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Evidence Gaps Across the HIV Care Continuum Among Conflict-Affected Populations in the Middle East and North Africa: A Scoping Review

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Abstract

This scoping review characterizes the available evidence on HIV prevention, care, and treatment among conflict-affected populations in the Middle East and North Africa (MENA).

PubMed, Embase, and CINAHL were searched for English-language, peer-reviewed studies published from January 2000 onward. Eligible studies were empirical research conducted in MENA among conflict-affected populations, including refugees, internally displaced persons, asylum seekers, migrants, returnees, host communities, and other conflict- or crisis-affected residents, and addressing HIV prevention, care, treatment, or related continuum stages. Data were charted by population, setting, and continuum stage.

A total of 19 studies were included. Studies were concentrated in Lebanon (n=7), Jordan (n=4), Libya (n=4), and Yemen (n=2), with one from Morocco and one multi-country ecological study. Evidence was concentrated upstream: 15 studies (79%) addressed prevention or HIV knowledge, 14 (74%) testing or diagnosis, six (32%) linkage to care, five (26%) antiretroviral therapy initiation, two (11%) retention, and one (5%) viral suppression. No study reported individual-level viral suppression among conflict-affected or displaced populations.

The peer-reviewed research evidence base on HIV prevention, care, and treatment in MENA is overall sparse, geographically narrow, and progressively thins across the HIV care continuum, with the greatest gaps in retention and viral suppression. Research following conflict-affected and displaced populations through treatment and clinical outcomes is needed to support HIV care amid ongoing disruption.

Keywords: HIV; HIV care continuum; conflict; displacement; Middle East and North Africa; refugees

Introduction

New HIV infections in the Middle East and North Africa (MENA) rose by 116% between 2010 and 2023, contrasting with the global decline in new HIV infections over the same period [1,2]. Within MENA, key populations and their partners accounted for an estimated 84% of new HIV infections in 2022 [2]. Recent reviews on HIV in MENA describe a regional HIV response hindered by underfunding, weak surveillance, and stigma, compounded by conflict, and document systematic under-reporting of HIV data among key populations, particularly people who inject drugs; in Syria, for example, key population surveillance activities dropped by an estimated 99% following the onset of conflict [3,4]. A parallel scoping review of sexual and gender minority health across MENA and the surrounding countries found research clustering almost entirely in Lebanon, Pakistan, and Iran despite high reported rates of stigma and violence elsewhere in the region [5]. This epidemic trajectory unfolds against a regional landscape of mass displacement: by mid-2025, over 17.8 million people across MENA were forcibly displaced or stateless, including 7.4 million displaced within Syria and 4.5 million Syrian refugees in neighboring countries [6].

Understanding how to address HIV in MENA requires a clearer understanding of how conflict and displacement intersect with HIV prevention and care. Research on the intersection of conflict and HIV spans more than two decades, with early scholarship focusing primarily on whether conflict increased HIV transmission. A 2007 systematic review of seven conflict-affected sub-Saharan African countries found no consistent evidence that HIV prevalence was elevated among conflict-affected or displaced populations relative to host communities, suggesting that the effects of conflict on HIV transmission may be shaped by countervailing factors such as reduced mobility [7]. A 2021 update reached a similar conclusion, finding insufficient evidence that armed conflict was associated with increased HIV prevalence and noting that its effects on prevalence may vary across socioeconomic contexts [8]. More recent research has shifted from examining whether conflict increases HIV transmission toward understanding how conflict and displacement disrupt HIV prevention and care. A 2026 systematic review documented disruptions to HIV testing and treatment associated with conflict-related attacks, supply-chain interruptions, and workforce deficits, with displacement further complicating loss to follow-up, while evidence that these disruptions translate into increased HIV incidence remains limited [9]. A 2022 commentary similarly highlighted how displaced populations can be "left behind" on global HIV targets because of compounding behavioral, social, and structural barriers across the displacement journey [10]. These challenges are particularly salient in MENA, where regional reviews have identified substantial gaps in HIV surveillance and reporting among key populations, persistent stigma, limited service utilization, and disruptions to HIV services during protracted humanitarian emergencies [3]. However, existing MENA-specific reviews have primarily characterized the regional HIV epidemic and key populations, rather than examining HIV prevention, testing, treatment, and continuity of care across conflict-affected populations and settings. No review, to our knowledge, has synthesized evidence across the HIV care continuum among conflict-affected populations in MENA.

The HIV care continuum, first formalized by Gardner and colleagues in 2011 as the "spectrum of engagement in HIV care," describes the sequential stages from testing through viral suppression and has become a widely used framework for assessing progress toward HIV epidemic control [11]. Applied unmodified to conflict-affected populations, however, its clinical orientation would exclude much of the relevant MENA literature, which disproportionately concerns factors preceding formal care engagement, including HIV knowledge and attitudes, prevention behaviors, and structural and

health-system barriers to accessing care. We therefore adapted the continuum to retain its standard clinical stages (testing and diagnosis, linkage to care, antiretroviral therapy (ART) initiation, retention in care [inclusive of adherence], and viral suppression), while incorporating upstream and structural domains, principally HIV prevention and education (e.g., condom access, prevention of mother-to-child transmission [PMTCT], post-exposure prophylaxis [PEP], harm reduction, and surveillance or health-system capacity).

For this review, the Middle East and North Africa region was defined according to the regional classification used by the Office of the United Nations High Commissioner for Human Rights (OHCHR), encompassing Algeria, Bahrain, Egypt, Iran, Iraq, Israel*, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, the Occupied Palestinian Territory, Qatar, Saudi Arabia, Syria, Tunisia, the United Arab Emirates, and Yemen [12]. Western Sahara was additionally included in the review's geographic scope.

In order to inform the priorities of humanitarian organizations, national HIV programs, and other key stakeholders operating in the region, this review details and synthesizes the available research on HIV prevention, care, and treatment among conflict-affected populations in MENA, describing the populations, countries, and HIV care continuum stages represented in the literature and mapping areas where greater attention may be needed.

Methods

Review design and research questions

A scoping review methodology was selected to comprehensively characterize the existing evidence on HIV among conflict-affected populations in MENA [13,14]. Given the breadth of the topic and the anticipated diversity of study designs and research objectives, a scoping review was appropriate for mapping the available literature and identifying areas where evidence remains limited [15].

The review was guided by the following research questions:

1. What is known about HIV prevention, care, and treatment across the HIV care continuum among conflict-affected populations in the Middle East and North Africa?
2. What gaps exist in the literature, and how might these gaps inform future research and humanitarian programming?

The research questions and eligibility criteria were informed by the Population-Concept-Context (PCC) framework recommended by the Joanna Briggs Institute (JBI) for scoping reviews [16]. The PCC elements were defined as follows:

- Population: Conflict-affected populations, including refugees, host communities, and internally displaced populations.
- Concept: HIV prevention, care, and treatment across the HIV care continuum.
- Context: Conflict-affected settings in the MENA region, as defined by the eligibility criteria described below.

Criteria for inclusion/exclusion of studies

Articles were included if they met all of the following conditions: (1) conducted in a geographic setting within MENA, comprising Algeria, Bahrain, Egypt, Iran, Iraq, Israel*, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, the Occupied Palestinian Territory, Qatar, Saudi Arabia, Syria, Tunisia, the United Arab Emirates, and Yemen, with Western Sahara also included; (2) peer-reviewed empirical research; (3) published in English; (4) published from January 1, 2000 onward; and (5) had full text available. For studies conducted only in Israel, eligibility was determined by population: studies examining exclusively non-dominant, conflict-affected populations, including Palestinian populations, Ethiopian asylum seekers, migrants, and Arab citizens of Israel, were eligible. Reviews, commentaries, conference abstracts, dissertations, and other non-peer-reviewed sources were excluded.

