

# CHILE

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In Chile, three education programs for people with diabetes were selected for inclusion in this study:

- The education program developed by the Ministry of Health
- The education program at the San Juan de Dios Hospital
- The program of the Chilean Diabetics Association (ADICH)

Below is a detailed description of the programs.

## 1. National Diabetes Education Program of the Ministry of Health

The National Diabetes Education Program of Chile is based on a manual published by the Chilean Ministry of Health in 1992 entitled “Diabetes Education: Basic Care for Living Better.” There are other diabetes education programs in Chile, but this program has become widely popular in the country. Many health care specialists at different hospitals and private centers for people with diabetes have attended the workshops and seminars given by the Ministry of Health and later applied this program in their own centers.

### Target population

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This education program is offered to people with diabetes and their family members.

### Goals

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1. Reduce acute complications of the disease due to hypoglycemia and ketoacidosis that, in the last analysis, result from deficiencies in metabolic control.
2. Improve metabolic control of people with diabetes by maintaining proper blood sugar levels.
3. Prevent the emergence of chronic complications of the disease, such as neuropathy, retinopathy, nephropathy, and cardiovascular diseases.

### Methodology

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The program offers individual and group sessions.

### Group sessions

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The sessions can be organized on consecutive days or once a week, depending on the resources of the physician's office or center. Small groups of up to 10 people (patients and family members) are preferable. A health care team that includes a nutritionist, a teaching nurse, and a physician presents the course.



Each session has two components.

The first half consists of a formal, structured teaching unit in which an instructor or educator teaches specific content material. During the session, patients are constantly encouraged to ask questions and participate to make the learning process more interactive.

During the second half of the session, patients are asked to participate in different exercises and practical group activities that are described in the manual. Each instructor or educator can select one or more of these activities after evaluating the needs and skills of the patients. These activities encompass a broad range of exercises; for example, questions may first be answered individually and then submitted to the group for open discussion in which members speak about “real-life situations” that are particularly “challenging” and help each other come up with suggestions about what to do in such a situation (similar to simulation training). Other examples include applied exercises having to do with nutrition (patients create their own diets) or physical activities such as foot exercises and role-play.

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Note. The group of people who participated in its initial implementation applied PEDNID-LA in Chile; it was then adapted by combining it with another national program.

At the beginning and end of the full program, as well as at the end of every unit, patients receive evaluation survey forms to determine their level of knowledge and specific weaknesses that need to be addressed.

## Content or topics \_\_\_\_\_

The training or group education covers nine information units.

1. Being diabetic, general information about the disease (what is diabetes, symptoms, types of diabetes, and diagnostic classification) (2 hours).
2. Introduction to different components of treatment: proper diet, exercise, and drugs (2 hours).
3. Nutritional evaluation and proper diet for people with diabetes: general concepts of nutrition and eating habits (proteins, carbohydrates, lipids and fats), diabetic diets (2 hours).
4. Food groups and food substitution: dairy products, meats, fruits and vegetables, grains or cereals, carbohydrates (bread and cookies), oils and fats, classification of food groups (prohibited foods and foods to be consumed freely), and dietetic products (6 hours, three or four sessions).
5. Other food plans for people with diabetes and food substitution (4 hours).
6. Foot care: self-examination of the feet by people with diabetes and other self-care activities, such as selection of footwear and recommended foot exercises (2 hours).
7. Technique for administering insulin, body sites for insulin injection, types of insulin (2 hours).
8. Self-monitoring of glucose levels: different methods of glucose self-monitoring, how to interpret readings (1 hour).
9. Preventing complications of diabetes: acute complications (hypoglycemia, ketoacidosis) and chronic complications (1 hour).

## Materials \_\_\_\_\_

1. Flipcharts
2. Chalkboard
3. Clippings, drawings, paper, colored pencils
4. Images or photographs
5. Pamphlets for patients (food properties and food substitution)
6. Practical supplies and products to stimulate discussion on given subjects (nail cutters, platform scale, food or edible products, strips for testing glucose in urine)

## Educational materials from the Ministry of Health: \_\_\_\_\_

- Non-insulin-dependent diabetes mellitus: Technical standards
- Technical standards: Diabetes and pregnancy
- Prevention and outpatient treatment of diabetic

feet, including a form for recording an annual evaluation

The program has different evaluations or questionnaires to determine the patient's level of knowledge; these are found in the instructor's manual.

