

Kofi Atakorah-Yeboah Junior¹, Edith Phalane¹, Thomas Agyarko-Poku², Kyeremeh Atuahene³, Refilwe Nancy Phaswana-Mafuya¹

¹South Africa Medical Research Council/ University of Johannesburg Pan African Centre for Epidemics Research Extramural Unit, Faculty of Health Sciences, South Africa

²Kwame Nkrumah University of Science and Technology, Faculty of Pharmacy and Pharmaceutical Sciences, Department of Social Pharmacy, Kumasi, Ghana

³Department of Research, Monitoring and Evaluation, Ghana AIDS Commission, Ghana

This study highlights the impact of human immunodeficiency virus self-testing (HIVST) in boosting HIV testing rates and early detection among men who have sex with men (MSM). The effectiveness and cost-effectiveness of HIVST, especially when distributed through peer networks and supported by key opinion leaders (KOLs). Successful initiatives like mobile apps and peer-led efforts effectively promote HIVST and reduce stigma.

BACKGROUND

- As of 2023, nearly two-thirds of approximately 25.7 million people were living with HIV (PLHIV) in sub-Saharan Africa (SSA)
- Prevention efforts, including HIV testing, awareness campaigns, and condom distribution, have been implemented to address the demanding burden of HIV
- However, challenges such as medication adherence, stigma, and discrimination limit equitable access to healthcare services among men who have sex with men (MSM)
- Therefore, it is imperative to address the alarming disparities in HIV testing uptake and barriers to equitable access to care among MSM in SSA
- This systematic review is aimed at improving HIV testing uptake among MSM in SSA

METHODS

- The systematic review was registered with the International Prospective Register of Systematic Reviews (PROSPERO) (ID: CRD42022346821)
- It was conducted using the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines
- The Population, Intervention, Comparison, Outcome and Study (PICOS) design framework guided the selection and eligibility criteria

RESULTS CONTINUED

Table 2: Innovative interventions implemented to improve HIV testing among men who have sex with men

First author, year	Objective of the study	Country	Type of HIV testing intervention	Place	Did the intervention improve uptake of HIV testing (HIV testing outcomes)
1. Skovdal et al. 2023	Explore the temporal discrepancies in "rapid" HIV testing and explain misdiagnoses at the point of care in Zimbabwe.	Zimbabwe	Point-of-care	Community-based	Yes
2. Sekoni et al. 2022	Operationalize the distribution of oral HIV self-testing kits to MSM in a highly homophobic environment, focusing on the Nigerian experience.	Nigeria	HIV Self-testing	Target individual and group-based	Yes
3. Inghels et al. 2022	Understanding the preferences and access to community-based HIV testing sites among MSM in Côte d'Ivoire	Côte d'Ivoire	Community-based testing	Community-based	Yes
4. Dirisu et al. 2020	Explore the feasibility and acceptability of HIV self-testing among MSM in Lagos, Nigeria.	Nigeria	Self-testing	Group-based	Yes