Search strategy and iteration

An iterative process was used to develop the final search strategy, with successive iterations varying both search terms and inclusion criteria to evaluate different approaches to defining the review scope. Early iterations focused specifically on conflict-affected and displaced populations, while subsequent iterations broadened the search to capture HIV research across MENA more generally and distinguish conflict-related from non-conflict-related studies. The scope was subsequently refined to focus on HIV prevention, care, and treatment across the HIV care continuum among vulnerable and conflict-affected populations. The final search combined three concept blocks (HIV-related terms, conflict-related terms, and MENA-related terms) using the 'AND' Boolean operator in PubMed on July 7, 2026, with publication dates restricted to January 1, 2000 onward. HIV-related search terms included both indexed subject headings (e.g., "HIV," "HIV Infections") and free-text virus-related terms (e.g., "human immunodeficiency virus," "AIDS"). Conflict-related search terms covered displacement status (e.g., "refugee," "internally displaced," "asylum seeker," "returnee"), conflict context (e.g., "conflict-affected," "post-conflict," "war-affected," "armed conflict," "complex emergency"), and setting (e.g., "refugee camp," "IDP camp," "displacement camp"). MENA-related search terms included both regional terms (e.g., "Middle East," "North Africa," "Arab World") and the individual geographic settings within this review's adapted MENA classification, searched by name. MENA as a region is variably defined across multinational agencies; for the purposes of this review, we used list of countries classified as MENA by the United Nations Office of the High Commissioner for Human Rights (OHCHR), with a modification to include Western Sahara.[11] The search syntax was developed in PubMed and adapted for use in the remaining databases. The final search syntax (see Appendix A) was then used to identify articles in PubMed, Embase, and CINAHL.

Title and abstract screening and full-text review

The Covidence online review management software was used to manage all title and abstract screening, full-text review, and data charting [17]. Two reviewers (PA, ELE) independently screened titles and abstracts and applied exclusion criteria. Articles proceeded to full-text review unless both reviewers agreed that the article did not: (1) focus on a population affected by or situated within a conflict-affected context in MENA (including refugees, internally displaced persons (IDPs), asylum seekers, conflict-affected migrants, host communities, and other conflict- or crisis-affected residents, while excluding MENA populations not explicitly affected by conflict and conflict-affected populations outside MENA); or (2) did not address any stage of the adapted HIV care continuum (testing, diagnosis, linkage, ART initiation, adherence, retention, viral suppression), its upstream

domains (prevention, education/knowledge, condom access, PMTCT, PEP, harm reduction, health-system/surveillance capacity), or barriers, facilitators, or service-delivery mechanisms. If either reviewer believed eligibility could not be confidently ascertained, the article was advanced to full-text review. The same two reviewers then independently assessed the full text of each remaining article against the review's complete eligibility criteria. Disagreements were resolved by discussion.

Data charting and categorization

One reviewer (PA) charted the following data from each included article: (1) first author and year of publication; (2) study design (e.g., cross-sectional, cohort, qualitative, mixed methods); (3) study objective; (4) population specifics, including total sample size, origin country, host country, and population type (e.g., refugees, internally displaced persons (IDPs), asylum seekers, migrants, returnees, host community, conflict-affected residents); (5) key population, if applicable (e.g., men who have sex with men, people who inject drugs, female sex workers, pregnant and postpartum women, adolescents); (6) inclusion and exclusion criteria for study participants; (7) geographic and humanitarian setting where the study was conducted (e.g., refugee camp, IDP camp, urban, rural, hospital, community, non-governmental organization (NGO) clinic, mobile clinic); (8) HIV care continuum stage(s) addressed (e.g., prevention, education/knowledge, testing, diagnosis, linkage to care, ART initiation, adherence, retention, viral suppression, PMTCT, PrEP, PEP, condom access/use, harm reduction); (9) primary focus of the study (e.g., HIV prevention, testing/diagnosis, treatment/care, multiple stages of the care continuum, knowledge/attitudes, health systems/service delivery); and (10) key findings. Charting was conducted using a standardized template in Covidence, and the charted data were exported to Excel for cleaning, organization, and synthesis. A second reviewer (ELE) reviewed the final Excel sheet for accuracy, with disagreements resolved by discussion. The cleaned extraction data were used to generate the geographic distribution and HIV care continuum stage figures in R. Findings were summarized descriptively by study characteristics, geographic setting, and HIV care continuum stage, with continuum-stage frequencies calculated across included studies.

Protocol and registration

This review was not preregistered. An internal protocol was developed to guide the review process prior to initiation. This manuscript contains all elements specified in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR) checklist; a completed checklist is provided in Online Resource 1.

Results

Selection of sources of evidence

Searches identified 150 records (Embase, n=39; PubMed, n=84; CINAHL, n=27). After removing 39 duplicates, 111 unique records were screened; 80 were excluded as irrelevant. Of 31 records reviewed at full text, 12 were excluded (no meaningful correlation to HIV/the continuum, n=5; population not conflict-affected, n=4; other combined criteria, n=2; not peer-reviewed, n=1), leaving 19 included studies (see Figure 1 for PRISMA-ScR flow diagram).

Characteristics of included sources of evidence

High-level characteristics of the 19 articles detailed in this review are provided in Table 1. Included studies were published between 2008 and 2026, with the majority (n=15, 79%) published 2018 onward. Studies were concentrated in Lebanon (n=7, 37%), Jordan (n=4, 21%), and Libya (n=4, 21%), followed by Yemen (n=2, 11%) and Morocco (n=1, 5%), with one additional study having MENA geographic settings included in their 22-country ecological analysis (Syria, Yemen, Iraq, Israel, Libya, and Palestine). No study focused exclusively on conflict-affected populations inside Western Sahara, Algeria, Tunisia, Egypt, Occupied Palestinian Territory, Syria, Iraq, Saudi Arabia, Kuwait, Bahrain, Qatar, Oman, United Arab Emirates, or Iran. The geographic distribution of these 19 articles is depicted in Figure 2. Designs were most commonly cross-sectional (n=7, 37%) or qualitative (n=4, 21%), followed by mixed-methods (n=3, 16%), and one study each classified as ecological, quasi-experimental, case study, program implementation evaluation, and retrospective epidemiological study (n=1, 5% each); no randomized controlled trial met inclusion criteria.

Fig. 1 PRISMA flow diagram

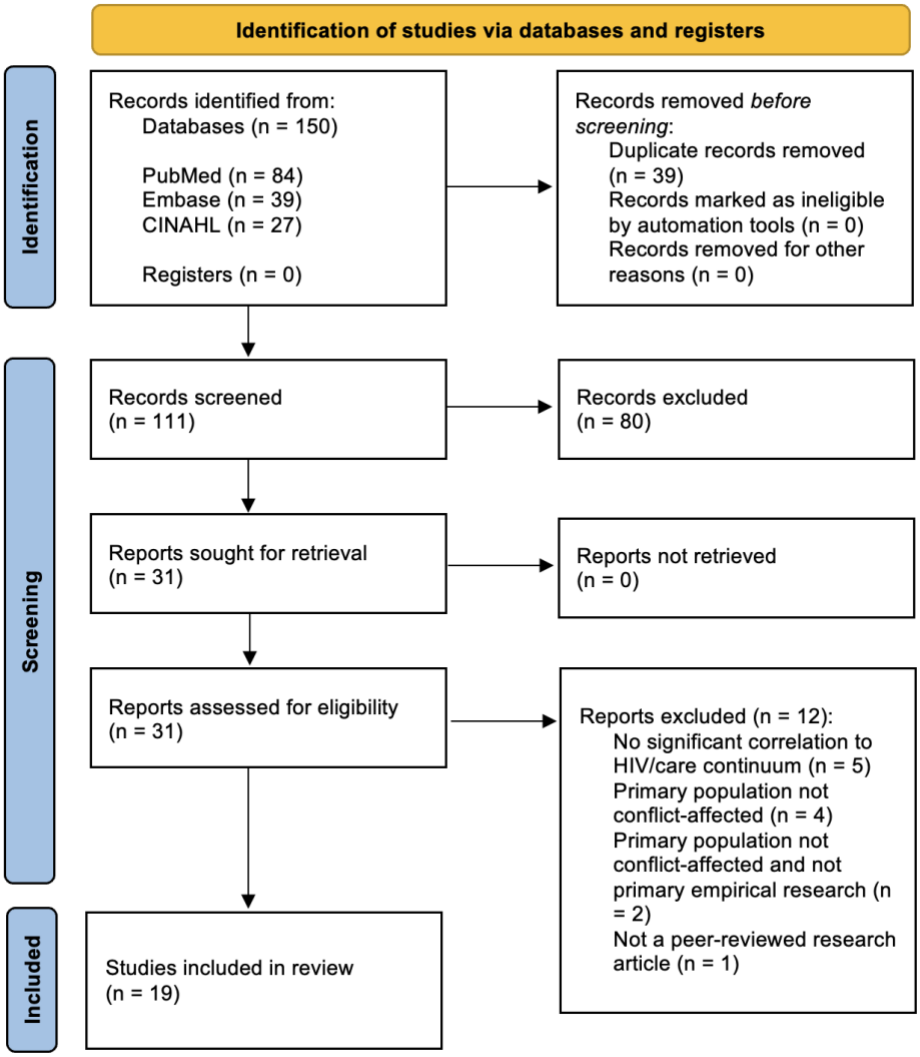


Table 1. Characteristics of included studies (N = 19).

