Vulnerable Populations: How are they Doing?

Antenatal Depression & Postpartum Engagement in Option B+ HIV Care in Malawi

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ADHERENCE 2018 JUNE 10
Background: Malawi

- 16 million people
- 12% of adult women living with HIV
- 16,000 infants infected with HIV perinatally (2010)
- 1st country to implement Option B+ antiretroviral treatment (ART) program in 2011
Option B+ ART program

Lifelong ART for all pregnant & breastfeeding women

Performance in Malawi:

Number of women who initiated ART increased 748% in 1\textsuperscript{st} year

But...

Only 75% of women in care 12 months after initiating ART

\begin{itemize}
  \item Worse than general adult population
\end{itemize}
Depression & HIV care

Non-pregnant adults:

Higher-resource settings:
- Depression reduces engagement in HIV care

Sub-Saharan Africa:
- Depression reduces or has null association with engagement in HIV care

→ Generalizable to perinatal women?
Antenatal depression

Common: up to 23% of pregnant women living with HIV in Africa
If untreated, can lead to poor maternal & infant health outcomes

Screening for antenatal depression not routine in most sub-Saharan African settings

Research goal:
Estimate the association of antenatal depression with engagement in HIV care (visit attendance and viral suppression)
Parent study setting & population

“The S4 study:” Safety, Suppression, Second-line, Survival Cohort

Long-term safety & efficacy evaluation of Option B+

Public antenatal care clinic in Lilongwe, Malawi

At enrollment, all participants were:

- Pregnant
- Living with HIV
- Participating in Option B+
- ≥ 18 years of age (or 16-17 years & married)
ART schedule in S4 was identical to the Malawi standard of care.
Measurements

**Exposure**: Probable antenatal depression
- Edinburgh Postnatal Depression Scale (EPDS) score $\geq 6$ at ART initiation

**Outcomes**: Engagement in HIV care
- **Visit attendance**: attended all 8 scheduled visits in the first 12 months ($\pm 30$ days of appointment date)
  - Women received ART from S4 study
- **HIV viral suppression**: $< 1000$ copies/mL at 12 months post-ART initiation
  - Malawi Ministry of Health threshold for ART failure
Analysis

Estimated risk & prevalence differences (RD, PD)
- Linear binomial regression
- Robust variance estimates for 95% CI

Confounding adjustment
- History of intimate partner violence (IPV)
- History of depression or anxiety
- Marital status at enrollment
- SMR weights: estimates the effect of depression among the depressed
## Results

Total enrolled: n=299

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Median (IQR)</th>
<th>N</th>
<th>%</th>
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<tbody>
<tr>
<td>Age (years)</td>
<td>26 (22-30)</td>
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<td>Gestation (weeks)</td>
<td>22 (18-26)</td>
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<tr>
<td>Currently married</td>
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<tr>
<td>Finished primary school</td>
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<td>Pregnancy unintended</td>
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<td>History of IPV</td>
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<tr>
<td>History of depression/anxiety</td>
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</table>
Results

Probable antenatal depression:
10% scored ≥6 on the EPDS at ART initiation

Engagement in care:
85% attended all 8 visits in first 12 months on ART
81% in care with low viral load 12 months post-ART
Antenatal depression & HIV care engagement

Visit attendance

Viral suppression

Crude

Adjusted

RD

PD
Conclusions

➢ 10% had probable antenatal depression
  ○ Consider implementing depression screening in Option B+ care

➢ Participants were highly engaged in care

➢ Probable antenatal depression was not associated with either HIV care outcome
  ◦ Robust to multiple sensitivity analyses

➢ In a population with high HIV care engagement, probable antenatal depression may not impair HIV-related outcomes
Acknowledgments

**UNC Project Malawi**
- S4 team & participants
  - Coauthors: Brian W. Pence, Madalitso Maliwichi, Allan N. Jumbe, Ntchindi A. Gondwe, Shaphil D. Wallie, Bradley N. Gaynes, Joanna Maselko, William C. Miller, Mina Hosseinipour
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**UNC Chapel Hill**
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- MD-PhD Leadership Team

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Questions?
Post-ART & postpartum timelines varied

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<td>Viral Load</td>
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Early

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<th>5</th>
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Late

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