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Interventions for HIV prevention and treatment among people of Haitian descent: a scoping review

Candice Aurelus Sternberg ,[1] Michaela E Larson,[2] Jennifer V Chavez,[2] Maika Beauvoir,[1] Shayla Parekh Modi,[1] Sannisha K Dale,[3,4] Victoria Behar-Zusman[3,5]

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[1]Medicine, University of Miami Miller School of Medicine, Miami, Florida, USA
[2]College of Public Health and Social Work, Florida International University, Miami, Florida, USA
[3]University of Miami, Coral Gables, Florida, USA
[4]Department of Psychology, University of Miami, Coral Gables, Florida, USA
[5]School of Nursing and Health Studies, University of Miami, Coral Gables, Florida, USA

Correspondence to
Dr Candice Aurelus Sternberg; c.aurelus@miami.edu

ABSTRACT

Background People of Haitian descent were initially blamed as a cause of the HIV epidemic. Although progress has been made, people of Haitian descent have been disproportionately affected by both HIV and HIV stigma.

Objective This scoping review aimed to assess publications focused on interventional HIV research with Haitian and Haitian-descent populations, particularly studies involving HIV prevention and treatment.

Eligibility criteria The eligibility criteria for this scoping review were broad and included HIV prevention and/or treatment interventions that focused on people of Haitian descent. There were no date or language restrictions. We excluded review articles, opinions, editorials, supplement letters, withdrawn articles and viewpoints.

Sources of evidence For the purposes of this scoping review, eight bibliographic databases were searched: PubMed, Embase, Medline, Cochrane Library, Scopus, Web of Science, PsychINFO and CINAHL.

Charting methods The entire data charting process, from review of titles and abstracts, full-text review and data extraction for relevant articles was conducted in Covidence.

Results Our review found that there were limited studies regarding Haitian populations. Of the 575 articles found, 39 were included in this review. Most of the included studies focused on women of Haitian descent and were conducted in Haiti. Furthermore, few studies focused on adolescents, and most studies did not leverage community-based participatory research strategies.

Conclusion To address HIV-related health disparities among people of Haitian descent, new, research-based and community-based strategies are critically needed.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ This is the first study to our knowledge to evaluate interventional research regarding HIV prevention among people of Haitian descent guided by Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Review guidelines.
⇒ This study did not evaluate article quality or effect sizes.
⇒ The search engines used may have introduced bias in that they typically only include articles in English.
⇒ There may be additional interventions currently being conducted and therefore did not show up in the existing literature.

INTRODUCTION

At the start of the epidemic, what we now recognise as HIV was infamously coined by the Centers for Disease Control and Prevention (CDC) in the media as the '4H disease', named after groups perceived as 'high risk' for acquiring HIV: homosexuals, haemophiliacs, heroin users and Haitians.[1–3] In a shameful part of the US history, Haitians were seen as what Saint-Gerard referred to as 'AIDS vectors' and founding members of the 'Four H Club'.[4] Despite reports and archival evidence demonstrating this link to be ill-founded, people of Haitian descent (living in Haiti and other countries) continue to bear the burden of the epidemic blame, both socially and economically.[5] Considerable progress has been made in addressing the health impacts of HIV in some Haitian subgroups such as pregnant women; however, people of Haitian descent continue to face health disparities, with higher incidence or prevalence of HIV, as well as worse clinical outcomes.[3 5]

During recent years (2019–2023), in attempts to evade political turmoil, gang violence and other issues, Haitian people were in the top 3 groups of migrants crossing the Darien Gap (one of the world's most dangerous migration routes which connects the American continents) in order to reach the USA.[6–8] According to the Migration Information Institute, there has been a 24% Haitian immigrant growth rate in the USA between the years of 2010–2022.[6 7] Considering this influx in migration, it is pertinent to understand current efforts made to address health disparities among people of Haitian descent. This scoping review aims

to assess interventional research published, particularly studies involving HIV prevention and treatment. These results will be critical to highlighting gaps in the current research and future directions, particularly for research conducted in the USA.

