Contents lists available at ScienceDirect

Diabetes Research and Clinical Practice

journal homepage: www.elsevier.com/locate/diabres

Immediate impact of a diabetes training programme for primary care physicians—An endeavour for national capacity building for diabetes management in India

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ARTICLE INFO

Article history:
Received 5 September 2008
Received in revised form
5 September 2008
Accepted 6 November 2008
Published on line 17 December 2008

Keywords:
Diabetes education
National capacity for diabetes care
Primary care physicians
Diabetes management

ABSTRACT

Aims: India faces a huge burden from diabetes. National capacity for management of diabetes has to be strengthened by improving knowledge of physicians treating diabetes, especially in semi urban and rural areas. A training programme was formulated and conducted at national level, as a step towards this goal.

Methods: Physicians from 6 states of India ($n = 3023$, M:F 2311:712), aged 30–55 years, with service of ≥ 3 years, (government $n = 1720$, private $n = 1303$, semi urban and rural areas ($n = 1581:1442$)) were trained in diabetes care in 5-day workshops between March 2004 to December 2006. Impact of training was assessed by pre- and post-training knowledge scores, feedback on usefulness of training modules, prioritizing activities to be introduced in their practice and methods to be used for raising public awareness on diabetes.

Results: The training significantly improved knowledge on treatment, complications, pathophysiology and diagnosis of diabetes ($p < 0.001$). The participants considered information on preventive aspects of diabetes and foot care as highly educative. Patient education and team-training were considered important in diabetes management. Interest was evinced in raising public awareness about the disease.

Conclusions: Well-planned short training programmes are useful in improving knowledge and in creating enthusiasm to improve diabetes care and awareness.

1. Introduction

Diabetes is a multi-factorial metabolic disease and chronic hyperglycaemia produces damage or dysfunction of various organs resulting in late onset complications. The primary goal of management of diabetes is to maintain a level of glycaemia as close to normal as possible. Significant improvement in treatment modalities have occurred in the past three decades. Despite the availability of an array of oral drugs and biosynthetic insulin analogues with improved action, the outcome of diabetic treatment remains far from optimal in developed and developing countries [1]. A variety of causes such as non-compliance by patients and or inappropriate prescription by the physicians may be attributed for the failure to reach the treatment goal.

India has the largest number of diabetic subjects and, is likely to remain so, for many years to come [2]. Although there are national guidelines for management of diabetes [3], the outcome of diabetes treatment is reported to be generally poor [4,5]. A great deal of disparity exists in the knowledge and the

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0168-8227/$ – see front matter
doi:10.1016/j.diabres.2008.11.005

practice profile among the physicians treating diabetes in India. Some of the urban areas have speciality centres and the practising physicians have opportunities to update knowledge through continuous medical education. Such facilities are lacking in semi urban or rural areas. As majority of Indians live in rural areas, the facilities for diabetes care are limited and the physicians are not updated regarding the developments in diabetology and its associated disorders.

To reduce the burden of a non-communicable disease like diabetes, preventive measures are as important as optimal management of the disease. Awareness has to be created both among the health care providers as well as among the general population. This can be achieved only by training doctors and paramedical personnel especially in the rural and semi urban areas who have limited access to new information on developments in diabetes care.

Recent studies in India have shown that the burden of diabetes is increasing both in the urban and rural areas [6,7]. The number of doctors and nurses trained to provide diabetes care does not match the huge number of patients and therefore there is an urgent need for national capacity building for diabetes management. Training of doctors and paramedical personnel throughout India has to be taken up in the crusade against diabetes [8]. There is a shortage of trained personnel to create an awareness and educate the lay public on diabetes.

With the objectives of strengthening the national capacity of diabetes care and providing effective and affordable modes of diabetes management in semi urban and rural areas, we have taken up a diabetes training programme for physicians. Doctors from different regions in India, from public and private sectors were selected for the programme. This report provides the method of training and its short-term impact.

2. Material and methods

2.1. *Objectives*

The objective of the training programme was to increase the national capacity for management of diabetes by improving the knowledge of doctors on diabetes care and to change their attitude and approach to chronic care of diseases. It was also aimed at creating a cadre of trainers who in turn will disseminate the knowledge and skills to others in medical profession, particularly in semi urban and rural areas.

2.2. *Preparatory phase and planning*

The details of training objectives, selection criteria, training methods, curriculum contents, methods of dissemination of information, assignment of faculty members and methods of evaluation of efficacy of the course were finalised by an action committee consisting of senior medical and non-medical professors.

2.3. *Selection of doctors*

Practising physicians in the age group of 30–55 years with bachelors degree in medicine and a minimum of 3 years of service in community or primary health centres, district headquarters hospitals or in private practice were selected. The applications of doctors working in government or other service hospitals had to be submitted through the institutional heads.

Letters were written to government health systems about the diabetes workshop, requesting them to depute doctors for the training. Information regarding the programme was given in leading newspapers and Indian medical journals. Doctors were selected from 6 states of India namely, Tamil Nadu, Kerala, Andhra Pradesh, Karnataka, Orissa, Gujarat and few from other states who were keen on getting trained or were deputed by the government. The proportion of doctors selected was based on the total number practising in those states.

Five-day workshop consisting of lectures, demonstrations and interactive group discussions on various topics in diabetes were conducted.

The training was done for batches consisting of 40–60 doctors, from March 2004 to December 2006 and 3023 doctors participated. An annual training calendar was prepared for each year. At the time of registering, the doctors were asked to fill in short questionnaire to assess their knowledge on diabetes. A manual with the summary of lectures and illustrative slides were provided to all participants. The lectures were generally of 45–60 min followed by interactive sessions. There were 30 topics covering epidemiological aspects of diabetes, diagnosis and classification, pathophysiology, treatment, management of acute and chronic complications, medical nutrition therapy, life style modification, stress management, diabetes foot care, diabetes and pregnancy, micro vascular complications, heart and diabetes, dyslipidaemia, neurological complications, prevention in diabetes, team building, networking and communications and awareness creation strategies. Experienced internal and external members constituted the faculty. In addition to slide presentations, case presentations, demonstrations, group work and video presentations were also made use of. Based on the feedback obtained from the participants of first 3 batches the course contents were modified.

2.4. *Training evaluation*

A questionnaire consisting of 25 short questions with one-word answers on the contents of training modules was administrated at the start and end of the workshop to assess the immediate impact of the training. The take home messages were evaluated by a questionnaire filled on the last day of the workshop. The important points covered were:

(1) Participants' evaluation of the objectives achieved.
(2) Usefulness of educational modules.
(3) Ranking of the activities to improve diabetes practice in their local setting.
(4) Choice of methods for awareness creation in their local setting.

The data collected from the pre- and post-evaluation questionnaires and impact evaluation questionnaire were assessed.