

## Diabetes: ethical, social and economic aspects

**Arun Bal**

The future of health care has become an important social and political issue over the last decade. One major issue in this debate is how to keep costs under control while meeting consumers' increasing expectations. The per capita cost of health care in developing countries is much less than that in developed countries. This is partly because of the burden, in developed countries, of chronic diseases like diabetes. However, a changing prevalence of disease patterns is likely to increase the burden of chronic diseases in developing countries such as India.

### Burden of chronic disease

The worldwide prevalence of diabetes is estimated to increase from 4 per cent in 1995 to 5.4 per cent by 2025. The number of adults with diabetes will rise from 135 million to more than 300 million in the same period. The increase will be sharpest in developing countries, where the number of diabetics will almost triple from 84 million to 228 million. The developing world will be responsible for more than 75 per cent of diabetics in 2025, up from 62 per cent in 1995.

Among developing countries, the highest increase in prevalence will be in China followed by India. However, the greatest increase in numbers will be seen in India, where the number of diabetics will rise from 19 million in 1995 to 57 million in 2025, heading the list of countries with the greatest numbers of diabetics (1).

The World Bank estimates that diabetes will account for 1,870,000 Disability Adjusted Life Years in India, with a per capita health expenditure of \$21. Already, some two-three per cent of the health-care budget is spent on diabetes-related problems. An increase in the number of diabetics is likely to have a serious impact on our country's health-care system (3).

This scenario raises many ethical and social issues related to diabetes. Long-

term care for chronic diseases like diabetes goes beyond the traditional boundaries of medicine and single-sector responsibility. One of the main characteristics of chronic diseases is the involvement of caregivers and other professionals from many disciplines.

At the same time, there are medico-social implications in the need for long-term care for chronic diseases. One major goal of diabetes care is to achieve a condition of well being in the presence of chronic disease and, often, disability. In this context, the harmful effects of medicalising chronic care need to be recognised (2). In most developed countries, such medicalisation increases health-care costs without meeting the recipient's non-medical psychosocial needs. India must avoid this trap.

### The public health approach

In spite of a better understanding of the aetiology and pathophysiology of diabetes, many diabetics remain undiagnosed. A technology-oriented approach, and a philosophy of aggressive treatment of individual patients at all costs, has contributed to the increasing cost of diabetes care, thereby reducing funds for the wider public health goal of increasing the diagnosis of diabetes. This is reflected in the aggressive approach in end stage renal disease for a few patients, while a large number of patients with diabetes and hypertension receive inadequate attention, follow-up and education — though diabetes with hypertension is a major cause of end stage renal disease. Thus, in most countries, technology for the treatment of complications of diabetes takes precedence over investment towards effective control of the cause of these complications.

Accessibility of health care services for chronic diseases like diabetes has been always uneven, even in most developed countries. The actual use of various services for diabetes is shaped more by economic possibilities, historical traditions, political climates, culture, and prevailing welfare

philosophies than by objective needs and individual choices. In India, this becomes more acute due to social factors like poverty, illiteracy, traditional beliefs, and the existence of multiple disciplines of medicine.

The burden of diabetes in the next 25 years is likely to sharpen the ethical dilemma of access to primary care as opposed to technologically-intensive care for complications. There is an urgent need to consider public health interventions to reduce the burden of disease, and to contain its economic and social costs. Cost-effective intervention at the primary level, which involves minimum technological input, can provide health care to a large number of patients. It can also help reduce many complications of diabetes by early diagnosis using the criterion of a fasting plasma glucose level of greater than 126 mgms.

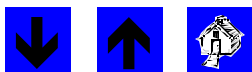
Without primary prevention strategies at the public health level, the number of undiagnosed and uncared-for diabetics will increase, as will the number of complications requiring a higher technological input. This in turn will limit access to health care for large numbers of patients.

Scientific evidence of efficacy must also be considered before the allocation of limited healthcare resources. Primary prevention strategies which limit or delay the onset of diabetes are likely to be most desirable and cost effective. The question of dividing funds between primary prevention and pure research is likely to cause intense political, social and ethical debates. In a society like ours, the fascination for technologically-intensive, hospital-based care is likely to take precedence over more cost-effective measures.

