Patterns of adherence to antiretroviral therapy (ART) and risk factors for poor adherence in a university hospital HIV clinic in Uganda.

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Objectives

• (1) Identify ARV treatment adherence rates for patients being treated at the Mbarara Regional Referral Hospital Immune Suppression Syndrome (ISS) clinic.

• (2) Identify barriers to treatment adherence for future creation of interventions aimed at increasing adherence to ARV’s.
BACKGROUND
Background

- Since 2007, antiretroviral therapy (ART) has been integrated into the Uganda National Program for Comprehensive treatment of HIV/AIDS (WHO, UNAIDS, & UNICEF, 2007).

- In 2008, approximately 67% of HIV/AIDS patients in sub-Saharan Africa were receiving ART, in Uganda 50%, and more specifically at Mbarara Regional Referral Hospital 47.3% (Gusdal et al. 2009, Atuyambe et al. 2009, and Ware et al. 2009).
Prior studies have documented a 90% treatment adherence rate in Uganda.
METHODS
Methods: Study Design

- Chart review conducted at Immune Suppression Syndrome (ISS) Clinic at Mbarara University of Science and Technology.

- Random sampling with the following Inclusion Criteria:
  - 18 years or older
  - Prescribed ART for ≥ 6 months
  - Began on ARV’s between 1/1/2009 – 6/1/2010
Methods: Data Collection

• 615 charts originally met inclusion criteria, 300 charts were randomly selected.

• Standard chart review form was created utilizing the ISS Clinic Initial Visit form and HIV/ART Care card.

• MRHH ISS ARV Dispensing System was utilized to collect pharmacy adherence rates.
Figure 1. Gender of sampled patients
Figure 2. Age distribution of sampled patients
Figure 3. Comparison of Treatment Supporter Type at the initial visit vs. ARV start.
Figure 4. Occupation

- Farmer 33.6%
- Business 19.38%
- Armed forces 1.4%
- Civil servant 6.23%
- Student 1.7%
- Unemployed 21.5%
- Other 16.3%
Results

- Tribe:
  - Nkole (73.4%), Kiga (11.1%)

- Religion
  - Protestant (53%), Catholic (35%)

- Monthly income
  - <100,000 shx. (78.4%), 100 – 250,000 shx. (15.2%)

- Time needed to reach clinic
  - 1 – 3 hours (45%), < 30 minutes (24%)
## Results

### Table 1. ART regimen at initiation of therapy at MRHH ISS Clinic

<table>
<thead>
<tr>
<th>ART Regimen</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>AZT-3TC-NVP</td>
<td>232</td>
<td>76.8</td>
</tr>
<tr>
<td>AZT-3TC-EFV</td>
<td>25</td>
<td>8.3</td>
</tr>
<tr>
<td>TDF-3TC-NVP</td>
<td>7</td>
<td>2.3</td>
</tr>
<tr>
<td>TDF-3TC-EFV</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>TDF-FTC-EFV</td>
<td>2</td>
<td>0.7</td>
</tr>
<tr>
<td>d4T-3TC-NVP</td>
<td>27</td>
<td>8.9</td>
</tr>
<tr>
<td>d4T-3TC-EFV</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>
Results

• Pharmacy adherence vs. self-reported adherence
  ▫ 98.7% of patients reported good adherence to ART
  ▫ Pharmacy data confirmed only 62% good adherence.

• Age of patient at diagnosis was found to have an positive association with pharmacy reported adherence. (p=0.050 p≤ 0.050)

• Gender, education, occupation, religion, monthly income, and marital status were all found to not be associated with nonadherence.
Discussion

• Study demonstrates clear gaps in patient vs. pharmacy based adherence rates.

• Increased age at initial visit may be associated with better adherence
Recommendations

• Increased collaboration between the pharmacy and physicians may help reduce adherence discrepancies.

• Possibly order 6 month report of adherence from pharmacy to ensure patient is taking medications.
Limitations

• Patients who were diagnosed prior to 2006 did not undergo a standard intake process, therefore their initial visit forms do not supply key demographic data.

• Viral load and genetic testing are expensive in Uganda, therefore these tests cannot be consistently used to measure treatment adherence vs. resistance.
Acknowledgements

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References