

**International Conference
On
Diabetes and Nutrition:
A South Asian Perspective**

28-29 September, 2000 Fort Aguada Beach Resort, Goa, India

Action Plan

As recommended by participants

Sponsored by

International Life Sciences Institute – India

Co-sponsored by

Department of Food Processing Industries, GOI

Ministry of Health, GOI

Center for Health Promotion

Human Nutrition Institute

The Wellcome Trust

In association with

Diabetes Foundation of India

International Diabetes Federation

National Institute of Nutrition

Research Society for the Study of Diabetes in India

Action Plan

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Background

There is an increase in incidence of diabetes worldwide, in particular in South Asia. Type 2 diabetes is the most prevalent form, accounting for about 90 percent of all diabetic cases. According to WHO, 2.1 to 4.1 percent of the adults in South Asian countries are affected by diabetes. In major urban agglomerations, the prevalence is reported to range from 6 to 12 per cent.

Diabetes complications are chronic, debilitating and their management is costly. Moreover, the general population is not commonly aware that diabetes can lead to major complications like blindness, kidney failure, cardiovascular diseases and neurological impairment.

The Conference

The two-day (28-29 Sept) Conference was sponsored by International Life Sciences Institute – India and co-sponsored by Department of Food Processing Industries, GOI; Ministry of Health, GOI; ILSI Center for Health Promotion; and the Wellcome Trust, in association with Diabetes Foundation of India; ILSI Human Nutrition Institute; International Diabetes Federation; National Institute of Nutrition; and Research Society for the Study of Diabetes in India.

Cost to Society

Diabetes has already assumed large dimensions and is imposing a heavy burden on governments and the people. The direct cost of diabetes in South Asia is estimated at US \$ 4.5 billion. There is also the indirect cost by way of time lost from work, lower productivity, premature deaths and so on. The total cost may well exceed US \$ 10 billion.

The Concerns

A. Epidemiology

Surveys made in all countries of the South Asian Region reveal increasing incidence of diabetes at almost similar rates.

Although the incidence is lower in rural population in comparison with urban, the differences are gradually narrowing. Equally, the incidence is on the rise in poorer sections of society. This group also experiences health complications from diabetes more than other groups. Further, prevalence of type 2 diabetes is increasingly seen in younger populations.

B. Determinants of Diabetes – Obesity, Diet and Genetics

- General and central obesity as well as physical inactivity are independent risk factors. South Asians have increased tendency to develop generalized and abdominal fat, which is reflected in insulin resistance syndrome. It has also been observed that body fat per unit of BMI is higher among South Asians.
- Dietary factors play an important role. Malnutrition in pregnant women or in early childhood has shown to be diabetogenic by affecting beta cells, causing structural damage to islets and impairing insulin sensitivity. People in South Asia also suffer micronutrient deficiencies which can affect diabetes. More information from India is required on this subject.
- South Asia has a genetic predisposition to diabetes. Insulin resistance, reflected by high fasting plasma insulin levels, is characteristic of Asians which is probably genetic in nature. However, more reliable data has to be generated to confirm the conclusions.

C. Strategies to Control Diabetes:

1. Primordial

- Balanced nutrition during pregnancy and infancy.

2. Primary

- Lifestyle modifications with physical exercise aimed at achieving appropriate body weight and waist to hip ratio.

3. Secondary

- Screening of high risk subjects for early detection of the disease.

4. Tertiary

- Management and rehabilitation of affected persons.
- Effective treatment of disease in order to avoid complications.

D. Processed Foods

Attention needs to be paid to food design for diabetics as also others which will ensure a healthy lifestyle. This problem, with its wider dimensions from pediatric to geriatric, should address the "Farm to Table" issue adopting a holistic approach. Fortification of foods with micronutrients and also nutraceuticals need to form part of such food design. Food practices have to change and production of low calorie foods and specialty foods encouraged. To enable industry to create the processed foods of desirable design, relevant food standards should be brought in conformity with Codex. Recommended Dietary Allowance and Average Daily Intake should also be reviewed in this context.

E. Action by Government

- Create public awareness aimed particularly at target groups like school children, poorer sections of society and rural populations, about diabetes and its complications.
- Appoint a task force consisting of prominent scientists and physicians to outline areas of research to generate reliable data and to meet periodically to review the status of the problem.
- Support R&D Organizations for research in diabetes.

F. Action by Research Organizations

A Central Fund should be created through contributions from government, industry, charitable trusts, etc. to promote research in the field of diabetes.

R&D Organizations should:

- Investigate the role genes play in diabetes in order to make gene therapy a cure in the future.
- Improve the tools for early detection of the disease.
- Undertake surveys to generate reliable data.
- Discover appropriate modes of insulin delivery to duplicate natural body function.
- Research into newer drugs including alternative systems of medicine.

G. Action by Industry

- Ensure availability of good quality insulin at affordable prices.
- Innovate and introduce vaccine / new drugs to prevent and control diabetes.
- Produce a variety of foods for diabetics.
- Nutritional labeling to provide consumers with necessary information in his / her choice of food.
- Undertake educational programs about diabetes particularly at the school level.

H. Action by NGOs

- Establish Diabetes Information and Education Cells.
- Assist in the identification of people at high risk.

I. Action by ILSI-INDIA

ILSI-INDIA should set up an expert committee to promote better and wider understanding of scientific issues involved and spread knowledge through publications, conferences, public meetings, etc.

The participants expressed the hope that the different agencies will work together and initiate a coordinated program for effective control of diabetes and reduce its incidence effectively in the near future.