



CHARACTERIZING ENGAGEMENT IN HIV PREVENTION STRATEGIES AMONG ADOLESCENT MOTHERS AND ADOLESCENT NON-MOTHERS IN SIX EAST AND SOUTHERN AFRICAN COUNTRIES

Allison Groves

Patrick Smith

Kirsten Stoebenau

Marie Stoner

Opeyemi Babajide

Bukiwe Sihlongonyane

Jessica Justman

Alex Ezeh

Dual epidemics of adolescent motherhood and HIV in East and Southern Africa

Pregnancy



More than 1 in 5 adolescents are mothers before age 20

Adolescent motherhood is projected to increase over next decade



15%

of all new infections are among adolescents



83% of infections occur among girls

HIV incidence among female adolescents exceeds that of males across all settings the region

Intersection of adolescent motherhood and HIV



JOURNAL OF
ADOLESCENT
HEALTH
www.jahonline.org

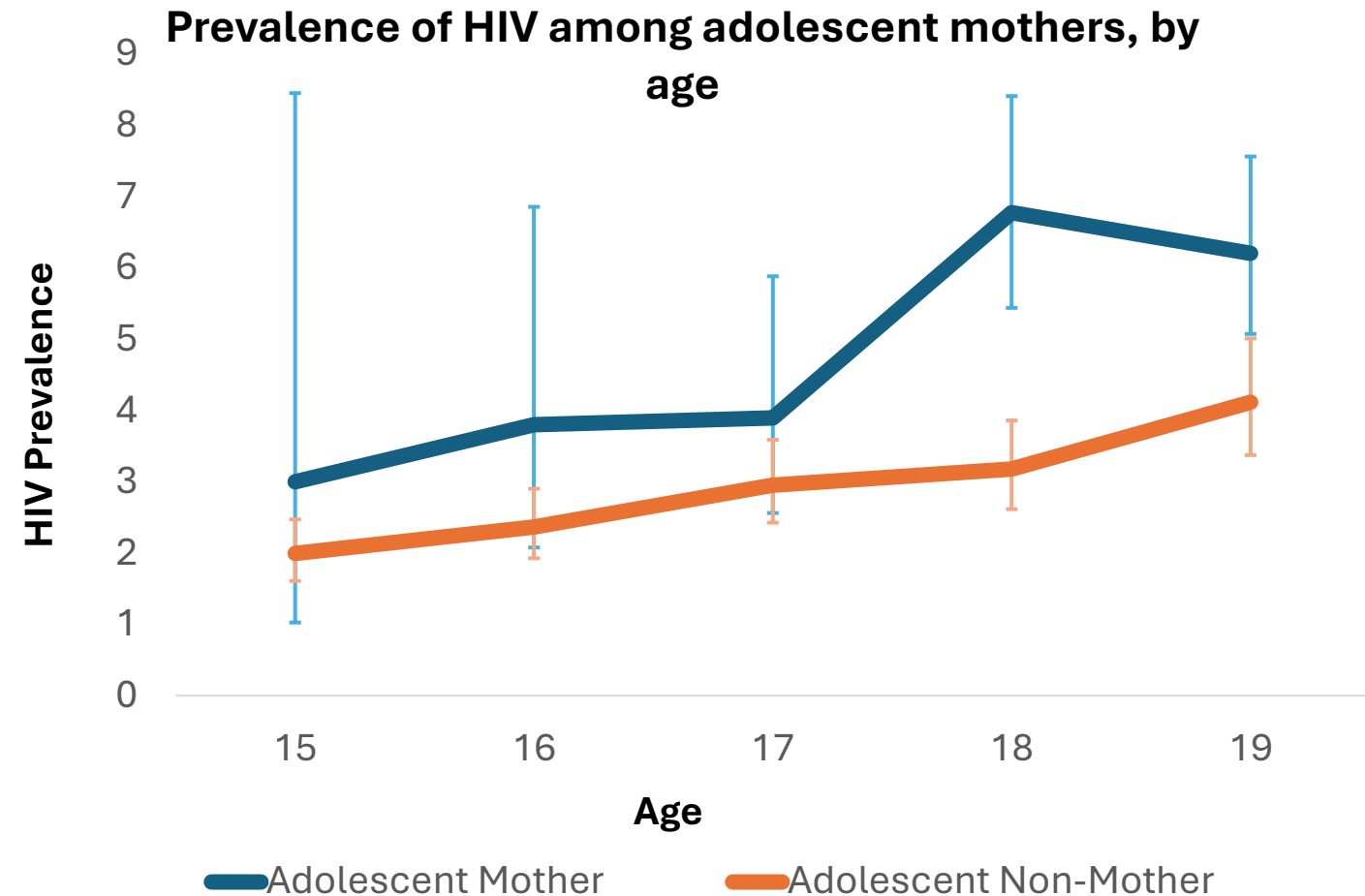
Original article

Adolescent Mothers in Eastern and Southern Africa: An Overlooked and Uniquely Vulnerable Subpopulation in the Fight Against HIV

