
Diabetes care in India: Assessing the need for Evidence-Based education

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Abstract

The top 3 countries with the highest number of people living with diabetes are China, India and USA. Diabetes not only reduces the quality of life and life expectancy, but also imposes huge economic burden on the health system and families. For improved diabetes care and patient outcomes continuing medical education of the existing health work force in evidence based diabetes care is essential. Patient's education in diabetes self-management is also essential. This article reviews the existing literature on evidence based practice in diabetes care and barriers at physician-patient level to suggest that there is legitimate need of competency based training in diabetes management. The article also attempts to identify some of these existing educational programmes in diabetes management in India and their key strengths.

Keywords: diabetes, evidence based, education, diabetes care

Introduction

Diabetes mellitus has emerged as a major non-communicable disease globally as well as regionally. The top 3 countries in numbers of people with diabetes are China, India and USA. In India, it is estimated that there were 37.77 million diabetics in 2004. As per Indian Council of Medical Research study, the pooled estimates of prevalence rate in India were 62.47 per thousand. It was also estimated that diabetes is directly responsible for 9% of Acute Myocardial Infarction cases, 4% of stroke cases, 2% of neuropathy, and 32% of cataract cases (ICMR, 2004). It is a recognized fact that diabetes not only reduces the quality of

life and life expectancy but also imposes huge economic burden on the health system and families. Prevention and management of diabetes can be achieved through, interventions directed to prevent the disease, to detect the disease in asymptomatic stage, and to manage the disease to reduce complications. However, for developing countries like India, the intervention package should be evidence based, context specific and resource sensitive that can be delivered through existing structures (primary care, secondary care and tertiary care) by the teams of health care professionals (Reddy, 2003). This article attempts to identify existing knowledge gaps in evidence based diabetes care in India and classify available diabetes education programmes across the country.

Barriers to Diabetes Care

Physician Education

Diabetes is a management challenge because of long latency, chronicity, multi-organ involvement and need for long-term care. Moreover, focus on acute management rather than preventive care, delay in clinical response and poor glycemic control makes the situation worse. According to Chennai Urban Rural Epidemiological Study (CURES) 17.6, 26.9% and 26.1% of patients were having diabetic retinopathy, micro-albuminuria and peripheral

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neuropathy respectively (Rema, Premkumar, et al., 2005). These findings suggest that diabetes care is sub-optimal and there is a need to improve patient outcomes. Shortage of physicians and nurses is another important barrier to appropriate and effective diabetes care. This shortage perpetuates significantly when equity of distribution is considered from perspective of rural versus urban and public versus private requirements. Moreover, the concept of a team approach, involving shared responsibilities between the physicians, nurses and allied health workers are not practically ingrained during medical education (Reddy, 2003) leading to sub-optimal care.

In addition, the production of skilled human resource is constrained by the shortage of institutions as well as shortage of faculty at institutions. The problems of quantity and quality are compounded by the absence of in-service trainings and opportunities for continuing medical education, more in the case of physicians working in the private sector. There are no incentives for updating clinical skills, neither through continuing medical education programs nor as license requirements for continuing clinical practice. As a result, there are huge variations in the quality and type of care on offer across the country. Also, the qualified practitioners tend to congregate in urban areas, while private providers in rural areas are likely to be less than fully qualified (Kumar R and Jaiswal V, 2007).

Patient Education

Patients' lack of knowledge about diabetes, associated morbidities and sequelae of disease care impede their ability to manage their disease (Heisler & Smith et al., 2003). Patient compliance with medical advice is also a matter of concern especially patients on tight glycemic control (Huang & Brown et al., 2007). Chennai Urban Rural Epidemiological Study (CURES) study pointed out that the awareness about diabetes and its complications among patients was poor. Only 23% of self-reported diabetics knew that diabetes could lead to foot problems, while only 5.8% knew that it could cause a heart attack (Rema & Premkumar et al., 2005).

Evidence suggests that better self-management ability is related to improved diabetes control (Heisler & Smith et al., 2003). Henceforth, patient education to ensure self-monitoring and self care has potential to improve outcomes and reduce cost of care. Moreover, patient education and self-care is a

necessity (Venkataraman & Kannan et al., 2009) especially in context of scarcity of trained health care professionals and resource poor settings.

Need for Continuing Medical Education

The first point of care for diabetes and associated morbidities are general physicians and family physicians for majority of the patients. However, successful diabetes management depends not only on access to medicines and diagnostics but also on self-monitoring and self-care. Also, evidence suggests that sub-optimal knowledge of guidelines, constraints of time and facilities and attitudinal issues are responsible for ineffective disease management (Puder and Keller, 2003). It is recommended that general practitioners and physicians should be updated on recent guidelines on diagnosis, treatment as well as management goals. Also, successive steps, including referrals to endocrinologists and other specialists should be brought to their knowledge (Desai & Tandon, 2009).

