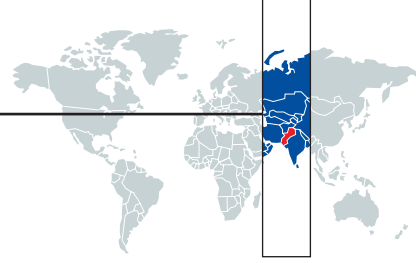

Diabetes prevention and control as a part of an integrated non-communicable disease strategy: the Pakistan approach

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SUMMARY

Addressing non-communicable diseases (NCDs) in a developing country such as Pakistan is a multidimensional challenge with implications at different levels. Lobbying for appropriate investments and policies to facilitate the inclusion of the prevention of NCDs as part of the global development and health agenda is a critical aspect of the issue. However, on the other hand, the implementation of policies for the prevention of NCDs is a challenge in its own right because of the diverse nature of strategies that need to be instituted in tandem. These include institutional, community and public policy level changes set within a long-term and life-course perspective.

These considerations lent impetus to the formulation of a tripartite alliance between the Ministry of Health, Government of Pakistan, the World Health Organization, Pakistan office, and the non-government organisation Heartfile. This public–private partnership aims at the development and implementation of a long-term national strategy for prevention and risk factor control of NCDs and health promotion in Pakistan.

Though the ingredients of this strategy are sound, it needs to be supported by a clear, strong and sustained political and policy commitment backed by a legislative framework that is supportive of multi-stakeholder models. Copyright © 2006 John Wiley & Sons.

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KEY WORDS

non-communicable diseases; diabetes; national action plan

Introduction

Pakistanis are an ethnic group having an inherent predilection to develop diabetes;[1] increase in life expectancy and major changes in diet and lifestyles that are a part of urbanisation and social development further contribute to the existing trend.[2]

The National Diabetes Survey of Pakistan (NDSP – 1990 onwards) was a phased nationwide prevalence study of diabetes, conducted by the Diabetes Association of Pakistan (DAP) and the World Health Organization (WHO), which indicated that overall glucose intolerance (diabetes and IGT combined) was present in 22–25% of the subjects examined. The overall prevalence of IGT in these surveys ranged from 5.39–11.54%.[3–5] (Table 1.)

Against the backdrop of the high prevalence of diabetes and IGT in Pakistan, the NDSP reported a very high unawareness rate for diabetes, with 36.3% of the people with diabetes being unaware of their condition. Recently conducted surveys have revealed that knowledge relating to diabetes and its prevention is significantly low even in the urban metropolitan areas: only 40% of the people known to have diabetes treated at tertiary health care facilities in Karachi had correct knowledge relating to diabetes and its complications.[6]

Diabetes prevention and control are particularly relevant in Pakistan: increased inherent predisposition, younger age of onset, lack of capacity to treat the condition effectively at the primary health care level and lack of equitable access to health care for possible complications make a strong case for investment in diabetes prevention and control. Diabetes is also one of the strongest causal risk factors for coronary artery disease in the Pakistani population.[7,8]

A study conducted in an urban facility-based setting in Pakistan has shown that 21% of people with diabetes suffer from macrovascular complications with 17% angina, 5% myocardial infarction and 2.6% stroke. The study has also shown a high prevalence of microvascular complications with 43% retinopathy, 39.6% neuropathy, 20.2% nephropathy and 4% foot ulcers.[9] The high complication rate indicates that the economic costs of care at a health systems level and the costs related to lost productivity are significant in this economically challenged environment.

National action plans

The need to prevent and control diabetes was recognised two decades ago in Pakistan, evidenced by the collection of population-based data as an initial step, and the subsequent launch of the evidence-based first and second National Diabetes Action Plans in 1996–98 and in 1999–2001, respectively.[10,11]

The first National Action Plan (1996–98), conceptualised in 1995, issued recommendations for developing a primary prevention pro-

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gramme for diabetes and stressed the need to improve the management of individuals with diabetes.[10] The second National Action Plan on diabetes updated objectives and strategies for the period 1991–2001 and made specific recommendations to adopt the WHO standards of care.[11] The third National Action Plan for the period 2001–2004 focused on strengthening the already established surveillance system and enhancing the monitoring and evaluation of the changes in dietary patterns, tobacco consumption, physical activity and the reduction in the number of new cases of diabetes as envisaged in the second National Action Plan.[12]

The Diabetes Association of Pakistan, Karachi – in collaboration with the non-government organisation (NGO) Heartfile and the Ministry of Health – is actively involved in the implementation of a fourth National Action Plan (2005–2009).[13] The main objectives of the plan are summarised in Table 2.