Since 2010, Haiti has seen an epidemiological transition in HIV, with a 50% decrease in new cases.[9] However, women and children are still disproportionately affected by the epidemic. As of 2022, the prevalence of HIV in Haiti is 1.7% and approximately 140 000 adults and children are living with HIV. The prevalence of HIV among women aged 15–49 (2.1%) is almost double that of men in that age group (1.3%). Even though antiretroviral therapy (ART) is available to prevent mother-to-child transmission of HIV, such vertical transmission remains high (18%).[6] Efforts to identify vertical transmission have been made, including early infant diagnosis programmes that aim to test infants exposed to HIV within the first 2 months of life.[10 11] However, the percent of infants living with HIV who receive early diagnosis remains low (55%).

Prevention of HIV through pre-exposure prophylaxis (PrEP) is a priority of Haiti's Ministry of Population Health. The 2022 US President's Emergency Plan for AIDS Relief (PEPFAR) Haiti programme aims to make PrEP more available, accessible and used in Haiti for short-term and long-term use.[10] The PEPFAR Haiti PrEP dissemination programme focused on adolescent girls and young women ages 10–14, 15–19 and 20–24 and other key populations: young women that engage in high-risk practices, pregnant and breastfeeding women, older men and partners not living with HIV of index cases (ie, the first case identified in a related group of cases).[10] In terms of treatment, approximately 87% of people living with HIV in Haiti are receiving ART. Receipt of ART is highest among women (90%), and lowest among children under 15 (63%).[9] Furthermore, there remain significant gaps in individuals' knowledge of their HIV status. It is estimated that only 41% of people living with HIV in Haiti are aware of their condition, which is well below the target of the Joint United Nations' Program on HIV/AIDS.[11] The main goal of this programme is to achieve the 95–95–95 targets by 2025: 95% of people living with HIV diagnosed/know their status; 95% of people living with HIV that know their status are on treatment; and 95% of people on treatment are virally suppressed. In the neighbouring Dominican Republic (DR), according to PEPFAR, people of Haitian descent account for nearly 34% of those living with HIV, while only making up approximately 7% of DR's total population.[12] Over the course of 5 years (2012–2017), there has been a 9% increase of Haitian-born migrants living in DR. The prevalence of HIV in people of Haitian descent is 3–5 times higher than the overall prevalence in the DR (3%–5% versus 0.9% prevalence).[12] In Haiti, only 41% of the people of Haitian descent in the DR are aware of their condition. Furthermore, of the people living with HIV in the DR who are not on treatment, people of Haitian descent make up 67%.[12] Given this, the PEPFAR programme in the DR has two priority populations: Haitian migrants and individuals of Haitian descent residing in the DR.

In the USA, Black/African American individuals account for approximately 41% of new HIV diagnoses. Limited surveillance efforts have focused specifically on Haitian-born and Haitian American populations in the context of HIV in the USA.[3] Estimates from the CDC and the American Community Survey indicate that Haitian-born persons constitute nearly 1.5% of HIV diagnoses in the USA, yet account for less than 0.2% of the total US population.[3 13] In large urban centres, like Miami and New York, the large percentages of Haitian-born persons are further over-represented in HIV prevalence statistics. For instance, approximately 2% of persons living in Florida are Haitian born, yet they account for 7% of people living with HIV. In Miami-Dade County, roughly 4% of the population is Haitian born, but they constitute 9.4% of all people living with HIV (as of 2021).[14] Heterosexual contact remains the primary mode of HIV transmission among Haitian-born men and women, followed by male-to-male sexual contact.[3 14] Furthermore, cultural barriers, stigma and sociostructural factors (including neighbourhood-level deprivation and access to care) may disproportionately contribute to Haitian-born and Haitian American individuals being placed at risk for HIV, suboptimal engagement in prevention efforts and negative, HIV-related health outcomes.[15–20]

