

HIV Seroprevalence among Key Populations in Africa: A Systematic Review

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Abstract

Introduction: This paper systematically reviews HIV seroprevalence among key populations (men who have sex with men, female sex workers, people who inject drugs, prisoners, and gender-diverse individuals) in Africa. **Methods:** The review followed PRISMA guidelines and included 24 cross-sectional studies conducted in 14 African countries over the past decade. **Results:** The review highlights significant variability in HIV prevalence across different populations and regions, with the highest rates observed among people who inject drugs and female sex workers. The findings indicate that HIV prevalence ranges from 3.6% to 42.9% for men who have sex with men, 5.6% to 69.0% for female sex workers, and 3.3% to 89.6% for people who inject drugs, while prevalence among prisoners ranges from 1.9% to 25.1%. The review emphasizes the need for targeted interventions, improved study methodologies, and more comprehensive data collection to guide HIV prevention and treatment strategies. It also highlights gaps in research, particularly concerning gender-diverse individuals and prisoners. **Conclusion:** Addressing the social, legal, and economic barriers faced by these populations is critical to reducing HIV transmission and improving public health outcomes.

Keywords

HIV, Seroprevalence, Key Populations, Africa

1. Introduction

The HIV (Human Immunodeficiency Virus) pandemic continues to present a formidable global health challenge, with approximately 39 million people living with

HIV and 650,000 AIDS-related deaths reported by 2022 [1] [2]. Despite significant advances in treatment and prevention, HIV remains a critical issue, especially in sub-Saharan Africa, which bears the highest burden of the epidemic [2] [3]. This region, accounting for approximately two-thirds of the global HIV cases, faces complex socio-economic, cultural, and structural factors that exacerbate the spread of the virus [2]. Key populations (including men who have sex with men (MSM), people who inject drugs (PWID), sex workers, gender-diverse individuals, and incarcerated persons) are disproportionately affected by HIV [4]. These groups face heightened risks due to stigma, discrimination, criminalization, and substantial barriers to accessing healthcare services [5]. High-risk behaviors such as unprotected sex, needle sharing, and involvement in high-risk sexual networks are primary contributors to HIV transmission within these populations [5]. For instance, MSM may face social and legal marginalization, which limits their access to health education and HIV prevention services. Similarly, PWID are at high risk due to needle sharing and often lack access to harm reduction programs. These behaviors significantly amplify the risk of HIV infection, which can be 13 - 30 times higher in key populations compared to the general population [6]. Social and behavioral factors, such as high-risk sexual networks and unsafe practices, further elevate the transmission rates within these communities [5]. These groups contribute significantly to new HIV infections globally, with estimates ranging from 40% - 50% of adult cases [4]. In Africa, despite some progress, HIV prevention and treatment programs for key populations and young women remain inadequate. Legal and policy frameworks also play a crucial role in shaping the dynamics of HIV transmission and healthcare access. Laws that criminalize same-sex relationships, sex work, or drug use often hinder HIV prevention efforts and create additional barriers to healthcare, thereby perpetuating the cycle of vulnerability among these groups [5]. The international response, guided by the Global AIDS Strategy (2021-2026), aims to mitigate inequalities by exacerbating the epidemic and focus efforts on affected individuals. The strategy seeks to end AIDS as a public health threat by 2030 through comprehensive and equitable approaches to prevention and treatment [7]. Effective responses require robust, reliable data on HIV seroprevalence among key populations to guide program development, inform policy, and measure progress in order to achieve the Global AIDS Strategy goals. HIV seroprevalence data among key African populations is currently fragmented and inconsistent, complicating the design and implementation of effective public health strategies. The variability in seroprevalence rates across different regions and countries further complicates the ability to generalize and apply findings universally. This lack of comprehensive and reliable data hampers the development of targeted interventions and policies crucial for controlling the epidemic.

