

Examining Epidemiological HIV Risk Factors and Underlying Risk Context for Youth from the Middle East and North Africa within a Canadian Context (YSMENA Study): A Scoping Review of the Literature

R Kteily-Hawa^{1,2}, AC Hawa³, D Gogolishvili², N Andruszkiewicz², M AlAkel⁴,
H Vijayanathan⁴, M Loutfy^{5,6}

¹Family Studies and Human Development Department, School of Behavioural and Social Sciences, Brescia University College at Western University, Ontario, Canada; ² Ontario HIV Treatment Network;

³School of Medicine, Faculty of Health Sciences, Queen's University, Ontario, Canada;

⁴Alliance for South Asian AIDS Prevention;

⁵Women's College Research Institute, Women's College Hospital; ⁶ Faculty of Medicine, University of Toronto.

Corresponding Author

Roula Kteily-Hawa, BEd, MPH, MSc, PhD
Assistant Professor,
Family Studies and Human Development,
Brescia University College at Western University
Associate Scientist,
The Ontario HIV Treatment Network

School of Behavioural and Social Sciences,
Brescia University College at Western University
1285 Western Road
London, ON N6G 1H2 Canada

Webpage: https://www.brescia.uwo.ca/directory/roula_hawa.php

p. 519-432-8353 ext.28390

e. roula.hawa@uwo.ca

Twitter: [@roulahawa](https://twitter.com/roulahawa)

Follow us on Twitter: [@YSMENAprgram](https://twitter.com/YSMENAprgram)

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BACKGROUND & OBJECTIVES

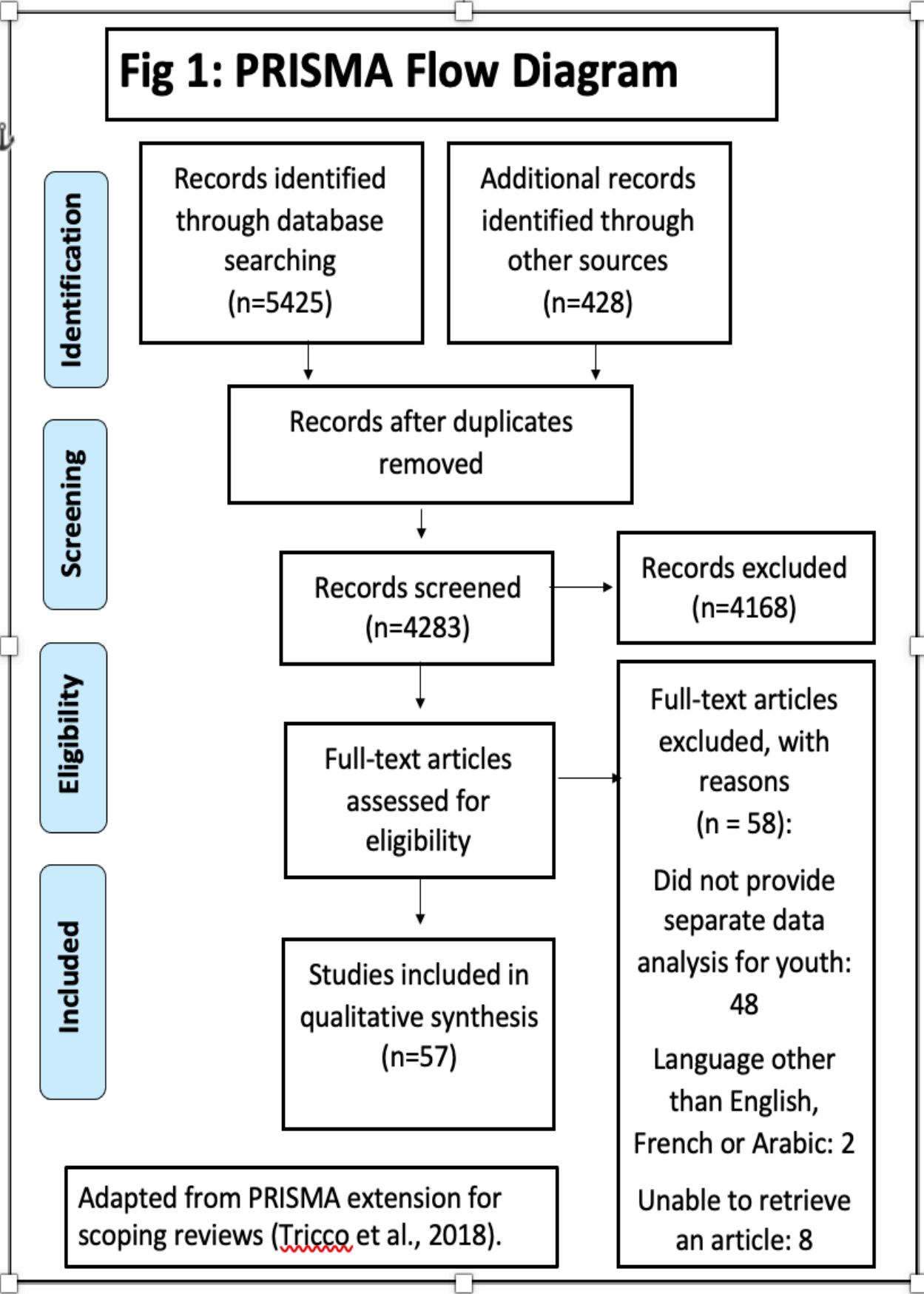
- The Middle East and North Africa region (MENA) is home to 80 million youth and its young adult population make up 10% of the world's population (Gökengin, et al., 2016; UNICEF, 2019)
- Despite having the lowest HIV prevalence in the world (less than 0.1%), **MENA is witnessing a rise in HIV infections which have increased by 31% since 2001 - highest documented increase among all regions in the world** (Global & Regional Trends, 2019; UNAIDS, 2014).
- In Canada, the number of newcomers from MENA is expected to increase rapidly from 2006-2031 and more than triple in the next 25 years.
- Canadian MENA youth bear a disproportionate burden of STIs, including HIV due to war displacement, racism, unemployment, poverty and homophobia.
- There is a major gap in sexual health services to this vulnerable group.
- No past reviews have synthesized information on risk behaviors of MENA young people specifically.