Significant progress has been made along the care continuum, from HIV prevention with PrEP to treatment.[19 20] Culturally tailored interventions have been employed to prevent and treat people with HIV,[21 22] many of which have been found to be effective.[23] There are, however, limited data regarding interventions that could be leveraged and or/adapted for use in Haitian communities. Furthermore, people of Haitian descent are often immigrant minorities who are at risk for negative health outcomes exacerbated by the racism and xenophobia of US healthcare systems.[24 25] For instance, many people of Haitian descent have limited access to culturally competent care that addresses language barriers and potential acculturation stressors. Despite the fact that Black/African American and people of Haitian descent are often treated as a monolith in medical research, several studies have demonstrated that there are significant subgroup differences.[26–29] The onus is on researchers to further examine these subgroup differences and use them to inform tailored interventions and approaches.

Overall, few studies focus on people of Haitian descent. Of those available, most examine medical conditions such as tuberculosis, cholera and HIV.[30] The studies regarding HIV, however, often do not focus on interventions to improve clinical outcomes across the care continuum (eg, testing, effective treatment, medication adherence, etc).[30] Thus, we conducted a scoping review to assess the state of the science and elucidate gaps in our understanding of HIV interventions specifically tailored to Haitian populations.

METHODS

Scoping reviews examine the extent, range and nature of research activity in a topic area and identify research gaps in the current literature, while still providing the rigour of a systematic review.[31] Given the limited research on HIV interventions among Haitian populations, a scoping review was deemed appropriate for the research question. This scoping review was guided by Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) extension for Scoping Review guidelines, which provide rigour and a systematic process to review the literature.[32] To identify HIV interventions for Haitian populations, we began our review process by conducting a broad literature search. Following this, we developed a search strategy, and proceeded with study selection, data charting and synthesis and analysis of the data. Scoping reviews are exempted from registration processes; therefore, our review was not registered.

Patient and public involvement

This study did not include direct patient or public involvement.

Search strategy

A search strategy was developed using predefined keywords that included index and general terms related to the core concepts of HIV interventions that focused on Haitian populations (search strategy: ((prevention) OR (treatment)) AND (intervention) AND (HIV) AND ((Haitian) OR (Haiti))). There were no filters (eg, article type, place, etc) or limits (eg, year of publication) used. We searched eight bibliographic databases—PubMed, Embase, Medline, Cochrane Library, Scopus, Web of Science, PsychINFO and CINAHL—with no language or date restrictions. A manual search (checking reference lists of included articles) to avoid missing literature was also conducted. The search was completed in May of 2024. A total of 1418 studies were identified via the initial search.

Study selection

All relevant studies published prior to May 15 of 2024 were included in this review. In terms of inclusion criteria, this review focused solely on studies that were either HIV prevention and/or treatment interventions with a focus on people of Haitian descent, unrestricted by country. Exclusion criteria included the following: articles that were not peer reviewed, including dissertation works and news articles; review articles, opinions, editorials, supplement letters, withdrawn articles, viewpoints and protocol papers; articles with outcomes not related to HIV treatment or prevention (eg, tuberculosis screening); articles not in English; and articles that did not describe an intervention.

Data charting processing was conducted on Covidence, which is a production tool that facilitates systematic review management. Search results were initially screened by title and abstracts by two authors (SPM, MB) for relevance to the research topic. Only articles whose title and/or abstract mentioned or could be assumed would be discussed in the paper, a prevention and/or treatment intervention for HIV among Haitians was moved to full-text reviews. Any articles that the two independent reviewers differed on inclusion (ie, one reviewer chose to move to the full-text review, and the other chose to exclude it) were reviewed by another author (MEL). Two authors (SPM, MB) then independently reviewed the full-text articles of those that were retrievable after the title and abstract screening. Eligible articles were then passed to the data extraction stage. Discrepancies for eligibility were reviewed by a third author (MEL). Prior to extraction, a coding sheet was developed for capturing and summarising study characteristics, including author, year of publication, study location, study design, total sample size, intervention type, population and main findings and outcomes of the study. The coding sheet was pretested by two authors (SPM, MB) using two pilot articles to ensure reviewer understanding and agreement. Minor, necessary revisions were made before making the coding sheet live on Covidence. Similar to the other procedures for title/abstract screening and full-text review, a third author (MEL) reviewed the coding results to resolve any conflicts or discrepancies. All three authors met throughout the screening and coding process to address any uncertainties related to the process.