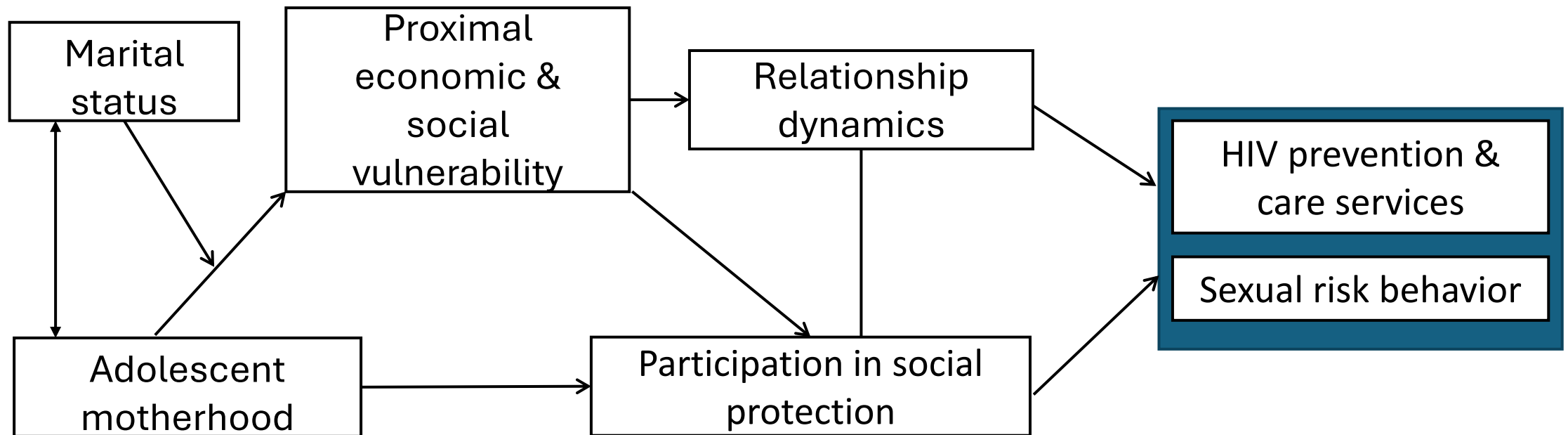
Allison K. Groves, Ph.D., M.H.S.^{a,*}, Luwam T. Gebrekristos, M.P.H.^a, Patrick D. Smith, R.N.^a, Kirsten Stoebe, Ph.D.^b, Marie C. Stoner, Ph.D., M.P.H.^c, Wole Ameyan, M.B.B.S., M.I.P.H.^d, and Alex C. Ezech, Ph.D., M.A., M.Sc.^a

Adolescent motherhood strongly associated with HIV infection

- OR: 1.87; 95% CI: 1.57-2.23
- AOR: 1.53; 95% CI: 1.24-1.89[†]



The social and economic context(s) of adolescent motherhood may contribute to disparities in HIV



Research Gaps

Few studies have examined whether adolescent motherhood impacts **sexual risk behaviors**

(Cluver, 2022; Barura, 2025)

Few studies have examined whether adolescent motherhood impacts **access to clinic-based HIV prevention and care services**

(Chen-Charles, 2025)

Data and Sample

- **Data:** Pooled data from Population-based HIV Impact Assessment surveys
 - Conducted 2020-2021
 - Eswatini, Lesotho, Malawi, Mozambique, Uganda, & Zimbabwe
- **Sample:** 9,856 adolescent girls (aged 15-19) who were HIV-negative or of unknown HIV status, categorized by whether they had reported at least one live birth
 - Adolescent mothers (n=1,798)
 - Adolescent non-mothers (n=8,058)



Study Purpose and Hypotheses

- To characterize **HIV sexual risk** and **engagement in HIV prevention services** among adolescent mothers and non-mothers
- Hypotheses:
 - **HIV sexual risk:** Compared to non-mothers, adolescent mothers will be more likely to engage in sexual risk behaviors
 - lower odds of **condom use**
 - higher odds of **multiple partners**
 - **Engagement in HIV prevention services:** Adolescent mothers will have lower engagement with HIV prevention services
 - lower odds of having **recently tested for HIV** outside of antenatal care
 - lower odds of **being willing to take PrEP** than adolescent non-mothers

Methods

- Chi-square tests and t-tests to explore sociodemographic differences
- 4 Multivariable logistic regression models with country fixed-effects to examine associations between adolescent motherhood and:
 - condom use
 - multiple partners
 - HIV testing
 - willingness to take PrEP