Study Objective: This scoping review seeks to establish epidemiological risk factors and underlying risk context for youth residing in or originating from the MENA region.

METHODS

- Scoping review is part of the Youth Sexual Health and HIV/STI Prevention in Middle Eastern and North African Communities in Ontario (YSMENA Study).
- Guided by the scoping review methodological framework developed by Arksey & O'Malley (2005). with developed protocol adapted to the Preferred Reporting Items for Systematic Reviews and Meta-analysis Protocols (PRISMA-P) (Tricco et al., 2018).

RESULTS



Screening 5,853 citations, published between 1990-Dec, 2019 with age groups 16 to 29, resulted in 57 studies included across 18 MENA countries: Algeria, Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Syria, Tunisia, United Arab Emirates (UAE), and Yemen (**See Fig 1**).

“Risk behaviors” themes, included: overlapping risky behaviors among **youth who inject drugs**, lack of access to HIV testing, condomless sex, multiple sex partners among **young men who have sex with men**, and overlapping risk behaviours among **young sex workers**.

“Challenges” included: peer pressure, inhibition about discussing sexual health, limited sex education, low condom use, and lack of access to HIV prevention services, especially testing.

I. Risky Behaviors: Youth who Inject Drugs (PWID)

- HIV has already established itself** among a number of PWID populations in MENA.
- Levels of risky behavior, such as **use of nonsterile injecting equipment, inconsistent condom use** and **selling/buying sex** have been significant, confirming potential for further HIV spread among PWIDs.

II. Risky Behaviors: Men who Have Sex with Men (MSM)

Risky Behavior: Young MSM engage in risky behaviors including condomless sex, multiple and concurrent sexual partnerships. **HIV Testing:** Was variable across countries and samples. **MSM with female partners:** Most MSM reported having female sexual partners through spousal and non-spousal relationships. **Overlapping Risk:** Concurrent drug & alcohol use before and during sex, transactional sex (**See Table 2**).