Data synthesis and analysis

The reviewed studies were described according to the characteristics collected on the coding sheet. This included authors, year of publication, study location, study design, total sample size, intervention type, population and main findings and outcomes of the study. Once coding was completed, data were extracted from Covidence and summarised by study characteristics.

RESULTS

Online supplemental figure S1 presents the PRISMA Flow Diagram for our review. Briefly, a total of 1418 records were imported into Covidence, of which 843 were removed as duplicates, either immediately by Covidence, or manually by review. The remaining 575 titles and abstracts were screened for inclusion. Of these, only 74 were passed to full-text screening. Of these 74 assessed for eligibility, 39 were formally included in our review. Data from these 39 articles were extracted via the coding sheet, which was then compiled for each article and downloaded from Covidence. The PRISMA flow diagram (online supplemental figure S1) shows reasons for exclusion, which included articles that were protocols, and those that assessed outcomes that were not of interest. The funding sources for the included studies can be found in online supplemental table S1.

Study populations

General study characteristics of the 39 articles from which data were extracted can be seen in table 1. Eighty-two

Table 1 General study characteristics (n=39 articles)

Characteristic	N (%)
Location	
USA	7 (18)
Haiti	32 (82)
Dominican Republic	2 (5)
Other*	7 (18)
Sample size	
<50	5 (13)
50–300	12 (31)
>300	19 (49)
Other†	2 (5)
Not specified	1 (3)
Gender included	
Male	14 (36)
Female	23 (59)
Not specified	2 (5)
Age of participants	
Adolescents (<18)	9 (23)
Adults (≥18)	32 (82)
Not specified	4 (10)
Intervention type	
HIV prevention	14 (36)
HIV treatment	23 (59)
HIV prevention and treatment	2 (5)
Method of recruitment	
Clinic patients	29 (74)
Other‡	12 (31)
Not specified	2 (39)

Note: some categories add up to more than the total (n=39) due to addressing multiple levels within a construct.
*Countries including: Argentina, Eswatini, Botswana Brazil, China, Côte d'Ivoire, India, Kenya, Lesotho, Malawi, Mexico, Mozambique, Namibia, Peru, Rwanda, South Africa, Tanzania, Thailand, Trinidad, Uganda, Zambia and Zimbabwe.
†Articles discussed clinic sites (n=9 and n=415 clinics).
‡Phone, social marketing campaign, passive recruitment at meetings/parks/bus stops and door-to-door.

percent (n=32) of the studies included were conducted in Haiti, while the remainder were in the USA (18%, n=7), DR (5%, n=2) or another country (18%, n=7, including countries in Africa and South America). The sample sizes of the studies varied from less than 50 (5 studies, 13%) to over 300 (31 studies, 80%). Over 50% of the studies included women, while 36% (n= 14) included men. Twenty-three percent (n=9) studies included adolescents.

Study characteristics

Approximately 39% of the articles included in our review focused on the prevention of HIV among Haitians. Most were not biomedical interventions, but focused on increasing knowledge, attitudes and beliefs of HIV-related prevention and testing/prevention behaviours. The methods of recruitment were consistent across the studies and primarily included clinic patients and passive recruitment efforts through flyers and advertisements. Fewer than half of the accepted studies leveraged community-based participatory research (CBPR) approaches to inform intervention/study activities. HIV-related outcomes of interest varied across the studies and included viral load, viral suppression, CD4 counts, virologic failure and adherence. Other prevention interventions focused on intervention acceptability; HIV-related knowledge, attitudes and beliefs; HIV testing; psychosocial functioning/symptoms; and PrEP knowledge, uptake, and PrEP to need ratio. Furthermore, several studies had other key outcomes that focused on various topics including intervention acceptability and intervention-related adverse events. Online supplemental table S2 provides detailed study characteristics (including outcomes) of each of the studies included.