First author, year	Geographic setting	Population	Design	Sample size	Continuum stage(s) addressed	Primary focus
Al-Maharma, 2019	Jordan	Syrian refugee mothers (14-49 y/o and postpartum)	Cross-sectional	n=523	Prevention; education/knowledge; testing; condom access/use	Sexually transmitted infection (STI)/HIV knowledge, attitudes, practices
Al-Rahamneh, 2024	Jordan	National AIDS Program key informants	Qualitative	n=14	Prevention; testing; diagnosis; linkage; ART initiation; surveillance	Evaluation of National AIDS Program and HIV/AIDS Surveillance System
Chynoweth, 2008	Jordan	Displaced Iraqi women, girls, families	Qualitative	~30+ individuals, 19 orgs	Prevention; testing; PEP	Reproductive health service gaps (MISP)
Ebrahim, 2026	Multi-country (Syria, Yemen, Iraq, Israel, Libya, Palestine)	Conflict-affected residents (ecological)	Ecological study	22 conflict-affected countries	Diagnosis; ART initiation; viral suppression	Conflict severity vs. HIV outcomes
Elamouri, 2024	Libya	Male IDPs in IDP camps	Cross-sectional	n=390	Prevention; education/knowledge; condom access/use	HIV knowledge and attitudes to condom use
Elamouri, 2025	Libya	Male IDPs in IDP camps	Quasi-experimental	n=60	Prevention; education/knowledge; testing; condom access/ use	HABIBI educational intervention
Elamouri, 2026	Libya	Male IDPs	Qualitative	n=21	Prevention; education/knowledge; condom access/use	Attitudes, experiences, and barriers to condom use
Essayagh, 2022	Morocco	Migrants, asylum seekers, refugees	Cross-sectional	n=416	Prevention; education/knowledge; testing; linkage; condom access/use	HIV prevention / condomless sex prevalence
Fahme, 2023	Lebanon	Unmarried Syrian refugee girls (11-17y)	Cross-sectional	n=418	Education/knowledge	SRH/HIV knowledge, schooling being associated with accurate SRH knowledge more than parental communication
Ferreyra, 2018	Yemen	PLHIV receiving care from National AIDS Programme clinic	Case study	n=1,655	Testing; diagnosis; linkage; ART initiation; adherence; retention	ART continuity during acute conflict and instability
Khoshnood, 2022	Lebanon	PWUD incl. refugees, host community, trans people	Mixed methods	n=80 (24 refugees)	Education/knowledge; testing; harm reduction	HIV knowledge and risk among people who use drugs, as well as access to treatment and other services

First author, year	Geographic setting	Population	Design	Sample size	Continuum stage(s) addressed	Primary focus
Krause, 2015	Jordan	Syrian refugee women/girls (18-49) living in Zaatri Camp or Irbid City and reproductive healthcare providers	Mixed methods	159 FGD participants, 11 KIIs	Prevention; education/knowledge; PMTCT; condom access/use	MISP evaluation for Syrian refugees living in Irbid City and Zaatri Camp
Maatouk, 2021	Lebanon	MSM (native and refugee)	Program evaluation	n=1,103 (2019 cohort)	Prevention; education/knowledge; testing; diagnosis; linkage; condom access/use	HIV self-testing implementation, during and post-COVID
Mohammed, 2022	Yemen	PLHIV and healthcare providers	Mixed methods	n=469 secondary; n=84 survey; n=35 interviews	Diagnosis; linkage; ART initiation; adherence; retention	Conflict impact on HIV treatment/care
Mutchler, 2018	Lebanon	Young gay/bisexual men including refugees	Qualitative	5 FGs (5–7 participants/group); peer ethnography conducted by 10 ethnographers	Prevention; education/knowledge; testing; condom access/ use	Community-building for HIV prevention
Saad, 2026	Libya	IDPs, host community, conflict-affected residents, PLHIV	Retrospective epidemiological	n=4,539 confirmed cases	Testing; linkage; ART initiation; adherence; surveillance	15-year national epidemiological trends
Sarieddine, 2025	Lebanon	Syrian refugee adolescent girls/young women	Cross-sectional	n=485	Prevention; education/knowledge	STI correlates, knowledge, health-seeking behavior
Tohme, 2016 (a)	Lebanon	MSM refugees (Iraqi, Syrian, Palestinian)	Cross-sectional	n=150	Prevention; testing; condom access/use	Psychosocial correlates of condom use/testing
Tohme, 2016 (b)	Lebanon	MSM refugees (Palestinian, Syrian, Iraqi)	Cross-sectional	n=150	Prevention; testing; condom access/use	HIV prevalence and determinants of risk behavior

PWUD, people who use drugs; PLHIV, people living with HIV; FGD, focus group discussion; KII, key informant interview; MSM, men who have sex with men; PMTCT, prevention of mother-to-child transmission; SRH, sexual and reproductive health; MISP, Minimum Initial Service Package; PEP, post-exposure prophylaxis.

Synthesis of results by continuum domain

Prevention and knowledge. This upstream domain was addressed by 15 of the 19 included studies (79%) and revealed a consistent pattern of gaps in HIV knowledge and prevention practices alongside structural and sociocultural barriers to prevention. Among Syrian refugee mothers in Jordan, 92% had heard of HIV, yet fewer than a quarter correctly identified basic transmission facts [18]. Despite this awareness, 92% of mothers and 95% of their partners reported not attending regular STI check-ups, while 67% of partners refused condom use during sexual intercourse [18]. In a study of internally displaced Libyan men, 59% demonstrated insufficient HIV knowledge, 65% believed HIV/AIDS was divine punishment, and approximately half reported inconsistent condom use [19]. A subsequent educational intervention among internally displaced Libyan men in Tripoli

found significant improvements in HIV prevention knowledge, attitudes toward condom use, and condom use; the proportion reporting condom use increased from 23.3% at baseline to 43.3% at week 4 and 93.3% at week 8 [20]. Lower HIV knowledge was also associated with more negative attitudes toward HIV and its prevention, suggesting that knowledge deficits may reinforce barriers to protective behaviors [20]. Qualitative findings from young male IDPs in Libya further illustrated these barriers, with participants describing limited sex education and incomplete knowledge of HIV and STI transmission and condom use [21]. Cultural restrictions, stigma, and limited access to condoms further constrained prevention practices [21].

