Knowledge of HIV Status and Seropositivity after a Recently Negative Test in Malawi

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BACKGROUND

In 2011, Malawi had an estimated 980,000 people living with HIV (PLHIV) with an estimated 90% of PLHIV aware of their status.1,2 In 2010, HIV prevalence among 15 to 49 year olds was 3.5%, with 14,267 deaths and 27,000 AIDS-related deaths.3,4

In 2014, Malawi’s National AIDS Commission (NACC) developed the Malawi Demographic and Health Survey (MDHS) report which indicated that 89% of adults aged 15-49 years had been previously tested for HIV, and among those, 86% knew their test result.5

Since then, the Government of Malawi, with support from the United States President’s Emergency Plan for AIDS Relief (PEPFAR) for structural and counseling and testing (CCT), with the 2016 MDHS reporting a prior testing rate of 73% among adults aged 15-49 years. Since 2000, a high risk definition based on prior HIV testing was poorly correlated with actual serostatus as determined by the survey.6

Prior knowledge of HIV status was defined as accurately knowing if they had been previously tested and received the result.7,8 However, recent seroprevalence testing conducted in conjunction with demographic health and AIDS Indicator Surveys provides an opportunity to compare self-reported previous test results with current serostatus.9

METHODS

We analyzed data from the 2010 MDHS, a large, nationally representative, cross-sectional survey of adults from 27,307 households.7 Malawi Population and Housing Census was used as a sampling frame. Sample was selected using a stratified, two-stage cluster sampling method. All eligible women aged 15-49 (n=17,484) and a subsample of men aged 15-49 (n=23,748) were included in the survey. Lived for HIV prevalence among 15-49 year olds was 3.5% (3.2-3.8).10

The 2010 MDHS survey questionnaire and HIV laboratory database were merged, and the combined dataset was used for analysis using survey procedures in STATA 13.0 to account for stratification, sample weighting and clustering within the Malawi complex survey design.2,11

For the purposes of the analysis, we used data from the 2010 MDHS on self-reported prior HIV testing and self-reported knowledge of prior HIV test result.12

RESULTS

Of 13,110 adults tested for HIV, 11,549 (90%) of the population were tested in 2010 by both HIV incidence and prevalent testing.13

Within this study subpopulation, HIV prevalence was 12.0% (95% CI: 10.8-13.6) in 2010.14

TABLE 1: Accurate Knowledge of HIV Status (Table 1):

<table>
<thead>
<tr>
<th>Status</th>
<th>% of Adults (n)</th>
<th>Seropositive</th>
<th>Seronegative</th>
<th>Discordant</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>90% (n=27,307)</td>
<td>2,782 (9.1%)</td>
<td>24,525 (88.9%)</td>
<td>300 (1.0%)</td>
</tr>
</tbody>
</table>

HIV Seropositivity within 12 Months of Reported Negative HIV Test (Table 2):

<table>
<thead>
<tr>
<th>Positive result</th>
<th>Positive within 12 months</th>
<th>n=27,307</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV test:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive</td>
<td>2,782 (9.1%)</td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td>24,525 (88.9%)</td>
<td></td>
</tr>
<tr>
<td>Discordant</td>
<td>300 (1.0%)</td>
<td></td>
</tr>
</tbody>
</table>

DISCUSSION

High rate of undisclosed HIV in Malawi

Data collected from the 2010 MDHS, a large, nationally representative, cross-sectional survey of adults from 27,307 households.12

The 2010 Malawi Population and Housing Census was used as a sampling frame. Sample was selected using a stratified, two-stage cluster sampling method. All eligible women aged 15-49 (n=17,484) and a subsample of men aged 15-49 (n=23,748) were included in the survey. Lived for HIV prevalence among 15-49 year olds was 3.5% (3.2-3.8).10

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