Int J Public Health (2013) 58:927–937
DOI 10.1007/s00038-013-0485-y

REVIEW

# HIV in the Middle East and North Africa: priority, culture, and control

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Received: 13 January 2013 / Revised: 18 June 2013 / Accepted: 20 June 2013 / Published online: 4 July 2013
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**Abstract**

*Objectives* This study aimed to assess the priority of HIV/AIDS in the Middle East and North Africa region and compare it with other regions. This review examines the social, cultural and religious features of HIV in the region, and considers their influence on perception of risk and approaches to control, such as condom use and antiretroviral therapy.

*Methods* We screened a wide range of sources for comprehensive and reliable data; the search of PubMed, ISI Web of Science, ScienceDirect, and grey literature databases were unrestricted by language and year of publication.

*Results* Studies of HIV/AIDS in the region are limited, especially studies of social aspects of HIV/AIDS and their relevance for control. Findings suggest low condom use across the region among high-risk groups, and the general population, and low antiretroviral therapy uptake among people with HIV/AIDS.

*Conclusions* The review indicates gaps in the literature and needs for more academic engagement and political commitment. Cultural norms have notable implications for HIV control, which are discussed, considering implications for the priority, prevention, treatment, and control of HIV/AIDS.

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**Keywords** HIV/AIDS · Middle East and North Africa · Priority · Sociocultural · Epidemiology

## Introduction

Prior to 1989, several studies in the Middle East and North Africa (MENA) suggested a near absence of HIV in most countries of this region (Arbesser et al. 1987; Galal et al. 1988; Nassar 1987; Toukan and Schable 1987). By the end of 2009, however, 460,000 people were living with HIV/AIDS (PLWHA), up from 180,000 in 2001. The number of new infections has increased dramatically from 47,000 in 2001 to 84,000 in 2010. AIDS-related deaths have also increased from 22,000 in 2001 to 39,000 in 2010 (UNAIDS 2011).

Countries of the MENA region report low prevalence (0.2 %) of HIV, but many international reports question the reliability of the data (UNAIDS 2009, 2011). Weak surveillance, limited attention to prevention, and high prevalence of sexually transmitted infections (STI) (Obermeyer 2006) all suggest potential for a crisis of HIV/AIDS in the region. MENA is presently among the top two regions in the world with the fastest growing HIV epidemic (UNAIDS 2011). In addition, HIV transmission among MSM in the region is substantial, and recent studies suggest that cases are concentrated among MSM (Mumtaz et al. 2010).

The dynamics of HIV in the region are not well documented. Despite much progress on understanding HIV globally, knowledge of the epidemic in the MENA region continues to be very limited and subject to much controversy (Obermeyer 2006). There is a strong perception that data on HIV/AIDS from the MENA are very limited (Bohannon 2005). In a recent literature review on the

epidemiology of HIV/AIDS, however, Abu-Raddad et al. (2010b) argued that there is a considerable amount of epidemiological data, but it is fragmented and amorphous, comparing the status of these data to "shattered glass." Despite some progress towards synthesizing data, our understanding of the sociocultural features of HIV/AIDS in the MENA region remains insufficient, and important social aspects of the condition are not well-understood (Badahdah 2010; Jenkins and Robalino 2003)

HIV in the region is currently controlled by various measures including condom use and antiretroviral therapy (ART) (UNAIDS 2011). Access and adherence are essential for the effectiveness of these interventions. Problems with access and adherence to prevention or treatment may result both from limitations of health systems and from social and cultural factors in the community that influence risk-related behaviour, help seeking, and adherence to treatment (Plummer et al. 2006).

Culturally, HIV was initially dismissed as a low-priority problem affecting stigmatized groups (WHO 2007), and this view promoted denial of the significance of HIV in the MENA region. People who did not identify themselves with these high-risk groups (HRGs) were unconcerned (El Feki 2006). Furthermore, HIV mortality seemed to validate condemnation of homosexuality and promiscuity, which are widely regarded as sinful (Francesca 2002). Cultural values are relevant for control because they affect perceived vulnerability to HIV infection (Cheemeh et al. 2006). They are likely to influence condom use and the uptake and adherence to ART. Strong feelings about these issues in countries of the MENA region make it necessary to consider the implications of various social, cultural, religious, and political features of HIV (Tawil 2008). It is, therefore, a challenge for both religious leaders and policy makers in the region and an even bigger challenge now because of the changing climate of the region in the on-going "Arab Spring" (Dajani 2011).