Similar knowledge gaps were observed in Syrian refugee girls in Lebanon; only 57% of 15–17-year-olds had heard of HIV/AIDS and those who recognized the term had incomplete knowledge of specific transmission routes, with 58% identifying sexual intercourse, 67% contaminated blood transfusion, and 65% needle-sharing as transmission methods [22]. In another study of Syrian refugee girls and young women in Lebanon, 62% had heard of AIDS, while 38% had not, and 52% were unaware of any HIV transmission methods [23]. Higher educational attainment was associated with more complete knowledge of HIV/AIDS transmission, while financial barriers to healthcare were associated with nearly twice the odds of experiencing STI symptoms (adjusted odds ratio [aOR] = 1.99, 95% confidence interval [CI]: 1.07–3.69) [23]. Among people who use drugs in Lebanon, most participants had a broad understanding of HIV transmission, but fewer than half knew that effective HIV treatment exists [24]. Refugee men who have sex with men (MSM) in Lebanon

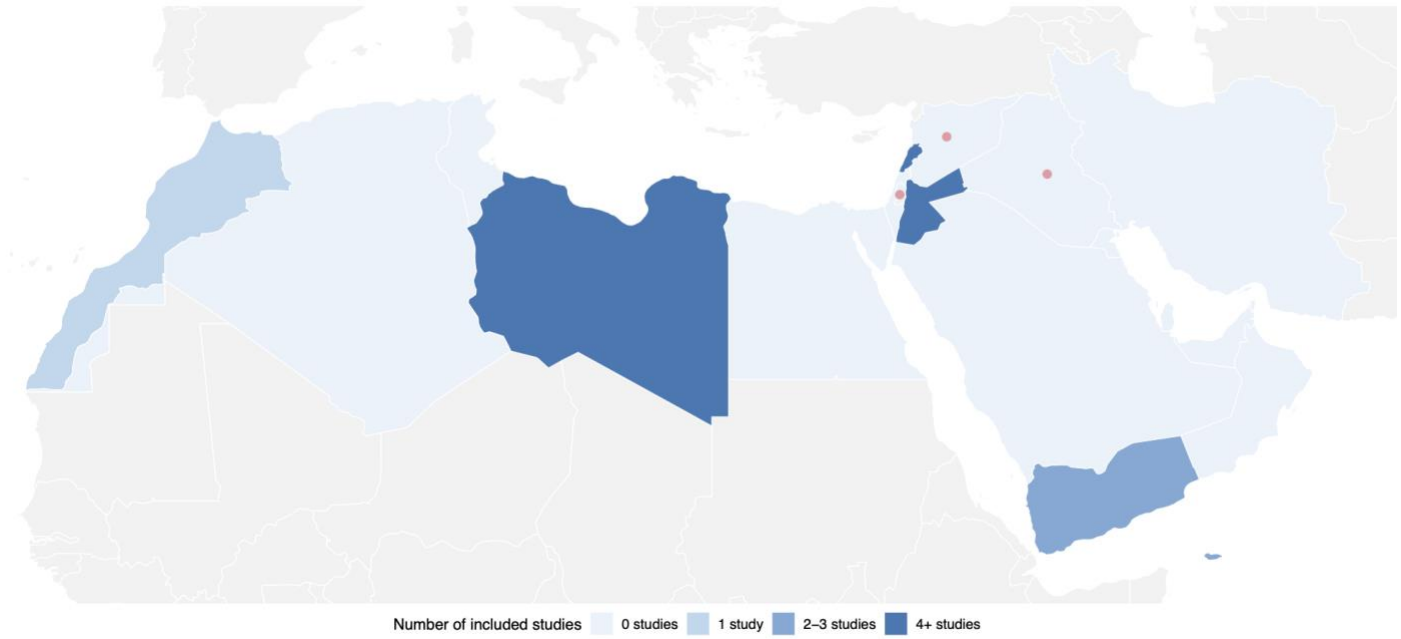
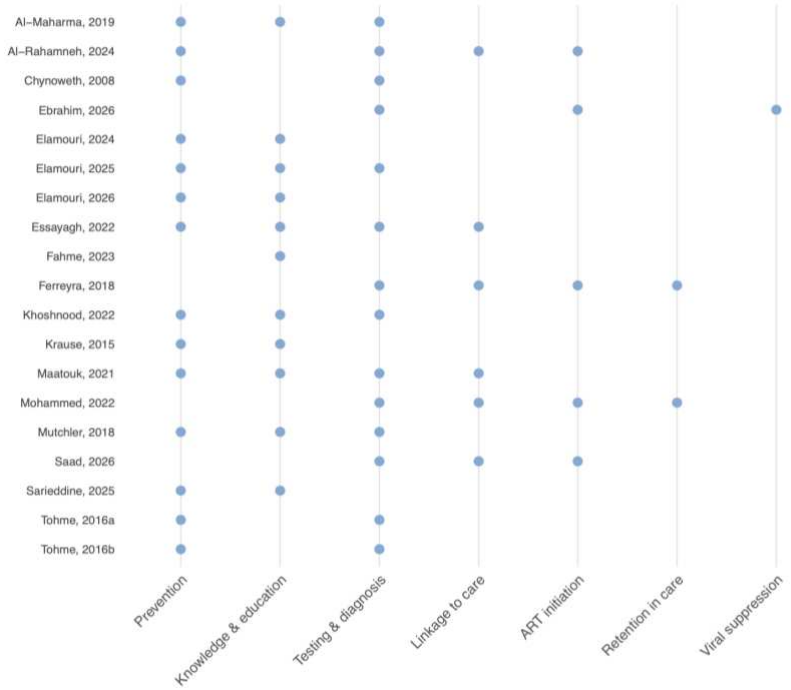


Fig. 2 Geographic distribution of evidence on the HIV care continuum among conflict-affected populations in the Middle East and North Africa. Number of included studies by country of data collection (2000–2026). Ebrahim et al. (2026) was excluded from the map because it reported country-level ecological data across 22 conflict-affected countries rather than country-specific data collection. Circles indicate particularly conflict-affected settings for which no eligible studies were identified

reported consistently high levels of condomless sex across two studies. In one study, 77% reported condomless receptive anal sex, including 59% who reported condomless receptive sex with a male partner who was living with HIV or of unknown status [25]. A second study found that 85% of participants who had engaged in anal sex reported condomless anal sex, including 57% who reported condomless sex with an HIV-positive or unknown-status partner [26]. Structural barriers to prevention included limited condom access and availability [27,28], financial constraints affecting access to condoms and reproductive health services [29], and stigma surrounding condom possession, which some refugee men in Beirut reported could expose them to suspicion and harassment [30].

Testing and diagnosis. Testing and diagnosis were addressed by 14 of the 19 included studies (74%), with evidence revealing gaps in uptake, access, and the capacity of testing systems to reach conflict-affected and displaced populations. Among refugee MSM in Beirut, 61% reported ever testing for an STI in one study; those who engaged in unprotected anal intercourse were also less comfortable with doctors and less likely to know where to obtain HIV testing [25]. A second study found that 48% of refugee MSM had ever been tested for HIV, while 25% had tested within the previous 12 months; one participant self-reported being HIV-positive and refused testing, while three additional participants tested positive when offered HIV testing following the survey, yielding a total of four participants (3%) considered HIV-positive [26]. Among people who use drugs in Lebanon, 58% of participants had ever been tested for HIV, but testing was substantially lower among refugees, with only 17% reporting ever having tested [24]. Community-led HIV self-testing was explored as an alternative to facility-based testing: 1,103 self-testing kits were distributed to MSM in Lebanon, but only 111 recipients (10%) reported their HIV results to the participating NGO,

Fig. 3 Representation of HIV care continuum stages addressed across included studies (N = 19). Each point represents an included study addressing the corresponding stage of the HIV care continuum



including two positive results who were referred for confirmatory testing and treatment [31]. Notably, reporting was substantially higher during the COVID-19 period, when 370 of 383 beneficiaries (97%) reported their results, compared with 79 of 242 (33%) before COVID-19 [31]. Beyond individual and community-level testing barriers, broader limitations in HIV testing infrastructure were also documented. Earlier evidence from the Iraq conflict also highlighted limited access to HIV-related services among Iraqi refugees, alongside shortages of HIV testing equipment in Iraq [29].

