HIV and other sexually transmitted infection research in the Middle East and North Africa: promising progress?

Laith J Abu-Raddad,1,2,3 Khalil G Ghanem,4 Ali Feizzadeh,5 Hamidreza Setayesh,6 Jesus Maria Garcia Calleja,7 Gabriele Riedner8

The mere association of the words sexually transmitted infections (STIs), including HIV/AIDS, and sexuality, to Middle East and North Africa (MENA) in any discussion, social or academic, seems to elicit heated debates and controversy. The MENA region is, in the minds of many, an area where socio-cultural sensitivities surrounding sex and disease still abound. Are there HIV epidemics shrouded behind a wall of denial? Is there a ‘conspiracy of silence’ resulting in a failure to confront a public health scourge?

Lack of data seems to have fuelled this debate, but the reality of the situation is more nuanced. There are probably shreds of truth in the polemics about HIV infection and other STIs in this region, but partial truths often distort reality. This special supplement of Sexually Transmitted Infections provides a critical piece of the solution to this problem: evidence from the field. This evidence suggests a reality that this region should be able to confront and deal with.

The purpose of this special supplement is to showcase the progress of STI research in MENA, and to demonstrate stronger evidence about the HIV epidemic to inform policy and programming. We chose studies that broadened our knowledge in this field, and testified to the feasibility of conducting quality research in this region. To highlight progress, we invited contributors to submit studies dealing with diverse research questions and methodologies. We encouraged novelty and weighed the studies’ potential to impact policy and programming. Our goal was to have a broad representation from the MENA region, but we only achieved partial success. Though eventually the supplement included data from multiple countries in one form or another, the countries with more advanced research capacity contributed more. A few of the invited articles from other countries did not materialise for a variety of reasons. One of the greatest challenges facing research in the MENA region is the paucity of trained investigators. Although this supplement provides evidence that a core group of investigators are actively conducting vital research in the region, the challenge of further expanding the field remains.

MENA, in this supplement, extends from Morocco in the West to Afghanistan and Pakistan in the East (figure 1). It is a diverse region that comprises more than 10% of the World’s 15–49 age group population. Recently, the region has attracted global attention with its youth movements, known as the Arab Spring, that swept through the region and roiled decades-old regimes. Regrettably the region has largely failed to benefit from its demographic dividend. There are, however, bright spots. This supplement highlights the outcome of research conducted mostly by young and motivated local investigators, working in challenging conditions.

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Correspondence to Dr Laith J Abu-Raddad, Infectious Disease Epidemiology Group, Weill Cornell Medical College—Qatar, Qatar Foundation—Education City, P.O. Box 24144, Doha, Qatar; lja2002@qatar-med.cornell.edu

1Infectious Disease Epidemiology Group, Weill Cornell Medical College—Qatar, Cornell University, Doha, Qatar; 2Department of Public Health, Weill Cornell Medical College, Cornell University, New York, New York, USA; 3Vaccine and Infectious Disease Division, Fred Hutchinson Cancer Research Center, Seattle, Washington, USA; 4Johns Hopkins University School of Medicine, Baltimore, Maryland, USA; 5Regional Support Team for Middle East and North Africa, Joint United Nations Programme on HIV/AIDS (UNAIDS), Cairo, Egypt; 6Sudan Country Office, Joint United Nations Programme on HIV/AIDS (UNAIDS), Khartoum, Sudan; 7HIV Department, World Health Organization, Geneva, Switzerland; 8Regional Office of the Eastern Mediterranean, World Health Organization, Cairo, Egypt.

programmes that had limited interest in using the data beyond informing HIV policy, and possibly some programming at the national level.1 2 To alleviate this challenge, the MENA Regional Expert Group on HIV Surveillance and Strategic Information recommended,3 in its meeting in May of 2011 in Cairo, Egypt, the establishment of an editorial support team from the members of this group, to assist authors from the region in drafting the results of their investigations (please note the Acknowledgment below). The supplement is the outcome of this effort.

The first article in this supplement describes the progress in HIV research in the MENA region since the discovery of the epidemic,4 Saba et al show that published reports on HIV in the MENA region have been steadily increasing over the years with much of the progress occurring in the last few years. Reports on HIV in the MENA region now account for about 1% of the global reports on HIV, a fact that may surprise some. Though there are still large gaps, the progress has been solid in both quantity and quality of product. This optimistic finding, however, is tempered by several important pitfalls which include significant heterogeneity in the progress among countries, a large volume of scientific work conducted but not published in the scientific literature, and the critical need to ensure quality standards in research methodology regardless of whether it is conducted by academia or not. The article is followed by an editorial by Nasirian et al5 which points to some of the barriers facing researchers when publishing their results.

Bozicic et al6 then provide an encompassing overview of the development, quality and progress of HIV surveillance in the 23 MENA countries through a large effort led by WHO/EMRO to assess the capacity of HIV surveillance systems in this region. The study highlights recent progress, but again emphasises its heterogeneity across countries. Though four countries have fully functioning systems, close to half of MENA countries lag far behind, to the extent that we have limited knowledge of the epidemic in these countries. These data suggest that much work still needs to be done before we have functioning and durable HIV surveillance systems that monitor epidemic trends and generate data that can inform HIV policy and programming.