Table 1. Diabetes and impaired glucose tolerance in Pakistan (people aged ≥25 years): national prevalence data from the Diabetes Association of Pakistan and the World Health Organization (DAP-WHO) surveys (1994–1998)[3–5]

Province	Diabetes (%)†	IGT (%)‡
Sindh (rural)	13.90	11.20
Sindh (urban)	16.50	10.40
Balochistan (rural)	7.50	7.40
Balochistan (urban)	10.80	10.40
NWFP (rural)	12.00	9.40
Punjab (rural)	6.39	5.39
Punjab (urban)	13.23	11.54
Overall prevalence	11.47	9.39

†Defined as a fasting glucose of ≥140mg/dl or 2-hour post-75g glucose load ≥200mg/dl. ‡Defined as a 2-hour post-75g glucose load ≥140mg/dl and ≤199mg/dl.

Table 2. Main objectives of the fourth National Action Plan for the Prevention and Control of Diabetes (2005–2009)[13]

- Continue to determine the epidemiology of diabetes, its chronic complications and associated risk factors
- Integrate prevention of diabetes as part of the comprehensive behavioural change communication strategy
- Build the capacity of the health system in support of the prevention and control of diabetes
- Improve diabetes care and ensure availability of antidiabetic drugs at all levels of health care
- Work in close collaboration with the Ministry of Health for the integration of diabetes care into primary health care
- Studies on the nutritional status of diabetic people with appropriate intervention, with the objective of reducing the incidence of obesity and its related complications
- Develop and test intervention strategies to reduce the incidence of diabetes and its complications and thus the economic burden
- Integrate the prevention of diabetes and intensified case finding in high-risk groups into health services as a part of a comprehensive and sustainable, scientifically valid, culturally appropriate and resource-sensitive Continuing Medical Education programme for professional education, and the involvement of all categories of health care providers
- Preparation of education material on diabetes for the community, in national and provincial languages

Prevention/control strategy for diabetes and other NCDs

Building upon the earlier efforts, diabetes prevention and control were mainstreamed into national health planning in 2003 as part of the National Action Plan for Non-Communicable Diseases [NCDs] Prevention, Control and Health Promotion in Pakistan (NAP-NCD).[14,15] NAP-NCD has been operational for the last three years. The programme is distinct in that it is based on a public–private partnership model involving the Ministry of Health, DAP-WHO, and the NGO Heartfile.

Developed in three stages, the programme is based on an expanded definition of chronic diseases and, under its umbrella, covers cardiovascular diseases, diabetes, cancer, mental illnesses, chronic chest diseases and injuries. The first step involved disease-specific planning from a local perspective, the second step prioritised issues, whereas the development of an integrated approach constituted the third stage of the programme design.

Work is currently underway to implement the first phase of NAP-NCD which involves the setting up of an integrated NCD surveillance system,[16] the launch of a behavioural change communication strategy through the media and Pakistan's field force of Lady Health Workers, and tabling key legislative actions in support of broad-based population strategies for NCD prevention and control.[17]

Components of NAP-NCD

• **Setting up a population based surveillance system.** NAP-NCD recognises the importance of gathering information on diabetes on an ongoing basis and, in that context, it was essential to include diabetes in the population-based NCD surveillance system proposed under the plan.

• **Behavioural change communication interventions dove-tailed with re-orientation of health services.** An electronic media intervention is presently underway, which targets 90% of the country's population given the outreach of the electronic media. Secondly, prevention of chronic diseases will be introduced into the work-plan of Lady Health Workers – Pakistan's field force of more than 70 000 grass-roots level

health care providers, covering 70% of the Pakistan population.

• **Risk factor interventions.** It includes revision of the current policy on diet and nutrition, and the development of a physical activity policy, a tobacco control policy and agricultural and fiscal policies.

Discussion

The implementation challenges in rolling out the NAP-NCD programme stem from the absence of procedural clarity in public–private partnerships and bottlenecks owing to broader governance issues generic to project implementation. These challenges notwithstanding, NAP-NCD is serving as an empirical basis for an integrated approach to NCDs on the one hand, and an experimental basis of health sector reform in the area of public–private collaboration on the other. Other than the outcomes that it may lead to, the process-related evidence generated is important in its own right given that Pakistan, as well as most developing countries, has a limited approach with either. In Pakistan in particular, this has led to a much broader line of thinking, within civil society groups, which has to do with strengthening health systems within the country. Hence, NAP-NCD has been instrumental in the creation of Pakistan's Health Policy Think Tank and Forum – an effort which is paving the way for a health systems reform within the country.

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