## Continuing education for people with diabetes \_\_\_\_\_

Patients who have completed the introductory course are invited to attend special educational group sessions. The Diabetics Association coordinates these meetings. Special talks are organized and speakers are invited (for example, representatives of pharmaceutical companies) for these monthly group meetings, which last about 3 hours. The purpose of these sessions is to reinforce the content learned in the introductory course, such as self-monitoring, strategies, and administering insulin.

## Program evaluation \_\_\_\_\_

In 1998, a study was conducted to evaluate the effectiveness of an education program based on the diabetes education manual prepared by the Ministry of Health of Chile<sup>(2)</sup>. The study included comparison of indicators (before intervention and 6 months later) between a control group (traditional teaching methodology) and the experimental group (education program based on the diabetes manual prepared by the Ministry of Health). Several indicators were evaluated on the two occasions: HbA1c, knowledge about diabetes, and quality of life. There were no significant differences between the groups with regard to changes in HbA1c levels and quality of life. However, the reported results showed a significant difference in the levels of knowledge about diabetes: participants in the experimental group displayed a higher level of knowledge at 6 months, compared with their initial knowledge of diabetes, whereas the group exposed to traditional methodology did not show significant differences<sup>(3)</sup>.

## For more information, contact:

**Dr. Maria Cristina Escobar**  
Ministerio de Salud, Chile  
Programa de Salud del Adulto  
Mac Iver 541, Oficina 410  
Santiago, Chile  
Telephone: (56-2) 630-0483  
Fax: (56-2)-630-0507  
E-mail: [mescobar@minsa.cl](mailto:mescobar@minsa.cl)

2. The program that was used in the PAHO-Eli Lilly study was based on the manual published by the Ministry of Health. Note that minor modifications were made, and therefore the results of this evaluation cannot be generalized to the original education program of the Chilean Ministry of Health.
3. Publication of these findings is pending.

## 2. Diabetes Unit, San Juan de Dios Hospital

In the Diabetes Service of San Juan de Dios Hospital, an education program for people with diabetes has been offered since 1964, using various educational methodologies. The program currently uses the manual "Diabetes Education: Basic Care for Living Better," which was designed and validated by Dr. María Cristina Escobar and professors of nutrition Sonia Olivares, M.Sc., and Elena Carrasco, M.Sc. Training in this program's methodology was provided to all medical professionals, including physicians, nutritionists, and nurses, in Santiago and the surrounding regions for application at the primary and secondary levels of care. It was the first attempt in Chile to standardize this education. This unit also participated in the PEDNID-LA project.

The Diabetes Service has its own building, which was donated by Helen Lee Lassen of the United States. Doctors specializing in diabetes, vascular surgeons, nurses, nutritionists, and foot specialists provide comprehensive care to diabetic patients. Group and individual education is carried out. Supervision is provided to approximately 2,500 patients, including people with type 1 diabetes (children and adults), people with type 2 diabetes, and gestational or pregestational diabetics. The service has 18 inpatient beds, both for those who are clinically ill and for education of people recently diagnosed with diabetes.

New education techniques are continually being developed, including an interactive CD developed and validated jointly with the Nutrition and Food Technology Institute by Sonia Olivares, M.Sc., Elena Carrasco, M.Sc., and Dr. Gloria López. This CD, which is sponsored by the Ministry of Health, is for educating patients and their families and for training the health team. A manual accompanies it with general recommendations for carrying out an education program and an evaluation test. The CD provides instruction in an entertaining format with a focus on nutrition.

The education program is given in the form of courses to small groups consisting of 8 to 10 patients with type-2 diabetes.

### Program goals

1. To help patients achieve better metabolic control (improve their HbA1c levels)
2. To reduce the number of hospitalizations
3. To prevent acute and chronic complications

### Methodology

Each professional (nurse and nutritionist) uses the CD to teach different subject areas, so that all the content is covered in four sessions. The methodology is interactive.

### Content

- General information about diabetes
- Treatment
- Laboratory tests, self-monitoring
- Acute and chronic complications
- Nutrition: the program includes, in addition to all foods, calculation of BMI and of calories and carbohydrates of the diet for an entire day or for a meal, which can be adjusted according to individual dietary recommendations.

### Evaluation

This is carried out through a multiple-choice test.