Despite better capacity control of HIV/AIDS and increasing acknowledgement of its priority, data constituting relevant evidence to guide control remain insufficient. Better understanding of the social dynamics of HIV/AIDS in the region is needed. The current status and needs for research to explain the dynamics of HIV/AIDS require clarification. Considering implications for public health of the cultural meaning of HIV/AIDS, we review the literature on the role of the sociocultural and religious factors influencing its epidemiology and selected control measures, focussing on condom use and ART uptake. We also assess the priority of HIV/AIDS in the literature of the MENA by comparing the annual percentage of HIV/AIDS publications globally and regional publications cited in PubMed 1982–2011.

## Methods

### Data sources and search strategy

Reports were identified through searches of PubMed (http://www.ncbi.nlm.nih.gov/pubmed/), ISI Web of Knowledge (http://www.isiknowledge.com), and Science-Direct http://www.sciencedirect.com). Additional Arabic and English documents were identified by searching more than 50 local scientific journals, policy documents, and grey literature reports of international agencies. No restrictions were set on year or language of publications.

Several search strategies were used to identify relevant articles, and identified citations were compiled in a single dataset. We excluded duplicates, studies not specific for the MENA, and studies focusing on other topics. Filters for countries of the region and topical interests of HIV/AIDS were used in the criteria for searching the literature, and details are summarized in Table 1.

### Data management and analysis

References were compiled and managed with RefMan 12. Manual screening verified the relevance of the literature identified by the search strategies. For example, a few towns in the United States named "Lebanon" and universities with a "Jordan Hall" were excluded. Excel was used to catalogue and filter relevant literature on condom use and uptake of ART.

To compare the priority of HIV/AIDS in MENA and with its priority elsewhere, the MeSH term HIV infections was used to identify global publications in PubMed. We compared the indicated relative priority reflected by the percentage of HIV-related publications retrieved for the MENA region with the global literature.

## Results

### Identified literature

Screening for relevant interest was conducted in two stages. From a total of 1995 retrieved references, 278 papers were carefully assessed after excluding those that were not directly relevant (Fig. 1).

### Comparing publication output of the MENA and other regions

Based on PubMed citations from 1982 to 2011, the overall percentage of HIV/AIDS related publications of the MENA region to all regional publications cited in PubMed is 0.52 %, compared with 1.32 % for the rest of the World.

**Table 1** Search strategies and sources for the literature review

| Strategy | Source[a] |
|---|---|
| 1. An electronic search with the term 'HIV' OR 'AIDS' was set in each of the local journals websites | Local Journals websites |
| 2. Documents and reports were identified from the WHO, UNAIDS, UNICEF, UNDP and USAID using their global and regional websites | WHO, UNAIDS, UNICEF, UNDP, USAID |
| 3. Keywords [('HIV' OR 'AIDS') AND ('Arab' OR 'Middle East' OR 'country name)] as text words were searched in PubMed and ISI web of knowledge | PubMed, ISI web of knowledge and ScienceDirect |
| 4. MeSH terms 'HIV infections' OR 'Condoms' OR 'Antiretroviral Therapy, Highly Active' OR 'Anti-HIV Agents' were used with the Keywords ('Arab' OR 'Arab' OR 'Middle East' OR 'country names') as text words | PubMed |
| 5. Formal and informal English and French names for each country in the region was entered as affiliation in PubMed along with 'AIDS' OR 'HIV' as text word in the title/abstract OR 'HIV infections' as MeSH term. Example: [('Countries list' [Affiliation]) AND (AIDS OR HIV [Title/Abstract])] OR [(Countries list [Affiliation]) AND ('HIV Infections' [MeSH])] | PubMed |
| 6. The bibliography of the identified articles and reports were screened for further possible references | |

[a] Search of the indicated sources in May 2012

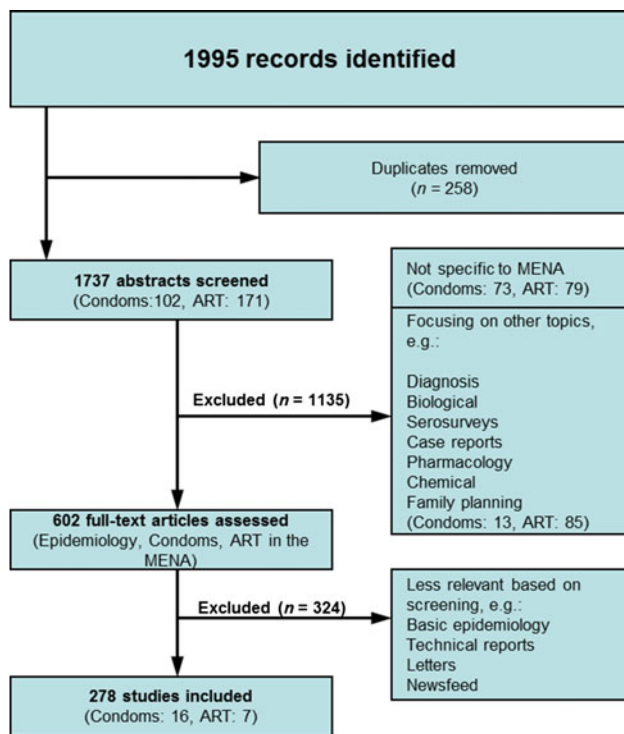


**Fig. 1** Flowchart inclusion and exclusion of identified documents

Figure 2 indicates the annual relative representations of HIV/AIDS consideration in the literature of the region and the World.