Additionally, social, legal, and economic barriers often lead to underreporting and inadequate representation of key populations in research. There is a pressing need to synthesize existing data better to understand HIV seroprevalence trends among these groups across Africa. A systematic review can offer valuable insights

into patterns, disparities, and gaps in knowledge, essential for enhancing public health responses and ensuring that interventions are equitable and effective. A previous systematic review was conducted in Europe and found that HIV prevalence varies widely across key population groups and countries [8]. Unlike Europe, Africa's diverse range of countries presents varied epidemiological landscapes and healthcare challenges that influence HIV prevalence differently with unique geographic, demographic, and socio-cultural contexts. This review will address regional disparities by focusing on specific risk factors, healthcare access issues, and local interventions pertinent to African key populations. By targeting these regional differences, our review aims to fill data gaps and provide insights tailored to Africa's context, which differ markedly from those identified in European settings. In light of these challenges, this systematic review aims to collate and analyze data on HIV seroprevalence among key populations in Africa, contributing to a more nuanced understanding of the epidemic and supporting the development of more effective and targeted health strategies.

2. Methods

This review followed the guidelines set by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) [9]. The review protocol was pre-registered with PROSPERO under registration number CRD42024558309.

2.1. Eligibility Criteria

2.1.1. Inclusion Criteria

Articles were included in this review if they were Cross-sectional studies reporting findings on the seroprevalence of HIV among Key populations and conducted in Africa over the past ten years.

2.1.2. Exclusion Criteria

Articles were excluded if the research was not peer-reviewed or unpublished. Review papers, case series, report cases, editorials, commentary, perspective, news, and opinion papers were not eligible for this study.

2.2. Search Strategy

We performed a systematic literature search using Medline via PubMed, Google Scholar, and Cochrane Databases. The search was undertaken on February 20, 2024. We searched Medline and Cochrane using medical subject headings and subheadings (Mesh) to index articles. We combined the following terms: HIV and the names of the relevant key population groups and then applied a geographical search filter to retrieve results for African countries. In Google Scholar, we looked for the words (HIV AND Africa with at least one term related to key populations) anywhere in the article. We have put time restrictions on retrieving only publications from the past ten years. We used the Zotero 5.0 software (Center for History and New Media, Fairfax, Virginia) to detect and remove duplicates.

Search strategy on PubMed (Medline) and Cochrane library

((((((((((("Men who have sex with men") OR (MSM)) OR ("Trans and gender diverse people") OR (Sex workers)) OR ("People who inject drugs")) OR (PWID)) OR ("People in prison")) OR (Prisoners)) OR (Gender-diverse people)) OR (((((KEY POP) OR (KEY POPULATION)) OR (KEY POPULATIONS)) OR (KEY-POPULATIONS)) OR (KEY-POPULATION))) OR (Sex-workers)) AND (("HIV" [Majr]) OR (((((HUMAN IMMUNODEFICIENCY VIRUS [Title]) OR (Acquired Immune Deficiency Syndrome Virus [Title])) OR (Acquired Immunodeficiency Syndrome Virus [Title])) OR (AIDS Virus [Title])) OR (AIDS Viruses [Title]))) AND ("Africa" [Mesh]).

Search strategy on google scholar

(HIV And Africa With At Least One Of The Words Men Who Have Sex With Men OR MSM OR Trans And Gender Diverse People OR Sex Workers OR People Who Inject Drugs OR PWID OR People In Prison OR Prisoners OR Gender-diverse People OR Key Pop OR Key Population OR Key Populations OR Key-Populations OR Key-Population OR Sex-Workers).

2.3. Study Selection

Titles and abstracts of records were screened for eligibility by two independent investigators. They have independently assessed the complete reports of all potentially relevant studies for inclusion using an eligibility form based on the inclusion criteria. An independent third investigator adjudicated disagreements.

2.4. Data Extraction

Data was extracted using a pre-designed digital template for reports that meet inclusion criteria. Data elements included the overall study characteristics, study population detail, sampling approach, recruitment setting, laboratory test, and the total number of screened population and HIV-positive cases.

2.5. Quality Assessment

We used appropriate quality assessment tools to assess each article's methodological and research quality in this review. Two team members independently rated each included article using the JBI checklist of prevalence studies [10].

2.6. Statistical Analysis

The study results were described using standard summary statistics and grouped by different types of key populations. The total number of people tested and the number of people found to be HIV positive were collected. HIV prevalence measures were calculated with their 95% confidence interval (CI) and presented in tables using Excel software version 2019 (Microsoft, Washington, USA) using the following formulas [11]. Given the methodological variability and heterogeneity among the studies included in this review, a meta-analysis was not conducted.

$$\text{Proportion } (\hat{p}) = \hat{p} = x/n$$

$$\text{Confidence Interval} = \hat{p} \pm z * \sqrt{\hat{p}(1-\hat{p})/n}$$

where:

- x : The count of individuals in the sample with a certain characteristic.
- n : The total number of individuals in the sample.
- Z for 95% CI = 1.96.

