DIABETES CARE IN A LOWER MIDDLE-INCOME COUNTRY

In developing countries there is lack of organized care for noncommunicable diseases (NCDs) like diabetes, hypertension, stroke, and pulmonary disease, even though these diseases have become the leading cause of death in the world. Like so many developing countries, the prevalence of diabetes in Bangladesh is on the rise and was estimated at 7.4% by IDF’s Diabetes Atlas in 2015. The Diabetic Association of Bangladesh (DAB) has developed a sustainable model of healthcare for people with or at risk for diabetes in Bangladesh. The DAB model shows that with proper planning and dedicated leadership, it is possible to create healthcare for diabetes and other chronic diseases even in lower middle-income countries.

Organizational Framework

The global burden of diabetes is increasing rapidly with almost 75% of the total number of people with diabetes living in low- and middle-income countries.\(^1\) In developing countries, healthcare is still focused on acute, episodic care which is suitable for communicable diseases. Diabetes and other NCDs need lifelong care involving proper health education and follow-up. Despite being a lower middle-income country, overwhelmed with a large number of people living with diabetes, DAB has developed a highly-structured and organized system of diabetes care which is democratic, transparent and supported by the government and civil societies. DAB adopted a decentralized model yielding a total of 61 Affiliated Associations (AAs) (almost one in every district) and seven sub AAs. For the last six decades, DAB has been working to develop a proper organizational framework to include healthcare and educational institutions, rehabilitation facilities for people with diabetes living below the poverty line, and appropriate diabetes prevention and education programs. Capital development has been sourced from those projects financed by the Bangladesh government, but operational costs are managed by cross-financing surplus income generated from patient fees and diagnostic services.

Developing Healthcare Networks

DAB is currently looking after 35% of all people with diabetes in Bangladesh and is hoping to cover 50% of the total number of people with diabetes in the country by 2020. Since its establishment, DAB has focused on growth and today owns more than 109 institutions, and 100 large, medium and small size hospitals totalling 3,762 beds. DAB hospitals provide primary, secondary and tertiary care in all disciplines including organ transplantation (kidney, liver), and cardiac bypass. DAB employs 1,560 physicians, 1,595 nurses, 118 diabetes health educators and 2,252 lab technicians to provide comprehensive care.\(^2\) Diabetes care is provided to approximately 4,500 people at DAB centers on a daily basis, including care for 75-100 newly diagnosed cases of diabetes.
Professional and vocational development

DAB owns and maintains three medical colleges, three postgraduate institutes, one dental college, two nursing colleges and one vocational training institute. Workforce development is a priority of DAB, executed through formal and informal programs. The formal programs include regular post-graduate courses and diplomas in basic and clinical sciences under Bangabandhu Sheikh Mujib Medical University and a certificate course following a distance learning program (DLP). Sponsored by DAB, the Bangladesh University of Health Sciences (BUHS) was established in 2012 to develop qualified and skilled human resources in all areas of the health sciences and to create a multidisciplinary environment in biomedical research. The BUHS initiative encompasses biological, physio-chemical, clinical as well as social science programs, relevant to healthcare. Today, BUHS has 25 undergraduate and post-graduate academic programs under four faculties. At the Bangladesh Institute of Research and Rehabilitation in Diabetes, Endocrine and Metabolic Disorders (BIRDEM), the central institute of DAB also facilitates 16 postgraduate courses including doctor of philosophy (PhD) programs focused on different aspects of diabetes. Ibrahim Medical College (IMC), attached to BIRDEM Hospital, has already emerged as a leading medical college in Bangladesh for providing graduate medical education.

Initially, DAB utilized hands-on training for general practitioners at its central institutes and through organized workshops, but this type of training had many constraints such as difficulties in physician engagement from their workstations. Additionally, the output of these programs could not keep pace with the increasing demand. Moreover, both the rapid rise in number of patients with diabetes requiring care and the continuous evolution in diabetes treatments made scaling up the required physician training a difficult endeavour. DAB took initiatives in 2004 to train doctors employed by DAB and general practitioners in diabetes care through its distance learning programme (DLP). DLP began with Regional Tutorial Centers (RTCs) country-wide in Bangladesh. To date, DAB has been able to train more than 10,000 doctors and DLP is credited with revolutionizing diabetes care in Bangladesh. IDF endorsed the DLP course in March, 2015 and research shows that DLP is highly effective in improving diabetes care in Bangladesh. DLP continually updates programs and provides certificate courses.

Bangladesh
Country at a glance

- Current population is approximately 161 million.
- National prevalence of diabetes is 7.4%.
- Estimated 7.1 million people have diabetes.
- Highest population density in the world.
- Around 47 million people live below the poverty line.
- Aspiring to be a middle-income country by 2021.
- Life expectancy at birth: 72 years in 2014 (versus 55 years in 1984).

in other disciplines including hypertension, asthma, coronary artery diseases, cerebrovascular disease, chronic obstructive pulmonary disease (COPD), and emergency medicine. In addition, DLP has converted from tutor centered face-to-face programs to e-learning programs by 75%. The digital change is creating a platform for DLP physicians to engage in online consultation, referral, and has created a social network to share medical information and consult with peers.

Today, DAB is stepping forward to extend diabetic care from the district level to the Upazila level (the second lowest tier of regional administration in Bangladesh) by appointing 500 accredited physicians to each Upazila from the DLP trained GPs who are already practicing there. This effort will be complete in 2018. In addition, each of these GPs will have glucometers, blood glucose testing strips and mini refrigerators for storing insulin to care for their diabetes patients. This initiative has expanded diabetes care, including availability of insulin in remote areas. Today, DAB has 350 accredited diabetes centers and will open another 150 in 2017.

Role of the Diabetes Educator

The role of the diabetes educator is of critical importance within the diabetes care team. DAB has developed a month-long certificate course for diabetes educators. Anyone with a background in biological sciences especially with nutrition certification is eligible for participating in the DAB course. The diabetes education training program has 13 modules and it includes more in-depth theoretical and practical inputs with emphasis on teaching and enhancing communication skills and techniques, which enables the training of trainers (ToTs) to provide guidance not only to people with diabetes and the public, but also to fellow healthcare workers. Approximately 150 educators have already completed their training and are working in different DAB institutions nearest to their home. More than 350 thousand people with diabetes have also been given education by DAB trained diabetes educators. DABCare and Effect of Changing Diabetes in Children (CDiC) on clinical outcomes studies in Bangladesh have found that on average, people with diabetes who receive basic diabetes education have better glycaemic outcomes than people who do not receive such education.4 Today all DAB institutions provide individual and group education programs for people newly diagnosed with diabetes and follow-up patients.

The success of the DAB healthcare model shows that with proper planning and dedicated leadership, it is possible to develop diabetes and other NCD healthcare services in a lower middle-income country. We believe that the DAB model deserves attention from healthcare planners, healthcare professionals and governments, worldwide.
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References