## MENA publications profile

Medical diagnosis and treatment and biological aspects of HIV were the main interests of the literature, with fewer epidemiological, social, and cultural studies. Early studies focused on serosurveys and pharmacology of anti-HIV agents. In the mid-1990s social and cultural interests were addressed by studies of knowledge, attitudes, behaviour, and practices (KABP); see for example Faris and Shouman (1994); Kulwicki and Cass (1994). The focus of subsequent research shifted to surveillance systems and health policies (Shawky et al. 2009a), and then to HRGs, especially MSM (El-Sayyed et al. 2008b; Mumtaz et al. 2010). In some countries, publications considered data from outside, rather than within, the region. For example, of the 19 studies on HIV in UAE, only three included subjects from UAE (Al Mulla et al. 1996; Barss et al. 2009), while the other UAE papers reported research conducted outside the country.

## Islam, culture, and HIV/AIDS control

Regional literature acknowledged the importance of integrating sociocultural and religious considerations in formulating strategies for control. Several studies have evaluated the influence of Islam on HIV infection and epidemiology. Some have argued that Islamic values and proscribed behaviour may reduce risk of HIV infection (e.g., forbidding sexual relations before and outside of marriage) (Lenton 1997; Ridanovic 1997). On the other hand, some, but fewer, authors argue that Islamic values may increase the risk of HIV (Ehsanzadeh-Cheemeh et al. 2009), referring to practices of allowing polygamy and sanctioning "temporary wife," which is permitted by some Islamic sects (Cheemeh et al. 2006).

## Controversial priorities

Our review focussed on the influence of sociocultural factors represented in the literature on HIV/AIDS—considering their priority, perceptions of risk, and strategies for control with particular reference to the role of condom use and ART. National priorities in the region for HIV/AIDS control appear controversial among policy makers,