DISCUSSION

Our review of the literature demonstrated that there is a scarcity of HIV treatment and prevention interventions focused on Haitian populations. Of the available studies, most were completed in Haiti and focused on women. When conducting studies regarding Haitian populations, it will be important to recruit both men and women, given that most HIV transmission among Haitian populations occurs through heterosexual contact, followed by male-to-male sexual contact. We also found that few studies included adolescents, highlighting limited efforts to engage a population that may be at risk for acquiring HIV. The inclusion of children and adolescents in HIV intervention research is especially critical given the high rate of vertical transmission of HIV in Haiti and the need for early prevention interventions.

One of the most salient findings of the study was the critical need for more research focused on HIV prevention and treatment for people of Haitian descent. This is consistent with previous studies which highlight the lack of research for this population.[30] Furthermore, most studies did not leverage community-based participatory research strategies, which are crucial for the development of culturally relevant interventions. To develop interventions that will work for Haitian populations, more culturally relevant research must be done to understand contextual, structural, social and cultural factors, including stigma, that influence HIV risk, transmission and treatment, and acceptability of and adherence to various interventions.

For studies conducted in the USA, it will be important for researchers to delineate the diversity of groups that belong to the Black community and focus specifically on Haitians. Haitian populations are often only classified as Black without a recognition of within-race cultural/ethnic differences that affect health and help-seeking

behaviours. Some studies have pointed to the importance of subgroup differences and analyses to understand which interventions work for which populations so that interventions can be tailored to specific groups.[33] Furthermore, instruments used to measure research constructs may not be valid in groups with a different understanding or experience of those constructs. In HIV specifically, it is well established that US-born and non-US-born Black individuals have significantly different experiences related to HIV knowledge, testing and access to preventive medications.[15 34 35]

Culturally tailored interventions have been noted to be effective among Haitian populations living in Miami, Florida. In the area of cervical cancer, for example, such interventions have leveraged community health workers to engage participants and used iterative tailoring processes to ensure that interventions met the needs of the target population.[36] Future HIV interventions would benefit from leveraging such practices. For instance, *Bon Sante* ('Good Health'), an ongoing HIV prevention study, is conducting formative work that leverages community member perspectives to assess knowledge, attitudes, practices and preferences for biomedical interventions among people of Haitian descent in Miami.[37] Results indicate that members of the Haitian community are interested in biomedical prevention intervention with PrEP, suggesting that the causes behind low prophylaxis utilisation are more complex.[37] More studies such as this one are being completed and will need to continue to evaluate acceptability and feasibility of culturally tailored interventions.[38]

New strategies regarding health disparities research have been developed.[39] These strategies may help address health disparities among some populations of people of Haitian descent. However, to do so, there would need to be both etiological and interventional research regarding HIV and people of Haitian descent.[40] In addition, data beyond social determinants to include biological and environmental systems would be needed.[39] Furthermore, there would need to be appropriate measurement tools to understand outcomes related to HIV prevention and treatment among people of Haitian descent, and those that address long-standing institutional stigma.[41]

Limitations

As is usual for scoping reviews, our findings here are exploratory. We did not evaluate article quality or effect sizes. In addition, the search engines used may have introduced bias in that they typically only include articles in English. Furthermore, there may be additional small-scale interventions currently being conducted that were not identified by our search because they are still unpublished.

