

## The crisis of health in a crisis ridden region

Wasim Maziak

Published online: 7 August 2009  
© Birkhäuser Verlag, Basel/Switzerland 2009

**Abstract** The overall picture of the Arab world today is dire; no Arab country is free from political strife, foreign intervention, or the threat of terrorism. Continuing instability and the failure of national governments to uphold the rule of law and deliver on development are tearing apart the fabric of Arab societies. Internally, Arab regimes' agendas are shaped by security and their makeup by kinship and loyalty, pushing people to seek refuge within their primordial loyalties. From the outside, foreign meddling in the name of "democracy" is deepening the Arab world's instability, therefore providing justification for opponents of change to discredit the values of human rights and power sharing. In such an environment, the voiceless majority becomes the main victims, with detrimental effects on their physical and mental wellbeing. A domino-like breakdown of the Arab region, with serious consequences for world's stability, is becoming an increasingly likely scenario.

**Keywords** Health · Arab world · Crisis

### Introduction

According to the United Nation Development Program and the Arab League's definition, the Arab world is host to some 300 million people among 22 member states of the Arab League (Fig. 1) (UNDP 2002). It is in this region that humanity first learned the basics of civilized association, witnessed the birth of the three major religions, and ignited the spark of the European renaissance. Understanding the

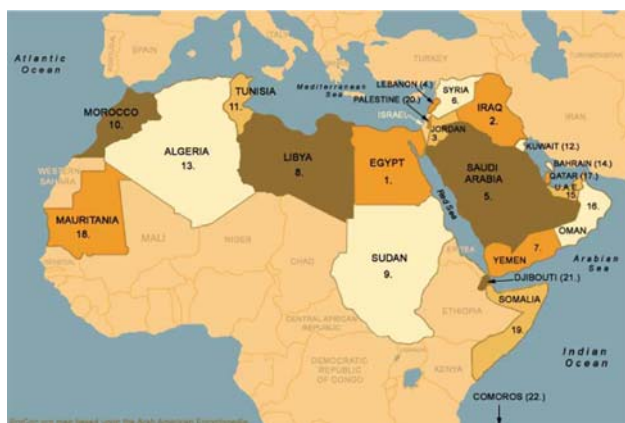
complexity of generalizing to such a vast and diverse region, there is a striking sense of unity and destiny among Arabs, and an ironic commonality of problems facing them nowadays. At present, no Arab country rich or poor is free from internal tensions, foreign intervention, or the threat of terrorism (Lord 2009). These threats are most evident in Iraq, Lebanon, Somalia, Algeria, Yemen, Sudan and the occupied Palestinian territory, but they do ripple throughout the Arab world. The looming demographic bomb of this mainly young region can further undermine its stability and development, especially if unmatched by expansion in the job markets and rationalization of limited natural resources (e.g., water) (Hefny 2006; Noland 2007). In a troubled region, in search of answers to big questions of existence and identity, health, especially that of the voiceless seems to become the last item on governments' agenda (Maziak 2006). While the status and obstacles of health in the Arab region have been the focus of several recent publications (Akala and El-Saharty 2006; Maziak 2006), the broader dynamics underlying common denominators of health problems in the Arab world, such as governance, inequality and weak public health institutions, remain unaddressed for the most part. A personal analysis of some of these dynamics is attempted in this piece.

### The crisis of governance

While the suitability, shape, and pace of democratic reforms in the Arab world can be debated, the status quo of Arab regimes, which for the most part are neither representative nor accountable to their people, is a clear obstacle to development. The World Bank governance data for 2005 show that most Arab countries perform badly on indices of civil liberties and accountability