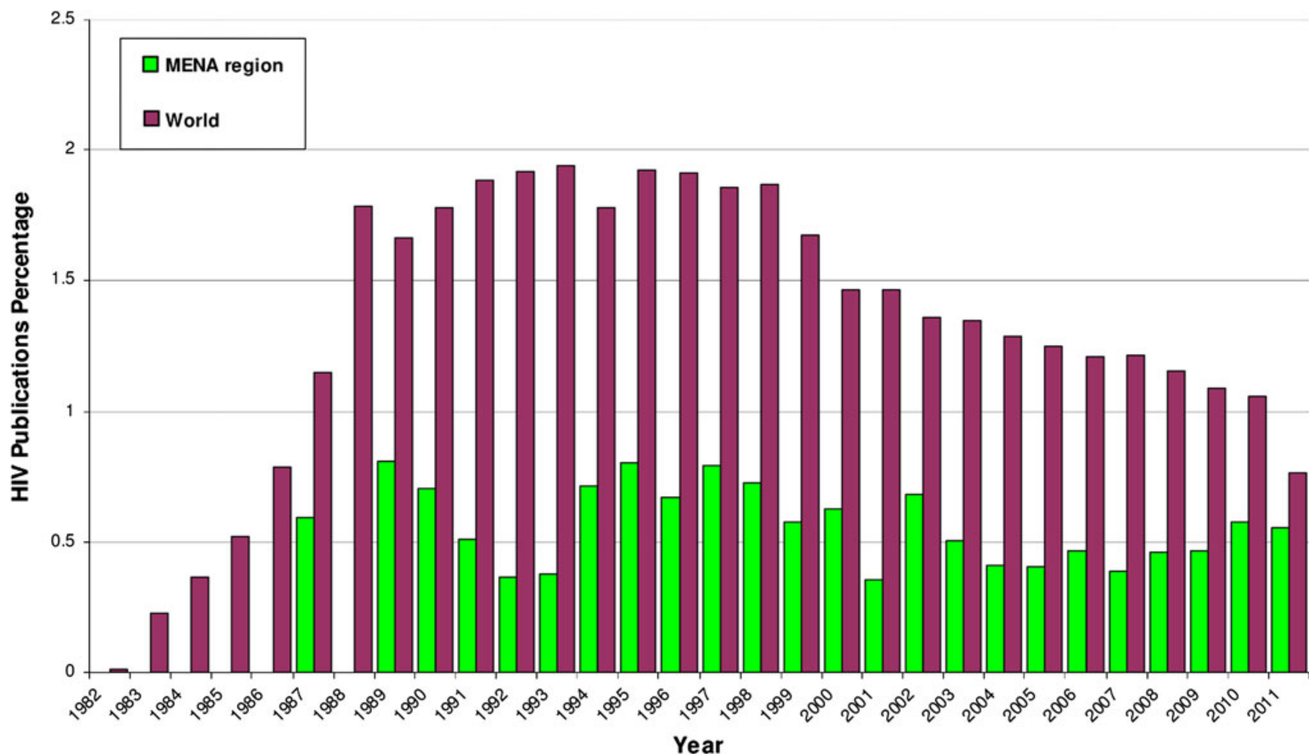


**Fig. 2** Overall priority of HIV/AIDS in the literature: the annual percentage of HIV/AIDS publications globally and in all the Middle East and North Africa regional publications cited in PubMed 1982–2011. The overall percentage of PubMed citations on HIV/AIDS in the Middle East and North Africa region is 0.52 % for publications from 1982 to 2011, compared with 1.32 % for the rest of the World (colour figure online)

reflecting controversial and conflicting values of religion and public health. Notions of protection and denial of vulnerability are based on the premise that adherence to Islamic principles and values prohibiting sexual relations outside of marriage will prevent the transmission of HIV and STI (Kandela 1993). Furthermore, policy is tempered by ideas about the benefits of conservative cultural norms, which encourage early marriages and discourage close male–female social interactions that may lead to sexual relations and HIV transmission.

Low prevalence and incidence rates in the region appear to support this view. HIV/AIDS is less prevalent than diabetes mellitus or TB (Ellis 2008). Furthermore, most of the reported HIV cases are among foreigners (Traboulsi et al. 2006), and this focus on foreigners may deflect needed attention to the priority of HIV/AIDS among nationals. This literature supports the argument that Islamic values are protective.

## Conflicting perceptions of risk

Some cultural and Islamic practices, such as prohibiting alcohol and requiring male circumcision, are likely to be protective (Templeton et al. 2010). But overreliance on protection afforded by cultural values has made denial a problem. Stigmatizing practices that conflict with cultural norms represents a social toxicity counterbalancing whatever protection cultural values may confer. Insofar as cultural norms increase stigma and discrimination toward people with the disease, they are likely to hinder HIV testing and treatment (UNAIDS 2010). Consequently, religious and cultural values may have little overall effect on preventing the spread of HIV (Lenton 1997).

Globalization, with expanded opportunities for communication and social contacts and exposure to information and social networking on the internet, has influenced cultural and religious values and changed behaviour (Barss et al. 2009). Such changes deeply affect the structure of the society, including sexual relations, delayed marriages, and the spread of HIV (El Feki 2006). Discrimination within the region, where migrants from other countries are departed, may increase vulnerability for HIV while lowering prevalence rates. Consequently, low prevalence does not necessarily mean low risk (Jenkins and Robalino 2003).

The MENA region is the only region where knowledge of the epidemic continues to be limited and subject to much controversy (Abu-Raddad et al. 2010a, b). Furthermore, increasing incidence rates and mortality due to AIDS are high and rising. The weak regional surveillance systems, reliance on passive reporting of HIV cases, limited access

to testing, and unreliability of data contribute to the potential threat (UNAIDS 2011).

The diminished legal and social status of HRGs contributes to their vulnerability, and it is also a serious obstacle to assessing the real burden (Baijal and Kort 2009). HIV infection mainly affects these groups when prevalence is low in the general population (Mills 2000), and HIV control has been more effective when prevention targets these groups early (Mayaud and Mabey 2004). The low percentage of condom use in the general population (Kabbash et al. 2007), especially among HRGs (El-Sayyed et al. 2008b), and the lack of sexual education for young people (El Feki 2006), are also contributing factors.

Many countries in the region are facing a concentrated epidemic (i.e., >5 % of a sub-population at higher risk) among HRGs. For example, the prevalence of HIV among intravenous drug users (IVDU) is estimated to be 11.8 % in Oman, 6.5 % in Morocco, and 2.6 % in Egypt (Mathers et al. 2008). Prevalence estimates among MSM are 6.2 % in Egypt (Shawky et al. 2009a) and 4.0 % in Morocco (United Nations Children's Fund, World Health Organization, UNAIDS 2009). Among female sex workers (FSW) in Yemen, the estimates of prevalence rate range from 1.3 to 7.0 % in various studies (UNAIDS 2009). Other countries may have reached this level, but it could be difficult to acknowledge because of economic consequences and possible conflict with Islamic and cultural values. Such concerns are more easily identifiable in private conversations than public policy statements.