These papers are followed by several HIV surveillance studies of different populations in different countries. In the first of these, Elhadi et al7 present the
Along the same lines, a group of brief articles from Iran report the findings of HIV surveillance in four different population groups. In the first of these, Khajehkazemi et al present the results of the national bio-behavioral survey among PWID.9 The findings affirm that this population group remains the most affected by the HIV epidemic in this country, and still exhibit high levels of risk-taking behaviours despite a roll-out of harm reduction interventions.10 11 In the second article, Navadeh et al12 present the results of the national bio-behavioral survey among prisoners. Their findings are indicative of the overlapping networks of HIV transmission among PWID and prisoners, which appear to be a concern not only in Iran, but also in other MENA countries. It is clear that prisons should be considered as a priority setting for HIV prevention in at least a few MENA countries.13 The study demonstrates the direct links between FSWs and PWID in Iran through which HIV infection can be bridged. Though the study is not conclusive, it suggests the potential for considerable HIV sexual transmission in commercial sex networks, a lesson highlighted in the neighbouring country of Pakistan.8

In the last article from Iran, Alipour et al present the results of a novel study for this region: A national bio-behavioral survey among partners of PWID.14 The study demonstrates that despite the difficulty in reaching this population, it is an important group to consider when trying to define the complexity of the HIV epidemic in Iran. Though the main factors of HIV transmission in this region are the networks of high-risk populations, a substantial burden of the infection is being borne by spouses who may not fit the typical high-risk description.1 2 The study challenges us to develop appropriate interventions for this vulnerable population, and provides evidence of the importance and feasibility of recruiting spouses of people who engage in high-risk behaviour.

Morocco then contributes two studies to our supplement. In the first one, Johnston et al15 report the findings of HIV and syphilis surveillance among men who have sex with men (MSM), the most stigmatised of the key at-risk populations in this region. The paper shows the feasibility of conducting scientifically rigorous studies among MSM in at least some parts of MENA, and the importance of working with them given the evidence of emerging HIV epidemics in this population in this region.16

In the second article from Morocco, Mumtaz et al17 present the first attempt to map HIV transmission and its sources in a MENA country, by conducting an HIV Mode of Transmission Analysis (MoT) modelling study. The findings show how HIV transmission in this country is driven by the sexual and injecting networks of the key populations at risk, and that these vulnerable populations should be the priority of HIV prevention programmes. Importantly, the study demonstrates how Morocco has leveraged the knowledge of the epidemiology of its HIV infections,18 19 to generate an evidence-informed and priority-tailored
The current financial climate may result in stagnating or even diminishing international support for STI research and programme delivery. International development aid should be viewed as a transitional phase focused on capacity building to conduct this type of research and start new surveillance, treatment, and prevention programmes. A guiding experience to this end is the Avahan initiative in India, a large-scale HIV intervention programme focused on the key populations at risk in the six most affected states, and that have demonstrated an impact on the epidemic.\textsuperscript{21–23} For nearly a decade, the Bill and Melinda Gates Foundation invested close to half a billion dollars to build capacity for HIV and STI programmes through HIV services such as HIV testing, care, and treatment, STI testing and treatment, condom promotion, behaviour change communication, stigma reduction, peer education, community mobilisation, and advocacy.\textsuperscript{24} A key aspect of the programme had been the emphasis on scientific research to generate data that can inform HIV policy and programming, and to monitor and evaluate progress and output.\textsuperscript{22,24} This massive programme was then gradually transitioned to the government of India and other partners, ensuring sustainability for the years to come, beyond development aid and donor funding.\textsuperscript{25} Such successful model offers a sustainability strategy with ensured country ownership of the programmes.

In conclusion, this supplement is a testament to the progress in HIV research in MENA over the last few years. Conducting research on STIs is feasible in this region despite the challenges. Although the trend of progress is encouraging, the scale is still inadequate. The region’s STI research output is far below what is needed, and diverse areas of STI research are still primitive. This progress should be seen as a promising beginning, but one that needs to be actively nurtured to ensure the desired end. Governments in MENA countries must actively invest financial resources, and promote the development of a research infrastructure, that can capitalise on this progress.

