



Comparison of EPDS Scores Among Women with Good Neonatal Outcomes and Adverse Neonatal Outcomes

Madhva Prasad¹ · Aditi Joshi² · Akriti Saxena³

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Abstract

A comparative, questionnaire-based study among postpartum patients was conducted using the Edinburgh Postpartum Depression Scale. 80 women who had good neonatal outcomes were compared with 80 women who had adverse neonatal outcomes. Demographic characteristics were similar between the groups. The average EPDS score in those with good neonatal outcomes was lesser than that of those with adverse neonatal outcome (10.07 vs 11.04, p 0.045). Using the cut-off value of 9, the proportion of women who tested positive (higher chance of PPD) was statistically significantly higher (p value 0.0488) in adverse neonatal outcomes group (45% vs 28.75%). This result showed that women who have experienced stillbirth/ neonatal mortality or had neonates who needed NICU care have a higher propensity for PPD. This implies that women who have experienced stillbirth/neonatal mortality should be considered for prioritization in screening for PPD. PPD screening, even if not done routinely, should be done in this selected group (adverse perinatal outcomes group) on priority.

Keywords Postpartum depression · EPDS · Stillbirth · Neonatal death

Introduction

Postpartum depression (PPD) prevalence in the Indian settings is around 19–22% [1]. The American College of Obstetrician and Gynecologists (2018) [2] states that one in seven women is likely to be affected by PPD and is to be considered one of the most common pregnancy-associated-medical complication. Since only a small proportion of women are diagnosed after self-reporting, routine screening is important. A Royal College of Obstetricians and Gynecologists survey [3] noted that 81% women had experienced some form of maternal mental health problem, but only 7% were referred to specialists. Lack of consensus

and poor awareness among healthcare professionals about PPD were highlighted by the survey.

There is strong advocacy from FOGSI about the performance of PPD screening [4]. Despite such guidelines, most PPD screening appears to be happening in research settings, and most obstetricians in India would agree that universal screening for PPD is not followed. Large gaps in knowledge among both doctors and nurses have also been flagged in a recent article (Ransing et al., 2020). [5] Excessive work burden among obstetricians could also be a reason.

Nevertheless, in the background of reduced adherence to universal screening for PPD, it was attempted to ascertain if some specific groups of women could benefit from selective screening. It was hypothesized that women with adverse neonatal outcomes can be a specific group that can be prioritized.

In this context, after institutional ethics committee clearance (EC/OA-19/2018), a comparative, questionnaire-based study among postpartum patients who had delivered in our tertiary care hospital was conducted. Women aged 18 years to 45 years, who had delivered singletons, after 28 weeks of gestation by any mode of delivery (Vaginal/ Cesarean section/ instrumental) were included. Patients who were already diagnosed with some psychiatric illness or delivered outside or those who needed ICU care during the perinatal period

✉ Madhva Prasad
madhva@gmail.com

¹ Department of Obstetrics and Gynecology, Seth GS Medical College and KEM Hospital, Acharya Donde Marg, Parel, Mumbai, Maharashtra 400012, India

² Seth GS Medical College and KEM Hospital, Joshi Hospital, Bramhin Alley, BhiwandiKalyan, Maharashtra, India

³ Department of Obstetrics and Gynecology, Seth GS Medical College and KEM Hospital, Women's Hostel, KEM Hospital, Acharya Donde Marg, Parel, Mumbai, Maharashtra 400012, India

Table 1 Comparison of characteristics and outcome between women with good neonatal outcomes and adverse neonatal outcomes

Parameter	Women with good neonatal outcome (n = 80)	Women with adverse neonatal outcome (n = 80)	P value
Age (years)	26.56 ± 6.12	25.96 ± 5.98	0.448
Religion (Proportion of Hindu)	57/80 (71.25%)	60/80 (75%)	0.721
Higher education (Graduation or above)	31/80 (38.75%)	19/80 (23.75%)	0.0601
Marriage duration	4.06 ± 2.67 years	4.90 ± 3.12 years	0.56
Gravidity (proportion of primigravida)	44/80 (55%)	38/80 (47.5%)	0.429
Gestational age (weeks)	37.6 ± 1.23	35.3 ± 2.54	0.03
Gender (proportion of males)	39/80 (48.75%)	37/60 (46.25%)	0.874
Baby weight (kgs)	2.88 ± 1.67	1.99 ± 1.87	0.001
Medical comorbidities (Proportion who had comorbidities)	18/80 (22.5%)	30/80 (37.5%)	0.0571
Main outcome (Proportion who had EPDS score more than 9)	23/80 (28.75%)	36/80 (45%)	0.0488

were excluded. The patients were divided into control group (80 women who had good neonatal outcomes) and study group (80 women who had adverse neonatal outcomes). “Adverse neonatal outcomes” were defined as women who experienced stillbirth or a neonatal mortality or neonate needing NICU care. After due consent, consecutive patients fitting the criteria were included. Demographic characteristics and delivery details were noted from the medical records (discharge summary/ delivery registers) and by interviewing the patients. The Edinburgh postpartum depression scale (local translation where applicable) was administered by a single investigator to women when they came for their post-delivery follow-up or in the postnatal ward (2–3 weeks after delivery). The patient characteristics and the EPDS scores were noted and compared between the two groups using appropriate statistical tests (unpaired t tests for continuous variables and chi-square for discrete variables).

The findings of the study are summarized in Table 1. Age, religion, duration of marriage and gravidity were similar between the groups. Though the educational status did not show difference, the p value (0.0601) tended towards statistical significance. Overall, the groups appeared comparable in their baseline characteristics. As expected, the gestational age and the neonatal birthweight were lesser in the women with adverse neonatal outcomes.

The main outcome of this study was that the *average EPDS score in those with good neonatal outcomes was lesser than that of those with adverse neonatal outcome* (10.07 ± 4.47 vs 11.04 ± 4.18 – p value 0.045). Using the cut-off value of 9, the proportion of women who tested positive (higher chance of PPD) was statistically significantly higher (p value 0.0488) in the group with adverse neonatal outcomes compared with that of the good neonatal outcomes (45% vs 28.75%). This result clearly shows that *women who have experienced stillbirth/ neonatal mortality or had neonates who needed NICU care have a higher propensity for*

PPD. This implies that this group of patients should be considered for prioritization in screening for PPD.

Most other studies have identified largely non-obstetric issues. Previous stressful life events, low self-esteem and feeling of loneliness have been identified to be associated with PPD (Zadi et al., 2018) [6]. Financial difficulties, presence of domestic violence, marital conflict, lack of support from husband and birth of female offspring are also shown to be associated with PPD (Upadhyay et al., meta-analysis) [1].

A Lancet editorial titled “Screening for perinatal depression: a missed opportunity” (a self-explanatory title) had highlighted that universal screening for PPD is commonly missed. It was suggested that choosing specific groups rather than universal screening could be a way forward. Present study suggests that *screening women with adverse perinatal outcomes can be a starting point*, paving way for achieving the idealistic goal of universal screening for PPD.

The results of this study should not be misconstrued as “those with good neonatal outcomes do not require screening for PPD”. Rather, PPD screening which is not being done at all, should be done in atleast one selected group (adverse perinatal outcomes group) on priority.

Declarations

Conflict of interest All the authors declare that they have no conflict of interest.

Ethical approval All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Declaration of HELSINKI 1975, as revised in 2008 (5). Institutional Ethics Committee Approval was taken (EC-OA-19/2018).

Informed consent Informed consent was obtained from all participants who were included in the study. This is a questionnaire study, and this article does not contain any studies with animal subjects.

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