Linkage to care. Evidence addressing linkage to care was limited to six out of 19 studies (32%) and geographically dispersed, with the clearest direct evidence coming from Yemen and community-based testing programs in Morocco and Lebanon. In Yemen, a cohort study of HIV treatment and care services in Aden and Hadramout documented a substantial gap between HIV diagnosis and enrollment in HIV care. Among 84 interviewed people living with HIV, 47% had been diagnosed before or in 2007, compared with 33% who had enrolled in care and only 19% who had initiated ART [32]. In Morocco, participants with positive HIV screening results were referred to an infectious-disease center in Oujda for confirmatory testing, after which confirmed cases received free treatment, demonstrating a defined pathway from HIV diagnosis to treatment [27]. In Lebanon, the national HIV self-testing program similarly provided a pathway from diagnosis to care: two beneficiaries with positive HIV self-test results were reported to the National AIDS Program, referred for confirmation and treatment, and subsequently enrolled in care [31]. At the health-system level, an evaluation of Jordan's National AIDS Program and HIV/AIDS surveillance system identified substantial gaps in infrastructure, human resources, system functionality, coordination, and HIV/AIDS data [33]. The system relied primarily on passive case-finding, while voluntary counseling and testing services were notably limited, constraining the identification of people with HIV and, consequently, the capacity of the health system to connect individuals with HIV services [33]. Similar health-system disruptions were evident in Libya, where a national epidemiological assessment described fragmented health services between eastern and western administrations and unequal access to HIV testing and care, with political instability and limited public-sector resources contributing to lapses in HIV surveillance, testing, and antiretroviral treatment programs [34]. In contrast, evidence from Yemen illustrated how service-delivery adaptations could help preserve access to HIV care during conflict. An Médecins sans Frontières (MSF)-supported HIV program in Sana'a reported that HIV testing was available through self-presentation or referral and that, following the onset of war, a "Treat all" policy was implemented to facilitate treatment initiation among people diagnosed with HIV and reduce loss to follow-up before ART [35].

ART initiation. Evidence on ART initiation was limited to five (26%) studies, with direct quantitative evidence concentrated in Yemen. In the cohort study in Aden and Hadramout, 346 of 469 people enrolled in HIV care (74%) subsequently initiated ART; among those who initiated treatment, 78% (271/346) presented with advanced clinical stages 3 or 4, indicating that many patients entered treatment at an advanced stage of HIV disease [32]. In the same MSF-supported HIV program in Sana'a, 1,655 patients were diagnosed with HIV and 1,470 (89%) initiated ART [35]. However, the onset of conflict disrupted HIV service delivery, including ART initiation for newly diagnosed patients, prompting the program to develop contingency strategies to maintain treatment access [35]. In Libya, fragmentation of health services between eastern and western administrations and limited public-sector resources contributed to lapses in antiretroviral treatment programs and unequal access to HIV care [34]. Across the 22 conflict-affected countries analyzed by

Ebrahim et al., none achieved the Joint United Nations Programme on HIV/AIDS (UNAIDS) target of 95% of diagnosed people receiving ART; however, the authors found no statistically significant association between conflict severity and ART coverage [36]. In Jordan, evaluation of the National AIDS Program similarly identified weaknesses in infrastructure, human resources, system functionality, and coordination within the HIV program, although the study did not report an ART-initiation rate [33].

Retention in care. Evidence on retention in care was particularly limited, with only two of the 19 (11%) included studies providing direct evidence on retention or treatment continuity. In Yemen, the same cohort study found that retention 12 months after ART initiation fluctuated around 70% across cohorts from 2007 to 2015 [32]. Among 84 interviewed people living with HIV, 42% had experienced loss to follow-up since starting ART; among those lost to follow-up, 26% identified internal conflict as the main reason, while other reported barriers included stigma and discrimination, geographic distance from treatment facilities, transportation costs, and clinic closures [32]. The study also documented substantial disruption to treatment continuity during the conflict: 67% (56/84) of interviewed PLHIV had experienced an ART regimen change during their lifetime, including 55% who had changed regimens once, 29% twice, and 16% three times; antiretroviral (ARV) stockouts were identified as the main reason for regimen changes [32]. Six PLHIV also reported knowing someone who died during the conflict because displacement prevented access to ART, illustrating the potentially severe consequences of disrupted treatment continuity [32]. In contrast, the previously mentioned MSF-supported program in Sana'a demonstrated that contingency planning could help preserve treatment continuity during acute conflict: 363 patients received emergency supplies containing two additional months of ART, 354 (98%) subsequently returned for follow-up, and no patient reported interrupting treatment [35].

Viral suppression. Evidence on viral suppression was extremely limited, with only one of the 19 (5%) included studies addressing this stage of the HIV continuum, and no study reporting individual-level viral suppression outcomes among conflict-affected or displaced populations. Ebrahim et al. conducted an ecological, country-level analysis of 22 conflict-affected countries; viral suppression data were available for 12 countries, and none achieved the UNAIDS target of 95% viral suppression among people receiving ART [36]. The analysis found no statistically significant association between conflict severity and the proportion of people on ART who achieved viral suppression ($r = 0.37$, $p = 0.231$) [36]. Thus, while country-level data provide some evidence on viral suppression in conflict-affected settings, the absence of individual-level evidence represents a substantial gap in understanding viral suppression among conflict-affected and displaced populations.

Discussion

A fragmented and front-loaded evidence base

This scoping review identified 19 studies representing a small, geographically concentrated, and predominantly descriptive literature on HIV and the HIV care continuum among conflict-affected populations in MENA, with evidence heavily weighted toward upstream prevention and knowledge rather than downstream engagement and treatment outcomes. Evidence was heavily weighted toward the upstream end of the continuum: 15 of 19 included studies (79%) addressed prevention, HIV knowledge, or condom use, while progressively fewer studies examined linkage to care (n=6),

ART initiation (n=5), retention (n=2), and viral suppression (n=1). This pattern is consistent with broader evidence that HIV surveillance in MENA remains unevenly distributed across countries and populations. A regional assessment of HIV surveillance among key populations found that recent integrated bio-behavioral survey data were available from only 4 of 22 countries in the WHO Eastern Mediterranean Region, with almost one-third of countries having few or no HIV data on key populations [37]. A related regional synthesis similarly concluded that the status of the epidemic among key populations remains unknown in several MENA countries because of persistent data gaps, and that the region's HIV response continues to fall far below global testing and treatment targets, hindered by underfunding, weak surveillance, and stigma compounded by conflict and humanitarian crises [38]. Against this regional context, our findings indicate that the evidence on HIV among conflict-affected populations is similarly fragmented: research is concentrated in a small number of countries and populations, is weighted toward prevention and knowledge rather than sustained engagement in care, and provides particularly limited evidence on downstream outcomes such as retention and viral suppression. These gaps highlight important priorities for strengthening both HIV programming and research in conflict-affected settings across MENA.

Gaps across settings

The geographic distribution of the evidence base was highly uneven, with studies concentrated in Lebanon (n=7), Jordan (n=4), and Libya (n=4), while no eligible studies were identified in 14 of the 19 countries and territories included in this review. The geographic gaps are particularly notable in Palestine, Syria, and Iraq, where this review identified no eligible studies despite prolonged conflict, substantial displacement, and ongoing humanitarian health needs. However, the absence of eligible publications should not be interpreted as evidence of an absence of HIV services or HIV-related needs. HIV programming in the Occupied Palestinian Territory has involved the Ministry of Health alongside multiple UN and nongovernmental partners, with the Global Fund supporting HIV prevention, treatment, and care work in the West Bank and Gaza Strip since 2008 [39]. Syria's near-total collapse of key-population HIV surveillance following the onset of conflict similarly suggests a health system still contending with the epidemic even as it disappears from the published record [3]. The geographic gaps identified highlight a disconnect between what may be occurring in HIV service delivery and what is captured in the published evidence base.

The evidence base was also limited in its ability to evaluate which approaches are effective in these settings. Only one of the 19 (5%) included studies used a quasi-experimental design, and none was a randomized controlled trial [20], leaving little evidence regarding which interventions actually improve progression through the HIV continuum in conflict-affected MENA populations. This limitation is consistent with broader conflict literature, in which population mobility, insecurity, disrupted health systems, and operational constraints make longitudinal and intervention-oriented research difficult. Traditional research designs are often poorly suited to humanitarian crises more broadly: identifying a control group may be impractical or unethical, baseline data are frequently unavailable, and dynamic settings can force changes to study design with little notice [40]. Researchers conducting a population-based chronic disease study in the Occupied Palestinian Territory encountered many of these constraints directly, describing difficulties planning data collection within a fragmented healthcare system, standardizing collection under severe resource limitations, and reaching communities whose access was restricted by military checkpoints and closures [41]. A 2026 systematic review of HIV responses in conflict-affected settings similarly

found that service interruptions related to supply-chain breakdowns, looting, and population movement contributed to treatment gaps and loss to follow-up, while adaptive approaches such as hybrid delivery models, integrated medical supply chains, and emergency ART supplies were promising but under-documented [9]. Thus, the evidence gap likely reflects the difficulty of generating longitudinal and implementation-oriented evidence in settings where the populations and systems being studied are themselves unstable.

