Interventions and Adherence Effects

Ocean Tower, Room 1 C
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Changes in HIV Outcomes Following Depression Care in a Resource-limited Setting: Results from a Pilot Study in Bamenda, Cameroon

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Disclosures

• I have no real or apparent conflicts of interest to report
Introduction

• Major Depressive Disorder (MDD) co-occurs frequently with HIV in sub-Saharan Africa: 11-38% (Breuer, Afr Jrnl Aids Research, 2011)

• Depressed HIV-infected patients are at greater risk of more advanced stages of disease, lower CD4 counts, and negative HIV-related behaviors (Collins, AIDS, 2006)
Untreated depression identified as a matter of public health import

- Blue ribbon panels underlined importance of integrating mental health management into routine HIV care in less wealthy countries (Freeman, BJP, 2005)

- World Health Organization (WHO) identifies mental health treatment as essential for those with HIV in resource-limited settings
Limited access and expertise to support improved depression care

- In low-income countries, 3/4 of those needing mental health treatment lack access (WHO’s Mental Health Gap Action Programme)

- In sub-Saharan Africa, the median number of psychiatrists trained/country in 2011 was zero
Measurement-based Care: a resource efficient, scalable model

• In a sample of depressed HIV patients in Cameroon, we explored how implementing measurement-based antidepressant care (MBC) affected HIV outcomes at 4 month follow-up
Methods

• The ADEPT study
  – NIMH-funded R34 3-year feasibility study to adapt MBC for use in HIV clinics in Cameroon (PIs Gaynes, Pence)
  – We employed a depression care manager (DCM) to provide an outpatient HIV clinician with evidence-based decision support for antidepressant treatment
• Eligibility
  – PHQ ≥10
  – MDD confirmed by clinical interview
  – 18-65 years of age
  – On, or about to begin, antiretroviral therapy
  – No current substance abuse requiring treatment prior to depression management
• Depression management was provided for the first 12 weeks
  • Supervision of DCM by Skype every week
  • DCM contact with patient every 2 weeks
  • HIV clinician appointments every 4 weeks
Outcomes of interest at 4 months

• HIV clinical measures

• Psychiatric measures
Results

• We enrolled 55 depressed HIV participants, most of whom were female (80%), divorced or widowed (53%), and had attained a primary education only (56%)

• Patients were moderately depressed at baseline (mean Patient Health Questionnaire [PHQ] score=14.3)
## Change in HIV outcomes

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Baseline</th>
<th>4 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD4 (cells/mm$^3$)</td>
<td>419 (246)</td>
<td>429 (199)</td>
</tr>
<tr>
<td>HIV RNA VL &lt; 400 copies/mL</td>
<td>0% (0)</td>
<td>21% (9)*</td>
</tr>
<tr>
<td>Log$_{10}$ HIV RNA VL</td>
<td>4.1 (0.4)</td>
<td>3.1 (0.9)*</td>
</tr>
<tr>
<td># HIV symptoms (range: 0-12)</td>
<td>6.8 (2.3)</td>
<td>3.1 (1.9)*</td>
</tr>
</tbody>
</table>

* P<0.05. Statistics presented as Mean (SD) or % (n)
# Change in HIV outcomes

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Baseline</th>
<th>4 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-reported health good to excellent</td>
<td>18% (10)</td>
<td>68% (36)*</td>
</tr>
<tr>
<td>Adherence ≥ 95% (self report)</td>
<td>56% (31)</td>
<td>62% (33)</td>
</tr>
<tr>
<td>Missed any ARV doses past month (self report)</td>
<td>75% (41)</td>
<td>53% (28)*</td>
</tr>
</tbody>
</table>

* P<0.05. Statistics presented as Mean (SD) or % (n)
Change in psychiatric outcomes

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Baseline</th>
<th>4 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHQ-9 score (SD)</td>
<td>14.3 (3.7)</td>
<td>1.6 (2.4) *</td>
</tr>
<tr>
<td>MDD remission (PHQ&lt;5)</td>
<td>0% (0)</td>
<td>87% (48)</td>
</tr>
<tr>
<td>Maladaptive coping style (SD)</td>
<td>1.7 (0.6)</td>
<td>1.5 (0.4) *</td>
</tr>
<tr>
<td>Self-efficacy scores (SD)</td>
<td>3.5 (0.5)</td>
<td>3.7 (0.4) *</td>
</tr>
</tbody>
</table>

* P<0.05. Statistics presented as Mean (SD) or % (n)
Conclusion

• In this pilot study of depressed HIV patients in Cameroon receiving MBC, both depression and HIV outcomes improved at 4 months
  – Mean viral load decreased by one log
  – Virologic suppression improved from 0% to 21%
  – Self-reported HIV symptoms, overall health, and ARV adherence all improved by varying amounts.
• At the same time, all psychiatric measures improved, with nearly 90% of patients achieving remission of their depressive illness.

• These data are consistent with a model in which better depression care can lead to improved HIV outcomes.
Limitations

• No comparison group
• Small sample size
• Not all patients were on stable ARV regimens
• Improvements in both depression and HIV outcomes may not be causally related
Summary

• This pilot study provides some of the first prospective evidence, if only suggestive, in sub-Saharan Africa that effective depression treatment may play an important role in optimizing HIV treatment benefits among depressed HIV-infected patients.

• Subsequent large scale prospective trials can test whether these relationships hold true.
Colleagues: ADEPT Team

- Julius Atashili, MD, PhD
- Joseph Vukugah
- Seema Parkash
- Brian Pence, MPH, PhD
- Shantal Asanji
- Irene Numfors

Not pictured: Mbu Tabenyang, MD
Alfred Njamnshi, MD, PhD
Peter Ndumbe, MD, PhD
Martha Mesenji
Julie O’Donnell, MPH
Dmitry Katz, MPH
A few facts about Cameroon

• Population: ~19,000,000
• Cell phones: ~7,000,000
• Psychiatrists: 3
• Psychiatric nurses: 33
The ADEPT Study: Aims and progress

- Adapted PHO9 for use with Cameroonian patients (focus groups)
- Completed validation study comparing PHQ-9 to reference standard diagnostic tool
- Adapted MBC to local setting (medications; supervision; suicidality response; referral options)
- Completed feasibility study of MBC with 55 depressed HIV patients
ADEPT Study: Change in depressive symptoms over 12 weeks
ADEPT Study: Depression remission over 12 weeks