Caregiver Provided HIV Testing for Children

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Dissemination Meeting

November 2020
Can we use the Oral HIV test for children?

1. Is the Oral Mucosal Transudate test (OMT) accurate among children?
2. Can caregivers test their children accurately?

• Data combined from two studies conducted: 2017-2018
  ▪ Kenya: 18 Months – 12 Years
  ▪ Zimbabwe: 2 Years – 18 Years

• Procedures
  ▪ OMT performed by provider
  ▪ Blood based test performed by provider (according to National Algorithms)
How well does the OMT perform in children?

**Sensitivity:** 100% (97.5% CI 94.9-100)  
**Specificity:** 99.9% (95% CI 99.6-100)

<table>
<thead>
<tr>
<th>OMT</th>
<th>Blood-based national algorithm**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Positive</td>
</tr>
<tr>
<td>Positive</td>
<td>71</td>
</tr>
<tr>
<td>Negative</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>71</td>
</tr>
</tbody>
</table>

*Subsequently confirmed as HIV-positive using additional tests within 1 week of initial testing.


OMT highly **sensitive** and **specific** in children 18 months to 18 years

Dziva Chikwari & Njuguna et al, JAIDS 2019
Implications of Study findings

• OMT **highly sensitive and specific** in children 18 months to 18 years

• 29 November 2019: WHO Prequalification of OMT for children 2-11 years **by a provider**

• What about **caregivers** testing their own children for HIV?
Can caregivers accurately test their children?

Did the caregiver correctly collect oral fluid?

Did the caregiver use a timer?

Did the caregiver insert the flat pad all the way?

Did the caregiver interpret the test result correctly?
### Methods

#### Phase 1: Jan-Dec 2018

1. Provider demonstration in facility
2. Competency Assessment
3. Provision of test + manufacturer insert instructions
4. Observation by provider

#### Phase 2: Jan – May 2019

1. Provider demonstration in facility
2. Competency Assessment
3. Provision of test + manufacturer insert instructions
4. Observation by provider
Can caregivers perform the test on their children?

<table>
<thead>
<tr>
<th></th>
<th>Did not receive demonstration</th>
<th>Received demonstration</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Caregiver correctly collected oral fluid</strong></td>
<td>548 (87.1)</td>
<td>152 (96.8)</td>
<td>0.002</td>
</tr>
<tr>
<td><strong>2. Caregiver inserted the flat pad all the way</strong></td>
<td>612 (97.3)</td>
<td>156 (99.4)</td>
<td>0.157</td>
</tr>
<tr>
<td><strong>3. Caregiver used a timer</strong></td>
<td>568 (90.3)</td>
<td>152 (96.8)</td>
<td>0.019</td>
</tr>
<tr>
<td><strong>4. Caregiver correctly interpreted the test result</strong></td>
<td>612 (97.3)</td>
<td>153 (97.5)</td>
<td>0.843</td>
</tr>
<tr>
<td><strong>Caregiver received a score of 4/4</strong></td>
<td>490 (77.9)</td>
<td>145 (92.4)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>
Can caregivers correctly interpret test results?

<table>
<thead>
<tr>
<th>Research Assistant Interpretation</th>
<th>Caregiver interpretation</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactive</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Non-Reactive</td>
<td>8</td>
<td>567</td>
</tr>
<tr>
<td>Invalid</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
<td>567</td>
</tr>
</tbody>
</table>

Direction of misinterpretation suggests **reactive children would not be missed**
Conclusions

• Caregivers can accurately collect samples, manipulate test kits, and interpret test results

• Caregiver provided testing is a feasible and accurate HIV testing strategy for children

• PEPFAR Guidance 2020 – Caregivers to test children using self test kits during COVID19
Recommendations

1. Further operational research for implementation at scale
2. Need for evaluation of cost-effectiveness of caregiver provided testing
3. Acceptability should be assessed and may require sensitization efforts
4. Additional targeting of user groups should be evaluated e.g. female caregivers receiving antenatal care or newly diagnosed HIV positive individuals
References


Acknowledgements

• MoHCC
• BCC
• B-GAP Research Assistants
• MSc Students: Crissi Rainer, Belinda Chihota
• BRTI
• LSHTM
• PSI Zimbabwe
• OraSure Technologies
• MRC UK
• B-GAP Study Participants
• Fit and Step-Up Teams (Kenya)
• Irene Njuguna and Anjuli Wagner (Kenya)