Table 2. Risky Behaviors Among Men Who Have Sex with Men (MSM) in MENA Region		
Risky Behaviors Among MSM		
Access to HIV testing	Number of sexual partners	Frequency of injection drug use
Lebanon		
79.6% (Wagner et al 2018)	Over the past three months: 2 (Wagner et al 2014)	Ever injected drugs: 1.7% (Heimer et al 2017)
94.5% (Heimer et al 2017)	Over the past year: 20.7 (Heimer et al 2017)	
In the past year: 71% undergone at least one test (Maatouk et al 2016)	Over the past year 25.3 (Wagner et al 2012)	
75% (Wagner et al 2012)	Over the past year: 73% had at least one nonregular noncommercial sex partner (38% had five or more), and 37% had at least one regular noncommercial sex partner in the last year (1% had five or more) (Mahfoud et al 2010)	
22% (Mahfoud et al 2010)		
Ever tested: 81.7% (Ghanem et al 2019)		
Tested in the last six months: 50.9% (Ghanem et al 2019)		
In the past year: 50% (Wagner et al 2015)		
Egypt		
Very few young people undergo HIV testing for fear of facing implications of a positive result and associated social stigma. (Abdel- Tawab et al 2016)	Per week: < 3 among 48.3% of younger persons and among 40.0% of the older ones (El-Sayyed et al 2008)	(2.3 % - 4.9%) Alexandria, Luxor & Cairo (FHI/MOHP Egypt 2010)
Libya		
In the past year: 45.6% (Valadez et al 2013)		
Jordan		
38% (Alkaiyat et al 2014)		64.9% (Alkaiyat et al 2019)
Syria		
31.8% (Kobeissi 2014)		

RESULTS CONTINUED

III. Risky Behaviors: Young Sex Workers/ Female Sex Workers (FSW)

- Risky Behavior:** Unprotected sex was an alarming risk practice. Typically opted not to use condoms with non-client sex partners, to differentiate sex for work versus pleasure.
- HIV Testing:** Varied significantly. FSWs tested previously as part of mandatory requirement (obtain work permit and residence).
- Overlapping Risk:** Regarding drug use and ever injecting drugs, results varied widely according to country (**See Table 3**).

Table 3. Risky Behaviors Among Sex Workers in MENA Region	
Risky Behaviors Among Sex Workers	
Iran	
Injecting Drugs	A total of 73.8% reported a history of any drug use. Of these, 63.2% were active drug. (Sajadi et al 2013) 60% used drugs and 2.5% used them intravenously (Tehrani et al 2008)
Married	Ever being married: 83.2% (Sajadi et. al 2013) Currently married: 35.8% (Sajadi et. al 2013)
No. of Clients	In last seven days: 3.1 (Sajadi et al 2013)
Additional Income	36.5% (Sajadi et al 2013)
Egypt	
Injecting Drugs	50% used drugs and 6% injected drugs in the 12 months preceding the survey (FHI/MOH Egypt 2010)
Married	Ever being married: 89% (FHI/MOH Egypt 2010) Currently married: 45.5% (FHI/MOH Egypt 2010)
Syria	
Injecting Drugs	11% used drugs (Kobeissi 2014)
Married	Ever being married: 86% (Kobeissi 2014)
Forced Sex	35.8% (Kobeissi 2014)
No. of Clients	In last seven days: 4.8 (Kobeissi 2014)
Lebanon	
Injecting Drugs	0 (Mahfoud et al 2010)
Married	Ever being married: 60% (Mahfoud et al 2010) Currently married: 10% (Mahfoud et al 2010)
No. of Clients	In last months: 96% had five or more clients (Mahfoud et al 2010) Clients per year for hammer sex workers: 1,015 (median ¼ 1,095) (Aunon et al 2015) Clients per year for escorts: 343 (median ¼ 313) (Aunon et al 2015)
Additional Income	Most of male sex workers from the hammam relied on sex work as their only source of income whereas more than one half of the escorts had another income-generating activity (Aunon et al 2015)
Libya	
Injecting Drugs	2.8% (Valadez et al 2013)
Forced Sex	18.2% (Valadez et al 2013)
Yemen	
Injecting Drugs	The vast majority (96.8 %) had ever used drugs while injection was reported by 14.5 % (Mirzazadeh et al 2013)
Married	Ever being married: 81.0 % (Mirzazadeh et al 2013) Currently married: 28.5 % (Mirzazadeh et al 2013)
No. of Clients	In last seven days: 3.4 (Mirzazadeh et al 2013)

IV. Challenges: Students, General Population & Others

University Students:

- History of high risk behaviors, multi-sex partners, unsafe sex, drug use, alcohol consumption.
- Male students more likely to engage in risky behavior than female counterparts.

General Population and Others:

- Included other bridging populations: prisoners, street children, truck drivers, tourist workers, transgender women, conscripts and people of the general population.
- Limited understanding of HIV, especially around modes of transmission and high-risk behavior.
- Street children who have sex, most never used a condom at all and most had multiple sex partners.