Continuing Medical Education and physician's training in evidence based diabetes care can improve acceptability and compliance to national and international guidelines. The practice of evidence based medicine can also reduce clinical practice variations and improve efficiency and effectiveness of patient care (William H. Herman, 2002). It also has potential to bring expected changes in clinical practice from anecdotal evidence to evidence-based management. Finally, the success of application of evidence based medicine to diabetes care can be judged by measuring clinical effectiveness and patient outcomes.

Diabetes Education Programmes in India

Physician and patient education are the corner stone for a comprehensive package on diabetes care. Henceforth, competency-based trainings for teams of health professional involved in diabetes care and patient's education in diabetes self-management is of paramount importance. In India, the regional variations in diabetes burden across the country are huge henceforth, requirements for the health professional trained in diabetes care. These requirements have provided an impetus for design and delivery of diabetes-focused educational programs across India.

To generate evidence on diabetes education program in India a systematic search was conducted through web based search engine

“Google” to identify various institutions offering diabetes education programmes. The search was limited to courses offered in India and to collaborations between Indian and foreign institutes. The information generated on various institutions offering diabetes courses across the country was compiled and collated in a matrix. The analysis highlighted the fact that diabetes related educational courses in India were offered by a wide range of organizations including medical colleges, multispecialty hospitals, research institutions,

etc (Table 1). Majority of these educational programs were offered by private institutions and research bodies. The competency-based skills imparted by these programs ranges from certification to diploma and fellowships. The duration of the certificate courses range between 6 to 12 months and were offered as flexible distance education programs. However, the fellowships offered are full time residential programs with the duration of 24 months.

Table 1: Diabetes education programmes in India

Course Name	Duration	Institution	Remarks
Certificate Course in Evidence Based Diabetes Management	12 months/ Distance Learning with Contact Sessions	Public Health Foundation of India & Dr Mohan's Diabetes Education Academy	Qualification-MBBS/MD 12 modules on Diabetes
Certificate Course in Diabetes	12 months	RSSDI, University College of Medical Sciences, New Delhi	Qualification- MBBS/MD 2 candidates per teacher
Certificate Course in Diabetes Management	6 months Online	Medvarsity-Apollo Hospital	1 week contact program with specialist
Fellowship in Diabetology	24 months	Madras Diabetes Research Foundation, Chennai/Hyderabad	Fellowship for MBBS Grads
Fellowship in Diabetes	24 months	CMC Vellore, Tamil Nadu	Qualification- MBBS/MD
Clinical Fellowship in Diabetes and Endocrinology	12 months	Manipal Hospitals, MAHE	Fellowship Qualification- MD/(Medicine)
Post Graduate Diploma in Health Sciences (Diabetology)	24 months	Annamalai University	Qualification- MBBS
Clinical Diabetology Training Program	6 months	Coimbatore Diabetes Foundation, TN	ADA modified Course
Intensive Training in Diabetes Prevention and Management for Doctors	2 months	M.V. Hospital for Diabetes and Diabetes Research Centre, Chennai	Qualification- MBBS/MD Only government servants
Post Graduate Certificate Course in Clinical Diabetes	100 credit hours	KN Sinha Institute, IMA, Patna	19 Modules on Diabetes
Certificate of Competency	100 credits	Nizam's Institute of Medical Sciences & University of Zargeb	Web CME in Diabetes/Accreditation Program
Certificate Course in Diabetes	6 months/ Distance Learning	Madras Medical College, TN	For rural doctors
Certificate Course in Diabetology	6 months	All India Institute of Diabetes Research, Ahmedabad	Qualification- MBBS

Each of these diabetes education program caters to requirements of specific target audience. For example, full time residential program offered by Madras Medical College's is only for rural physicians, a similar full term residential course called Intensive Training in Diabetes Prevention and Management for Doctors offered by MV Hospital for Diabetes Research is only for physicians working with the government sector while programs offered by Annamalai University and Public Health Foundation of India are distance education program with contact sessions. The strengths of these programs are numerous especially in terms of the flexibility and convenience of learning. However, it was observed that many of these diabetes educational program were not based on specific learning objectives, competency based curriculums, appropriate teaching methodologies, objective assessment and evaluation criteria's. There is also a lack of concurrence between duration of study and award of degree/diploma across various institutions. Moreover, there is a lack of accreditation standards and quality assurance at the regulatory level.

Conclusion

Evidence suggests that in addition to continuing medical education, trainings are needed to help health professionals integrate new knowledge and transform old practices. The latter is essential if clinical outcomes for people with diabetes are to be improved. Investment must be made not only to ensure specialized diabetes education is accessible to healthcare personnel and people with diabetes but also to ensure both groups are trained in how to implement change. Specific interventions for provider education, patient education, feedback and reminders have also been found useful in some studies (Weingarten and Henning, 2002). Also, there is a need to assess the impact of existing education and training programs in diabetes. Quality issues ultimately translate into poor patient outcomes; henceforth, the need of the hour is to develop regulatory frameworks, accreditation system, quality assurance mechanisms and benchmarking for diabetes education are revelry. This article intends to generate discussion around the need of evidence based diabetes management and regulation, accreditation and benchmarking.

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