Gaps across populations

Conflict-affected and displaced populations remain poorly followed through the HIV care continuum beyond prevention, testing, and risk. Several included studies involved refugees or IDPs, but these populations were more often studied in relation to HIV knowledge, prevention, testing, or risk than to sustained engagement with treatment. The strongest direct evidence on retention and treatment continuity in the review came from Yemen and did not specifically follow refugees or IDPs through the cascade [32,35]. This distinction is relevant because displacement can introduce barriers that are not captured by measures of individual-level adherence alone; people may cross administrative boundaries, lose access to their usual providers, lack documentation, or become disconnected from established social and support networks [42]. The broader humanitarian literature suggests that ART can be delivered successfully to displaced populations when programs incorporate contingency planning, additional medication stocks, peer communication, standardized regimens, and regional coordination [43]. A systematic review of adherence and treatment outcomes among conflict-affected and forcibly displaced populations identified 15 quantitative and 2 qualitative studies across 13 countries and found that reported optimal adherence ranged from 87% to 99.5%, with virological, immunological, and mortality outcomes generally comparable to non-displaced populations, although the authors noted that most studies were retrospective and small [44]. Among the studies included in this review, Ferreyra et al. documented how MSF used contingency planning, including pre-distributed multi-month "run-away" medication supplies, to sustain ART access during acute conflict in the Central African Republic and Yemen, although some patients were lost to follow-up when facilities closed [35]. More recent conflict research from Ukraine similarly emphasizes the importance of flexible service delivery when populations and health systems are simultaneously displaced, with providers relying on mobile teams, hotlines, and community clinics to maintain contact with internally displaced patients [45,46]. Yet these approaches remain poorly represented in the MENA evidence base identified by this review.

Key population evidence reveals a related but somewhat different pattern, with research heavily concentrated in Lebanon. This concentration may reflect the comparatively developed HIV program and community-based infrastructure in the country rather than a uniquely high level of HIV-related vulnerability among Lebanese key populations. Lebanon's National AIDS Program has historically worked with civil society organizations to provide prevention, testing, linkage, ART dispensing, follow-up, outreach, and behavioral surveillance among key populations, with a 2023 program review documenting active partnerships with 13 NGOs conducting voluntary counseling and testing under contractual arrangements and 4 additional NGOs supporting treatment follow-up and ART dispensing [47]. Such infrastructure creates opportunities not only to deliver services, but also to generate research data. Beirut, in particular, has long been described as a relative haven for LGBTQ+ individuals in the Middle East, with a comparatively visible community and a small but established network of community-based organizations serving gay, bisexual, and other men who

have sex with men [48]. The contrast with Palestine, Syria, and Iraq is therefore important: the absence of eligible studies from these settings cannot establish that HIV risk among key populations, IDPs, or other conflict-affected groups is absent. Instead, it raises the possibility that research capacity, access to affected populations, institutional partnerships, and community-based infrastructure influence which populations become visible in the evidence base. For organizations operating in settings where formal research infrastructure is limited, embedding feasible monitoring and evaluation within existing service delivery may therefore be particularly valuable. Routine program data, longitudinal patient follow-up, community-based surveillance, and implementation evaluations could begin to address the gap without requiring large conventional research studies that may be impractical during active conflict.

Gaps across the HIV care continuum

The most consequential gap identified in this review was at the downstream end of the HIV care continuum, particularly the absence of individual-level viral suppression data. No included study reported viral suppression among a conflict-affected population at the individual level. Ebrahim et al. provided the only included evidence addressing viral suppression, but their ecological analysis examined country-level outcomes across 22 conflict-affected countries rather than individual patients in MENA [36]. The study therefore provides important evidence about the relationship between conflict and aggregate HIV outcomes, but cannot establish whether conflict-affected individuals who initiate ART achieve or maintain viral suppression. Viral suppression is a critical endpoint because effective ART can reduce HIV to an undetectable level, which prevents sexual transmission of HIV and is central to both individual health and HIV prevention [49]. Consequently, diagnosis without linkage to care, ART initiation without sustained treatment, or treatment without viral-load monitoring provides an incomplete picture of whether HIV care is achieving its intended clinical and prevention outcomes.

National aggregate estimates can also obscure important differences within conflict-affected populations. A 2023 review of Lebanon's National AIDS Program reported that, based on 2022 national estimates, 86% of people living with HIV were diagnosed, 93% of those diagnosed were on treatment, and 95% of those on treatment were virally suppressed, making Lebanon's cascade the best-performing in the World Health Organization (WHO) Eastern Mediterranean Region, where regional averages for the same period were only 38% diagnosed, 27% of those treated, and 24% of those treated virally suppressed [47]. Yet these estimates do not establish whether conflict-affected populations themselves achieve comparable outcomes, particularly given the concentration of substantial refugee and displaced populations in Lebanon. The same review noted that HIV services remain geographically concentrated in central Lebanon, with the Bekaa, North, and South regions less well covered [47]. Thus, national cascade estimates may conceal important variation in access and outcomes among populations experiencing displacement or other conflict-related disruptions.

Implications for HIV programming and research in protracted conflict

Taken together, these findings suggest that HIV programming in conflict-affected MENA settings should be designed around continuity rather than episodic access. For organizations working on the ground, the most useful indicators are not limited to the number of people tested or receiving ART at a given point in time. Programs should, where feasible and ethically appropriate, be able to

identify whether people who initiate treatment remain engaged in care, whether medication interruptions occur, whether patients can be re-engaged after displacement or loss to follow-up, and whether viral suppression is ultimately achieved. Such monitoring would allow programs to distinguish between a program that is reaching patients and one that is successfully sustaining care.

The evidence also supports greater investment in differentiated and decentralized HIV service delivery, coupled with implementation monitoring. Multi-month ART dispensing, community-based medication distribution, remote communication, and flexible follow-up models may reduce dependence on health facilities that can become inaccessible during conflict. Experience from Ukraine illustrates both the promise and the strain of this approach: a case study of one HIV provider's response to the 2022 invasion described how pre-positioned generators, an existing client hotline, and mobile outreach teams allowed continuity of testing and ART initiation despite prolonged blackouts and missile strikes, while a qualitative study of Ukrainian NGO workers found that staff sustained HIV prevention and treatment services even as they absorbed new humanitarian responsibilities and significant personal risk, with 88 NGOs collaborating with the national Public Health Center by 2023 to maintain services for key populations [45,46]. Evidence from Haiti further illustrates the potential to monitor individual-level HIV outcomes during severe instability. A community-based, differentiated HIV-care model operated amid civil unrest, gang violence, and political instability. Among 12,856 patients receiving ART for at least three months, 88.4% received a viral-load test and 86.6% had HIV-1 RNA below 1,000 copies/mL [50]. Although Haiti is not a direct proxy for MENA, these findings demonstrate that individual-level outcome monitoring is possible in unstable settings. Together, these examples underscore the importance of resilient laboratory systems, patient tracking, community-based care, and flexible service delivery. However, such approaches should be accompanied by implementation monitoring to assess whether they sustain continuity of care and improve outcomes over time.

Research priorities should focus on extending the evidence base to underrepresented settings and populations while generating longitudinal evidence on continuity and outcomes. Palestine, Syria, and Iraq represent particularly important evidence gaps, not because the absence of studies establishes an absence of HIV-related needs, but because populations affected by prolonged conflict and displacement remain poorly represented in the published HIV continuum literature. Research partnerships with local ministries, humanitarian organizations, community-based organizations, and people living with HIV could provide a practical route to generating longitudinal evidence in these settings. Lebanon demonstrates the value of sustained collaboration between national programs and civil society for generating both service delivery and surveillance data. Extending comparable capacity to other conflict-affected settings would help shift the regional evidence base from documenting risk and need toward evaluating continuity, outcomes, and what actually works. The broader implication is that the HIV continuum in conflict-affected settings cannot be understood as a sequence of individual clinical decisions alone. Conflict reshapes the systems through which every stage of the continuum is delivered: where testing occurs, whether diagnosis leads to care, whether medication reaches patients, whether patients can return for refills, and whether viral suppression can be measured. For MENA, strengthening the HIV response therefore requires not only expanding services but also building systems capable of following people through the continuum when the surrounding health system, geography, and population itself are changing.