We used the most recent data point if a study reported data for multiple time points. We have rounded all prevalence to one decimal place in the text and tables.

3. Results

3.1. Study Selection

This systematic review includes published papers reporting the seroprevalence of HIV among Key populations in Africa. After searching for available publications, we initially found 467 published articles (330 from PubMed, 21 from Cochrane Library, and 116 from Google Scholar). From this, we removed 23 duplicate records. We excluded 368 records after screening by title and abstracts, and 76 were found eligible for full-text assessment; among the total full-text screened articles for eligibility, we included only 24 studies in the review (Figure 1).

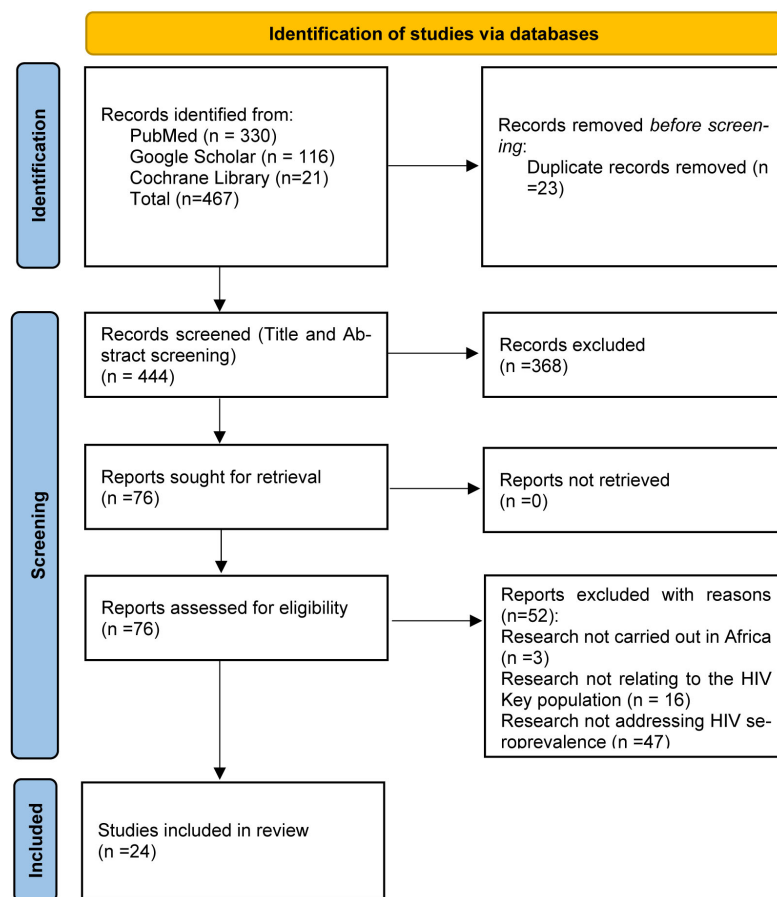


Figure 1. Flow chart to describe the selection of studies for the systematic review of the seroprevalence of HIV among key populations in Africa.

3.2. General Characteristics of Included Studies

Twenty-four studies met our inclusion criteria. All these studies were carried out in 14 African countries in the Maghreb in Libya, in West Africa (Mali, Burkina-Faso, Nigeria, Togo, Ghana, and Guinea Bissau), in East Africa (Ethiopia, Kenya, and Tanzania), and South Africa (Malawi, Zambia, Mozambique and South Africa). The number of publications in these countries varies from one to 4 (**Figure 2**).

