

The prevalence of positive antepartum depression screening scores and associated pregnancy outcomes in Pune, India

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Background

- Perinatal depression is more common in low- and middle-income countries (LMICs) than in the United States (1,2,3)
- Antepartum depression is estimated to be **up to 25%** in LMICs compared to 7% in the United States (1).
- Maternal depression in India has been associated with maternal suicide, cesarean delivery, preterm delivery, intrauterine fetal demise, intrauterine growth restriction (IUGR) and poor long-term social development (4-7).

Objective

- To describe the prevalence of antepartum (AP) and postpartum (PP) positive depression screening scores in Pune, India.
- To describe the prevalence of adverse maternal and neonatal outcomes in women with positive AP and PP depression screening scores.

Methods

We performed a longitudinal cohort study of 235 pregnant women who were followed through 6 months PP.

- Study Site:** Antenatal clinic at Sassoon Hospital, an urban, public government hospital in Pune, India
- Study Population:** pregnant women who were HIV infected or uninfected, and with or without latent tuberculosis (TB)
 - Inclusion Criteria:**
 - Pregnant women age ≥ 18 years with gestational age (GA) $\geq 13-34$ wks
 - Documentation of HIV status and TB status
 - Plan to deliver and receive PP care at Sassoon Hospital
 - Exclusion Criteria:**
 - Documentation of or undergoing treatment for active TB
 - Plan to deliver and receive postpartum care at outside hospital
 - Recent or current use of immunosuppressive medications

- Study Evaluations:** Sociodemographic data and maternal/ neonatal outcomes were recorded by trained research staff
- Patient Health Questionnaire (PHQ-9) scales were used as a screening tool for depression at study enrollment and 6 months PP (8).
- Analysis:** Chi square and Fisher's exact test were used to compare categorical variables of women with and without positive PHQ-9 scores at the AP visit.

Results

There were 235 patients included and **136 (58%)** had at least one positive response on PHQ-9 depression screening questionnaire.

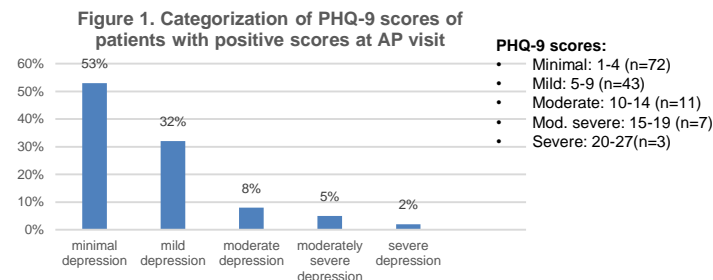


Figure 2. Trajectory of PHQ-9 scores from enrollment to PP visit

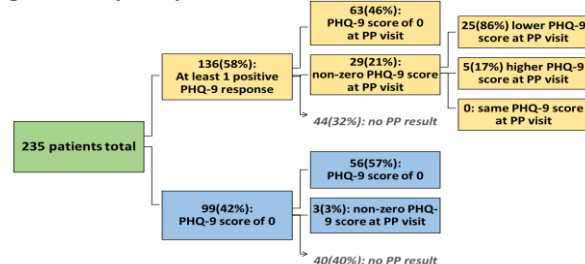


Table 1. Selected characteristics of patients with and without positive AP PHQ-9 scores

Patient characteristics	Total (N=235)	Positive AP PHQ-9 score (N=136)	AP PHQ-9 score of 0 (N=99)	P-value
Median age [interquartile range]	23 (21-27)	23 (21-27.5)	24 (20 - 26)	0.43
History of tobacco use, n (%)	29 (12%)	25 (86%)	4 (14%)	0.001
Last job in 12 months before pregnancy, n (%)	12 (5%)	11 (92%)	1 (8%)	0.02
More arguments with partner in 12 months before pregnancy, n (%)	31(13%)	28 (90%)	3 (10%)	<0.001
Intimate partner violence in 12 months before pregnancy, n (%)	40(17%)	34(85%)	6(15%)	<0.001
Intimate partner violence during pregnancy, n (%)	18(8%)	17(94%)	1(6%)	0.001
Illiterate, n (%)	20(9%)	13(65%)	7(35%)	<0.001

Results

Table 2. Selected birth outcomes of patients with and without positive PHQ-9 scores

Birth outcome	Total (N=235)	Positive AP PHQ-9 score (N=136)	AP PHQ-9 score of 0 (N=99)	P-value
GA at delivery, [interquartile range]	39 (37-40)	38.6 (37-40)	39 (38-40)	0.68
Preterm delivery (< 37 wks), n (%)	39 (17%)	23 (59%)	16 (41%)	>.95
Cesarean delivery, n (%)	59 (28%)	32 (54%)	27 (46%)	0.35
Neonatal demise, n (%)	7 (3%)	5 (4%)	2 (2%)	0.7
Prenatally diagnosed IUGR, n (%)	7 (3%)	6 (4%)	1 (1%)	0.3

- Patients with moderate, moderately severe and severe depression PHQ-9 scores were referred to psychiatrists for further evaluation and treatment.

Conclusions

- 58%** of pregnant women presenting to a government hospital in India had at least one positive response on PHQ-9 screen.
 - Women with positive AP PHQ-9 scores had a higher prevalence of illiteracy, history of intimate partner violence and tobacco use.
- 86% of women that had positive PHQ-9 scores in both the AP and PP period had lower scores PP, and 46% of women with positive AP PHQ-9 scores had complete resolution of symptoms.
- Positive AP PHQ-9 scores did not increase adverse pregnancy outcomes, but accounted for **71% of neonatal deaths**.
- Ongoing analyses will identify significant predictors of AP depression and collect qualitative data to inform antenatal interventions.

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