

Caregiver Provided HIV Testing for Children

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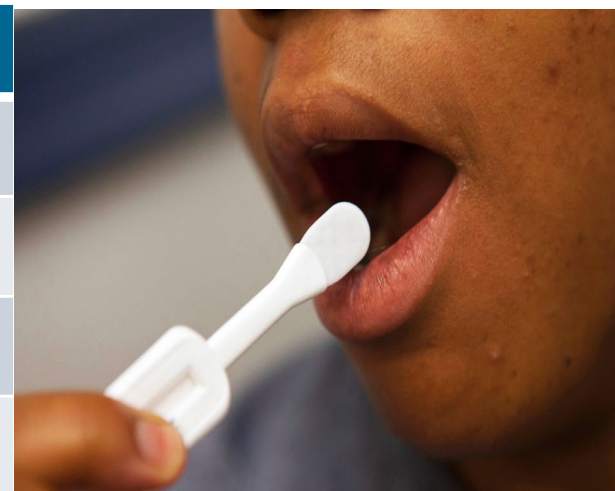
Can we use the Oral HIV test for children?

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)

OMT	Blood-based national algorithm**			
		Positive	Negative	Total
	Positive	71	2*	73
	Negative	0	1703	1703
	Total	71	1705	1776



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

***Zimbabwe: A1: Determine (4th gen), A2: First Response; Kenya A1: Determine (3rd gen), A2: First Response*

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

- 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 the 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?

OraQuick Test Results

- Two lines:
 - "C" - Control line
 - "T" - Test line
- Negative result
- Reactive result
- Invalid result



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?

	Did not receive demonstration 629 (%)	Received demonstration 157 (%)	P- value
1. Caregiver correctly collected oral fluid	548 (87.1)	152 (96.8)	0.002
2. Caregiver inserted the flat pad all the way	612 (97.3)	156 (99.4)	0.157
3. Caregiver used a timer	568 (90.3)	152 (96.8)	0.019
4. Caregiver correctly interpreted the test result	612 (97.3)	153 (97.5)	0.843
Caregiver received a score of 4/4	490 (77.9)	145 (92.4)	<0.001

Can caregivers correctly interpret test results?

		Caregiver interpretation			Total
		Reactive	Non-Reactive	Invalid	
Research Assistant Interpretation	Reactive	4	0	0	4
	Non-Reactive	8	567	1	576
	Invalid	1	0	6	7
Total		13	567	7	587

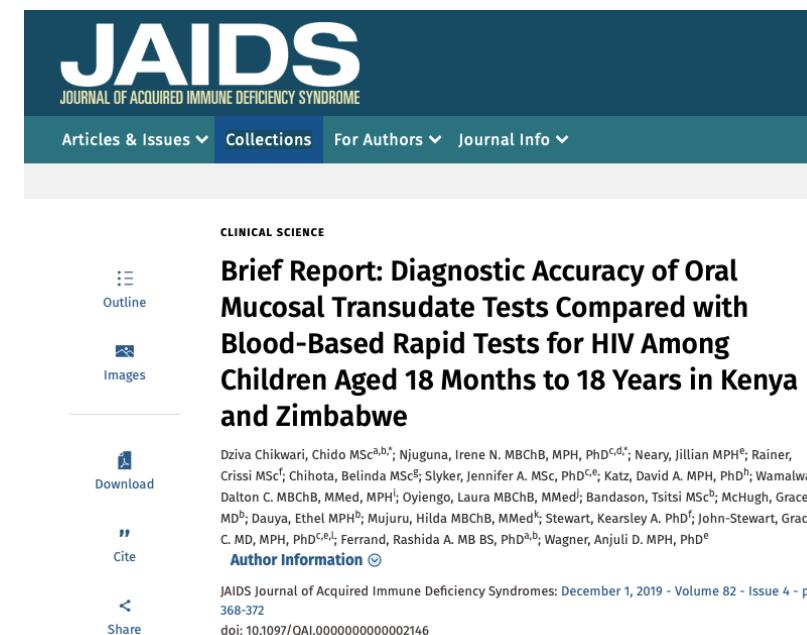
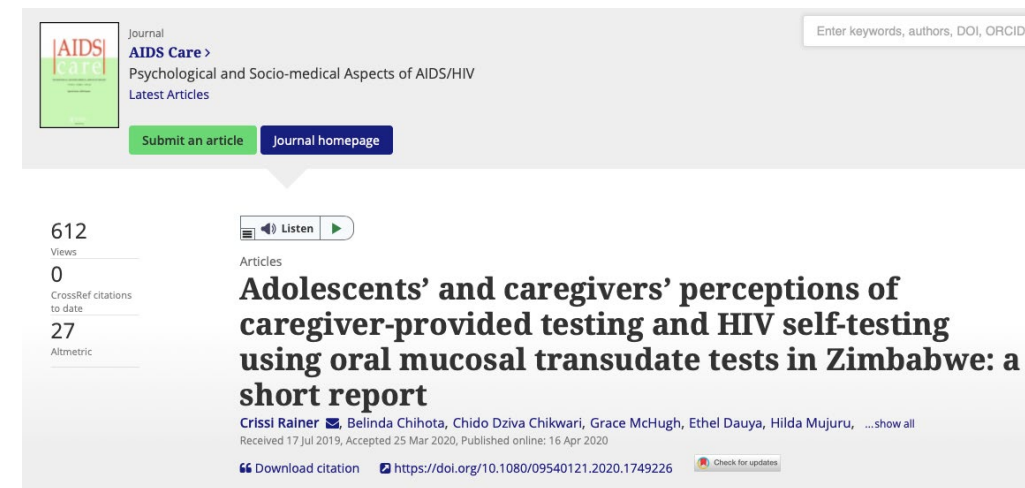
Direction of misinterpretation suggests **reactive children would not be missed**

- 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

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

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2. Rainer C, Chihota B, Dziva Chikwari C, McHugh G, Dauya E, Mujuru H, Ferrand RA, Stewart KA: **Adolescents' and caregivers' perceptions of caregiver-provided testing and HIV self-testing using oral mucosal transudate tests in Zimbabwe: a short report.** *AIDS Care* 2020:1-5.
3. Dziva Chikwari C, Simms V, Kranzer K, et al. **Feasibility and Accuracy of HIV testing of children by caregivers using oral mucosal transudate HIV tests.** (*Under Review*)



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