CONCLUSIONS

- PWID: Availability, access** and **increasing awareness** towards harm reduction services are crucial in addressing the high-risk context affecting this key population.
- MSM: Low condom use** is very common in this key population. One of the hardest groups to reach due to **homophobia** and **severe stigmatization** they are usually subjected.
- Sex workers:** Not yet well studied and are hard to reach due to the illegal status of their profession and high levels of stigma in MENA.
- University students & other bridging populations:** Multi-sex partners, unsafe sex, drug use, alcohol consumption and practicing risky behaviors. **Low use of condoms among youth bridging populations** due to peer pressure and inhibition to discuss sex.
- In Canada,** a need for developing culturally-relevant resources and interventions for this emerging youth community is paramount.

Limitations: Difficulty to generalize findings due to **heterogeneity in risk behaviors and risk contexts. Lack of homogeneity in studies** conducted in MENA, often due to **limited funding resources**, makes it especially hard to locate studies entirely focused on youth. **Scarcity of bio-behavioral surveys** conducted in the region presents a challenge to track long term trends.

Supplementary Handout- Examining Epidemiological HIV Risk Factors and Underlying Risk Context for Youth from the Middle East and North Africa within a Canadian Context (YSMENA Study): A Scoping Review of the Literature

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SUPPLEMENTARY HANDOUT: TABLE 1

Table 1. Characteristics of Research Studies Included in the Scoping Review					
Authors	Setting	Sample Size	Data Collection Dates	Population	Study Design
Adib et al., 2002	Beirut, Lebanon	730	1999	Male conscripts	Quantitative Cross-sectional
Hendrickx et al., 2002	Antwerp, Belgium	55	1997-1998	Adolescent boys and girls	Qualitative using FGDs
Refaat et al., 2004	Ismailia, Egypt	687	Not reported	University Students	Quantitative Cross-sectional
Hajiabdolbaghi et al., 2006	Tehran, Iran	33	Not reported	Runaway and at-risk women	Quantitative Pre/Post test
Mohammad et al., 2007	Tehran, Iran	382	2002	Adolescent boys	Quantitative Cross-sectional
El-Sayyed et al., 2008	Cairo, Egypt	58	2003	MSM	Quantitative Cross-sectional
El-Sayyed et al., 2008	Mahalla El-Koubra, 10th of Ramadan & Kafr El-Dawar, Luxor city, South Sinai, Egypt	1170	Not reported	Industrial and tourist workers	Quantitative Cross-sectional
Tehrani et al., 2008	Saravan, Astar, Islamshahr and Kermanshah, Iran	754	2003	Truck drivers, female sex workers, general population	Quantitative Cross-sectional
Kahhaleh et al., 2009	Beirut, Lebanon	2064	2004	General Population	Quantitative Cross-sectional
Al-Irvani et al., 2010	Aden, Yemen	Not reported, mostly youth	2005-2009	Not reported	Qualitative using FGDs and IDIs
Nada et al., 2010	Greater Cairo and Alexandria, Egypt	443	2007	Street Children	Quantitative Cross-sectional
Hosseini et al., 2010	Tehran, Iran	271	2006	IDU	Quantitative Cross-sectional
Mahfoud et al., 2010	Beirut, Lebanon	143	2007-2008	FSW, MSM, IDU	Quantitative Cross-sectional
FHI/MOH Egypt, 2010	Cairo and Alexandria, Egypt	Not reported	2010	FSWs, street children, MSM, and Male IDUs	Quantitative Cross-sectional
Mumtaz et al., 2010	Morocco	2000	Not reported	General Population	Quantitative Cross-sectional
Sayarifard et al., 2011	Tehran, Iran	Not reported	2009	FSW	Quantitative Cross-sectional
Mirzaee et al., 2012	Iran	495	2013	General Population	Quantitative Cross-sectional
Shokoohi et al., 2012	Kerman, Iran	333	Not reported	IDUs, MSM, and males who have sex with FSW	Quantitative Cross-sectional
Wagner et al., 2012	Beirut, Lebanon	31	2011	MSM	Mixed methods
Ismael et al., 2012	Erbil, Iraq	333	2010-2011	General Population	Quantitative Cross-sectional
Sajadi et al., 2013	Iran	210	2010	FSW	Quantitative Cross-sectional
Khajehkazemi et al., 2013	Iran	318	2010	IUD	Quantitative Cross-sectional
Valadez et al., 2013	Tripoli, Libya	241	2010-2011	MSM and FSW	Quantitative Cross-sectional
Mirzazadeh et al., 2013	Tehran, Iran	15	2011	FSW	Qualitative using IDIs
Johnston et al., 2013	Agadir and Marrakesh, Morocco	463	2010-2011	MSM	Quantitative Cross-sectional
Shavestehkhoul et al., 2013	Tehran, Iran	30	Not reported	Transwomen	Quantitative Cross-sectional
Wagner et al., 2014	Beirut, Lebanon	100	2012	MSM	Quantitative Cross-sectional
Hedayati-Moghaddam et al., 2014	Mashahd , Iran	605	2008	University Students	Quantitative Cross-sectional