RESULTS

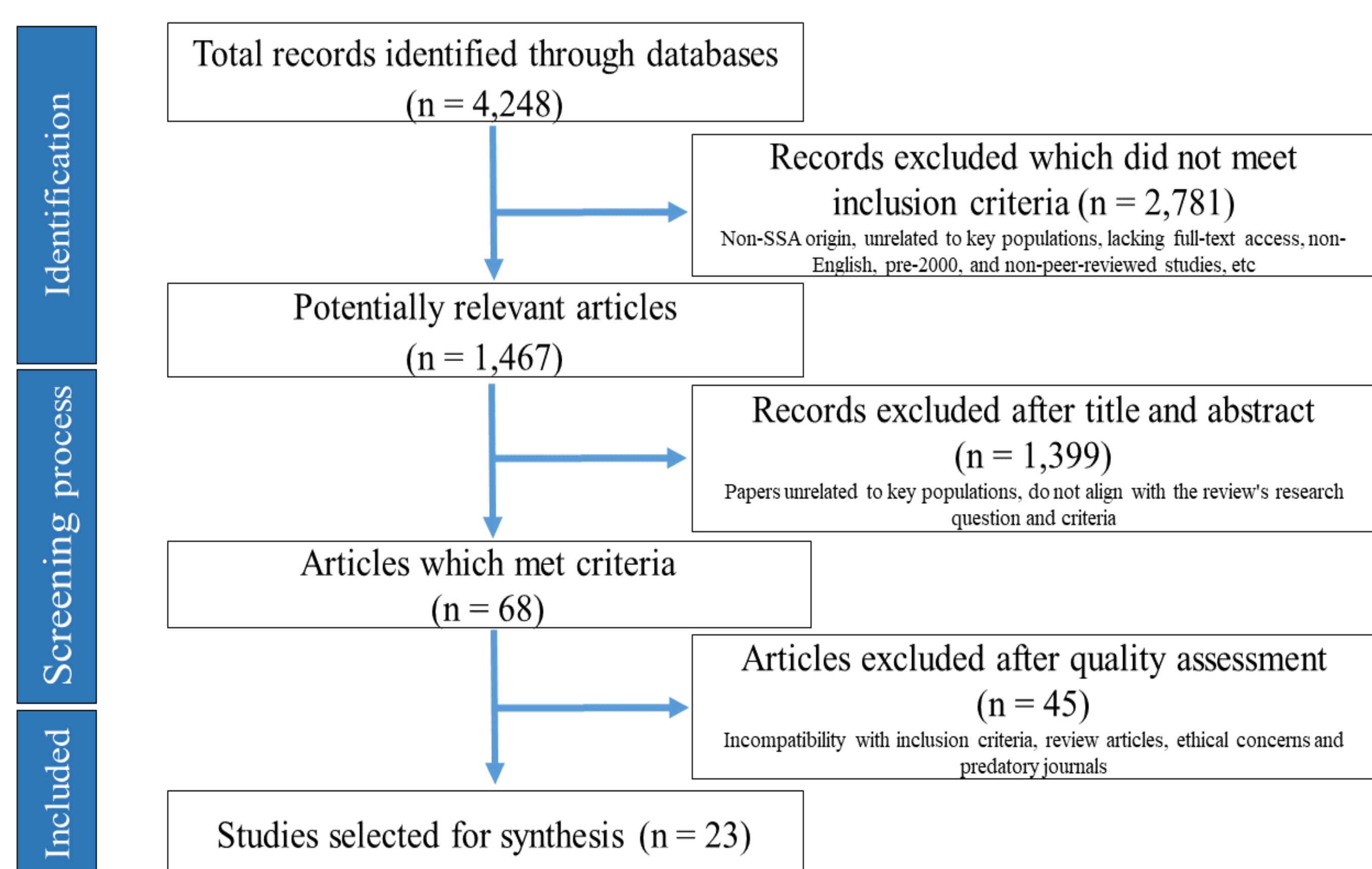


Figure 1. PRISMA flow diagram employed in this study

Characteristics of included studies

- This review included data from 23 studies conducted in 10 countries within the SSA region
- The 23 articles comprised 12 qualitative studies, two mixed-methods studies, and eight quantitative studies
- Studies were grouped into observational or intervention studies
- Observational studies were those without interventions, e.g. cross-sectional or descriptive studies. Intervention studies were those where an intervention was implemented
- The studies featured participants with the age range of 16 to 60 years
- These studies also had varying samples ranging from n = 20 to n = 391

Table 3: Challenges and successes in the implementation of the HIV testing interventions among men who have sex with men

First author, year	Type of HIV testing intervention	Challenges of the Innovative Interventions	Successes of the innovative intervention
1. Skovdal et al. 2023	Point-of-care	Participants faced risks associated with revealing their HIV status or same-sex relationships.	Provides novel insights into the temporal dynamics of HIV testing, offering a deeper understanding of the challenges and inaccuracies associated with rapid HIV test kits in high-frequency testing scenarios.
2. Sekoni et al. 2022	HIV Self-testing	The study, conducted in an educated and cosmopolitan setting, may limit generalizability; the small pilot size prevented stratification by key characteristics, and the absence of perspectives from participants who didn't use HIV self-testing kits underscores the need for further research on the effectiveness of KOLs across diverse segments of the MSM community.	Role of KOLs in advocating and facilitating HIVST within the MSM community, emphasizing their potential as reliable resources for promoting characteristics, and the absence of testing.
3. Inghels et al. 2022	Community-based testing	The use of seeds from MSM non-governmental organizations in the survey may introduce selection bias, and similar to other RDS methodologies, our sampling method encountered challenges in recruiting older MSM. Top of Form	The survey employed phone-based respondent-driven sampling (RDS), conducting both peer recruitment and interviews by phone, encompassing diverse types of men who have sex with men (MSM), including those residing in remote areas.
4. Dirisu et al. 2020	Self-testing	Cost and knowledge about the use of self-test kits could affect their uptake.	Underscores the convenience of HIV self-testing, especially for employed MSM, eliminating the need to queue at healthcare facilities and potentially increasing testing rates.

Table 1: Characteristics of the eligible studies

First author, year	Country	Study titles	Age	Study period	Sample size	Study design/approach
1. Skovdal et al. 2023	Zimbabwe	Temporal discrepancies in "rapid" HIV testing: explaining misdiagnoses at the point-of-care in Zimbabwe	Not stated	April and August 2018	28 rapid HIV testers	Qualitative and interview guides
2. Sekoni et al. 2022	Nigeria	Operationalizing the distribution of oral HIV self-testing kits to MSM in a highly homophobic environment: the Nigerian experience	17 – 59 years	2017	20 MSMs	A hybrid methodology incorporating in-depth interviews and focus group discussions
3. Inghels et al. 2022	Côte d'Ivoire	Preferences and access to community-based HIV testing sites among MSM in Côte d'Ivoire	>18 years	25 April 2018 to February 2019	518 MSMs	Respondent-driven sampling (RDS) survey
4. Dirisu et al. 2020	Nigeria	'I will welcome this one 101%, I will so embrace it': a qualitative exploration of the feasibility and acceptability of HIVST among MSM in Lagos, Nigeria	16 – 24 years	November 2016	23 MSMs	In-depth-interviews with MSM and two focus group discussions with key opinion leaders

CONCLUSIONS

- Improving HIV testing services for MSM in SSA is critical in the global HIV/AIDS fight
- This study highlights the transformative impact of HIVST in boosting HIV testing rates and early detection among MSM
- The effectiveness and cost-effectiveness of HIVST, especially when distributed through peer networks and supported by KOLs
- Successful initiatives like mobile apps and peer-led efforts effectively promote HIVST and reduce stigma.
- Community-based testing, offering diverse options and proactive outreach, proves pivotal
- Interventions must prioritize reducing healthcare access barriers and consider the specific needs of MSM living with HIV to counter discrimination's impact on mental health

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