Limitations

The search covered three databases without grey literature searching or hand-searching of reference lists. While grey literature was intentionally excluded because this review was designed to synthesize peer-reviewed empirical research, relevant findings from program evaluations, government reports, and humanitarian organization publications were not captured. The search was restricted to English-language sources, potentially excluding relevant Arabic-, French-, or Farsi-language articles as well as program evaluations and ministry reports. Additionally, the search strategy did not include alternative regional descriptors such as "West Asian", "Southwest Asian", or "SWANA", relying instead on terms such as "Middle Eastern" and "MENA". Because regional and population descriptors are not standardized across the literature, relevant studies may have been missed, particularly those referring to conflict-affected or displaced populations using specific ethnic or group identities, or using geographic and political terminology not captured by the search strategy. As a scoping review, no formal critical appraisal of included studies was conducted. Finally, the adapted HIV care continuum, while reflecting the composition of the available literature, departs from the conventional clinical cascade and may limit direct comparison with reviews using the unmodified framework.

Conclusion

Nineteen studies published between 2008 and 2026 constitute the peer-reviewed evidence base on HIV and the HIV care continuum among conflict-affected populations in the Middle East and North Africa, a region facing both a rapidly growing HIV epidemic and one of the world's largest displaced populations. This evidence is descriptive, geographically concentrated in a small number of countries, and weighted toward the continuum's earliest stages: prevention, knowledge, and condom access accounted for the large majority of included studies, while linkage to care, ART initiation, retention, and viral suppression were addressed by progressively fewer. Treatment continuity and viral suppression among refugees and internally displaced persons specifically remain almost entirely undocumented, as does HIV service delivery in several MENA countries and territories hosting substantial conflict-affected populations, including Palestine, Syria, and Iraq.

These gaps are not evidence that HIV risk or HIV programming is absent from the settings this review could not find; rather, they reflect where research capacity, institutional partnerships, and community-based infrastructure currently make HIV research possible. Closing these gaps will require studies that follow conflict-affected populations across the full continuum, that measure whether people remain in care and achieve viral suppression, and that extend into the countries and populations current infrastructure has left out. Because conflict and displacement can persist over extended periods, understanding whether and how HIV care can be sustained is essential to maintaining continuity of care for the populations most affected.

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Appendix A: Verbatim Search Strategies

PubMed

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("HIV"[Mesh] OR "HIV Infections"[Mesh] OR HIV[tiab] OR "human immunodeficiency
virus"[tiab] OR AIDS[tiab] OR "acquired immunodeficiency
syndrome"[tiab])AND("Refugees"[Mesh] OR refugee*[tiab] OR Internally Displaced
Persons[Mesh] OR "internally displaced"[tiab] OR IDP[tiab] OR IDPs[tiab] OR
"displaced person*"[tiab] OR "displaced population*"[tiab] OR "forced
migrant*"[tiab] OR "asylum seeker*"[tiab] OR returnee*[tiab] OR "conflict-
affected"[tiab] OR "conflict affected"[tiab] OR "post-conflict"[tiab] OR "post
conflict"[tiab] OR "war-affected"[tiab] OR "war affected"[tiab] OR wartime[tiab]
OR "humanitarian setting*"[tiab] OR "humanitarian emergency*"[tiab] OR "armed
conflict"[tiab] OR "complex emergency*"[tiab] OR "refugee camp*"[tiab] OR "IDP
camp*"[tiab] OR "displacement camp*"[tiab])AND("Middle East"[Mesh] OR "Africa,
Northern"[Mesh] OR MENA[tiab] OR "Middle East"[tiab] OR "North Africa"[tiab] OR
"Arab World"[tiab] OR "Arab region"[tiab] OR "Arab countr*"[tiab] OR
"Algeria"[Mesh] OR Algeria[tiab] OR Bahrain[tiab] OR "Egypt"[Mesh] OR Egypt[tiab]
OR "Iran"[Mesh] OR Iran[tiab] OR "Iraq"[Mesh] OR Iraq[tiab] OR "Israel"[Mesh] OR
Israel[tiab] OR "Jordan"[Mesh] OR Jordan[tiab] OR "Kuwait"[Mesh] OR Kuwait[tiab]
OR "Lebanon"[Mesh] OR Lebanon[tiab] OR "Libya"[Mesh] OR Libya[tiab] OR
"Morocco"[Mesh] OR Morocco[tiab] OR Oman[tiab] OR Palestine[tiab] OR
Palestinian[tiab] OR Gaza[tiab] OR "West Bank"[tiab] OR "Occupied Palestinian
Territory"[tiab] OR Qatar[tiab] OR "Saudi Arabia"[Mesh] OR "Saudi Arabia"[tiab] OR
"Syria"[Mesh] OR Syria[tiab] OR Syrian[tiab] OR "Tunisia"[Mesh] OR Tunisia[tiab]
OR "United Arab Emirates"[tiab] OR UAE[tiab] OR "Western Sahara"[tiab] OR
"Sahrawi"[tiab] OR "Yemen"[Mesh] OR Yemen[tiab])AND("2000"[Date - Publication] :
"3000"[Date - Publication])
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Concept keywords	Steps	Search terms
HIV	1	("HIV"[Mesh] OR "HIV Infections"[Mesh] OR HIV[tiab] OR "human immunodeficiency virus"[tiab] OR AIDS[tiab] OR "acquired immunodeficiency syndrome"[tiab])
Conflict and displacement	2	("Refugees"[Mesh] OR refugee*[tiab] OR "Internally Displaced Persons"[Mesh] OR "internally displaced"[tiab] OR IDP[tiab] OR IDPs[tiab] OR "displaced person*"[tiab] OR "displaced population*"[tiab] OR "forced migrant*"[tiab] OR "asylum seeker*"[tiab] OR returnee*[tiab] OR "conflict-affected"[tiab] OR "conflict affected"[tiab] OR "post-conflict"[tiab] OR "post conflict"[tiab] OR "war-affected"[tiab] OR "war affected"[tiab] OR wartime[tiab] OR "humanitarian setting*"[tiab] OR "humanitarian emergency*"[tiab] OR "armed conflict"[tiab] OR "complex emergency*"[tiab] OR "refugee camp*"[tiab] OR "IDP camp*"[tiab] OR "displacement camp*"[tiab])
MENA and geographic terms	3	("Middle East"[Mesh] OR "Africa, Northern"[Mesh] OR MENA[tiab] OR "Middle East"[tiab] OR "North Africa"[tiab] OR "Arab World"[tiab] OR "Arab region"[tiab] OR "Arab countr*"[tiab] OR "Algeria"[Mesh] OR Algeria[tiab] OR Bahrain[tiab] OR "Egypt"[Mesh] OR Egypt[tiab] OR "Iran"[Mesh] OR Iran[tiab] OR "Iraq"[Mesh] OR Iraq[tiab] OR "Israel"[Mesh] OR Israel[tiab] OR "Jordan"[Mesh] OR Jordan[tiab] OR "Kuwait"[Mesh] OR Kuwait[tiab] OR "Lebanon"[Mesh] OR Lebanon[tiab] OR "Libya"[Mesh] OR Libya[tiab] OR "Morocco"[Mesh] OR Morocco[tiab] OR Oman[tiab] OR Palestine[tiab] OR Palestinian[tiab] OR Gaza[tiab] OR "West Bank"[tiab] OR "Occupied Palestinian Territory"[tiab] OR Qatar[tiab] OR "Saudi Arabia"[Mesh] OR "Saudi Arabia"[tiab] OR "Syria"[Mesh] OR Syria[tiab] OR Syrian[tiab] OR "Tunisia"[Mesh] OR Tunisia[tiab] OR "United Arab Emirates"[tiab] OR UAE[tiab] OR "Western Sahara"[tiab] OR Sahrawi[tiab] OR "Yemen"[Mesh] OR Yemen[tiab])
Publication date	4	("2000"[Date - Publication] : "3000"[Date - Publication])
Combined search	5	Steps 1 AND 2 AND 3 AND 4