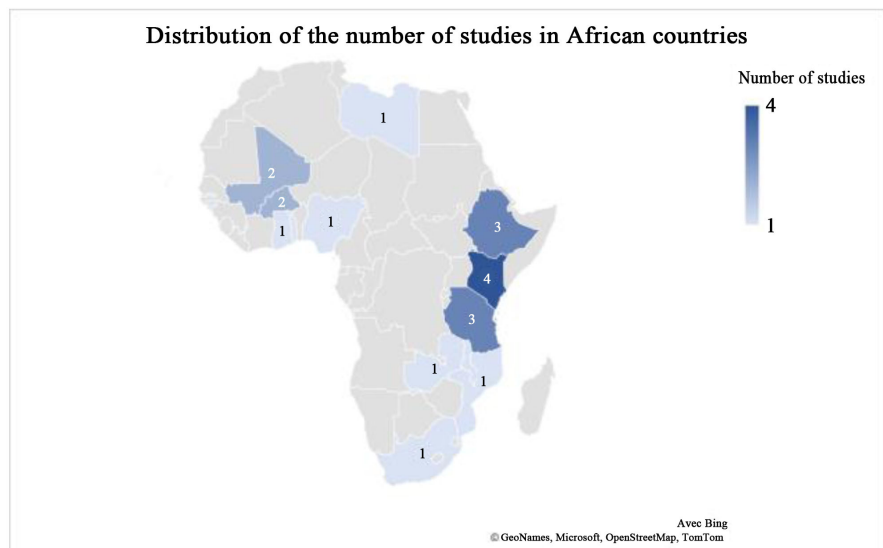


Figure 2. Map showing the repartition of studies reporting the seroprevalence of HIV among Key populations in Africa.

The minimum sample size was 142 participants in a study conducted in Burkina Faso [12], while the largest sample size was 132,383 in Nigeria [13]. 4 studies focused exclusively on the seroprevalence of men who have sex with men [12] [14]-[16], five on female sexual workers [17]-[21], nine on people who inject drug [22]-[30] and two on prisoners [31] [32]. One study combined men who have sex with men and gender-diverse people [33], 1 included female sexual workers [34], and two studies included people who inject drugs, men who have sex with men, and female sexual workers [13] [35]. Fourteen studies focused on a population aged 18 and over [12] [14]-[16] [19] [21]-[23] [26] [28]-[30] [33] [35], one on those aged 16 and over [20], five on those aged 15 and over [13] [18] [25] [27] [34], one on those aged 14 to 24 [17] and one on people of all ages [34]. In two studies, the age of the participants was not stated in **Table 1**.

Table 1. General characteristics of the included studies (n = 24).

Author	Country	Key Population	Age group	Sample size	Laboratory test	Type of HIV
Ma 2020	Kenya	FSWs	14 - 24 years old	1299	NS*	NS*
Hakim 2018	Mali	MSM, Gender-diverse	≥18 years old	552	Determine™ HIV 1/2; Clearview; OraQuick.	HIV 1/2

Continued

Hakim 2017	Mali	MSM	≥18 years old	552	Determine™ HIV 1/2; Clearview; Oraquick.	HIV 1/2
Kawambwa 2020	Tanzania	PWID	≥18 years old	219	SD Bioline HIV-1/2 3.0; Uni-Gold HIV™.	HIV 1/2
Likindikoki 2020	Tanzania	PWID	≥18 years old	610	SD Bioline HIV-1/2 3.0 test; Determine™ HIV 1/2; Uni-Gold HIV™.	HIV 1
Ouedraogo 2019	Burkina Faso	MSM	≥18 years old	662	Determine™ HIV 1/2 kit; ImmunoComb® II HIV 1&2 BiSpot kit; ImmunoComb II HIV 1&2 CombFirm kit. SD BIOLINE	HIV 1/2
Ferré 2019	Togo	MSM	≥18 years old	207	HIV/Syphilis; HIV 1-2-O Card; INNO-LIA HIV I/II Score (20T).	HIV 1/2
Demissie 2018	Ethiopia	PWID	≥15 years old	237	KHB and STAT PAC; Uni-Gold HIV™.	HIV 1/2
Teclessou 2017	Togo	FSWs	≥15 years old	1197	NS*	NS
Mmbaga 2017	Tanzania	PWID	≥15 years old	605	Determine™ HIV 1/2; Uni-Gold HIV™; Enzygnost HIV Integral II Antibody/Antigen ELISA.	HIV 1/2
Dah 2017	Burkina Faso	MSM	≥18 years old	142	Determine™ HIV 1/2	HIV 1/2
Kurth 2015	Kenya	PWID	≥18 years old	1785	Determine™ HIV 1/2; Uni-Gold HIV™.	HIV 1/2
Mwatelela 2015	Kenya	Prisoners	NS	186	Vironostika.	HIV 1
Henostroza 2013	Zambia	Prisoners	Ns	2514	Determine™ HIV 1/2; Uni-Gold HIV™.	NS*
Mirzoyan 2013	Libya	PWID	≥15 years old	328	HIV rapid tests	HIV 1/2
Lancaster 2016	Malawi,	FSWs	≥18 years old	200	Determine™ HIV 1/2; Uni-Gold HIV™.	HIV 1/2
Adeoye 2021	Nigeria	FSWs, MSM, PWID	≥15 years old	132,383	NS*	NS*
Dememew 2020	Ethiopia	FSWs, Prisoners	All ages	1929	RDT**	HIV 1/2
Semá 2020	Mozambique	PWID	≥18 years old	492	Determine™ HIV 1/2; Uni-Gold HIV™.	HIV 1/2
Lindman 2020	Guinea-Bissau	FSWs	≥16 years old	440	Determine™ HIV 1/2; Immunocomb HIV 1/2 BiSpot.	HIB 1/2
Scheibe 2020	South Africa	FSWs; MSM, PWID	≥18 years old	3500	NS*	HIV 1/2
Sagoe 2023	Ghana	PWID	≥18 years old	2443	OraQuick Rapid HIV 1/2	HIV 1/2
Webale 2023	Kenya	PWID	≥18 years old	247	PCR and sequenced (HIV 1).	HIV 1
Metaferia 2021	Ethiopia	FSWs	≥18 years old	360	Wantai HIV kit; Uni-Gold HIV™; Stat-Pak HIV kit.	HIV 1/2