---

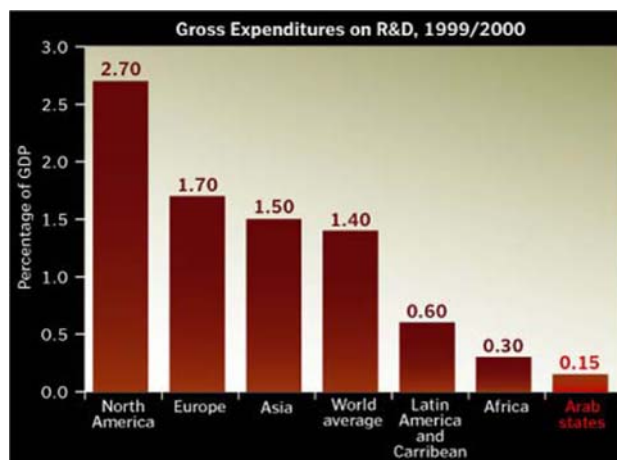
W. Maziak (✉)  
School of Public Health, University of Memphis, Memphis,  
TN 38152, USA  
e-mail: wmaziak@memphis.edu



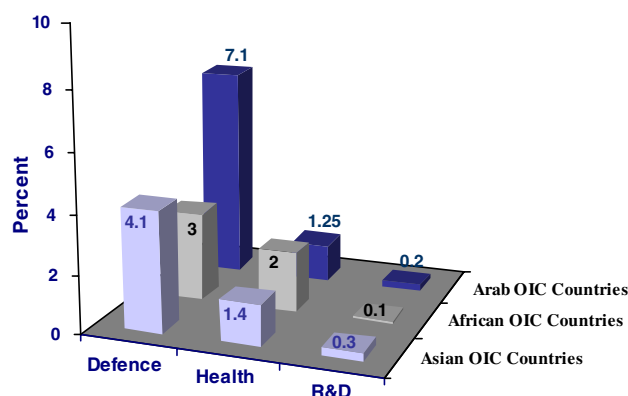
**Fig. 1** Map of the 22 member states of the Arab league in their order of joining

(Fergany 2006). According to the 2002 landmark Arab Human Development Report (AHDR), Arabs lag far behind the rest of the world on indices of development, equality, freedoms, and governance (UNDP 2002). While lack of resources represents the main hurdle to health and development in most of the developing world, Arab countries according to AHDR are “richer than developed” (UNDP 2002), and their hold up on democratization has prompted some scholars to characterize the Arab world as “the only substantially unchanged region of the world” (LeVine 2002). Continuing regional instability is shaping Arab regimes’ agendas around security and their makeup around kinship and loyalty, while it is driving people back to their sectarian and tribal memberships in search of refuge and support (Abdel Samad 2007; Bellin 2008). As a result, the sense of citizenship and civil engagement is eroded, and the pact/obligation on both sides of the rulers-ruled equation is lost.

Obsessed with security, Arab countries spend far more on defense than on health and development combined, even in comparison to other Muslim countries (Figs. 2, 3) (Butler 2006; Maziak 2005; ISESCO 2000). Six of the world’s top ten military spenders (in terms of % of their GDP) are Arab states; Kuwait, Jordan, Saudi Arabia, Yemen, Syria, and Oman (Butler 2006). And, despite huge improvement in education over the last decades, approximately 40% of adult Arabs remain illiterate; two-thirds of them are women (UNDP 2002). Compared to other countries, per capita expenditure on education in Arab countries dropped from 20% of industrialized countries level in 1980 to 10% in the mid-1990s (Arab Human Development Report 2002; UNDP 2002). Although spending on health is not a direct indicator of population’s health, health expenditure in the Arab region remains about half (3.4% GDP, 2005) of developed countries’ average (7% GDP) (The World Bank 2008).