### For more information, contact:

Elena Carrasco, MSc  
Unidad de Diabetes  
Facultad de Medicina  
Universidad de Chile  
Casilla: 33052 Correo 33  
Santiago de Chile, Chile  
E-mail: [ecarrasc@machi.med.uchile.cl](mailto:ecarrasc@machi.med.uchile.cl)

## 3. Diabetes Education Program of the Chilean Diabetics Association

Two years ago, ADICH began to offer diabetes education classes to people with diabetes and their family members. Initially, the course was directed to recently diagnosed patients, mainly people with type 2 diabetes. However, all members of the association are now encouraged to participate in the diabetes education program.

The diabetes education team is made up of health care professionals in the field (endocrinologists, nutritionists, physical therapists, psychologists) and people with diabetes who have participated in a training course offered by ADICH<sup>(4)</sup>.

### Goals

In general, the program was created to offer to people recently diagnosed with diabetes a body of information to help them overcome their initial fears about being diagnosed with a chronic disease, help them understand the disease and the therapeutic

4. People with diabetes who are part of the education team are called monitors.

process, improve compliance with treatment recommendations, and facilitate lifestyle changes related to diagnosis and treatment of diabetes.

### Specific objectives

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Educate and teach essential self-care skills to recently diagnosed patients.

Provide information to people with diabetes, diagnosed more than a year ago and to those who have problems complying with treatment; refresh and update their knowledge of the disease.

Offer training to help people with diabetes acquire self-care skills so they can handle emergencies caused by acute complications of the disease.

Offer information and training to help people with diabetes modify their lifestyles in line with treatment recommendations (diet, physical exercise, glucose tests).

### Target population

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All people with diabetes are invited to become members of the association and participate in the diabetes education program (types 1 and 2).

### Methodology

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New members of ADICH are given a card with information about the different educational activities the association offers, with a detailed schedule of the talks (time and topic). When a member attends an educational session, the information is recorded on the card. Such information allows monitors and professionals to ask about or complement the patients' knowledge about the various subjects, in accordance with their educational needs<sup>(5)</sup>.

The course is a one week program with daily sessions, each lasting about 2 hours. ADICH offers its members uninterrupted services throughout the year, including the education program. The methodology includes a presentation by a health care professional or monitor, using a participatory approach and followed by a question-and-answer period.

During the session, the health professional or monitor promotes group discussion in which participants share their experiences.

### Content or topics

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1. What is diabetes? General principles of a proper diet.
2. How to live with the diagnosed diabetic; stress management.
3. Insulin therapy, self-care, acute complications
4. Nutritional program for people with diabetes<sup>(6)</sup>
5. Physical activity and foot care.

### Materials

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- Flipcharts
- Transparencies
- Slide presentations
- Diabetes education card
- Personalized card for information on diet
- Pamphlets and printed materials
- ADICH in Action magazine

The Juvenile Diabetes Foundation of Chile has educational material, texts such as "Live Better" and "Pipe Teaches You to Live with Diabetes," as well as a journal called Diabetes Control.

### Evaluation

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Participants are evaluated at the beginning and end of the educational program. Currently, only knowledge about diabetes is being evaluated, but ADICH will soon introduce other indicators into the evaluation process: social and cultural factors, compliance with treatment recommendations, harmful lifestyle habits, the diabetic's beliefs and attitudes about health, and indicators related to metabolic control (HbA1c and weight). Furthermore, there are plans to add two more evaluations to the process, at 3 and 6 months after the program. This information will provide a basis for evaluating the needs of members to provide them with continuing diabetes education, add new presentations on subjects of interest to the members and, of utmost importance, help prevent complications of the disease<sup>(7)</sup>.

### For more information, contact:

**Elena Signorini Gutierrez**

President

Asociación de Diabéticos de Chile

Argomedo 74, Santiago de Chile

Chile

Telephone: (56-2) 665-1217 Fax: (56-2) 665-1509

E-mail: [adich@netline.cl](mailto:adich@netline.cl)

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5. Patients are asked to show the card to their primary care physician.
  6. Rebeca Flores, a nutritionist on the ADICH teaching team, developed this nutritional program. It has proved so successful that it has been incorporated into the diabetes education program of the Ministry of Health. The Rebeca Flores nutritional program covers different aspects of the dietary component of treatment, such as the effect of carbohydrates on the metabolism of persons with diabetes, interaction between education and administration of drugs, information on proteins and sources of protein in the diet, the effect of fat consumption and its relation to obesity, and ways of controlling cholesterol.
  7. Results of the evaluation are not yet available.