Conclusion

Our scoping review highlights the scarcity of HIV prevention and treatment interventions designed specifically for Haitian populations. Although Haitian populations have been disproportionately impacted by HIV/AIDS, there are limited studies regarding HIV interventions for this group. There are significant data regarding the effectiveness of culturally tailored HIV interventions. Our review serves as a call to action to leverage CBPR approaches in order to understand the barriers (eg, social determinants of health) to implementing HIV prevention and treatment interventions in Haitian individuals. Our review also highlights the importance of examining subgroup differences. By treating Black populations homogeneously, we are ignoring the unique needs and cultural context of Haitian communities. These may serve as essential intervention targets to more effectively move the dial on HIV prevention and treatment among people of Haitian descent. The US Belmont Report mandated ethical guidelines for research, stating that "injustice arises from social, racial, sexual and cultural biases institutionalized in society".[42] Our scoping review points to a cultural bias that may be institutionalised in US-based and other research. Given the historical focus on Haitians as 'vectors' of the HIV epidemic, their under-representation in HIV research is a poor display of the justice principle of the Belmont Report. Plainly, our review reveals that the lack of research on people of Haitian descent in the context of HIV is not just an oversight, but an injustice. Further, the social, economic and political difficulties faced by Haitian populations exacerbate health inequities, suggesting that researchers must find ways to (1) leverage the resilience and strength demonstrated by this community to address HIV-related health disparities and (2) develop new community-informed strategies to decrease these disparities among people of Haitian descent.

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ORCID iD

Candice Aurelus Sternberg http://orcid.org/0000-0001-5353-6667

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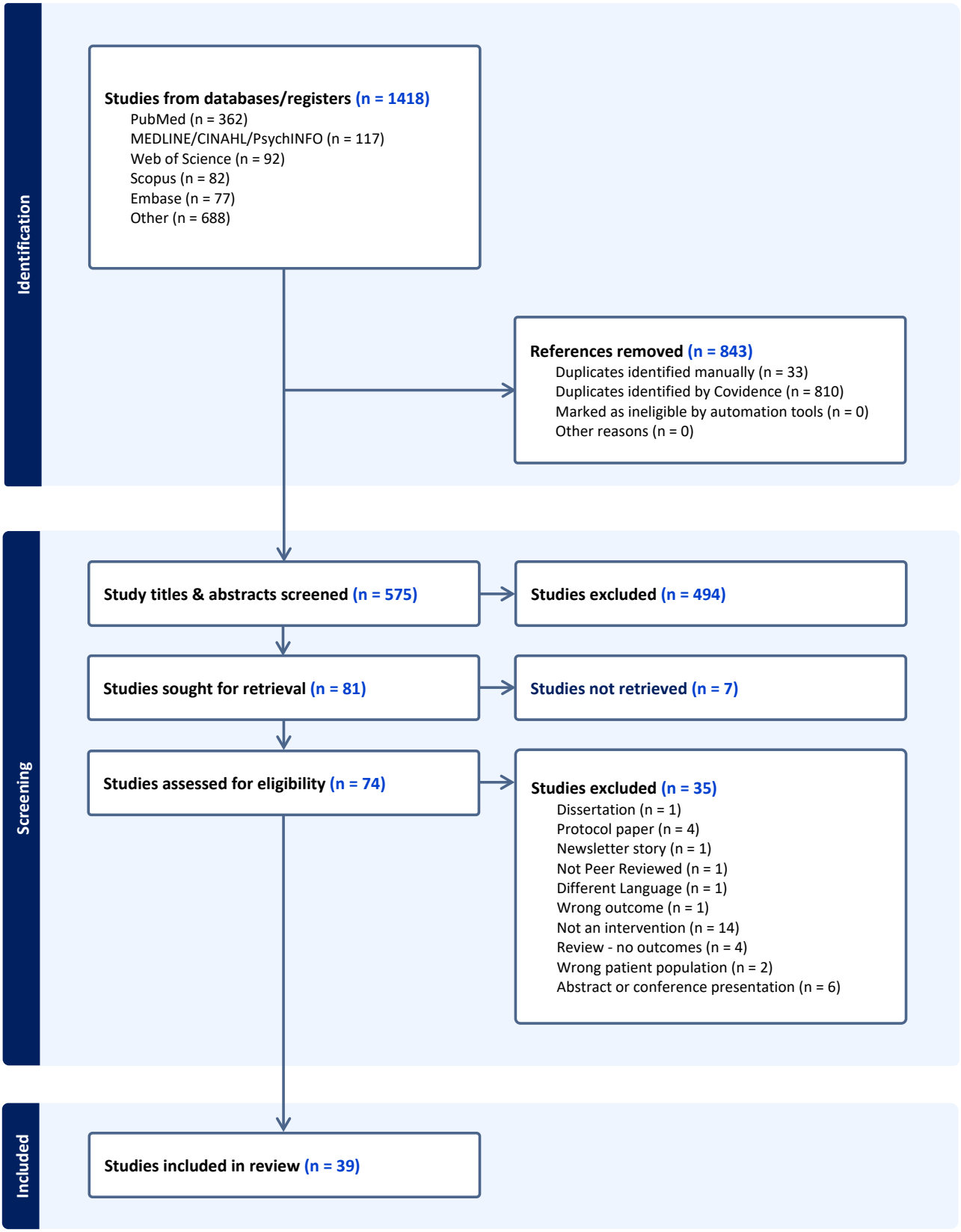
Figure 1. PRISMA Flow Diagram



