Beyond Mental Health Symptom Reduction: Maternal Functioning and Dyadic Outcomes to Inform Quality Improvement of the MedStar Georgetown Mother–Baby IOP

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Background

- Mother-Baby Intensive Outpatient Programs (MB-IOPs) are specialized programs designed to treat perinatal psychiatric symptoms while strengthening the maternal-infant bond.[1]
- Clinical and parenting outcome data on these programs remains limited.
- The objective of this study was to understand the change in maternal functioning, parental stress, and mother-infant bonding and its relationship to mental health outcomes in patients who attended the MB-IOP, to evaluate and optimize program impact.

Methods and Analysis

- This was an exploratory analysis of a QI Project, and included the first 32 patients to be enrolled in the MB-IOP between April 2024 and June 2025.
- Depression symptoms were measured via the Edinburgh Postnatal Depression Scale (EPDS), Maternal functioning via the Barkin Index of Maternal Functioning (BIMF)[2], Parenting stress through the Parental Stress Scale (PSS)[3], and Maternal-infant bonding through the Postpartum Bonding Questionnaire (PBQ)[4] at the start and end of the MB-IOP.
- Linear mixed effect regression models estimated the change in parenting outcome scores pre-post MB-IOP, and the association between depression level and this change. EPDS ≥ 10 was classified as having higher level of depression symptoms.

Results

- Across all patients, there was significant pre-post improvement in BIMF, PSS, and PBQ scores.
- Significant pre-post improvement was also seen in all subscales of these assessments, except for the average Rejection and Pathological Anger subscale of the PBQ, which decreased but not significantly (p=0.07).

Scale	Description	Mean Change
Barkin Index of Maternal Functioning (BIMF)	Assessment of overall maternal functioning	19.6, p < 0.001
Parental Stress Scale (PSS)	Measures parental stress levels across multiple domains	-7.7, p < 0.001
Postpartum Bonding Questionnaire (PBQ)	Identifies problems with attachment, risk of abuse or neglect	-9.3, p = 0.008

Table 1: Assessments of maternal functioning, parental stress, and mother-infant bonding and their respective mean changes from start to end of MB-IOP.

- Patients with higher depressive symptoms demonstrated significantly improved pre-post BIMF and PSS scores.
- Change in PBQ scores was not significantly different between patients with higher vs. lower depressive symptoms.

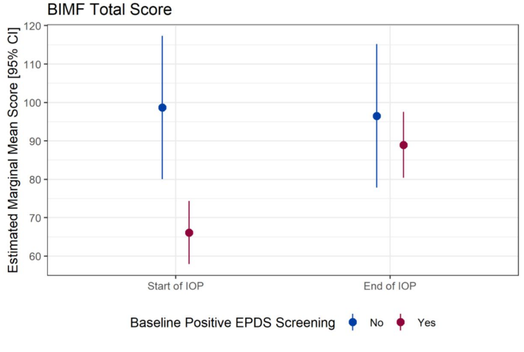

Figure 1. Estimated marginal mean BIMF score at the start and end of the IOP by baseline positive EPDS screening.

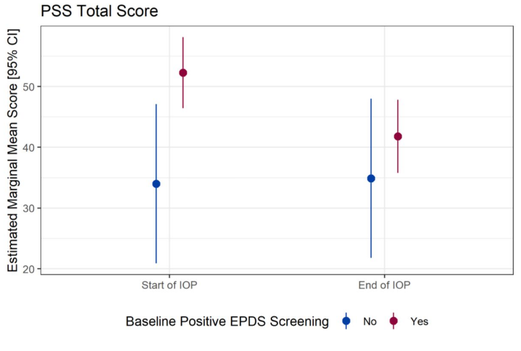

Figure 2. Estimated marginal mean PSS score at the start and end of the IOP by baseline positive EPDS screening.

Limitations

- This is a quality improvement study with limited generalizability given single center, lack of control group, and limited sample size.

Conclusions

- Specialized Perinatal MB-IOP's play a critical role in addressing parental mental health, especially for mothers with higher depressive symptomatology.
- Additional interventions may be needed to support maternal-infant bonding in women with higher depressive symptoms.
- Future studies should examine the effects of MB-IOP programs on diverse populations and contexts.

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