**Fig. 2** Annual spending on Research and Development (R&D) in Arab countries is estimated at just 0.15% of their gross domestic product (GDP) compared to a world average of 1.4%. (Source: UIS/ UNESCO)



**Fig. 3** Expenditure by Muslim countries on defense, health and Research and Development (R&D) (% of GDP; Source: Strategy for the Development of Science & Technology in Islamic Countries)

Recent developments resulting from uneven brokerage of peace and foreign interventions have led to a further setback in the democratic transformation of Arab societies (Hiro 2006). For example, the US-led occupation of Iraq and its underlying democratization agenda have undoubtedly contributed to reviving old sectarian hostilities, fueled radicalism rather than moderation, and empowered forces that are deeply anti-democratic (Bellin 2008). More so, the catastrophic consequences of the Iraq war have given ammunition to those who stand to lose the most from Western-style democracy in the Arab world—conservative-religious forces and ruling elites—to discredit the values of equality and human rights, and suppress civil democratic institutions (Hiro 2006).

These trends undermine health as a national priority, weaken civil engagement in health, and release the checks on government performance in health. The resulting void in health services is at times filled by quasi religious-political

organizations (e.g., Muslim Brotherhood in Egypt and Jordan), who use this as an opportunity to pursue their own political agenda and compete with the national state for allegiance (Masood 2006; Walsh 2003).

### The crisis of women

Many countries in the Arab world have witnessed a slow improvement in the status of women in recent years. Yet, compared to other regions, Arab women have the most disadvantaged position in all aspects of societal life, and can be subjected to various cruel practices (e.g., honor killing, genital mutilation) (Cook et al. 2002; Arab Human Development Report 2006). Currently, half of Arab women are illiterate, and their political and economic participation is the lowest in the world (Arab women share of parliamentary seats is below 10%, below any other world region) (Arab Human Development Report 2006). Early and arranged marriage, gender roles and male dominance, and uncontrolled fertility further hinder Arab women's opportunities for higher education and economic participation. Women in many Arab countries have a legal or de facto inferior status to men in terms of civil rights (e.g., marriage, inheritance, and passing citizenship to their children and spouses), or the ability to engage in economic and civic activities without a male mediator (Joseph 2000). While most Arab countries have ratified the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), they applied reservations that prevent equal treatment of women in terms of legal and civic rights (Arab Human Development Report 2006). It is amazing that at the beginning of the twenty-first century, some Arab women still struggle for the right to elect, be elected, to drive cars, or even to seek medical care on their own.

Women's physical and mental health, consequently, take the heaviest toll. Limited standardized studies show that Arab women bear in general a disproportionate burden of poor health and disability compared to men (Maziak et al. 2005). Specifically, limited available data show that more than half of Arab women in health care settings have mental distress, and physical abuse is likely affecting a third of Arab women despite likely under-reporting (Douki et al. 2003; Maziak et al. 2002; Maziak and Asfar 2003). Physical suffering of Arab women can be exemplified by the spread of obesity, with rates reaching 70% in Saudi Arabia, 79% in Bahrain, and 47% in Syria (Fouad et al. 2006; Nishtar 2006). Such rates are not only higher than those of Arab men, but are much higher than anywhere in the world casting a grim outlook on the future of obesity-related chronic disease and disability among Arab women.

Societal norms and laws not only predispose women to more health suffering by limiting their ability for recreation

self-care, and to lead a self-chosen fulfilling lifestyle in general (Maziak et al. 2005), but can directly put women at increased risk of certain health risks such as HIV infection. For example, marriage patterns (arranged, huge age gap, resurgence of temporary forms of marriage during travel or tourism), expectations of innocence and obedience, and lack of sexual education increase Arab women's vulnerability to HIV infection (DeJong and El-Khoury 2006; Obermeyer 2006). Women's health and social inequality are likely to escalate with the rising Islam-West schism, where women's rights are becoming a major battleground. Accordingly, conservative-religious positions in the Arab world try to discredit women's rights as Western and alien, while the other camp uses women's inequality to demonstrate the failure of the Islamic model.