Descriptive Analyses

	Adolescent Non-Mothers (n=8058)	Adolescent Mothers (n=1798)	
	% (n)		p-value
Age (mean, SD)	16.8 (1.39)	18.2 (0.96)	<.0001
Ever married	8.9 (715)	74.1 (1333)	<.0001
In School	67.7 (5458)	7.5 (134)	<.0001
Educational Attainment			
Primary	39.9 (3218)	63.6 (1144)	
Secondary	58.3 (4697)	36.2 (650)	
More than Secondary	1.8 (143)	0.2 (4)	<.0001
Relationship to head of household			
Self	3.8 (307)	15.7 (282)	
Spouse/Partner	3.0 (245)	22.8 (409)	
Family/Relative	90.2 (7266)	59.9 (1077)	
Other	3.0 (240)	1.7 (30)	<.0001
Wealth Quintiles			
Lowest	19.9 (1601)	30.3 (544)	
Second	18.1 (1458)	21.6 (389)	
Middle	19.0 (1534)	20.0 (360)	
Fourth	18.9 (1524)	18.5 (333)	
Highest	24.1 (1941)	9.6 (172)	<.0001
Urbanicity			
Urban	32.2 (2594)	21.0 (378)	
Peri-Urban	1.3 (102)	0.9 (16)	
Rural	66.5 (5364)	78.1 (1404)	<.0001

Bivariate Analyses

	Adolescent Non-Mothers	Adolescent Mothers	
	% (n)		p-value
HIV Risk Behaviors			
Used condom at last sex (past 12 months)	49.8 (1259)	19.7 (296)	<.0001
Multiple sexual partners (past 12 months)	3.9 (303)	4.6 (77)	0.15
HIV Prevention			
HIV testing outside of ANC (past 12 months)	66.8 (2452)	78.0 (1163)	<.0001
Would take PrEP	59.9 (3292)	68.1 (892)	<.0001

Adolescent Motherhood and HIV Risk Behaviors

Adjusted Association Between Adolescent Motherhood and Condom Use at Last Sex				
Stratum	Exposure	Adjusted Odds Ratio (aOR)	95% Confidence Interval (CI)	P-value
Participants who were sexually active in past year (n=4,032)	Adolescent motherhood	0.68	0.57, 0.83	0.00

Adjusted Association Between Adolescent Motherhood & Reporting Multiple Sexual Partners				
Stratum	Exposure	Adjusted Odds Ratio (aOR)	95% Confidence Interval (CI)	P-value
All participants with available data (n=9,489)	Adolescent motherhood	0.67	0.45, 0.98	0.04

All models control for age, wealth, marital status, relationship to household head, educational attainment, school status, country

Adolescent Motherhood & Engagement in HIV Prevention

Adjusted Associations Between Adolescent Motherhood and Receipt of HIV Test in Past 12 Months (Outside ANC)

Sample	Exposure	Adjusted Odds Ratio (aOR)	95% Confidence Interval (CI)	P-value
All participants with available data (n=5,164)	Adolescent motherhood	1.30	1.09, 1.54	0.00

Adjusted Associations Between Adolescent Motherhood and Willingness to Take PrEP

Sample	Exposure	Adjusted Odds Ratio (aOR)	95% Confidence Interval (CI)	P-value
All participants with available data (n=6,805)	Adolescent motherhood	1.20	1.00, 1.42	0.044

All models control for age, wealth, marital status, relationship to household head, educational attainment, school status, country

Summary and Discussion

Motherhood and HIV Prevention Services

- **Adolescent mothers were more likely to use HIV prevention services than non-mothers**
 - *May result from increased willingness to address SRH needs after having a child*

The influence of adolescent motherhood on HIV sexual risk is nuanced

- Adolescent mothers have **higher risk of reporting nonuse of condoms** compared to non-mothers
- Adolescent mothers **have lower risk of reporting multiple partners** than non-mothers.
 - *May be explained by marital status*

Limitations

Cross-sectional
design

Self-reported data

Possible residual
confounding : doesn't
account for norms,
stigma, poor marital
status measure

Findings may not
generalize to all
settings within
Eastern and Southern
Africa

Implications for program and policy

- Prevention strategies that aim to change adolescents' sexual behaviors must consider adolescent mothers' **unique contexts**
- Adolescent mothers were more likely to access HIV testing and demonstrate interest in biomedical HIV prevention strategies → **OPPORTUNITY FOR INTERVENTION**
 - Access to social protection and HIV prevention services crucial
 - Loss of funding to primary prevention places adolescent mothers at even greater risk

Acknowledgements

- We thank our team of collaborators, all participants, and the global teams responsible for the collection and reporting of PHIA data.
- This work was funded by the National Institutes of Mental Health (R21MH135517; PI: Groves).



National Institute
of Mental Health

Questions + feedback welcome!

kstoeben@umd.edu

akg68@drexel.edu

The image features a group of five African children in a rural, outdoor setting. The children are looking towards the camera with serious expressions. The background is a warm, golden-brown color, suggesting a sunset or sunrise. Overlaid on the background is a semi-transparent map of Africa, which is orange in color. Two red ribbons, a symbol for HIV/AIDS awareness, are positioned on the map. The text "THANK YOU FOR LISTENING" is centered over the image in a white, sans-serif font.

THANK YOU FOR LISTENING