*NS: not stated, **RDT: rapid diagnostic test.

3.3. Risk of Bias of Included Studies

The sampling frame was inappropriate for meeting the target population in one study [30]. Study participants were adequately sampled in all included studies. The sample size was insufficient in 6 studies [17] [20] [22] [30] [35], and the study topics and setting were unclear in 1 study [34]. Data analysis was not performed with sufficient coverage of the sample identified in one study [34], and valid methods were not used to identify diseases in one study [16]. HIV seroprevalence was measured in a standard and reliable manner for all study participants. Appropriate statistical analysis was not calibrated in two studies [30] [34], was not established in one study [18], and was not applicable in three studies [17] [20] [21]. The response rate was unclear in three studies [18] [30] [34] (Figure 3 and Figure 4).

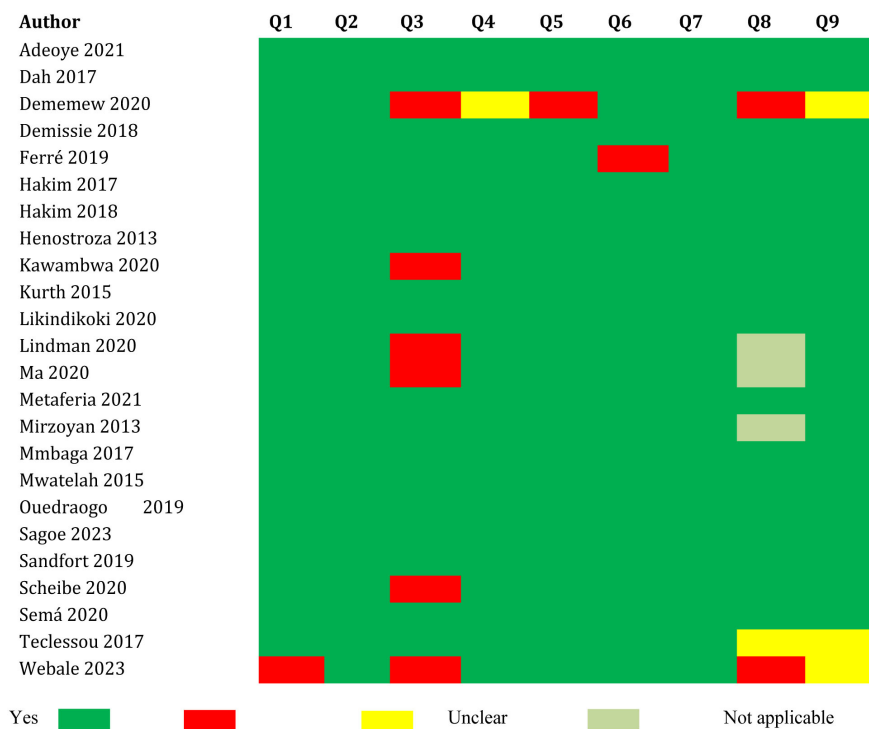


Figure 3. Risk of bias summary: Review the authors' judgments regarding each risk of bias item for each included study.