### The crisis of traditional and legal institutions

Although religious movements are not monolithic in their agendas, the example of women's situation in the Arab world demonstrates how the rise in socio-religious conservatism in the region can influence the health and rights of vulnerable sectors of the society (Editorial 2006; Masood 2006; Shehada 2004). In the Arab region, religion is increasingly used to justify old traditions and practices, and as a mean to provide specific answers to all societal problems (Fathalla and Rashad 2006; Hasnain 2005; Masood 2006). For example, despite the evidence of an advancing HIV epidemic and the effectiveness of harm reduction strategies (e.g., condoms, clean syringes education), the response in many Arab countries is to deny the HIV/AIDS threat and propagate Islamic ideals of abstention from illicit drug and sexual practices for protection against HIV infection (DeJong and El-Khoury 2006; Fathalla and Rashad 2006; Hasnain 2005; Obermeyer 2006). Sexuality, according to dominant societal traditions is taboo for discussion, and follows distinct societal codes of conduct that carry penalties for violators. For example, homosexuality is condemned by all major religions at the rhetoric level, yet the absence of strong public health and legal institutions in the Arab world can lead to the prosecution and even killing of homosexuals (Al-Sadawi 2009; Bahgat 2001).

Conservative-religious positions in the Arab world thrive on a bi-dimensional perception of the world; technological, conquered by the material West, and spiritual (moral, more fundamental), conquered by Muslims (Sano 2006). To keep this "balance", any attempt to expose problems of the "assumed" moral stronghold of Islam, such as criticism of the "Islamic" family institution (based on distinct gender roles and religious codes of conduct), is faced with fierce resistance. For example, despite increasing evidence of the negative effects of polygamy, early

marriage, and women abuse on the wellbeing of women and families, there is still no open debate about these issues in the Arab world, let alone functioning legal procedures to protect and help victims of abuse (DeJong and El-Khoury 2006; Douki et al. 2003; Fathalla and Rashad 2006; Haj-Yahia 2002; Joseph 2000; Maziak et al. 2002; Maziak and Asfar 2003). Needless to say that the essence of any religion, including Islam, is to improve and serve life, and religious justifications of wife's beating for example, represent a selective and out of context interpretation of religious scripts (Ammar 2007; Douki et al. 2003).

So, in the absence of civil and democratic buffers in the Arab world, legal institutions can easily succumb to social pressures and governmental ineptitude. This is best demonstrated by the spread of "honor killings", a practice that is taking the lives of scores of Arab women each year, mainly due to laws that condone such crimes (Arab Human Development Report 2006; Kulwicki 2002; World Report 2001). In Syria, for example, if the honor motivation is established by the judge, a woman's killer can benefit from special provisions to serve as short as 9 months in jail (Al Maalooof 2007). Honor is a gendered concept in Arab societies, where girls/women pay the price twice (i.e., often women are the victim and the accused). Recently, a Saudi court increased the sentence of a gang-rape victim to 6 months in jail and 200 lashes and revoked her lawyer's license for "her attempt to aggravate and influence the judiciary through the media" (Human Rights Watch 2007).

The emerging satellite and electronic media did not only fuel an anti-Western attitude in Arab societies as a response to what is perceived as a ruthless invasion of Western culture and norms into virtually every sphere of Arabs life (Maziak 2005), but it provided a timely outlet for conservative/religious positions to expand their reach and grip over a wider discontented and mostly uninformed public. An increasing number of self-appointed "scholars" and healers are using such channels to create an alternative authority on health, policy, and life matters. The resultant public confusion is aggravated by the weakness of regulatory systems and lack of unified religious authority on health issues in the Arab world. Consequently, false practices and beliefs about health and disease are flourishing at the expense of evidence-based health (Adib 2004). This trend is even witnessed at the Eastern Mediterranean regional office of WHO, which has adopted religion-based tobacco control interventions without evidence to support their effectiveness (Jabbour and Fouad 2004).