Embase

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(HIV:ti,ab,kw OR 'human immunodeficiency virus':ti,ab,kw OR AIDS:ti,ab,kw OR
'acquired immunodeficiency syndrome':ti,ab,kw)
AND
(refugee*:ti,ab,kw OR 'internally displaced':ti,ab,kw OR IDP:ti,ab,kw OR
IDPs:ti,ab,kw OR 'displaced person*':ti,ab,kw OR 'displaced population*':ti,ab,kw
OR 'forced migrant*':ti,ab,kw OR 'asylum seeker*':ti,ab,kw OR returnee*:ti,ab,kw
OR 'conflict-affected':ti,ab,kw OR 'conflict affected':ti,ab,kw OR 'post-
conflict':ti,ab,kw OR 'post conflict':ti,ab,kw OR 'war-affected':ti,ab,kw OR 'war
affected':ti,ab,kw OR wartime:ti,ab,kw OR 'humanitarian setting*':ti,ab,kw OR
'humanitarian emergency*':ti,ab,kw OR 'armed conflict':ti,ab,kw OR 'complex
emergency*':ti,ab,kw OR 'refugee camp*':ti,ab,kw OR 'IDP camp*':ti,ab,kw OR
'displacement camp*':ti,ab,kw)
AND
(MENA:ti,ab,kw OR 'Middle East':ti,ab,kw OR 'North Africa':ti,ab,kw OR 'Arab
World':ti,ab,kw OR 'Arab region':ti,ab,kw OR 'Arab countr*':ti,ab,kw OR
Algeria:ti,ab,kw OR Bahrain:ti,ab,kw OR Egypt:ti,ab,kw OR Iran:ti,ab,kw OR
Iraq:ti,ab,kw OR Israel:ti,ab,kw OR Jordan:ti,ab,kw OR Kuwait:ti,ab,kw OR
Lebanon:ti,ab,kw OR Libya:ti,ab,kw OR Morocco:ti,ab,kw OR Oman:ti,ab,kw OR
Palestine:ti,ab,kw OR Palestinian:ti,ab,kw OR Gaza:ti,ab,kw OR 'West
Bank':ti,ab,kw OR 'Occupied Palestinian Territory':ti,ab,kw OR Qatar:ti,ab,kw OR
Saudi Arabia:ti,ab,kw OR Syria:ti,ab,kw OR Syrian:ti,ab,kw OR Tunisia:ti,ab,kw OR
'United Arab Emirates':ti,ab,kw OR UAE:ti,ab,kw OR 'Western Sahara':ti,ab,kw OR
'Sahrawi':ti,ab,kw OR Yemen:ti,ab,kw)
Date restriction: On or after January 1 2000
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Concept keywords	Steps	Search terms
HIV	1	(HIV:ti,ab,kw OR 'human immunodeficiency virus':ti,ab,kw OR AIDS:ti,ab,kw OR 'acquired immunodeficiency syndrome':ti,ab,kw)
Conflict and displacement	2	(refugee*:ti,ab,kw OR 'internally displaced':ti,ab,kw OR IDP:ti,ab,kw OR IDPs:ti,ab,kw OR 'displaced person*':ti,ab,kw OR 'displaced population*':ti,ab,kw OR 'forced migrant*':ti,ab,kw OR 'asylum seeker*':ti,ab,kw OR returnee*:ti,ab,kw OR 'conflict-affected':ti,ab,kw OR 'conflict affected':ti,ab,kw OR 'post-conflict':ti,ab,kw OR 'post conflict':ti,ab,kw OR 'war-affected':ti,ab,kw OR 'war affected':ti,ab,kw OR wartime:ti,ab,kw OR 'humanitarian setting*':ti,ab,kw OR 'humanitarian emergency*':ti,ab,kw OR 'armed conflict':ti,ab,kw OR 'complex emergency*':ti,ab,kw OR 'refugee camp*':ti,ab,kw OR 'IDP camp*':ti,ab,kw OR 'displacement camp*':ti,ab,kw)
MENA and geographic terms	3	(MENA:ti,ab,kw OR 'Middle East':ti,ab,kw OR 'North Africa':ti,ab,kw OR 'Arab World':ti,ab,kw OR 'Arab region':ti,ab,kw OR 'Arab countr*':ti,ab,kw OR Algeria:ti,ab,kw OR Bahrain:ti,ab,kw OR Egypt:ti,ab,kw OR Iran:ti,ab,kw OR Iraq:ti,ab,kw OR Israel:ti,ab,kw OR Jordan:ti,ab,kw OR Kuwait:ti,ab,kw OR Lebanon:ti,ab,kw OR Libya:ti,ab,kw OR Morocco:ti,ab,kw OR Oman:ti,ab,kw OR Palestine:ti,ab,kw OR Palestinian:ti,ab,kw OR Gaza:ti,ab,kw OR 'West Bank':ti,ab,kw OR 'Occupied Palestinian Territory':ti,ab,kw OR Qatar:ti,ab,kw OR Saudi Arabia:ti,ab,kw OR Syria:ti,ab,kw OR Syrian:ti,ab,kw OR Tunisia:ti,ab,kw OR 'United Arab Emirates':ti,ab,kw OR UAE:ti,ab,kw OR 'Western Sahara':ti,ab,kw OR 'Sahrawi':ti,ab,kw OR Yemen:ti,ab,kw)
Publication date	4	On or after January 1, 2000
Combined search	5	Steps 1 AND 2 AND 3 AND 4

CINAHL

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XB (HIV OR "human immunodeficiency virus" OR AIDS OR "acquired immunodeficiency
syndrome")
AND
XB (refugee* OR "internally displaced" OR IDP OR IDPs OR "displaced person*" OR
"displaced population*" OR "forced migrant*" OR "asylum seeker*" OR returnee* OR
"conflict-affected" OR "conflict affected" OR "post-conflict" OR "post conflict"
OR "war-affected" OR "war affected" OR wartime OR "humanitarian setting*" OR
"humanitarian emergency*" OR "armed conflict" OR "complex emergency*" OR "refugee
camp*" OR "IDP camp*" OR "displacement camp*")
AND
XB (MENA OR "Middle East" OR "North Africa" OR "Arab World" OR "Arab region" OR
"Arab countr*" OR Algeria OR Bahrain OR Egypt OR Iran OR Iraq OR Israel OR Jordan
OR Kuwait OR Lebanon OR Libya OR Morocco OR Oman OR Palestine OR Palestinian OR
Gaza OR "West Bank" OR "Occupied Palestinian Territory" OR Qatar OR Saudi Arabia
OR Syria OR Syrian OR Tunisia OR "United Arab Emirates" OR UAE OR "Western Sahara"
OR "Sahrawi" OR Yemen)
Date restriction: On or after January 1 2000
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Concept keywords	Steps	Search terms
HIV	1	XB (HIV OR "human immunodeficiency virus" OR AIDS OR "acquired immunodeficiency syndrome")
Conflict and displacement	2	XB (refugee* OR "internally displaced" OR IDP OR IDPs OR "displaced person*" OR "displaced population*" OR "forced migrant*" OR "asylum seeker*" OR returnee* OR "conflict-affected" OR "conflict affected" OR "post-conflict" OR "post conflict" OR "war-affected" OR "war affected" OR wartime OR "humanitarian setting*" OR "humanitarian emergency*" OR "armed conflict" OR "complex emergency*" OR "refugee camp*" OR "IDP camp*" OR "displacement camp*")
MENA and geographic terms	3	XB (MENA OR "Middle East" OR "North Africa" OR "Arab World" OR "Arab region" OR "Arab countr*" OR Algeria OR Bahrain OR Egypt OR Iran OR Iraq OR Israel OR Jordan OR Kuwait OR Lebanon OR Libya OR Morocco OR Oman OR Palestine OR Palestinian OR Gaza OR "West Bank" OR "Occupied Palestinian Territory" OR Qatar OR Saudi Arabia OR Syria OR Syrian OR Tunisia OR "United Arab Emirates" OR UAE OR "Western Sahara" OR "Sahrawi" OR Yemen)
Publication date	4	On or after January 1, 2000
Combined search	5	Steps 1 AND 2 AND 3 AND 4

Online Resource 1: PRISMA-ScR Checklist

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- PRISMAScRFillableChecklist10Sept2019.pdf