Questions:

Q1: Was the sample frame appropriate to address the target population?

Q2: Were study participants sampled properly?

Q3: Was the sample size adequate?

Q4: Were the study subjects and the setting described in detail?

Q5: Was the data analysis conducted with sufficient coverage of the identified sample?

Q6: Were valid methods used for the identification of the condition?

Q7: Was the condition measured in a standard, reliable way for all participants?

Q8: Was there an appropriate statistical analysis?

Q9: Was the response rate adequate, and if not, was the low response rate managed appropriately?

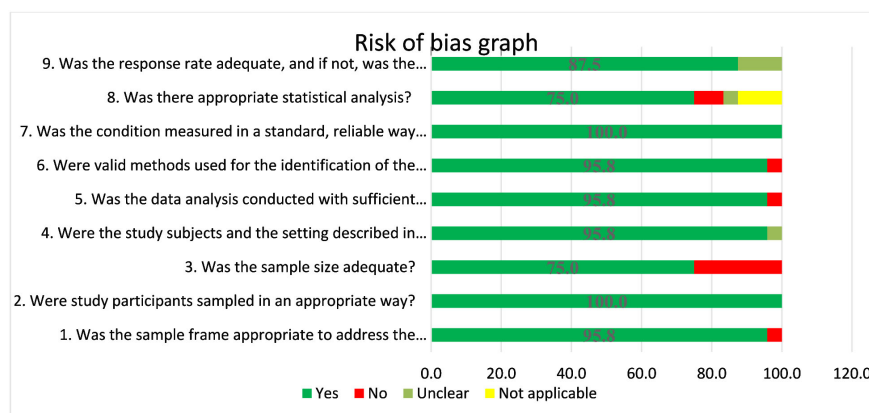


Figure 4. Risk of bias graph: review authors' judgments about each risk of bias item presented as percentages across all included studies.

3.4. Seroprevalence of HIV

3.4.1. Seroprevalence of HIV among Men Who Have Sex with Men

Among the 24 studies included, HIV seroprevalence among men who have sex with men was reported in 7 studies, including two in Burkina Faso, two in Mali, one in Nigeria, one in South Africa, and one in Togo. Reported seroprevalence ranged from 3.6% to 42.9% in studies conducted in Burkina Faso and South Africa, respectively (**Table 2**).

Table 2. Seroprevalence of HIV among men who have sex with men.

Author	Country	Number of screened	Number of HIV positive	Prevalence (95% CI)	References
Ouedraogo 2019	Burkina Faso	662	24	3.6 (2.2 - 5.0)	[15]
Dah 2017	Burkina Faso	123	11	8.9 (3.9 - 14.0)	[12]
Hakim 2018	Mali	387	37	9.6 (6.6 - 12.5)	[33]
Hakim 2017	Mali	552	76	13.8 (10.9 - 16.6)	
Adeoye 2021	Nigeria	34,468	2775	8.1 (7.8 - 8.3)	[13]
Scheibe 2020	South Africa	746	320	42.9 (39.3 - 46.4)	[35]
Ferré 2019	Togo	207	54	26.1 (20.1 - 32.1)	[16]

3.4.2. Seroprevalence of HIV among Female Sex Workers

Among the 24 studies included, HIV seroprevalence among female sex workers was reported in 8 studies, including two in Ethiopia, one in Guinea Bissau, one in Kenya, one in Malawi, one in Nigeria, one in Togo, and one in South Africa. Studies conducted in Nigeria and Malawi reported seroprevalence ranged from 5.6% to 69.0% (**Table 3**).

Table 3. Seroprevalence of HIV among female sex workers.

Author	Country	Number of screened	Number of HIV positive	Prevalence	References
Dememew 2020	Ethiopia	121	19	15.7 (9.2 - 22.2)	[34]
Metaferia 2021	Ethiopia	360	27	7.5 (4.8 - 10.2)	[21]
Lindman 2020	Guinea-Bissau	440	118	26.8 (22.7 - 31.0)	[20]
Ma 2020	Kenya	365	37	10.1 (7.0 - 13.2)	[20]
Lancaster 2016	Malawi	200	138	69.0 (62.6 - 75.4)	[19]
Adeoye 2021	Nigeria	84,317	4722	5.6 (5.4 - 5.8)	[13]
Scheibe 2020	South Africa	1528	711	46.5 (44.0 - 49.0)	[35]
Teclousou 2017	Togo	1184	138	11.7 (9.8 - 13.5)	[18]

3.4.3. Seroprevalence of HIV among People Who Use Injection Drugs

Among the 24 studies included, HIV seroprevalence among people who use injection drugs was reported in 11 studies, including one in Ethiopia, three in Kenya, one in Libya, one in Mozambique, one in Nigeria, one in South Africa, and three in Tanzania. Studies conducted in Nigeria and Libya reported seroprevalence ranged from 3.3% to 89.6% (Table 4).