## HIV control in the region

The WHO and UNAIDS have been working in the region since the 1980s to control HIV/AIDS. National AIDS Programmes (NAP) were established to formulate goals and strategies (WHO 2002). Priorities of the NAPs have been to prevent HIV/AIDS transmission and maintain low prevalence. Over the years, policies of the NAPs have been modified and developed (Jenkins and Robalino 2003). Initial efforts were directed toward training medical personnel and developing technical capacity for HIV testing. Efforts to increase the public awareness of HIV transmission and prevention followed. Later, the NAPs have implemented different strategies to track the epidemic and strengthen the surveillance system. The annual report of the NAP in Qatar provides a detailed account (Qatar National AIDS Committee 2008).

NAPs of most countries in the MENA region aimed to prevent HIV/AIDS by encouraging anonymous HIV testing free of charge. Testing is only mandatory in specific situations, such as application for a residency visa or certain jobs, and for pre-marital testing in a few countries (viz., Bahrain, Iraq, Libya, Lebanon, Syria, and UAE) (Hermez et al. 2010). A positive test usually results in denial of the request for which testing is required. NAPs promote safe sex by raising awareness, encouraging abstinence, and promoting condom use. They also provide free ART, support, and care for PLWHA and their families. In addition to blood screening, NAPs indicate concerns with HRGs (MOHP et al. 2006), raising awareness of HIV through mass media to mitigate vulnerability.

Approaches to HIV/AIDS control across the region are very similar. Jordan has provided free ART since 1999, distributing condoms and offering counselling (Alkaiyat 2009 Socio-cultural aspects of HIV/AIDS among Jordanians at work site, unpublished work). In Egypt anonymous hotline services were set up, condoms were distributed, and partnerships with local NGOs were established (Anon 1995). The Saudis have established programmes targeting HRG and promoting sexual education in schools (Madani et al. 2004). In Qatar, ART is provided free of charge and programmes were set up for HIV patients and their families (Sufian 2004). On the other hand, in other countries like UAE, despite the fast-growing rate and diversity of population, the number of HIV/AIDS cases and routes of transmission have been kept confidential and were unavailable in the UNAIDS 2005 global report. This may be regarded as an indication of persisting denial (Ganczak et al. 2007).

## Condom use

Our review identified 29 articles on various aspects of condom use in the region, but few studies focused on condom use for HIV prevention. Table 2 identifies studies in the region of condom awareness and use, including barriers to use. Several of these studies recognize the protective value of condoms, providing relevant information promoting awareness of the value of condoms to prevent transmission, variously targeting students (Al Mulla et al. 1996), women (Husseini and Abu-Rmeileh 2007), men (Kabbash et al. 2007), and the general population awareness (Busulwa et al. 2006). Nonetheless, research has not yet explained the low acceptance and inconsistent use of condoms, and it has not given adequate attention to the consideration of culturally appropriate strategies for condom use.

Condoms in the region are widely available and accessible. Even in Saudi Arabia, where the constitution is based strictly on the Islamic law, condoms are available in pharmacies. In most countries they are also available in supermarkets around the clock. Prices of condoms vary across countries of the region, from 1.0 USD in Saudi Arabia to less than 0.5 USD in Jordan per latex condom.