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REFERENCES

1 Abu-Raddad L, Akala FA, Semini I, et al. Characterizing the HIV/AIDS epidemic in the Middle East and North Africa: time for strategic action. Middle East and North Africa HIV/AIDS epidemiology synthesis project, World Bank/UNAIDS/WHO publication. Washington, DC: The World Bank Press, 2010.
2 Abu-Raddad LJ, Hilmi N, Mumtaz G, et al. Epidemiology of HIV infection in the Middle East and North Africa. AIDS 2010;24(Suppl 2):S5–S23.
3 Regional Office of the Eastern Mediterranean, World Health Organization. Regional Office on HIV and STI Surveillance. Middle East and North Africa, 2010. Summary report. Cairo, Egypt: Regional Office of the Eastern Mediterranean, World Health Organization, 2011.
4 Saba HF, Khoumoujman SP, Mumtaz GR, et al. Characterising the progress in HIV/AIDS research in the Middle East and North Africa. Sex Transm Infect 2013;89:iii5–iii9.
5 Nasirian M, Karamouzian M, Haghdoost AA. Why is the number of HIV/AIDS–related publications low in the MENA region? Sex Transm Infect 2012;89:ii10.
6 Bozicevic I, Riedner G, Calleja JM. HIV surveillance in MENA: recent developments and results. Sex Transm Infect 2013;89:iii11–iii16.
7. Elhadi M, Elbardawi A, Abdelrahman S, et al. Integrated bio-behavioural HIV surveillance surveys among female sex workers in Sudan, 2011–2012. Sex Transm Infect 2013;89:iii17–22.

8. Emmanuel F, Salim M, Akhtar N, et al. Second-generation surveillance for HIV/AIDS in Pakistan: results from the 4th round of Integrated Behavior and Biological Survey 2011–2012. Sex Transm Infect 2013;89:iii23–28.

9. Khajehkazemi R, Osooli M, Sajadi L, et al. HIV prevalence and risk behaviours among people who inject drugs in Iran: the 2010 National Surveillance Survey. Sex Transm Infect 2013;89:iii29–32.

10. Rassaghi E, Nasrimanesh B, Afshar P, et al. HIV/AIDS harm reduction in Iran. Lancet 2006;368:434–5.

11. Abu-Raddad L, Akala FA, Semini I, et al. Policy Notes. Characterizing the HIV/AIDS epidemic in the Middle East and North Africa: Time for Strategic Action. Middle East and North Africa HIV/AIDS Epidemiology Synthesis Project. World Bank/UNAIDS/WHO Publication. Washington, DC: The World Bank Press, 2010.

12. Navadeh S, Mirzaazadeh A, Gouya MM, et al. HIV prevalence and related risk behaviours among prisoners in Iran: results of the national biobehavioural survey. 2009. Sex Transm Infect 2013;89:iii33–36.

13. Sajadi L, Mirzaazadeh A, Navadeh S, et al. HIV prevalence and related risk behaviours among female sex workers in Iran: results of the national biobehavioural survey, 2010. Sex Transm Infect 2013;89:iii37–40.

14. Alipour A, Haghdoot AA, AA L, et al. HIV prevalence and related risk behaviours among female partners of male injecting drugs users in Iran: results of a bio-behavioural survey, 2010. Sex Transm Infect 2013;89:iii41–44.

15. Johnston LG, Alami K, El Rhilani MH, et al. HIV, syphilis and sexual risk behaviours among men who have sex with men in Agadir and Marrakesh, Morocco. Sex Transm Infect 2013;89:iii45–8.

16. Mumtaz G, Hilmi N, McFarland W, et al. Are HIV epidemics among men who have sex with men emerging in the Middle East and North Africa?: a systematic review and data synthesis. PLoS Med 2010;8:e1000444.

17. Mumtaz G, Kouyoumjian SP, Hilmi N, et al. The distribution of new HIV infections by mode of exposure in Morocco. Sex Transm Infect 2013;89:iii49–56.

18. Kouyoumjian SP, Mumtaz GR, Hilmi N, et al. The epidemiology of HIV infection in Morocco: systematic review and data synthesis. Int J STD AIDS 2013;24:507–16.

19. Mumtaz G, Hilmi N, Zidouh A, et al. HIV modes of transmission analysis in Morocco. Kingdom of Morocco Ministry of Health and National STI/AIDS Programme, Joint United Nations Programme on HIV/AIDS, and Weill Cornell Medical College—Qatar. 2010.

20. Ali-Thani A, Abdul-Rahim H, Alabtei E, et al. Prevalence of Chlamydia trachomatis infection in the general population of women in Qatar. Sex Transm Infect 2013;89:iii57–60.

21. Bill & Melinda Gates Foundation. Avahan—the India AIDS initiative. Fact sheet. http://docs.gatesfoundation.org/avahan/documents/avahan_factsheet.pdf (accessed 2 Sep 2013).

22. Saeed T, Adhikary R, Mainkar M, et al. Baseline integrated behavioural and biological assessment among most-at-risk populations in six high-prevalence states of India: design and implementation challenges. AIDS [Research Support, Non-U.S. Gov't]. 2008;22(Suppl 5):S17–34.

23. Ng M, Gatidou E, Levin-Rector A, et al. Assessment of population-level effect of Avahan, an HIV-prevention initiative in India. Lancet [Research Support, Non-U.S. Gov't]. 2011;378:1643–52.

24. Sgaier SK, Claeson M, Gilks C, et al. Knowing your HIV/AIDS epidemic and tailoring an effective response: how did India do it? Sex Transm Infect 2012;88:240–9.

25. Sgaier SK, Ramakrishnan A, Dhingra N, et al. How the Avahan HIV prevention program transitioned from the Gates Foundation to the government of India. Health Aff (Millwood) [Research Support, Non-U.S. Gov't]. 2013;32:1265–73.