Table 4. Seroprevalence of HIV among people who use injection drugs.

Author	Country	Number of screened	Number of HIV positive	Prevalence	References
Demissie 2018	Ethiopia	237	15	6.3 (3.2 - 9.4)	[24]
Kurth 2015	Kenya	1785	326	18.3 (16.5 - 20.1)	[26]
Mwatelah 2015	Kenya	186	159	85.5 (80.4 - 90.5)	[31]
Webale 2023	Kenya	247	42	17.0 (12.3 - 21.7)	[30]
Mirzoyan 2013	Libya	328	294	89.6 (86.3 - 92.9)	[27]
Semá 2020	Mozambique	445	204	45.8 (41.2 - 50.5)	[28]
Adeoye 2021	Nigeria	14053	465	3.3 (3.0 - 3.6)	[13]
Scheibe 2020	South Africa	1165	227	19.5 (17.2 - 21.8)	[35]
Kawambwa 2020	Tanzania	219	74	33.8 (27.5 - 40.1)	[22]
Likindikoki 2020	Tanzania	610	53	8.7 (6.5 - 10.9)	[23]
Mmbaga 2017	Tanzania	620	96	15.5 (12.6 - 18.3)	[25]

3.4.4. Seroprevalence of HIV among Prisoners

Three studies have reported HIV seroprevalence among prisoners of wish: one in Ethiopia (1.9%), one in Ghana (2.4%), and one in Zambia (25.1%) (Table 5).

Table 5. Seroprevalence of HIV among prisoners.

Author	Country	Number of screened	Number of HIV positive	Prevalence	References
Dememew 2020	Ethiopia	684	13	1.9 (0.9 - 2.9)	[34]
Sagoe 2023	Ghana	2436	58	2.4 (1.8 - 3.0)	[29]
Henostroza 2013	Zambia	1362	342	25.1 (22.8 - 27.4)	[32]

3.4.5. Seroprevalence of HIV among Gender-Diverse

Only one study conducted in Mali has reported HIV seroprevalence of 24.8% among gender-diverse people (Table 6).

Table 6. Seroprevalence of HIV among gender-diverse.

Author	Country	Number of screened	Number of HIV positive	Prevalence	References
Hakim 2018	Mali	165	41	24.8 (18.3 - 31.4)	[33]

4. Discussion

4.1. HIV Seroprevalence

The review underscores considerable variability in HIV seroprevalence across different populations and regions, reflecting diverse public health challenges. HIV seroprevalence among men who have sex with men (MSM) ranges from 3.6% to 42.9% (**Table 2**), with the highest rates observed in South Africa and Togo [12]-[16] [33] [35]. For female sex workers, prevalence ranges from 5.6% to 69.0% (**Table 3**), peaking in Malawi [13] [18]-[21] [34] [35]. Among people who use injection drugs (PWID), seroprevalence varies from 3.3% to 89.6% (**Table 4**), with extremely high rates in Libya and Kenya [13] [22] [24] [26]-[28] [30] [31] [35]. HIV prevalence among prisoners is generally lower, between 1.9% and 25.1% [29] [32] [34]. Data on gender-diverse individuals is limited, with one study from Mali reporting a seroprevalence of 24.8% (**Table 5**) [33]. The available scientific literature suggests that these divergences may be explained by the complex interaction of social, cultural and political factors that influence HIV transmission and access to care, requiring region-specific public health strategies. Southern Africa has the highest HIV prevalence in the world, with countries such as South Africa, Botswana and Eswatini particularly affected, with gender inequality, labor migration and poverty being key factors [36]-[38]. In East Africa, HIV prevalence varies considerably from one country to another, with high rates in Uganda, Kenya and Tanzania, the main factors being cultural norms such as polygamy or the levirate, population mobility linked to conflict and the fragility of the healthcare system, particularly in rural areas [37]-[39]. In West and Central Africa, HIV prevalence is lower than in South and East Africa, but countries such as Nigeria, Cameroon and the DRC face significant challenges, with key factors including cultural practices such as scarification or ritual circumcision, population mobility due to trade and labor migration, and fragile health systems, particularly in rural and conflict-affected areas [40]-[42]. In North Africa, HIV prevalence is relatively low, but key populations, such as men who have sex with men and injecting drug users, are vulnerable. Factors mentioned in this region include stigma and discrimination hampering access to healthcare services. Indeed, most countries in North Africa have laws and social norms that are repressive towards key populations, hindering access to prevention and treatment services [43].