**Table 2** Condom awareness and use in the Middle East and North Africa region as measured by available studies

| References (study site) | (Target population) sample size | Condom awareness (%) | | Condom use (%) | | | Reason for no/inconsistent use (%) |
|---|---|---|---|---|---|---|---|
| | | General awareness[a] | HIV prevention[b] | Never | Sometimes | Always | |
| (Kahhaleh et al. 2009) (Lebanon) | (General population 15–49 years) 3,200 | 87.3 | 84.1 | ND | 15.3 | ND | ND |
| (Jurjus 1996) (Lebanon) | (General population 15–49 years) 1,504 | 95.1 | 88.6 | ND | 32.5 | ND | ND |
| Barbour and Salameh (2009) (Lebanon) | (University students) 1,410 | 98.2 | 80.3 | 38.1 | 14.6 | ND | ND |
| El-Sayyed et al. (2008b) (Egypt) | (MSM) 73 | 78.1 | 47.9 | 52.1 | 28.8 | 19.2 | Ignorance (21.9)<br>Decreased pleasure (13.7)<br>Partner refusal (9.6)<br>Unavailability (5.5) |
| El-Sayyed et al. (2008a) (Egypt) | (Industrial and tourist workers) 1,256 | ND | 0.4 | ND | ND | ND | ND |
| Kabbash et al. (2007) (Egypt) | (Males 15–49) 2,304 | ND | 60.0 | ND | 23.9 | ND | No need (75.7)<br>Decreased pleasure (18.3)<br>Not comfortable (10.0)<br>Not effective (6.9)<br>Difficult to use (4.4)<br>Religious reasons (1.5) |
| Husseini and Abu-Rmeileh (2007) (Palestine) | (Ever married women 15–54 years) 4,967 | ND | 43.3 | ND | ND | ND | ND |
| Busulwa et al. (2006) (Yemen) | (General population 15–49 years) 2,534 | 48.5 | 20.7 | ND | 2.0 | ND | Decreased pleasure (ND)<br>Not effective (ND)<br>Breakage of condoms (ND)<br>Cost (ND) |
| Refaat (2004) (Egypt) | (University students) 687 | ND | ND | ND | 15.6[c] | ND | ND |
| El Nakib and Hermez (2002) (Lebanon) | (High risk groups: MSM, FSW) 202 | ND | ND | ND | ND | 11.9 (FSW)<br>54.4 (MSM) | ND |
| Petro-Nustas et al. (2002) (Jordan) | (Nursing students) 63 | ND | 30.2[d] | ND | ND | ND | ND |
| Adib et al. (2002) (Lebanon) | (Male conscripts) 292 | ND | ND | ND | 49.0 | 51.0 | Exclusive partner (86.0)<br>Unavailability (40.6)<br>Unplanned sex (31.6)<br>Decreased pleasure (16.8)<br>Partner refusal (7.0) |
| Al Mulla et al. (1996) United Arab Emirates | (University students) 298 | ND | 48.0 | ND | ND | ND | ND |
| (Alkaiyat 2009) (Jordan) | (VCT visitors) 466 | ND | ND | 53.7 | 29.4 | 11.3 | ND |

*ND* no data

[a] Recognition of the existence of condoms

[b] Recognition that condoms prevent HIV

[c] In the last 12 months

[d] Students were asked what is needed to educated people to prevent HIV

Notwithstanding availability, efforts to promote condom use for HIV prevention seem to be failing in the MENA region (Khachani 2008). The first round of assessment in the Biological Behavioural Surveillance Study (BIO-BSS) showed low and inconsistent condom use among MSM, FSW, IVDU, and street boys in Egypt, and among army student officers in Lebanon (Shawky et al. 2009a).

ART

The MENA region has been the lowest in the world for access to ART (UNDP 2009; WHO 2013). In 2009 the UNDP ranked the MENA region as the lowest in ART access for the period 2003–2006 (UNDP 2009), but the situation appears to have improved subsequently. The WHO regional office estimated coverage to be 6.5 % in 2006 (WHO 2006, 2007, 2008), and the latest UNAIDS report estimates 8 % for 2010 (UNAIDS 2011). Data from the regional WHO office identify the main obstacles to ART uptake: limited HIV testing, limited access to ART, high cost of ART to the health system, and failure to reach stigmatized HRGs (WHO 2008).

Our review identified 92 studies of ART in the region. Data on ART access and uptake were found in reports of WHO, UNDP, UNAIDS, and other international organizations. Most research, however, considers pharmacology and the therapeutic or adverse drug effects of anti-HIV agents. Only a handful studies address social and cultural aspects, such as patient-reported barriers and facilitation of ART adherence (Badahdah and Pedersen 2011).

Sociocultural determinants of ART uptake were considered only in a few reports. A noteworthy case report documents changes in the ART regimen during the fasting month of Ramadan (Melbourne 1999). A study in Morocco investigated compliance among 92 patients on ART; 90 % had good compliance despite difficulties of the ART regimen, long distance to the hospital, and adverse effects (Benjaber et al. 2005). A recent study interviewed 27 HIV-positive Egyptian women who had been receiving ART for at least 3 months. Using qualitative methods of thematic analysis, five themes relevant for adherence were identified: fear of stigma, financial constraints, characteristics of ART, social support, and reliance on faith (Badahdah and Pedersen 2011). Other papers merely referred to free access to ART for PLWHA in most of the region (Barss et al. 2009; El Feki 2006; Obermeyer 2006).

Awareness of ART within the general population and among PLWHA is poor (Khachani 2008), and efforts to promote awareness and access are very limited. Questions about low awareness of ART have been considered only rarely (Al-Serouri et al. 2002). Likewise, Demographic and Health Surveys (DHS) and Multiple Indicator Cluster Surveys (MICS), which are applied in almost every country in the region, do not address any ART-related category. This trend is also observed when screening the websites of NAPs across the region. They provide information about transmission, prevention, and hotline numbers, but not a single sentence to explain that ART can stop the progression of HIV infection and make it a chronic manageable condition.

