Disclosure and Knowledge are Associated with Retention in Malawi’s Option B+ Program

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ABSTRACT

Background: There is limited data on factors associated with retention among Option B+ program participants in Malawi. We sought to evaluate factors associated with retention in Option B+ participants in Malawi and assess whether pre-ART education and knowledge remained associated with retention.

Methods: We performed a case-control study of HIV-infected women in Malawi initiated on ART under Option B+. Cases were enrolled if they met the criteria for default from Option B+ (out of ART for >60 days) and as controls in ~3:1 ratio if they were retained for at least 12 months. We surveyed sociodemographic characteristics, HIV disclosure (participant to partner and participant aware of partner status), self-report about breastfeeding, and time to clinic. Univariate logistic regression was performed to determine factors associated with retention in Option B+ participants. We also performed a multivariate regression of factors associated with retention.

Results: We accrued 50 cases and 153 controls. Median age was 30 years (IQR 25-34). 82% of all women initiated ART during pregnancy at a median gestational age of 24 weeks (IQR 16-29). 91% of the cases (39/43) who started ART during pregnancy defaulted by 3 months postpartum. HIV disclosure to the primary sex partner was more common among women retained in care (100% versus 78%, p<0.001).

Odds of retention were significantly higher among women with: age > 25 years (OR 2.44), completion of primary school (OR 3.06), awareness of partner HIV status (OR 5.20), pre-ART education (OR 1.67), higher number of correct answers to Option B+ knowledge questions (OR 1.82), and one or more methods of support while taking ART (OR 3.65) (Table 1) and Table 2).

ART initiation on the same day as HIV diagnosis was associated with decreased retention (OR 0.76, 95% CI 0.59, 0.98, p = 0.04).ART initiation by 1 week postpartum was not associated with decreased retention (OR 1.00, 95% CI 1.00, 1.00, p = 0.99).

In multivariate analysis, awareness of partner HIV status (OR 4.07, 95% CI 1.91, 9.94, p = 0.002) and Option B+ knowledge (OR 1.60, 95% CI 1.15, 2.23, p = 0.004) remained associated with retention (Table 2).

CONCLUSIONS

- We identified several factors associated with retention, including:
  - Age older
  - Earlier gestational age at ART start
  - Higher level of education
  - Shorter travel time to clinic
  - Disclosure to primary partner and awareness of partner HIV status
  - Increased knowledge about Option B+
  - Support for remaining in care
  - When controlling for age, education, and travel time, disclosure and Option B+ knowledge remained associated with retention and are important modifiable factors.
  - Interventions that address partner disclosure and strengthen pre-ART education around the benefits of ART for maternal and child health should be evaluated as strategies to improve retention in Malawi’s Option B+ program.
  - Further decentralization of ART care, including community-based models of ART delivery, may also help retention for women facing challenges with money for transport and finding time to travel to clinic for care.
  - New ARVs with improved tolerability may help Option B+ retention rates.

REFERENCES


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Table 1: Univariate regression for the outcome of retention in Option B+, n=203

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cases (n=50)</th>
<th>Controls (n=153)</th>
<th>Odds Ratio (95% CI)</th>
<th>P-value</th>
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</thead>
<tbody>
<tr>
<td>Age &gt; 25</td>
<td>21 (42)</td>
<td>26 (57)</td>
<td>2.44 (1.24, 4.81)</td>
<td>0.04</td>
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<tr>
<td>Education</td>
<td>44 (88)</td>
<td>108 (71)</td>
<td>1.00 (Reference)</td>
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</tr>
<tr>
<td>1 year up to 3 months</td>
<td>12 (24)</td>
<td>82 (54)</td>
<td>1.00 (Reference)</td>
<td></td>
</tr>
<tr>
<td>&gt; 3 months</td>
<td>27 (54)</td>
<td>81 (53)</td>
<td>0.63 (0.36, 1.07)</td>
<td>0.06</td>
</tr>
<tr>
<td>Customized pre-ART education</td>
<td>11 (22)</td>
<td>19 (12)</td>
<td>1.00 (Reference)</td>
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Table 2: Multivariate regression for the outcome of retention, n=203

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Control (n=153)</th>
<th>Odds Ratio (95% CI)</th>
<th>P-value</th>
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