Factors Associated with Non-Adherence to Antiretroviral Therapy among Patients Attending HIV Care and Treatment Clinics in Kenya, Namibia, and Tanzania

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Introduction

• Antiretroviral therapy (ART) reduces:
  – morbidity and mortality of HIV-positive patient
  – risk of HIV transmission to uninfected partner(s) and child(ren)

• Treatment efficacy relies on sustained adherence

• Concerns have been raised about suboptimal ART adherence among patients enrolled in HIV clinical care
Purpose of Current Study

• Among HIV-positive patients enrolled in HIV care and treatment clinics:
  – Describe self-reported adherence to ART medication in the past 30 days, and
  – Identify factors associated with incomplete/non-adherence
Study Design

- Group-Randomized Trial
- Evaluated impact of a clinic-based HIV prevention intervention
- Included 18 clinics in Kenya, Tanzania, and Namibia (6 per country)
- Clinics were paired on clinic characteristics (e.g. size, patient/provider ratio) and randomized
Study Design (cont’d)

• Enrolled approximately 200 sexually active HIV-positive patients at each clinic

• Patient interviews conducted at baseline and 6- and 12-months post-intervention

• Other data sources include:
  – Medical chart reviews
  – Clinic records
  – Questionnaires: health care provider (HCP)/lay counselor (LC)
  – Observations of patient visits with HCPs and LCs

• Presentation today reports on analysis of baseline data
Dependent and Independent Variables

• **DV**: Self-reported non-adherence to ARVs ($\geq 1$ missed dose of ARVs in past 30 days)
  – Asked for each medication patient was taking

• **Independent variables from questionnaire:**
  – Socio-demographics (age, gender, education, country, transportation cost to clinic)
  – Disclosure
  – HIV care (on contrim, met with counsellor, length of time on ARVs)
  – Awareness of CD4 count
Dependent and Independent Variables (cont’d)

• **Independent variables from questionnaire:**
  – Depressive symptoms (CES-D)
  – Alcohol use (AUDIT)
  – Physical and mental functioning (SF-8)
  – Social support

• **Data abstraction from clinical data:**
  – CD4 count
  – ART regimen

• **All variables entered into multiple logistic regression model**
Characteristics of Patients on ART

• 3,538 patients enrolled (60% on ART)

• Of the 2,123 patients on ART:
  – 47% male
  – Median age: 37 years (IQR: 32-42)
  – 64% had primary education or lower and 45% had paid work in past 6-months
  – Mean CD4 count: 347 cells/mm$^3$ (SD 248)
  – Median time on ART: 21 months (IQR 9-34)
  – 96% had disclosed (87% to household member)
  – 18% reported alcohol use in past 6-months (13% non-problem, 5% harmful/likely dependent)
  – Mean CES-D score: 11.3 (SD 10.6)
Factors Associated with Non-Adherence

- 14% reported missing ≥1 dose of ARVs in past 30 days

<table>
<thead>
<tr>
<th></th>
<th>N(%) non-adherent</th>
<th>Multiple regression model</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-29</td>
<td>61 (22.1)</td>
<td>Ref</td>
</tr>
<tr>
<td>30-39</td>
<td>132 (13.1)</td>
<td>0.59 (0.40, 0.87)</td>
</tr>
<tr>
<td>40-49</td>
<td>83 (12.6)</td>
<td>0.61 (0.39, 0.95)</td>
</tr>
<tr>
<td>&gt;50</td>
<td>27 (14.8)</td>
<td>0.91 (0.50, 1.64)</td>
</tr>
<tr>
<td><strong>Alcohol Use</strong>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-drinker</td>
<td>201 (11.5)</td>
<td>Ref</td>
</tr>
<tr>
<td>Non-problem drinker</td>
<td>64 (22.5)</td>
<td>2.15 (1.50, 3.06)</td>
</tr>
<tr>
<td>Harmful drinker</td>
<td>24 (42.1)</td>
<td>4.27 (2.30, 7.93)</td>
</tr>
<tr>
<td>Likely dependent</td>
<td>14 (43.8)</td>
<td>3.90 (1.76, 8.63)</td>
</tr>
<tr>
<td><strong>CES-D</strong>*</td>
<td></td>
<td>1.03 (1.02, 1.04)</td>
</tr>
</tbody>
</table>

*p<0.05, ***p<0.001
Conclusion

• Patients reported high rates of ARV adherence
• Patient characteristics associated with non-adherence include alcohol use, depressive symptoms, and younger age
• Patients with these characteristics may need to be targeted for additional adherence counseling and support.
Alcohol Screening and Counseling an Important Part of Adherence Support

• Findings also highlight need to:
  – screen patients in HIV clinical care for current alcohol use
  – provide alcohol reduction counseling to those who report current use as part of routine care
  – refer patients categorized as harmful drinker/likely dependent to alcohol reduction programs, where available
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