Countries in the region were actively engaged in the 3 by 5 initiative, which was launched in 2003 and aimed to provide treatment with ART to 3 million PLWHA in low- and middle-income countries by the end of 2005 (WHO 2013). Most of the MENA countries provide HIV treatment and supportive care for PLWHA, and most of them receive funds for ART from various foundations. The global fund provides ART for 72,600 PLWHA in the region. The Clinton HIV/AIDS initiative provided ART in Morocco. ART uptake varies considerably across countries of the region, from 1.7 % in Sudan to 74.3 % in Oman (WHO 2008).

## Discussion

To our knowledge, this is the first review to focus on the sociocultural features of HIV/AIDS and to identify research gaps in the MENA region. This review has highlighted the value and need for social and cultural studies of HIV/AIDS in the region, and it has identified several research gaps in the regional literature. Although more studies in recent years are providing data for the region concerned with control of HIV/AIDS (Abu-Raddad et al. 2010b), most of these data have been derived from research that lacks coherence, quality, relevance, and appropriate methods for explaining the social and cultural aspects of the condition.

Despite efforts to be comprehensive, however, our study is limited by the fact that some researchers in the region may publish in local or regional journals, which are not accessible. Some of these identified articles lacked abstracts, and they could not be accessed through links, nor could we obtain hard copies. Nevertheless, this review is a first attempt to review the sociocultural features of HIV/AIDS and its relative priority for health policy and control.

Although studies have documented low access to means for control, such as condom use and access to ART, research has not adequately explained the reasons for that. Is it rooted in the religion, a feature of local cultures or lack of priority for health system policy and action? More relevant questions may be, how are all of these interrelated, and how can answers to these questions make control more effective? Comprehensive studies for HIV/AIDS control need to carefully examine sociocultural determinants, explanatory models of the disease, and ideas about its control among different segments of the population.

Most of HIV/AIDS research in the MENA is epidemiological surveys and KABP studies. Although epidemiological and burden of disease studies are necessary, they are not sufficient to fully guide policy for HIV/AIDS control. KABP studies without a qualitative component are also inadequate for explaining HIV risk-related behaviour. KABP is normally used to assess the extent of community knowledge. Other relevant issues, such as cultural concepts of illness and risk

factors (i.e., illness explanatory models), are neglected in KABP studies (Hausmann-Muela et al. 2003). Assessment of interventions addressing the role of cultural factors influencing behaviour and acceptance is crucial for charting a path forward. Needs of specific population groups, especially PLWHA and HRGs, are missing from the literature. Also, most regional studies target men without gender-sensitive consideration of women, see for example.

Furthermore, critical academic assessment is lacking in the literature. Currently, surveys and operational studies are carried out most by governmental departments and institutions responsible for HIV/AIDS-related health services. This research is not sufficiently critical and reflective to provide effective guidance. Capacity and engagement of a critical academic contribution to this research should be developed and supported to guide government and civil society programmes more effectively (UNAIDS 2007).

## Culture, Islam, and HIV/AIDS control

The culture of the MENA region is complex, and it is not explained solely as a product of Islam. Other features of local cultures should also be considered. For example, although the Quran derived laws allowing a man to marry four wives, in many countries cultural patterns limit this practice. In Egypt, only 3 % of all marriages in 2008 were for men who already had a wife, and among them only 2.47 and 0.1 % were married to a third or fourth wife, respectively (Central Agency for Public Mobilization and Statistics 2008).

Furthermore, passages of authoritative Islamic texts, including the Quran and Hadith (narrations or actions originating from Prophet Muhammad), address questions of sexual education. The Hadith provides more detail than the Quran about sexual practices within marriage, and the Prophet himself discussed sexual behaviour with both men and women. However, in most of the MENA, sexual education and discussion of sexual relations is a highly sensitive issue or a complete taboo (Shawky et al. 2009b). It seems that the authoritative texts of Islam were more explicit in teaching about sexual behaviour than is currently permitted by conservative cultural norms.

Cultural ideas about the disease influence policy, awareness, social stigma, and the priority or willingness to prevent and treat HIV. The idea that AIDS comes from the West is widespread. Although no policy maker officially endorses it, this idea affects policy: Hotel employees and people in contact with foreign tourists may be tested (El-Sayyed et al. 2008a). Moreover, countries in the region regarded men travelling abroad as a HRG as identified by a seminar conducted by the Ministry of Higher Education in Jordan (Petro-Nustas 2000).

Sociocultural values interact with religious underpinnings to shape health systems and policy making at various levels, both for better and for worse with regard to control of HIV. Strategies for control should be sensitive to the prevailing cultural context (WHO 2006). HIV control benefits from integrating sociocultural values and fostering partnership of health systems and religious institutions in the MENA (Tawil 2008). Key strategies for control, such as promoting condom use and providing access to ART, are enabled by sensitive consideration of religious and other cultural values.