Supplemental Table 2. Detailed Study Characteristics of Included Studies

Study	Intervention type	Intervention Level	Sample	Outcome(s) of Interest
Bardfield 2014[33]	Treatment	Institutional	415 clinics	↑ CTX prophylaxis
Berger 2007[34]	Treatment	Institutional	9 clinics	↑ efficiency in stock distribution
Celeste-Villalvir 2024[35]	Treatment	Institutional; Interpersonal	21 adult clinic patients living with HIV on ART for at least 6 months	↑ psychosocial well-being; ↑ food access; ↑ changes in dietary diversity; ↓ viral load
Cleghorn 2007[36]	Treatment	Individual	160 seronegative adults	° cellular response; ° anti-gagp24; ↑ anti-gp120
Currier 2017[37]	Treatment	Individual	1,652 post-partum women living with HIV	° time to first of AIDS, death, or serious non-AIDS cardio/renal/hepatic condition; ↑ WHO Clinical Stage 4 illnesses, pulmonary tuberculosis, and other serious bacterial infections; ↓ WHO Stage 2 and 3 events; ° toxicity
DeMarco 2004[38]	Prevention	Interpersonal	approximately 45 volunteer participants interested in HIV prevention or members of populations with high incidence rates for HIV/AIDS	Acceptability, feedback
Deschamps 1996[39]	Prevention	Interpersonal	177 serodiscordant couples	↑ safe sex practices or abstinence
Deschamps 2009[40]	Prevention	Individual	348 pregnant women living with HIV	↑ adoption of replacement feeding; ↓ likelihood of mixed feeding
Deschamps 2009[41]	Prevention	Individual	348 pregnant women and their infants	↓ mother to child transmission
Dorvil 2023[42]	Treatment	Individual	500 adults living with HIV that presented with TB symptoms at diagnosis	° retention in care; ° viral suppression
George 2007[43]	Treatment	Individual	236 treatment-naïve children living with HIV	↓ viral load; ↑ CD4 count; ↑ weight
Gross 2015[44]	Treatment	Interpersonal	259 people living with HIV	° adherence; ° virologic failure
Gross 2019[45]	Treatment	Interpersonal	545 people living with HIV on a second-line PI ART regimen	° viral suppression; ↓ virologic failure
Guiteau Moise 2018[46]	Treatment	Institutional	2361 individuals living with HIV	↑ retention in care; ↑ adherence
Ichite 2023[47]	Prevention	Institutional	38 women on PrEP from a community health center with no major unaddressed mental health issue	° sexual risk; ↓ alcohol use;
Ivers 2014[48]	Treatment	Individual	534 people living with HIV on ART	° CD4 count; ° adherence; ° BMI; ° quality of life; ° household wealth
Jayaweera 2003[49]	Treatment	Individual	19 individuals living with HIV	↓ viral load; ↑ CD4 count
Jones 2001[50]	Prevention	Individual	178 women (27 Haitian women)	↑ N-9 spermicide use, acceptability, and willingness to use products
Kaufman 2012[51]	Prevention	Institutional	140 adolescents	↑ HIV knowledge, attitudes, and communication

