

Strategies to Reduce Disease Burden from Diabetes and Hypertension in Developing World

Waris Qidwai

It is a major cause for concern that the prevalence of chronic, non-communicable diseases is on the rise globally and unfortunately at an alarming rate. Around 18 million people die every year from cardiovascular disease, and diabetes and hypertension are major predisposing factors.¹

The number of cases of diabetes in developing countries is likely to more than double from 115 million in 2000 to 284 million in 2030.² Prevalence of hypertension is rapidly increasing in developing countries³ and is one of the leading causes of death and disability.

Total number of obese or overweight people is projected to grow by 50 percent in the next 10 years, primarily in poor countries. The serious cardiovascular complications resulting from obesity and diabetes are likely to overwhelm developing countries, already straining under the burden of communicable diseases.⁴

Rise in prevalence of hypertension will have a more adverse impact on developing countries, where it is more prevalent than developed nations and where cardiovascular disease appears earlier. The adverse impact of cardiovascular disease complications from diabetes is more severe among the populations of developing countries.

The estimated risk of cardiovascular disease is higher among South Asians than among white Westerners or persons of African origin. This difference is attributable to earlier onset and later detection of diabetes and to higher blood pressure.

Smoking is a big problem for developing countries. In 2000, 2.41 million premature deaths occurred in developing countries, primarily from cardiovascular causes and were attributed to smoking. This emerging epidemic of tobacco-related illnesses is exacerbating mortality related to obesity, diabetes, and hypertension.⁴

It has been shown that promoting healthy life style with balanced healthy diet and regular exercise can prevent diabetes⁵ and hypertension⁶ and should be the focus for all future interventions.

It is established that appropriate management of diabetes and hypertension can delay or even prevent complications and disability. This can be achieved through self care by patients, risk factors control by health professionals and reorganization of health services to manage chronic conditions.

After recognizing the challenge of a growing burden of non-communicable diseases in developing countries

and the fact that it can be prevented, appropriate strategies are required to control the expected spiraling epidemic stemming from these diseases.

A holistic approach will be required while devising appropriate strategies to control disease burden from non-communicable diseases. The initial step is to have a situational analysis to establish prevalence and trends with regards to hypertension, diabetes, obesity and life style. This will not only allow focus on areas requiring attention but will serve as the benchmark for impact assessment for any interventions. A follow-up step as risk factor assessment, reasons for propagation of modifiable risk factors and barriers for change will be required in devising research strategies. Once barriers are identified, intervention strategies to overcome them will be required.

A model of health care service delivery based on holistic approach already stated will have to be developed, implemented and tested for impact. Successful models of service delivery that can demonstrate lowering of disease burden from non-communicable diseases can be replicated on a larger scale.

Any model of health care service delivery must have well defined roles and integration for primary, secondary and tertiary levels of care. Focus on primary care level should be on prevention of non-communicable diseases through promotion of healthy life style along with screening and early detection of diabetes and hypertension. Community involvement and engagement at primary care level would be necessary to have favorable outcome. Appropriate referral of complicated cases for proper diagnosis and management at secondary and tertiary levels of care will be required with referral back of such cases to primary care after their management. A symbiotic and mutually supportive relationship between Health Care Providers at all levels of care will be required for the success of any strategies to reduce disease burden from non-communicable diseases.

Human development approach should be part of such strategies. It has been demonstrated that communities with better education and better socially placed are in a better position to utilize health care services and maintain good health. Sri Lanka has best health indicators in South Asia because of this reason. Any strategy that concentrates only on health and does not incorporate other areas of human development will not have a desired favorable impact.

Media, including print and electronic media, can be

used as a strategy to educate communities with regards to benefits of healthy life style, healthy diet and exercise as well as smoking cessation. Media can be used to educate masses about non-communicable diseases and risk factors for cardio-vascular diseases. They can be educated about need for prevention from these diseases as well as for early screening, treatment and rehabilitation. Information and communication technology can be utilized in the same way as the media in educating the communities.

It is most important to involve policy makers and stake holders in strategies we devise to reduce disease burden from non-communicable diseases. Unless policies are in line with the strategies, a favorable impact is unlikely.

We are faced with quadruple disease burden. Communicable diseases such as malaria and tuberculosis are still rampant, with mental diseases and accidents on the rise; it will be overwhelming to face the growing epidemic of non-communicable diseases. A holistic, trans-disciplinary approach involving all stakeholders is urgently needed to address this imminent problem before it is too late.

REFERENCES

1. Haslam DW, James WP. Obesity. *Lancet* 2005;366:1197-1209
2. World Health Organization, 2003. New releases. [online] Available from: <http://www.who.int/mediacentre/news/releases/2003/pr86/en/> [cited 06 May 2011]
3. Pradeepa R, Mohan V. Hypertension & pre-hypertension in developing countries. *Indian J Med Res.* 2008; 128(6):688-90
4. Kearney PM, Whelton M, Reynolds K, Muntner P, Whelton PK, He J. Global burden of hypertension: analysis of worldwide data. *Lancet* 2005;365:217-223
5. Makrilakis K, Liatis S, Grammatikou S, Perrea D, Katsilambros N. Implementation and effectiveness of the first community lifestyle intervention programme to prevent Type 2 diabetes in Greece. The DE-PLAN study. *Diabet Med.* 2010;27(4):459-65
6. Campbell NR, Khan NA, Hill MD, Tremblay G, Lebel M, Kaczorowski J, McAlister FA, et al. 2009 Canadian Hypertension Education Program recommendations: the scientific summary--an annual update. *Can J Cardiol.* 2009; 25(5):271-7.



AUTHOR AFFILIATION:

Dr. Waris Qidwai

Professor and Chairman,
Department of Family Medicine
Aga Khan University
Karachi, Sindh-Pakistan.
E-mail: waris.qidwai@aku.edu