### **The humanitarian crisis**

The biggest share of the world's refugees and internally displaced people belong to Arab countries (Brennan and

Sondorp 2006). Internally, high fertility rates and massive rural-urban relocation are contributing to the creation of haphazard belts of poverty, environmental degradation, and instability around major urban centers in the Arab world (Hammal et al. 2005; Maziak et al. 2005). On the other hand, old and new conflicts are creating new waves of refugees and are overstretching the already volatile socio-economic situation in host countries. A study published in the *Lancet* estimates that as of July 2006, there have been 654,965 excess Iraqi deaths as a consequence of the US-led invasion, and that civilians' risk of violence is 58 times higher than before the war (Burnham et al. 2006). The United Nations High Commissioner for Refugees 2006 estimates suggest that the Iraqi war has resulted in some 2 million refugees outside Iraq (mainly to Syria and Jordan) and 1.9 million people internally displaced (United Nations High Commissioner for Refugees 2007). Iraqis, according to these accounts, are likely to be killed at a rate of 1,000 per day and displaced at a rate of 45,000 per month (Burnham et al. 2006; Press Conference by United Nations High Commissioner for Refugees 2007). In the Gaza strip, 1.4 million Palestinians continue to be literally locked within a very small geographical area, whereby 70% of them are dependent on external aid (Musani and Shaikh 2006). Israel's most recent three-week offensive against Gaza killed around 1,400 people and injured 56,001—almost one third of whom were children (International Committee of the Red Cross 2009). Palestinian refugees in neighboring Arab countries have their own plight, as hundreds of thousands continue for decades to live in camps amidst harsh socioeconomic realities and diminished rights. Even without the regularly renewed fighting in Somalia, this country has around one million children living in a state of emergency (Musani and Shaikh 2006). And, certainly not the last on this endless list is the ongoing conflict in Darfur that has led to more than two million people displaced and more than 200,000 killed (UN Daily News 2007). It is hard to imagine, given the constant humanitarian emergencies and internal instability, a normally functioning health system in these countries.

### **The crisis of health**

Issues discussed above mainly operate at the societal level, but other obstacles to health can be more related to the health systems structure and functioning in Arab countries. On the positive side, the Arab world has a favorable income distribution and low levels of absolute poverty, and has achieved significant progress over the past two decades in improving literacy, life expectancy, and reducing child and maternal mortality (Akala and El-Saharty 2006). Yet, these indicators hide a big chunk of reality in a region

where many women and children are unregistered (including more than 50% of women in some poor settings in Egypt) (Bibars 2005), and huge segments of stateless, refugees, and foreign workers (e.g., Palestinian refugees, stateless and majority foreign workers in the Gulf region) (World Report 2001) remain outside the official statistics. Moreover, in the context of authoritarian regimes with no public accountability, health officials in the Arab world have no incentive to present unfavorable numbers on people's health to their superiors (Maziak 2006). These problems are magnified by the technical inability of health authorities in the Arab world to collect reliable data about various health problems and adopt rational health policies. Most Arab countries, rich and poor, still lack population-based surveillance of main health risks such as cardiovascular disease, cancer, injuries, mental illness, and health inequality (Akala and El-Saharty 2006; Butler 2006; Maziak 2006). The health care wounds of the Arab region are deepened further by the continuing drain of its qualified professionals; annually Arab countries lose 50% of their new physicians, 23% of engineers, and 15% of scientists to developed countries (Sawahel 2004).

The absence of strong public health leadership furthermore, allows stigma and cultural traditions to become barriers to evidence-based health policies (Adib 2004; Hasnain 2005; Maziak 2006). For example, many rich Arab countries (e.g., Gulf countries) continue to lag on the implementation of programs to deal with genetic and reproductive health despite widespread consanguinity, teen marriage, and high fertility (Bayoumi et al. 2006; Bhutta et al. 2006). Health research tackling taboo issues in the Arab world is resisted from both the public and official spheres, and in the absence of functional civil society, researchers tackling these issues stand literally on their own (Butler 2006; Masood 2006; Maziak 2004).

From a contextual perspective, health in the Arab region is still viewed as a non-productive sector rather than an essential foundation for social and economic development (Boutayeb and Serghini 2006). As such, health is given low priority in national spending plans, and is shaped by a curative rather than preventive orientation (Makhoul and El-Barbir 2006).

