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Health education on diabetes and other non-communicable diseases imparted to teachers shows a cascading effect. A study from Southern India



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ABSTRACT

Aims: The aims were to assess effect of a short training programme on non-communicable diseases (NCDs), particularly diabetes on school teachers and also on students who were in turn educated by them. Lifestyle changes made by both groups were assessed 6 months later.

Methods: Graduate teachers ($n = 1017$) from 2 districts in Tamilnadu, India were trained using audio visual aids in batches of 100, on healthy lifestyle practices, prevention and management of diabetes. Pre and post training knowledge scores were assessed using questionnaires. Each teacher was requested to impart similar education to 100 high school students within 3 months. Impact of the training on teachers and students was assessed using questionnaires 6 months later. Feedback from the students' parents was also collected.

Results: A total of 1017 teachers (men: 33.8%, women: 66.2%, urban: 68.8%, rural: 31.1%) were trained. Among them, 651 (men: 31.3%, women: 68.7%) responded for impact evaluation. Changes in knowledge and attitude were reported by 93.7% of teachers. Improvement in lifestyle of the students was assessed by 587 teachers, 60.4% of the students avoided junk foods, 57.5% advised their family members on diabetes. Outdoor games were played by 50.8% of the students. Improvement in knowledge, changes in lifestyle and a positive attitude towards health care delivery were achieved among teachers and students through this training programme.

Conclusions: Significant improvement in health perception among the teachers and students occurred even with a short training. It has demonstrated that non-medical personnel like teachers are efficient in disseminating health information on lifestyle diseases especially diabetes.

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1. Introduction

Diabetes is a global epidemic of the 21st century and it is increasing rapidly. India has 69.2 million people with diabetes positioned second among the top 10 countries in the world with huge numbers of people with diabetes. The number is expected to increase to 123.5 million by 2040 [1]. Rapid urbanization and industrialization have triggered an enormous rise in the prevalence of the disease. Modernization and adoption of western culture particularly in the diet pattern is evident more markedly among the youth and the student population. Poor dietary patterns and sedentary lifestyle have contributed significantly to the epidemic of childhood overweight and obesity [2–6]. Intake of high calorie diet such as pizza, burger, cola, ice-cream has increased and sedentary behavior has caused decrease in physical activity [2]. Children spend more time on computers and watching television which has resulted in a reduction in exercise and development of overweight or obesity [3]. To overcome the adverse effects of unhealthy lifestyle, there is a need to increase the awareness about diabetes and other lifestyle diseases. Awareness about diabetes and its complications are also low even among persons with this condition [7]. In a population based survey conducted in Chennai, only 23% of the persons with diabetes, self reported to have known that diabetes could lead to foot problems, while only 5.8% knew that it could cause a heart attack [8].

Therefore there is an urgent need to improve awareness about diabetes and other non-communicable diseases (NCDs) among the public, including adolescents and children. Strategies to spread the knowledge need to be worked out to suit the social and cultural background of the population. To enhance the quality of health care services in current health system, the Ministry of Health & Family Welfare, Government of India had launched in 2008, the National Program for prevention & control of Cancer, Diabetes, Cardiovascular diseases & Stroke (NPCDCS) [9]. This programme has been implemented in 21 states of India. India Diabetes Research Foundation (IDRF) was one of the five nodal centers identified to implement the programme. School based health promotion activities are also carried out under NPCDCS programme. It is possible that teachers can impart knowledge among school children on healthy lifestyle practices, prevention of diabetes and obesity by educating them on behavioral/lifestyle changes related to diet and physical activity.

We conducted a short training programme on awareness of diabetes and other NCDs for school teachers and advised them to educate students on these aspects. We assessed its impact on them and among the students. School teachers were selected from two different locations; Chennai (urban) and Thiruvallur (peri-urban and rural) districts, in Tamil Nadu, Southern India. This programme is a step to improve the awareness and knowledge of school teachers and students on diabetes, hypertension and cardiovascular diseases in urban and rural parts of Tamil Nadu.

Considerable concern exists about the rising prevalence of type 2 diabetes among adolescents and children, particularly among the south Asian children [10].

This paper describes the training given to teachers to impart health education to school children and also its impact evaluation both among teachers and children.

The training programme was done with the following objectives:

1. To educate teachers of high schools in an urban and rural setting on diabetes and other associated NCDs by conducting seminars/workshops.
2. To inculcate healthy lifestyle habits in children by focused education imparted through trained teachers, whereby NCDs can be prevented or controlled in the population.
3. To evaluate the impact of training among the teachers and students by assessing improvement in knowledge and initiating and practicing behavioral changes.

2. Materials and methods

The programme was conducted from August 2012 to November 2013. It was intended to train 1000 high school teachers; 500 teachers each from Chennai and Thiruvallur districts. Each teacher was instructed to educate 100 high school students thereby 100 thousand (1 Lakh) students could be trained. In turn, each student was expected to impart knowledge to at least two family members.

Permission from the department of school education and the school authorities were obtained to invite the teachers for the programme. Batches of 100 teachers were invited for each training session which lasted for a day from 9 AM to 5 PM. The contents of the training modules (2 in numbers) are shown in Tables 1 and 2. The faculty consisted of educators and each session lasted for 120 min with ample time for interaction by the participants. In the city, the teachers attended the training at the Department of School Education, state training centre whereas in the rural areas, the faculty conducted the sessions in the district headquarters training centre. During the training sessions, pre and post training knowledge levels of the teachers on various aspects of diabetes and healthy lifestyle were assessed using questionnaires. Each teacher was instructed to educate 100 high school students within a period of 3 months using the education materials provided by IDRF. The teachers were also requested to come back to the training center 3 months later, for an impact evaluation which was done using a questionnaire. The questionnaire included particulars on how the training helped them change their lifestyle by initiating and maintaining healthy behavior. They are also asked on how many students were given education, on the number of students who had made changes in their lifestyle practices including diet and physical activity, whether their knowledge on diabetes was shared with their family members and about their participation in the prevention and awareness of diabetes. These filled-in questionnaires were returned to the investigators when the teachers reported for their impact evaluation. The evaluating team from IDRF had an interaction with the trained teachers.

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