Koenig 2017[52]	Treatment	Individual	703 individuals living with HIV	↑ retention in care; ↓ viral load
Logie 2014[53]	Prevention	Individual	200 internally displaced women	↑ HIV knowledge; ↑ STI knowledge; ↑condom use; ↓ depression
Malow 2009[54]	Prevention	Individual	246 Haitian-descent adolescents living in Miami	↑ HIV knowledge; ↑condom use intention/attitudes; ↑ safer sex self-efficacy; ↑ ability to use condoms
McNairy 2017[55]	Treatment	Institutional	9,718 adults who initiated ART within the network of HIV facilities	↑ ART initiation; ↓ mortality
Mukherjee 2007[56]	Prevention; Treatment	Institutional	n/a	↑ CHW self-efficacy; ↑ CHW knowledge of HIV/AIDS; ↑ primary healthcare service utilization; ↑ VCT or HIV
Naslund 2014[57]	Treatment	Institutional	80 adults living with HIV on stable ART for 6+ months without opportunistic infections	↑ retention in care; ↓ hospital staff workload
Noel 2008[58]	Prevention	Institutional	547 pregnant women living with HIV & 551 infants	↓ vertical transmission; ↓ infant mortality
Parrish 2022[59]	Treatment	Institutional	2,1880 ART naïve people living with HIV	↑ retention in care
Patel 2022[60]	Prevention	Institutional	576,570 adolescent girls and young women	↑ PrEP uptake; ° PrEP coverage; ° PrEP to need ratio
Peck 2003[61]	Prevention; Treatment	Institutional	6,896 adults and 1,279 children receiving voluntary HIV counseling and testing	↑ HIV testing; ↑ contraceptive use; ↑ STI management; ↑ TB screening; ↑ medical care
Preidis 2010[62]	Prevention	Institutional	1,500 people from rural villages in Haiti	↑ HIV/AIDS knowledge; ↑ awareness of HIV testing, counseling, and ART
Puttkammer 2014[63]	Treatment	Institutional	2,510 adults living with HIV	pharmacy-based proportion of days covered; medication possession ratio
Puttkammer 2020[644]	Treatment	Institutional; Individual	874 individuals living with HIV that initiated ART in the past 12 months	° viral suppression; ↑ proportion of days covered with medication
Reif 2022[65]	Treatment	Individual	150 adolescents and young adults living with HIV	↑ in receipt of VL testing; ° ART adherence; ° viral suppression
Rosenberg 2011[66]	Prevention	Individual	192 members of a Haitian microfinance program	↓ partner infidelity; ↑ condom use; ↑ power index score
Rosenberg 2019[67]	Prevention	Individual	304 member of a Haitian microfinance clients	↑ condom use; ↓ STI symptoms; ↑ HIV testing
Settergren 2021[68]	Treatment	Interpersonal	1,330 children and young children living with HIV	↑ ART adherence; ↑ viral suppression; health knowledge; retention in care; medication adherence; health knowledge; capacity to deal with peer pressure, stigma, shyness, and depression
Severe 2010[69]	Treatment	Individual	816 treatment naïve adults living with HIV	↓ mortality; ↓ incident TB
Smith Fawzi 2012[70]	Treatment	Individual	168 youth living with HIV and 130 of their caregivers	↓ psychological symptoms (youth); ↑ psychosocial functioning (youth); ↑ social support (youth); ↓ depressive symptoms (caregivers); ↑ social support (caregivers); ↓ HIV-related stigma (caregivers)

Wang 2023[71]	Treatment	Institutional; Individual	116 adults living with HIV that initiated ART within the last 12 months	↑ information about ART adherence; ↑ motivation for ART adherence; ↓ behavioral skills

Note: CTX: cotrimoxazole, ART: antiretroviral therapy, TB: tuberculosis, PI: protease inhibitor, PrEP: pre-exposure prophylaxis, STI: sexually transmitted infection, CHW: community health worker, VCT: voluntary counselling and testing, VL: viral load; ↑ intervention increased outcome effectively, ↓ intervention decreased outcome effectively, ° no real change in outcome

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