### A grim outlook

The halted development of most of the Arab world and its reflection on people's health and wellbeing cannot be addressed without proper understanding of the broader socio-political dynamics taking place in this region. On one hand, failure of the ruling elites to provide basic needs of dignity and security for their people has led to the erosion of national identity and the return of people to their

primordial loyalties. On the other, increasing regional instability, and foreign interventions are delaying democratic changes and strengthening conservative-religious positions. Such an environment is breeding rising anti-western sentiments, which are exploited by Arab governments to divert public anger from their failure, and by conservative forces to discredit the values of democratization and human rights. These values are increasingly portrayed as part of a big Western conspiracy to corrupt Arab traditions and culture. Voiceless groups in the Arab world such as the poor, women and refugees are caught in the middle of this quagmire, deepening their suffering and neglect.

We can debate forever the suitability of exporting the Western democratic model to other cultures and the best way to achieve representative political systems in the Arab world. Still, there is no doubt that democratic institutions, free press, and viable civil society are pre-requisites for proper functioning of governments and health systems, by providing the necessary checks and balances on their performance and performing grassroots work at the community level. As most Arab countries live in a de facto state of emergency, such a perspective of engaged citizenry becomes more and more remote. Only an everlasting peace can provide the needed environment, whereby the current dynamics can be reversed. To achieve this all sides should be on a solemn conscious-searching mission to become real brokers of peace and justice in the Arab world. Else, the region is on the verge of an avalanche that has the potential to bring down world peace and prosperity.

### References

- Abdel Samad Z (2007) Civil society in the Arab Region: its necessary role and the obstacles to fulfillment. *Int J Not-for-Profit Law* 9:3–23
- Adib SM (2004) From the biomedical model to the Islamic alternative: a brief overview of medical practices in the contemporary Arab world. *Soc Sci Med* 58:697–702
- Akala FA, El-Saharty S (2006) Public-health challenges in the Middle East and North Africa. *Lancet* 367:961–964
- Al Maaloof N (2007) Honor crimes opposed by law, religion and human rights, who protects it (Arabic). *Syria News*. Available at [www.syria-news.com/readnews.php?sy\\_seq=46830](http://www.syria-news.com/readnews.php?sy_seq=46830). Accessed 13 Apr 2009
- Al-Sadawi A (2009) Gay Iraqis face persecution. *Niqash*, 22 April. Available at [www.niqash.org/content.php?contentTypeID=74&id=2431&lang=0](http://www.niqash.org/content.php?contentTypeID=74&id=2431&lang=0). Accessed 9 Apr 2009
- Ammar NH (2007) Wife battery in Islam: a comprehensive understanding of interpretations. *Violence Against Women* 13:516–526
- Arab Human Development Report (2002) How the Arabs compare. *Middle East Quarterly*. Available at [www.meforum.org/513/how-the-arabs-compare](http://www.meforum.org/513/how-the-arabs-compare). Accessed 23 Apr 2009
- Bahgat H (2001) Explaining Egypt's targeting of gays. *Middle East Report* July 23. Available at [www.merip.org/mero/mero072301.html](http://www.merip.org/mero/mero072301.html). Accessed 18 Apr 2009

