

Editorial

Diabetes in Communities

The Michigan Diabetes Research and Training Center (MDRTC) has recently published a compilation of data concerning diabetes care and education in communities. This publication may be of interest to diabetes educators and others studying various aspects of diabetes at the community level. The purpose of this editorial is to inform interested parties of the availability of this publication.*

Diabetes in Communities records the results of a study conducted in 1981 and repeated in 1985. The purpose of the study was to provide an analysis of diabetes care and education in typical American communities to use in the design of community-based diabetes care and education projects, and to record the progress of these interventions during the first half of the 1980s. The study was conducted in eight Michigan communities, four large and four small, and involved 61 primary care physicians and 428 of their diabetic patients (approximately seven patients per physician practice). All communities, physicians, and patients were randomly selected. The publication is intended to be a companion to the reference book *Diabetes in America*

published by the National Diabetes Data Group in 1985.

The Donabedian model was selected to serve as the organizational framework for the large amount of data collected in the eight communities from the 61 physicians and 428 patients. The Donabedian model of medical care has been recognized by many in the field of medical care organization as a useful and sensible way to analyze medical care (diabetes or otherwise) and has been extensively utilized in the study of medical care organizations. The model uses the categories *structure*, *process* and *outcome*. Structure concerns the facilities and personnel providing medical care; process focuses on the behavior; outcome is the effect of medical care on patients. Under the structure component, the project recorded the services—hospitals, physicians, educational programs, specialists, dietitians, etc—available for patients with diabetes in large and small communities. Under the process component, the project reviewed the patient and professional educational activities and the interaction between physicians and patients, and attempted to determine the standards of care employed in these communities and the functioning of diabetes care teams. The latter two issues turned out to be very difficult to measure.

Considerable data were collected under the category of outcome by interview and examination of the 428 patients. The following parameters were measured for each patient: demographics, including personal educational level and employment; height; weight; blood pressure; fasting plasma

glucose, glycosylated hemoglobin, cholesterol, triglycerides, and HDL cholesterol levels; diabetes educational profile (which includes assessment of psychosocial adaptation to diabetes and the self-care measures employed by patients); a standardized diabetes knowledge test; and an assessment of patients' interaction with their physicians.

Of the 428 patients studied, 56 had insulin-dependent and 372 had noninsulin-dependent diabetes. Of the latter, 191 individuals were using insulin as part of their overall management and 181 were not. There were 172 males and 256 females. The average age of those with Type I diabetes was 38 years and for those with Type II, 60 years. The high mean age for the Type I patients reflects the deliberate exclusion of children from the study. The patient pool from which the random selection was made consisted of adult patients actively receiving medical care from their primary care physicians. Of the Type I patients, 11% had less than an eighth-grade education, and 58% stopped at high school graduation; the corresponding numbers for Type II patients were 33% and 43%, respectively. Of all patients, 70% stated that they had received formal diabetes education at one time or another, and the mean time lapsed since that education was 4.5 years. By diabetes type, 79% of Type I patients, 83% of Type II patients using insulin, and 53% of Type II patients not using insulin had ever had diabetes education.

Diabetes in Communities has 159 tables and 100 pages displaying the

Correspondence to Roland G. Hiss, MD, Director, Continuing Education and Outreach, Michigan Diabetes Research and Training Center, The Towsley Center for Continuing Medical Education, University of Michigan Medical Center, Ann Arbor, MI 48109-0201.

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extensive data from this study. Most of the data are organized by diabetes type. Some of the data cover issues not often reported in other studies of diabetes care. For instance, 54% of all patients reported that they had ever smoked; 20% were smoking in 1981, 16% in 1985. Another finding was that 83% of all patients with diabetes drink coffee, an average of three cups per day, whereas 33% drink tea, an average of two cups per day. Whether these particular data will make a significant contribution to our understanding of diabetes care and education remains to be determined.

When the study was repeated in 1985, 261 patients were successfully relocated and restudied. Of the 167 patients not restudied, 65 had died and 102 could not be located, were too infirm to be interviewed, or declined to participate a second time. When the 1985 patients were compared with their status in 1981, some changes in diabetes care practices in the four-year interval became evident. There was a marked decrease in the frequency of hospitalization for diabetes, a marked increase in the use of glucose monitoring (with a corresponding decrease in the use of urine monitoring), and a significant increase in the number of insulin-using patients being treated with more than one kind of insulin and receiving more than one injection per day. Interestingly, variables that did *not* change included body weight, glycosylated hemoglobin values, and performance on the standardized diabetes knowledge test. One may conclude that some changes and improvements have occurred in the first half of the 1980s, but significant progress is yet to be made in the overall care and education of persons with diabetes.

The Michigan Diabetes Research and Training Center plans to repeat this study in 1990 and publish *Diabetes in Communities—II*, displaying the follow-up data. Persons who may find the Michigan data useful as a baseline for a planned study of their own are encouraged to contact the Michigan Center.

—Roland G. Hiss, MD
Coordinator, Training and
Information Transfer Division
Michigan Diabetes Research
and Training Center
Ann Arbor, Michigan

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