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EDITORIAL

Chronic Non-communicable Diseases as a Threat for All

Recent Global Initiatives

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الأمراض المزمنة غير السارية تهديد للجميع

مبادرات عالمية حديثة

عبد الله داعر

Obesity is an epidemic disease in Oman and something needs to be done about it," according to Dr. Mostafa Waly of Sultan Qaboos University's Department of Food & Nutrition, He observes that about half the men and women of Oman are obese or overweight, with the highest prevalence being 71% in Dhofar, Oman's southernmost region.[1] He also notes that there has been a significant concomitant increase in chronic non-communicable diseases (CNCDs) in Oman in the last few years.[1] CNCDs include cardiovascular conditions (mainly heart disease and stroke), some cancers, chronic respiratory conditions and type 2 diabetes.

The situation with regards to CNCDs is serious in the whole Arabian Gulf region and some of the countries may actually be worse off than Oman. According to figures a few years ago about 64% of men and 70% of women in Saudi Arabia are obese, as are 79% of women in Bahrain. Diabetes affects around 18% of adults in Oman, but close to 24% in Saudi Arabia.[2,3] The rest of the world is also suffering from an ever-worsening epidemic of CNCDs, which Dr. Margaret Chan, the Director-General of the World Health Organization (WHO) calls "…one of the world's fastest growing and most alarming health problems."[4]

Why are CNCDs such an alarming problem worldwide? Because they affect people of all ages (although the prevalence is higher with advancing age), nationalities and classes and cause the greatest global share of death and disability, accounting for around 60% of all deaths worldwide. Some 80% of chronic diseases deaths occur in low- and middle-income countries (LMICs). They account for 44% of premature deaths worldwide.[5] The number of deaths from these disease is double the number of deaths that result from all infectious diseases (including HIV/AIDS, tuberculosis and malaria), maternal and perinatal conditions, and nutritional deficiencies *combined*. Over the coming decades, the burden from CNCDs is projected to rise particularly fast in LMICs. Without concerted action some 388 million people worldwide will die of one or more CNCDs in the next 10 years.[5]

CNCDs also have a huge negative economic impact. In 2006, it was estimated that over the following decade, China, India and the United Kingdom were projected to lose more than $558 billion, $237 billion and $33 billion, respectively, in national income as a result of heart disease, stroke and diabetes, partly as a result of reduced economic productivity.[6] It is likely that the negative economic impact for the Gulf region and other Arab countries will be considerable.

So what accounts for this dramatic increase? Some of the factors include longer average lifespans, tobacco use, decreasing physical activity, poor nutrition, and the harmful use of alcohol. Urbanisation makes the situation worse through various mechanisms, including air pollution, reduced opportunities for physical activity and

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dietary changes. Fortunately, CNCDs are largely preventable.[7] Up to 80% of premature deaths from heart disease, stroke and diabetes can be averted with known behavioural and pharmaceutical interventions.

Yet, until now, the prevention of CNCDs has not been a major priority in most countries in the world, and especially so in LMICs. In sub-Saharan Africa it is understandable that governments, donors and research-funding agencies have channelled most resources into infectious diseases such as HIV and malaria. The focus in much of the rest of the world has been on treatment rather than prevention. In Oman and the rest of the Gulf, most health care expenditure is now on treating and managing the consequences of CNCDs.

In 2003, a study identified the grand challenges in CNCDs, building on previous experience with the Bill and Melinda Gates Foundation's Grand Challenges in Global Health initiative.[8,9] A grand challenge in this context was defined as, "a specific critical barrier that if removed would help to solve an important health problem." Daar *et al.* used the Delphi structured consensus building methodology with a study panel of 155 geographically and culturally diverse stakeholders from 50 countries. They identified 20 grand challenges grouped under six goals, and proposed 39 potential research ideas. The six goals are: 1) raise public awareness; 2) enhance economic, legal and environmental policies; 3) modify risk factors; 4) engage business and community; 5) mitigate health impacts of poverty and urbanisation, and 6) reorient health systems.[10]

These goals may seem simple, but in fact they are very difficult to achieve at scale. For example, it seems simple to prevent and treat cardiovascular disease in an individual: eat healthy foods, increase physical activity, do not smoke at all, do not drink alcohol excessively, and seek health care regularly. However, a report from the Institute of Medicine notes, "the reality is much more complex. Behavior change is difficult, individual choices are influenced by broader social and environmental factors, and many people do not have the resources or access to seek appropriate health care."[11]

Our *Nature* paper had among its co-authors a number of directors of major national research funding agencies, such as the US National Institutes of Health's (NIH) National Heart, Lung and Blood Institute (NHLBI), the UK Medical Research Council, and the Canadian Institutes of Health Research.[10] In the paper, we identified the need for coordinated efforts by governments, the WHO, the World Bank and regional development banks, philanthropic foundations, research donor agencies, and most relevant here, major national health research funding agencies.