- Bayoumi RA, Yardumian A, Bayoumi RA (2006) Genetic disease in the Arab world. *BMJ* 333:819
- Bellin E (2008) Democratization and its discontents; should America push political reform in the Middle East? *Foreign Affairs*, July/August
- Bhutta ZA, Belgaumi A, Abdur Rab M, Karrar Z, Khashaba M, Mouane N (2006) Child health and survival in the Eastern Mediterranean region. *BMJ* 333:839–842
- Bibars I (2005) Gender and citizenship in the Arab World, to be or not to be: Arab women's legal existence and their compromised citizenship. Association for the Development and Enhancement of Women (ADEW). Available at [http://www.adew.org/ar/pdf\\_files/0010.pdf](http://www.adew.org/ar/pdf_files/0010.pdf). Accessed 19 Apr 2009
- Boutayeb A, Serghini M (2006) Health indicators and human development in the Arab region. *Int J Health Geogr* 5:61
- Brennan RJ, Sondorp E (2006) Humanitarian aid: some political realities. *BMJ* 333:817–818
- Burnham G, Lafta R, Doocy S, Roberts L (2006) Mortality after the 2003 invasion of Iraq: a cross-sectional cluster sample survey. *Lancet* 368:1421–1428
- Butler D (2006) The data gap. *Nature* 444:2627
- Cook RJ, Dickens BM, Fathalla MF (2002) Female genital cutting (mutilation/circumcision): ethical and legal dimensions. *Int J Gynaecol Obstet* 79:281–287
- DeJong J, El-Khoury G (2006) Reproductive health of Arab young people. *BMJ* 333:849–851
- Douki S, Nacef F, Belhadj A, Bouasker A, Ghachem R (2003) Violence against women in Arab and Islamic countries. *Arch Womens Ment Health* 6:165–171
- Editorial (2006) Science and the Islamists. *Nature* 444:1
- Fathalla MF, Rashad H (2006) Sexual and reproductive health of women. *BMJ* 333:816–817
- Fergany N (2006) Islam and science: steps towards reform. *Nature* 444:33–34
- Fouad FM, Rastam S, Ward KD, Maziak W (2006) Prevalence of obesity and its associated factors in Aleppo, Syria. *Prev Control* 2:85–94
- Haj-Yahia MM (2002) The impact of wife abuse on marital relations as revealed by the Second Palestinian National Survey on violence against women. *J Fam Psychol* 16:273–285
- Hammal F, Mock J, Ward KD, Fouad MF, Beech BM, Maziak W (2005) Settling with danger: conditions and health problems in peri-urban neighbourhoods in Aleppo, Syria. *Environ Urban* 17:113–126
- Hasnain N (2005) Cultural approach to HIV/AIDS harm reduction in Muslim countries. *Harm Reduct J* 2:23
- Hefny M (2006) Actualizing water ethics in the regional context of the Arab World. In: Management of intentional and accidental water pollution. Springer, Netherlands, pp 277–311
- Hiro D (2006) A setback for democracy; The US-led invasion in Iraq interrupted the Middle East's gradual movement toward liberalization. *Yale Global*. Available at <http://www.commondreams.org/views06/0505-21.htm>. Accessed 19 Apr 2009
- Human Rights Watch (2007) Saudi Arabia: rape victim punished for speaking out. Available at <http://hrw.org/english/docs/2007/11/16/saudia17363.htm>. Accessed 9 Apr 2009
- International Committee of the Red Cross (2009) Gaza: political action needed to resolve humanitarian crisis. Available at <http://www.icrc.org/web/eng/siteeng0.nsf/htmlall/palestine-israel-news-230109?opendocument>. Accessed 1 Apr 2009
- Islamic Educational, Scientific and Cultural Organization (ISESCO) (2000) Strategy for the development of science & technology in Islamic countries. Available at [www.isesco.org.ma/english/strategy/documents/straSCENG.pdf](http://www.isesco.org.ma/english/strategy/documents/straSCENG.pdf). Accessed 4 Apr 2009
- Jabbour S, Fouad FM (2004) Religion-based tobacco control interventions: how should WHO proceed? *Bull World Health Organ* 82:923–927
- Joseph S (2000) Gender and citizenship in the Middle East. Syracuse University Press, Syracuse