4.2. Studies Variability

One notable challenge is the methodological heterogeneity across studies, which limits the ability to make direct comparisons (**Figure 3** and **Figure 4**). Variability in study design, sample size, and reporting standards complicates the synthesis of

results and introduces potential bias. For instance, one study had an inappropriate sampling frame, potentially impacting the generalizability of its findings [30], while six studies had insufficient sample sizes, raising concerns about the reliability of their results [20] [22] [30] [34] [35]. Several studies also had limitations in data analysis and disease identification methods, including inappropriate statistical and invalid disease identification methods [16] [30] [34]. These methodological flaws, coupled with unclear response rates in some studies and ambiguous study settings, hinder the overall robustness of the findings. Systematic reviews should be carried out in the future, including sensitivity analyses, as soon as enough studies are available with methods for selecting study groups, comparing groups and determining exposure or results in a consistent manner.

Variability in HIV seroprevalence is likely due to differences in study design, methodologies, and reporting standards. This inconsistency makes direct comparisons challenging and affects the synthesis of results. The review indicates multiple studies with a risk of bias due to sampling frame issues and data analysis methods, influencing the overall conclusions. Another significant limitation is the lack of research on underrepresented populations such as gender-diverse individuals and prisoners. The small number of studies on these groups to date compromises our understanding of HIV prevalence among them and reduces the accuracy of the overall conclusions. Additionally, social, economic, and political factors including stigma, discrimination, legal barriers, and access to healthcare play a key role in shaping HIV transmission dynamics in these populations. For example, laws that criminalize same-sex relationships, sex work, and drug use often deter key populations from accessing prevention services or seeking treatment, thereby exacerbating their vulnerability to HIV [5]. In regions with rigid legal frameworks, the stigmatization of certain behaviors further isolates these groups from healthcare services, thereby increasing transmission risks.

Health interventions must be tailored to the seroprevalence rates observed in different populations. For example, targeted prevention and treatment strategies are crucial for high-prevalence groups like MSM in South Africa and female sex workers in Malawi. Addressing the unique needs of these populations can help reduce HIV transmission more effectively. Policymakers should address identified gaps, such as improved sampling methods and standardized reporting practices. Allocating resources based on the severity of HIV prevalence in various groups ensures the effective use of funds and support. Decriminalizing behaviors such as same-sex relationships and sex work can improve access to essential HIV prevention and treatment services. Future studies should focus on enhancing sampling methods, increasing sample sizes, and employing valid disease identification methods to improve the accuracy of seroprevalence estimates. There is also a need for more research on underrepresented populations, such as prisoners and gender-diverse individuals, to provide a comprehensive understanding of HIV prevalence and inform public health strategies.

4.3. Limitations

This review includes studies with a high risk of bias that could weaken the conclusions. However, it should be noted that this study deals with a taboo subject and that stigmatizes respondents. The study aimed to be as exhaustive as possible to provide a comprehensive overview of the issue. The presentation of the analysis of the quality of the studies included enables the reader to form an opinion that goes beyond the postures of the authors.

5. Conclusion

HIV seroprevalence among key populations in Africa, including MSM, female sex workers, PWID, prisoners, and gender-diverse individuals, reveals significant public health concerns. These groups often face stigma, discrimination, and legal barriers, which hinder access to HIV prevention, testing, and treatment services. To effectively address these challenges, comprehensive strategies are needed that prioritize human rights, community engagement, and targeted interventions. Addressing underlying social determinants, such as poverty and stigma, is crucial for reducing HIV transmission and improving health outcomes among these vulnerable populations.

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Conflicts of Interest

The authors declare no competing interest.

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