Validated screening tools for common mental disorders in perinatal and postpartum women in India: a systematic review and meta-analysis

Gracia Fellmeth¹, Siân Harrison¹, Charles Opondo¹, Manisha Nair¹, Jennifer J Kurinczuk¹, Fiona Alderdice¹

¹ National Perinatal Epidemiology Unit, Nuffield Department of Population Health, University of Oxford, UK

Background

• Common mental disorders (CMD) experienced in the perinatal period are associated with significant adverse outcomes for women and their families.¹
• Prevalence of perinatal CMD is highest in low- and middle-income settings (LMIC).²
• In India, women living in socio-economic deprivation, those experiencing intimate partner violence and those with low societal status are at high risk of perinatal mental disorders.
• Early detection and treatment of perinatal CMD using screening tools can minimise adverse effects and improve outcomes.
• Tools must be validated against a gold-standard in the local population prior to use to assess their psychometric validity and ensure they are culturally appropriate.
• We aimed to systematically review and synthesise the current evidence on screening tools for perinatal CMD that have been validated in India.

Methods

• We searched MEDLINE, Embase, PsycINFO, Global Health, Cochrane Library, Web of Science and Google Scholar without language or date restrictions (final search 16 April 2020).
• The search strategy included terms for CMD, perinatal status, screening and India.
• Any study assessing the validity of a screening tool for CMD against a ‘gold standard’ in women who were pregnant or up to 12 months post-partum in India was included.
• Two reviewers independently screened titles, abstracts and full-texts and extracted data.
• The quality of included studies was assessed using the QUADAS-2 tool.³
• We used bivariate and hierarchical summary receiver operating characteristic models to calculate pooled summary estimates of sensitivity and specificity.
• Heterogeneity was assessed by visualising the distance of individual studies from the summary curve.

Results

• We identified 8306 records, of which 2838 were duplicates, 5390 were excluded by title and abstract and 76 were excluded by full-text. Five additional records were identified through grey literature searches (Figure 1).
• Seven studies met the criteria for inclusion in the review, of which six (1003 participants) were included in meta-analysis.⁴–¹⁰
• Included studies were conducted in Assam, Gujarat, Maharashtra, Goa, Madhya Pradesh, Karnataka and Tamil Nadu (Figure 2) in the languages of Hindi, Assamese, Gujarati, Kannada, Konkani, Marathi and Tamil.

- The risk of bias was variable: two studies had a low risk of bias across all domains, while all others had unclear or high risk of bias across at least one domain (Figure 3).

Conclusions

• The EPDS appears to be psychometrically valid for the identification of perinatal depression across diverse Indian settings and languages.
• Overall, there is a scarcity of evidence around the validity of screening tools for perinatal CMD in India, with no studies of any screening tools for perinatal anxiety identified.
• Evidence reviews should include rigorous searches of the grey literature to avoid missing studies published in non-indexed journals.
• Further research is required to inform decisions around screening tools for the identification of women with perinatal CMD in India.

References

4. Benjamin et al. Validation of the Gujarati version of the Edinburgh Postnatal Depression Scale (EPDS) in identifying perinatal depression (Figure 4). None tested the validity of screening tools for perinatal anxiety.
5. Desai (2011), Khapre (2017) and Fernandes (2011) reported the highest EPDS sensitivity and specificity at a threshold of ≥13 (Figure 5).

- At a threshold of ≥13, the pooled sensitivity of the EPDS was 88-9% (95% CI 77-4–94-9) and the pooled specificity was 93-4 (95% CI 81-5-97-8).

Acknowledgments: Gracia Fellmeth is funded by a NDPH Clinical Research Fellowship. Manisha Nair is funded by a MRC Career Development Fellowship.