WCMC-Q Eases Data Dearth in MENA
Scientists have long debated the status of the HIV/AIDS infection and the availability of related data in the Middle East and North Africa (MENA).

“One camp insisted the region is immune to HIV because of its socio-cultural fabric, while the other camp claimed that there was a massive epidemic ‘behind the veil’ with communities and governments covering up the infection,” says Laith Abu-Raddad, Ph.D., assistant professor of public health and principal investigator of the Infectious Diseases Epidemiology Group (IDEG) at WCMC-Q.

“Taking the MENA HIV Epidemic Out of the Dark

During a period of seven years, Dr. Abu-Raddad and colleagues conducted the MENA HIV Synthesis Project, a comprehensive systematic review of HIV, sexually transmitted infections, and risk behavior studies and data in MENA. The result was a report released in June entitled “Time for Strategic Action” that provides the first comprehensive scientific assessment of the spread of HIV in MENA across different population groups throughout the region.

The truth did, in fact, lie somewhere between the two camps. Abu-Raddad learned that with the exception of small areas in Djibouti, Somalia and Southern Sudan, HIV transmission in the general population of MENA is limited and among the lowest in the world. Nevertheless, there are small population pockets of risk throughout in the region and HIV is already spreading among some of these populations.

The research has important policy implications. “Resources for HIV intervention are being spent overwhelmingly on the general population. Our research clearly indicated HIV response in MENA should focus on high-risk groups, not the general population where transmission is very limited,” says Abu-Raddad.

The synthesis project yielded another surprise for Abu-Raddad. Contrary to longstanding perceptions, there was plenty of data about the HIV epidemic in the region. The systematic review covered many data sources including Medline, Google Scholar, reports and databases for international organizations, and publications for governmental and nongovernmental organizations in all MENA countries. “We identified, reviewed, and analyzed more than 5,000 sources of data related to HIV and sexually transmitted infections. While the quality of the data and the nature of the study designs varied substantially, there was plenty of information relative to what we expected at the onset of the study.”

Sharing Findings with the World

In August, Abu-Raddad was co-author on a paper with DeWolfe Miller, Ph.D., of the University of Hawaii in the Proceedings of the National Academy of Sciences about Hepatitis C transmission rates in Egypt.

Like the HIV/AIDS report, it filled in another large knowledge gap. The study found that Egypt had the highest rates of Hepatitis C virus transmission in the world, with more than 500,000 new infections every year.

“The study opened our eyes to a disease burden similar in scale and challenge in several ways to the HIV problem in Sub-Saharan Africa: millions of cases of an infection for which there is no vaccine, no effective treatment, and case management that is so expensive it is beyond the reach of most patients,” says Abu-Raddad.
For Abu-Raddad, publishing the group’s research findings on HIV and HCV is a milestone in his career. “It’s been my dream to return to the region and conduct original research related to its important issues,” says Abu-Raddad, a native of Jordan who started his studies in computational physics before moving to epidemiology and biostatistics. He trained in the United States, Japan, and the United Kingdom.

Dr. Abu-Raddad was recruited to WCMC-Q in 2008 and shortly afterward was tasked with the development of the biostatistics and biomathematics research core to serve the medical college’s research program. Since his arrival in Doha, he started the Infectious Disease Epidemiology Group and has been joined by two full-time researchers, Ghina Mumtaz, M.Sc. and Hiam Chemaitelly, M.Sc.

Mumtaz, who joined the group in late 2009 from the American University of Beirut after six years managing a research program in perinatal and neonatal health, is currently leading the scientific output phase of the HIV Middle East project. She has already played the key role in two studies within this project; one documenting the emerging HIV epidemic among men who have sex with men in MENA and the other reviewing the distribution of the different HIV subtypes in this region. She has also played the leading role in a study delineating the modes of HIV exposure in Morocco.

“It is so exciting to explore for the first time in our region a public health issue of global dimension such as the HIV epidemic,” says Mumtaz. “Our findings in MENA have important policy implications because the epidemic is still in its early phases and there is a window of opportunity for prevention.”

Chemaitelly joined the group earlier this year after four years as an instructor and researcher at the University of Balamand in Beirut. She is currently leading several studies focusing on understanding the role of coinfections in HIV epidemiology, determining the extent of HIV incidence among stable and marital sexual partnerships in Sub-Saharan Africa, and designing and assessing the impact of combination packages of HIV interventions.

The point of scientific research is not only to understand the world but also to change it in a positive direction.

“My work focuses on understanding the puzzle of why the HIV epidemic in Sub-Saharan Africa has reached such massive levels in contrast to all other regions,” says Chemaitelly. “Based on a satisfactory understanding of the drivers, we want to design packages of HIV prevention interventions and assess their impact on HIV spread.”

In August, Abu-Raddad, Chemaitelly, and Mumtaz, presented their work at the International AIDS conference in Vienna, Austria.

From Science to Policy

The group’s shared value is that scientific research aims not only to understand the world, but also, to change it in a positive direction. Most IDEG research is strongly tied to the formulation of public health policy at the international, regional, and local levels. IDEG research has directly formed or informed policy in different projects at various levels since its inception.

“Our goal is to provide the data necessary to formulate evidence-based policies that improve public health in Qatar, the MENA region, and beyond,” says Abu-Raddad.

-By Kristina Goodnough