Less than two years after the publication of the grand challenges paper, six major national research funding agencies got together in Seattle to launch the *Global Alliance for Chronic Diseases* (GACD).[12,13] The initial six national funding agency members were the Canadian Institutes of Health Research; the NIH (represented by NHLBI and Fogarty International Centre, later joined by National Institute for Mental Health); the Medical Research Council (United Kingdom); the Australian Health and Medical Research Council; the Chinese Academy of Medical Sciences, and the Indian Medical Research Council (which is awaiting signature of the Memorandum of Understanding). The South African Medial Research Council joined later, and other agencies may join this year at our Board meeting in Beijing on 17 October 2010. I look forward to the day when Arab countries will join the Alliance. Qatar has shown some interest already.

The GACD is the first such alliance with a specific focus on funding implementation research[14] in CNCDs in LMICs and under-served and low income populations of high income countries. It will support collaborative, coordinated research at global scale on low-cost interventions and on capacity building for research and health care delivery, in the process identifying common approaches to develop the evidence base to guide policy.

In November 2009, the GACD identified its initial three specific priorities for research funding on a global scale: hypertension, which leads to stroke and in China, for example, is the largest cause of death in adults; reducing tobacco use, (smoking, if unchecked, will kill 1 billion people in the 21st century); and reducing indoor pollution caused by crude cooking stoves, which kills about 1.5 million people every year in LMICs.[15] Other priorities for funding will be identified later. The first request for proposals, to fund implementation research in hypertension, is being developed now and will be announced at GACD's Beijing meeting. The GACD will pursue synergies through such joint initiatives,

balancing concerns for prevention, treatment, and care; and between knowledge generation and knowledge translation into health policies and interventions that will save large numbers of lives.

The WHO's division of chronic diseases and mental health is headed by Dr. Ala Alwan, Assistant Director-General of WHO, estimates that it is possible to achieve a 2% annual reduction in CNCD death rates worldwide over the next 10 years. If we achieve this with concerted action, we can avert at least 36 million premature deaths in the next decade. Some 17 million of these prevented deaths would be among people under the age of 70.[5]

The WHO itself is, of course, taking CNCDs very seriously. It is a member of the Board of the GACD. Its *Plan of Action on CNCDs*, which was endorsed in 2008 at the 61st World Health Assembly, has 6 major objectives: 1) raise the priority accorded to CNCD; 2) establish and strengthen national policies and plans for prevention and control; 3) promote interventions to reduce the main shared modifiable risk factors; 4) promote research for prevention and control; 5) promote partnerships, and 6) monitor CNCDs and their determinants and evaluate progress.[16]

It has developed a *Global Strategy on Diet, Physical Activity and Health*; passed a new resolution on 'Marketing of foods and non-alcoholic beverages to children'; is working on a global strategy to reduce the harmful use of alcohol, and has created NCDNet, the Non-communicable Diseases Network.[17]

As the Institute of Medicine report notes there remains a "profound mismatch" between the compelling evidence documenting the health and economic burden of cardiovascular diseases (and by extension, other CNCDs) and the lack of concrete steps to increase investment and implement…prevention and disease management efforts in developing countries." The GACD, whose members account for more than 80% of health and biomedical research funds in the world, hopes to help fill this gap.

The *Nature* paper on grand challenges in chronic non-communicable diseases identified the first goal as raising public awareness.[10] The first grand challenge in that goal is to "raise the political priority of non-communicable diseases." This is where we should start. The investment needed is in prevention. The lives of millions of people are at risk, and although the populations of the Gulf countries are not huge, they do have very high levels of obesity and of chronic diseases such as diabetes, and the impact on Gulf societies in the long run is likely to be severe. The questions to ponder are therefore as follows: Is prevention of chronic non-communicable diseases a high enough priority for Gulf politicians? What can the health/medical community do to make it the highest priority?

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