- Kulwicki AD (2002) The practice of honor crimes: a glimpse of domestic violence in the Arab world. *Issues Ment Health Nurs* 23:7–87
- LeVine M (2002) The UN Arab Human Development Report: a critique. Middle East Report. Available at [www.merip.org/mero/mero072602.html](http://www.merip.org/mero/mero072602.html). Accessed 11 Apr 2009
- Lord KM (2009) The Arab world's uneven progress. *Christian Science Monitor*. Available at [www.csmonitor.com/2009/0220/p09s01-coop.html](http://www.csmonitor.com/2009/0220/p09s01-coop.html). Accessed 19 Apr 2009
- Makhoul J, El-Barbir F (2006) Obstacles to health in the Arab world. *BMJ* 333:859
- Masood E (2006) Islam and science: an Islamist revolution. *Nature* 444:22–25
- Maziak W (2004) Geography of biomedical publications. *Lancet* 363:490
- Maziak W (2005) Global voices of science. *Science in the Arab world: vision of glories beyond*. *Science* 308:1416–1418
- Maziak W (2006) Health in the Middle East. *BMJ* 333:815–816
- Maziak W, Asfar T (2003) Physical abuse in low-income women in Aleppo, Syria. *Health Care Women Int* 24:313–326
- Maziak W, Asfar T, Mzayek F, Fouad FM, Kilzieh N (2002) Socio-demographic correlates of psychiatric morbidity among low-income women in Aleppo, Syria. *Soc Sci Med* 2002(54):1419–1427
- Maziak W, Ward KD, Mzayek F, Rastam S, Bachir ME, Fouad MF, Hammal F, Asfar T, Mock J, Nuwayhid I, Frumkin H, Grimsley F, Chibli M (2005) Mapping the health and environmental situation in informal zones in Aleppo, Syria: report from the Aleppo household survey. *Int Arch Occup Environ Health* 78:547–558
- Musani A, Shaikh I (2006) Preparedness for humanitarian crises needs to be improved. *BMJ* 333:843–845
- Nishtar S (2006) Lessons in tackling chronic disease. *BMJ* 333(7573):820
- Noland M (2007) The looming Arab employment crisis. *Int Econ* 5:4–57
- Obermeyer CM (2006) HIV in the Middle East. *BMJ* 333:851–854
- Press Conference by United Nations High Commissioner for Refugees (2007) Available at [www.reliefweb.int/rw/RWB.NSF/db900SID/MCON-72T3DQ?OpenDocument](http://www.reliefweb.int/rw/RWB.NSF/db900SID/MCON-72T3DQ?OpenDocument). Accessed 20 Apr 2009
- Sano KM (2006) The Islamic world and the West (Arabic). *Haraa* 8. Available at [http://www.hiramagazine.com/archives\\_show.php?ID=160&ISSUE=8](http://www.hiramagazine.com/archives_show.php?ID=160&ISSUE=8)
- Sawabel W (2004) Brain drain threatens future of Arab science. *SciDev.Net*, 3 June
- Shehada NY (2004) The rise of fundamentalism and the role of the 'State' in the specific political context of Palestine. *WLUML-Warning signs of fundamentalisms*. Available at [www.wluml.org/english/pubs/pdf/wsf/nahda-1.pdf](http://www.wluml.org/english/pubs/pdf/wsf/nahda-1.pdf). Accessed 3 Apr 2009
- The Arab Human Development Report 2005 (2006) Towards the rise of women in the Arab World. United Nations Development Programme, Regional Bureau for Arab States (RBAS), New York
- UN Daily News (2007) Available at [www.un.org/news/dh/pdf/english/2007/09042007](http://www.un.org/news/dh/pdf/english/2007/09042007). Accessed 22 Apr 2009
- United Nations Development Programme, Arab Fund for Economic and Social Development (2002) Arab human development report 2002. UNDP, New York

Walsh J (2003) Egypt's muslim brotherhood, understanding centrist Islam. Harvard International Review. Available at [www.hir.harvard.edu/articles/1048/](http://www.hir.harvard.edu/articles/1048/). Accessed 14 Apr 2009

The World Bank (2008) World Development Indicators online. The World Bank, Washington, DC. Available at <http://go.worldbank.org/U0FSM7AQ40>. Accessed 14 Apr 2009

World Report (2001) Human rights watch, Middle East and Northern Africa overview. Available at <http://www.hrw.org/wr2k1/mideast/index.html>. Accessed 29 April 2009