### Costly therapy

Various scientific trials have shown the enhanced benefits of aggressive insulin therapy to control and delay the onset of complications. However, intensive therapy with insulin is costly. Also, such studies recommend the use of human or highly purified insulin,

**Dr. Arun Bal**, Flat 6, Mallika,  
Makranth Housing Society, SVS  
Marg, Mahim, Mumbai 400 016.



for which Indian patients must spend approximately \$7,000 in the course of their lives. One ethical dilemma faced by diabetologists is whether to start costly, intensive therapy with expensive human insulin to prevent future complications or to continue traditional therapy which could lead to early complications.

Good quality health-care services are vitally important for the success of primary prevention strategies. At present, bureaucratic controls, corruption and a lack of motivation are some factors responsible for the abysmal quality of primary health care in our country. Staff must be motivated, patient-friendliness encouraged, and services demedicalised, to effectively tackle the epidemic of diabetes. Increasing consumer awareness is likely to enhance patients' expectations.

The modern allopathic private practitioner is more concerned with treating the disease than educating patients and encouraging their involvement in its control. One study reveals that most users of alternative medicine opt for it not because they are dissatisfied with conventional medicine but because they find alternative practitioners encourage patient involvement in the problem. Interestingly, this improves patient satisfaction as well as the clinical outcome (4). Proper history taking techniques and verbal and non-verbal communication practices can play a significant role in patient satisfaction. These aspects are not emphasised in a medical practice driven by technology and 'cure', something which can have serious consequences in chronic diseases like diabetes.

In India, the private sector provides most of the population's health-care needs. This sends health-care costs skyrocketing for people with conditions such as diabetes which produce multiple complications. Medical practitioners are often faced with an ethical dilemma rooted in economics. For example, foot gangrene is one of the most dreaded complications of diabetes. It is often possible to salvage the foot, but only at great expense. The family must incur heavy debts for this high-technology treatment. The alternative to taking on

this economic burden may be amputation. In young diabetics, the loss of a limb can be crippling, even affecting one's employment. The difficult decision to amputate is often based on social and economic factors. Similarly, in the case of end stage renal disease, where renal transplant is not feasible and the patient has multi-system failure, the question is how long should haemodialysis be continued in view of increasing costs and an almost certain unfavourable outcome. Such dilemmas are likely to increase as the number of diabetics with complications increases and the resource crunch becomes severe. There should be a wider debate on ethical, social and economic issues related to diabetic complications.

One cost-effective strategy for the treatment of diabetic complications is to develop effective home care by a cadre of health workers. Another area which needs attention is the development of special footwear for diabetic patients. Today, despite the many patients with foot problems, cost-effective and scientifically devised footwear is not available even in urban areas. This presents another ethical dilemma to the practitioner who salvages a foot at great economic and social costs — only to see the patient's feet damaged by the lack of effective footwear. The development of effective footwear is a low-tech labour-intensive industry. It is also probably not very profitable, and hence neglected.

### Market-driven research

As the number of diabetic patients increases, the private sector will find new and lucrative market opportunities. Given the present government's economic and social philosophy, the market may take precedence over the patient's interests. Already, some cheaper forms of insulin have become scarce even in cities. There is reportedly a move to stop production of cheaper insulin injections, arguing that human insulin is more physiological. However, the cost difference is phenomenal. There is ample evidence that health-related strategies, including those in the development of newer drugs, tend to be driven by the market rather than by people's needs.

Research for new modalities for the prevention or treatment of complications must take into account the fact that certain research such as for diabetic peripheral neuropathy and diabetic ulcer, cannot be done on animals. Therefore, research in various treatment modalities for these problems must have stricter ethical controls and independent reviews.

Market-driven research can deprive patients of effective treatment modalities. For example, development of Pimagedine, thought to be useful in stopping the progression of renal disease in diabetes, was stopped and the study was closed down by Hoechst Marrion Roussel for non-medical reasons (5). In the current atmosphere of economic liberalisation in our country, the interests of the private sector and MNCs are likely to take precedence over the needs of the health-care system. This must be countered by vigilant patient interest/consumer groups and the medical profession. Traditional medicines can contribute significantly towards the development of effective treatment modalities, guided by evidence-based research. Currently, compartmentalisation within medical education and in the medical profession prevents scientific research in traditional medicines.

Non-infectious diseases are the challenge of the new millennium. To face this challenge we need an optimally trained, aware and motivated medical profession, demedicalisation of chronic disease health care and a proportional allocation of health-care resources geared to the needs of the poor. We also require an open debate about various ethical, social, economic aspects of diabetes, with the involvement of all sectors of society.

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