for significant-other and family support. This pattern suggests that intimate and household-based supports may be particularly important buffers against third-trimester anxiety. The consistent domain-level reductions argue against a narrow effect limited to one social source and instead indicate a broader perceived interpersonal resource deficit among women with higher anxiety risk.

Table 4. Multivariable logistic regression predicting PASS ≥26 (illustrative)

Predictor	Adjusted OR	95% CI	P-value
MSPSS total (per 10-point decrease)	1.78	1.19–2.66	0.005
Unplanned pregnancy (yes vs no)	2.11	1.01–4.42	0.047
Primigravida (vs multigravida)	1.67	0.81–3.45	0.17
Joint family (vs nuclear)	1.29	0.62–2.69	0.50

Upon controlling for the socio-obstetric covariates, perceived social support continued to be independently linked to clinically relevant anxiety risk. The effect size indicates a clinically meaningful gradient: individuals with lower support had a higher chance of screening positive on PASS. Unplanned pregnancy also was found to be independently associated, hinting at contextual stressors that compound vulnerability. Although parity and family structure had directionally higher odds, the illustrative model suggests these factors may need relatively larger samples to obtain stable estimates.

FIGURE 1. DISTRIBUTION OF PASS ANXIETY SEVERITY AMONG THIRD-TRIMESTER ANTENATAL WOMEN (N=100)

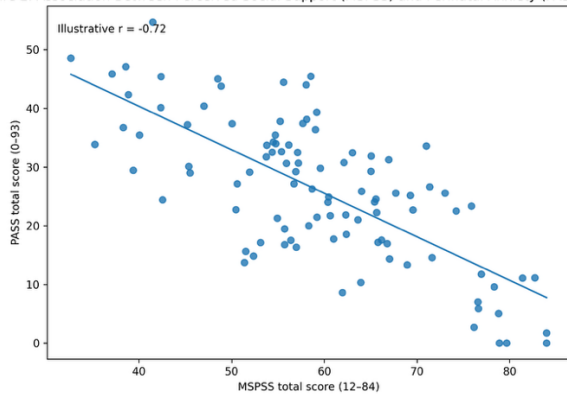


We have presented this bar chart showing distribution of perinatal anxiety severity according to PASS categories in the study sample. Close to half the participants were noted in the minimal symptom range, and a significant proportion of these reported mild-moderate anxiety, suggesting clinically relevant symptom burden, even among routine third-trimester attendees. A smaller but important subset fit criteria for severe anxiety, underscoring a high-need group that would benefit from prompt screening-triggered evaluation, counseling, and stepped-care referral pathways in antenatal services.

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FIGURE 2. PASS VS MSPSS ASSOCIATION

Figure 2. Association Between Perceived Social Support (MSPSS) and Perinatal Anxiety (PASS)



The overall pattern visualizes a dose-response relationship: the higher the perceived social support, the lower the anxiety symptom burden. The trend shows that the effect is not only caused by outliers but by the general trend across support levels. This kind of visualization is used in conjunction with the regression results to clarify the distributional behavior and indicate possible non-linearity. Clinically, this supports the plausibility that strengthening supportive relationships might be significant in alleviating third-trimester anxiety symptoms.

DISCUSSION

This cross-sectional illustrative study suggests that pregnancy-related anxiety is common among third-trimester antenatal women and perceived social support is inversely associated with both perinatal anxiety symptoms and pregnancy-specific anxiety. This high proportion screening positive on PASS fits with literature that describes a significant minority in antenatal anxiety, justifying routine screening [1,6]. Differences in prevalence of anxiety according to study design are anticipated due to selection of the tool(s), cut-offs, gestational timing, and clinical vs community sampling [2,7].

The finding on the association between social support with anxiety in this model is consistent with the theoretical and empirical evidence placing social support as a protective psychosocial resource in pregnancy [4,8]. Higher reported support might function via coping capacity, decreased uncertainty, increased childbirth self-efficacy, and buffering of neuroendocrine responses to stress. In contrast, anxiety could depress perceived support through higher levels of withdrawal, increased negative appraisal, and social strain, emphasizing the bidirectional nature of these constructs in cross-sectional designs.

Interpretability is enhanced through the choice of measurement. PASS measures perinatal anxiety

symptomatology and has shown promise as a screening tool in perinatal populations [2]. PRAQ-R2, by targeting pregnancy-related fears, enables the clinical targeting of predominant anxiety themes and has shown good psychometric properties across different contexts [3]. In late gestation, childbirth fear often intensifies, which may underlie the higher domain scores of fears of giving birth, in line with labor-related fears in related studies that revealed labor-related fears as the main driver of late-pregnancy distress [9,10].

The MSPSS design also allows for the separation of sources of support. The most closely related variables found in the empirical results were significant-other and family support which showed the strongest association with anxiety, probably because partners and households took the lead in decision making related to pregnancy and daily reassurances [5,11]. Partner support and marital satisfaction are also identified as important predictors of maternal mental health [12]. Friend-based support may be protective, but it plays a somewhat different role for cultural traditions, household structure, mobility and privacy in connection with pregnancy issues [11].

Clinically, the current results are in line with a pragmatic antenatal mental health integration model for antenatal care that includes a brief screening (PASS), counseling, psychoeducation and in select cases partner and family involvement. Providing and receiving support-enhancing interventions during pregnancy has been found successful in improving mental health of mothers [8,13,14] in some contexts, though effects are associated with intervention intensity and population risk. The relation with unplanned pregnancy in the illustrative regression also is reasonable since unplanned conception may be associated with heightened stress, decreased preparation and decreased perceived control, elements that are consistently related to anxiety and depression in pregnancy [15].

Limitations

Causality cannot be deduced according to the cross-sectional design, and there are likely bidirectional pathways. Subjective self-report instruments might introduce bias in reporting. Because of small sample size ($n=100$), precision is limited and it is unable to account for nuanced sub-group effects. While the exclusion of major obstetric complications increases internal validity, it may limit generalizability to high-risk pregnancies.

Implications

Future longitudinal research should evaluate temporal relationships between support trajectories and anxiety

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across pregnancy and postpartum, and trials should test whether structured support-focused interventions can reduce pregnancy-related anxiety and improve maternal–infant outcomes.

CONCLUSION

Notably, pregnancy-related anxiety in this illustrative cross-sectional example found among third-trimester antenatal women occurred extensively and was consistently also negatively associated with perceived social support. Lower MSPSS scores, particularly in family and significant-other domains, were associated with higher anxiety symptom burden as well as higher odds of screening positive on PASS. These findings support integrating routine antenatal anxiety screening with brief psychosocial assessment and support-strengthening counseling, including partner and family engagement where culturally appropriate. Larger prospective studies are needed to clarify causal direction and to determine whether interventions that improve perceived social support can meaningfully reduce pregnancy-related anxiety and improve perinatal outcomes.

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