TABLE 1 CONT'D

Massad et al., 2014	Jerusalem, Palestine	83	Not reported	General Population	Qualitative FGDs and IDIs
Chandour et al., 2014	Beirut, Lebanon	983	2012	University Students	Quantitative Cross sectional
Alkaiyat et al., 2014	Amman, Aqaba, Irbid and Zarqa, Jordan	73	2011	MSM	Quantitative Cross-sectional
Mirzazadeh et al., 2014	Aden and Al-Hudaydah, Yemen	166	2011	MSM	Quantitative Cross-sectional
Kobeissi et al., 2014	Suburbs of Damascus (Rif Damascus), Lattakia and Tartous, Syria	Not reported	2013-2014	FSWs, MSM, IDUs and Prisoners	Quantitative Cross-sectional
Noroozi et al., 2015	Isfahan, Iran	30	2012-2013	General Population	Qualitative using IDIs
Esmacilzadeh et al., 2015	Jolfa , Iran	156	2013	University Students	Quantitative Cross-sectional
Salehi et al., 2015	Shiraz, Iran	825	2006-2011	Sex workers and IDUs	Retrospective Record Review
Wagner et al., 2015	Beirut, Lebanon	100	2012	MSM	Quantitative Cross-sectional
Aunon et al., 2015	Beirut, Lebanon	16	2011	Male sex workers	Qualitative using IDIs
Shokoohi et al., 2016	13 provinces in Iran	4950	2013	General Population	Quantitative Cross-sectional
Kaplan et al., 2016	Beirut, Lebanon	40	2012	Transwomen	Quantitative Cross-sectional
Maarefyand et al., 2016	Tehran, Iran	114	2014	Truck drivers	Quantitative Cross-sectional
Maatouk et al., 2016	Beirut, Lebanon	28	2015	MSM	Quantitative Cross-sectional
Honarvar et al., 2016	Shiraz, Southern Iran	935	2012-2013	General Population	Quantitative Cross-sectional
Abdel Tawab et al., 2016	Egypt	3733	Not reported	General Population	Qualitative using FGDs and IDIs
Sharifi et al., 2017	Kermanshah, Iran	220	2014	IDUs	Quantitative Cross-sectional
Heimer et al., 2017	Beirut, Lebanon	219	2014-2015	MSM	Quantitative Cross-sectional
Faysal et al., 2017	Beirut, Lebanon	2180	Not reported	University Students	Quantitative Cross-sectional
Hooshvar et al., 2018	Iran	632	2013	General Population	Quantitative Cross-sectional
Elamouri et al., 2018	Tripoli, Libya	31	2015	Prisoners and youth attending rehab centers and schools	Qualitative using IDIs
Sajjadi et al., 2018	Tehran and Alborz, Iran	634	2015	University Students	Quantitative Cross-sectional
Farahani et al., 2018	Tehran, Iran	950	2013-2014	University Students	Quantitative Cross-sectional
Noroozi et al., 2018	Kermanshah, Iran	312	2013-2014	IDU	Quantitative Cross-sectional
Armoon et al., 2018	Kermanshah, Iran	255	2014	IDU	Quantitative Cross-sectional
Noroozi et al., 2018	Tehran, Iran	455	2016	IDU	Quantitative Cross-sectional
Wagner et al., 2019	Beirut, Lebanon	390	2016-2017	MSM	Quantitative Cross-sectional
El Kazdough et al., 2019	Taza , Morocco	56	2016	Adolescent girls and boys	Qualitative using FGDs
Ghanem et al., 2019	Beirut, Lebanon	218	2016-2017	MSM	Quantitative Cross-sectional

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