### Promoting condom use

Global obstacles for condom use are accessibility, price, lack of awareness, and social and cultural beliefs (Cheemeh et al. 2006). In cities like Amman, Beirut, or Cairo, condoms are easily accessible in the pharmacies and supermarkets for 24 h, in addition to the open and free access from the NAP. The price of condoms might be an issue in countries like Djibouti and Somalia where the GDP per capita is less than USD 600, but not in most of the MENA countries where GDP is much higher.

Control guidelines from the NAPs of the MENA region nominally promote condom use, consistent with the Abstinence, Be faithful, or use Condoms approach (ABC). Nevertheless, content of posters and billboards to promote awareness neglect the topic. Even though condoms may be available at low cost, reasons and correct use of them lack the required emphasis. Conflicting ideas from social, religious, cultural, and health system perspectives are likely explanations for the lack of coherence in policy and action.

Although use of condoms is permitted, they are typically promoted for birth control. Promoting their use for HIV control raises questions about policy encouraging culturally unacceptable sexual relations. Furthermore, some Islamic leaders promote doubt by questioning the ability of condoms to prevent HIV infection (Abdulhamed 2007). Therefore, many policy makers and health care providers are concerned that religious leaders will oppose efforts to promote condom use for HIV prevention (Madani et al. 2004; Tawilah et al. 2002). Religious authorities also represent other views and some Islamic scholars argue that condom use should be allowed for HIV prevention. They refer to the Islamic tradition of choosing the lesser of two evils. In this case, fornication or adultery is less evil than putting another person at risk of acquiring HIV infection (Malik 2009).

Addressing the issues concerning condom use in an HIV/AIDS prevention programme from a sociocultural and religious framework should help formulate an improved approach for education and ultimately increased acceptance. Interventions based on cultural framework could also invite religious leaders to openly discuss the issue or to support the few Islamic leaders who allow condom for HIV prevention.

## ART: the silent treatment

Confusion and uncertainty characterise the status of ART in the region. Notwithstanding the wide range in estimates of ART coverage, it is clear that information and access to ART are inadequate in the region. In countries with limited resources and weak health systems, structural and systemic obstacles, cost, stigma, and sociocultural factors are obstacles (Laniece et al. 2003). Cost and health system factors, however, cannot fully explain underutilisation of ART in the MENA region.

Inadequate implementation and underutilization of ART may result, at least in part, due to cultural values. Insofar as HIV is perceived as a disease of sinners only affecting people who violate religious and cultural norms that proscribe fornication and homosexuality (El Feki 2006; WHO 2007), many regard it as an untreatable disease that is God's punishment for sinners.

Regarding HIV as an untreatable disease may also lead to self-stigmatization by PLWHA, self-denial of treatment based on the idea that the disease is a fate resulting from one's own sins. Improving uptake and adherence may, therefore, require attention to the cultural meaning and perceived causes of the condition.

## Research gaps and needs

Sociocultural research in the region context, meaning and control of HIV/AIDS is a priority. Without addressing the social aspects of HIV/AIDS within the cultural and religious contexts, especially in this region, our understanding of the illness burden and effective strategies for control remain limited. HIV/AIDS research agendas need to address not only social and cultural research but also the means to facilitate such research, as indicated by the following needs:

1. Political commitment should acknowledge the importance of comprehensive integrated programme monitoring of social and cultural data, including illness meanings and perceived needs of PLWHA.
2. Local academic institutions and NGOs should play a greater role in HIV/AIDS research to increase the validity and overall scientific soundness of the data.
3. Creative methodologies that integrate qualitative and quantitative approaches are needed to explain the role of culture, religion, and socioeconomic factors and their practical policy implications for risk, treatment, and control.
4. Surveys should be designed to distinguish more clearly the needs, priorities, and the cultural epidemiology of the general population, women, and HRGs.

## Conclusion

Research on HIV/AIDS in the MENA region is needed but inadequate. Our findings highlight the relevance of social and cultural concepts of illness and cultural values. Successful implementation of strategies for control, especially condom use and ART, benefit from careful consideration of the cultural epidemiology. A research agenda is suggested to acquire relevant information for effective control.

**Acknowledgments** This review was prepared in the course of doctoral research for Abdulsalam Alkaiyat for a PhD thesis, which is funded by the Swiss Tropical and Public Health Institute. The doctoral study is supported by Novartis Institute for Tropical Diseases, which was not involved in any aspect of the planning, writing or submission of this review.

**Conflict of interest** We declare that we have no conflict of interest

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