

Diet Therapy for Minority Patients With Diabetes

Diet therapy for minority diabetic patients must be directed to NIDDM, the most prominent form of diabetes in minority populations. Diet programs must be tailored to the cultural framework, and traditional foods with desirable characteristics can be encouraged. To teach patients about diet, educators must use educational techniques appropriate to culture and literacy of the patient and family. Single-concept messages such as "eat less fat" or "eat less food" promote learning and minimize failure. Nutrition information can be divided into sequenced manageable steps that can then be individualized to the patient's setting. No single set of exchange lists will suffice for all minority groups, nor are exchange lists themselves appropriate for all situations. To meet the needs of minority patients, nutrition educators must use a variety of tools and techniques relating to the foods of a particular ethnic group. Sound education strategies and simplified materials for NIDDM patients should also be employed. *Diabetes Care* 10:189-91, 1988

The detection of diabetes and appropriate treatment are important health issues for United States minority populations. Although the majority of patients with diabetes are Caucasian, the 1979-1981 Health Interview Survey conducted by the National Center for Health Statistics found that 15% of adults with diabetes are Black and 6% are of Hispanic origin

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The opinions expressed in this paper are those of the author and do not necessarily reflect the views of the Indian Health Service.

(1). American Indians constitute only 0.7% of the United States population, but diabetes has assumed epidemic proportions in many tribes. Half of the Pima Indians >35 yr old have diabetes (2). Asian Americans have not been studied as extensively as other minority groups, but diabetes appears to be more prevalent in this group than among Caucasians in the United States (3). The extent of diabetes among these populations makes it imperative to examine the needs of minority groups carefully.

Diet therapy for diabetes has presented a challenge to patients and health-care professionals for many years. Many nutritionists have relied on the exchange system, but both patients and nutritionists have admitted frustration (4). Diet therapy in diabetes has been less than successful among minorities for three basic reasons: 1) the dietary goals for different types of diabetes have not been clearly differentiated, 2) the usual diet prescription has been unrelated to patients' cultural and economic status, and 3) diet has been presented in ways that are difficult for low-literacy learners to understand and implement. Analyzing these elements can help explain the frustrations of many health-care providers when dealing with minority patients and can lead to suggestions for new approaches for both providers and patients.

Among minority patients, non-insulin-dependent diabetes mellitus (NIDDM) is predominant, and insulin-dependent diabetes mellitus (IDDM) is relatively rare. Epidemiological studies show that IDDM is less prevalent among Blacks than among Whites in the United States (5). IDDM is less prevalent among other minority groups as well. According to the San Antonio Heart Study, only 4% of the Mexican-American adults with diabetes might have had IDDM (5a). IDDM is also relatively rare among American Indians (6).

Goals of diet therapy for NIDDM patients are caloric

restriction and weight loss (7). These themes must be foremost in all specific dietary advice, but this does not always happen. Generic diet counseling for diabetes often specifies use of snacks to guard against hypoglycemia that might result from the use of insulin or oral hypoglycemic agents if intervals between meals are unduly long. However, snacks should be reduced or eliminated for many NIDDM patients because these add significant calories. Although a small amount of alcohol can be included in the exchange-based diet of an IDDM patient, use of alcohol for many minority patients with NIDDM is inappropriate (8). Alcohol adds calories, and alcohol abuse in certain minority groups is a major public health problem. Thus, diet counseling must be specifically oriented to IDDM or to NIDDM and to each particular patient.

Diet therapy for NIDDM often involves changing the kinds of foods people eat and how they are prepared. Changing food behavior is complex. Weight Watchers International defines an approach including a food plan, increased physical activity, eating management skills, and a positive support system (9). Food-related behavior is part of the cultural background of minority groups and is taught to succeeding generations (10). The cultural context determines, in general, how food is acquired; which foods are selected; how food is prepared; and who eats with whom, when, how, and in what quantity. The availability, acceptability, and cost of individual foods also determine what people eat (11). Whereas milk and milk products are staple ingredients in many American meals, some minority patients are genetically lactose intolerant (12). The Food Distribution Program of the United States Department of Agriculture provides a variety of foods to eligible households on Indian reservations. These foods are widely used. Thus, basic reasons for food behaviors lie in cultural and economic factors, and it is necessary to understand these factors before planning any changes (11). Any recommended changes must be relevant to the economic and cultural status of the patients.

Pangborn and Bruhn (13) questioned adults and university students about their awareness of foods typical of six ethnic groups. Mexican foods were most frequently mentioned, but both groups knew least about the foods of American Indians. These authors noted that most food and nutrition classes emphasized the food patterns of the mainstream culture. Background information about traditional foods of the various American Indian tribes and the acceptability of the USDA-donated foods has been collected to help nutrition educators prepare more effective lessons (14). Similar information is available for other minority groups. Comparisons between Mexican-American and Anglo migrant farm workers showed that certain food habits were similar because of income constraints, but ethnic backgrounds were reflected in different food preferences (15). For example, Anglo adults drank more coffee, tea, and milk, whereas Mexican Americans consumed more carbonated beverages and sweetened drinks. In an analysis of

dietary patterns of Spanish-speaking individuals in Boston, there were many differences in eating habits of Puerto Ricans compared with Mexicans (16). Grady Memorial Hospital surveyed the food preferences of diabetic patients and adapted their approach to use foods commonly eaten by that population (17). Diet then became a significant and successful part of their treatment program for NIDDM. Information about food behavior exists and should be gathered so that successful diet therapy can be designed for NIDDM minority patients.

A third problem with diet therapy lies in the education system itself. Not only are foods dissimilar for different minority groups, but the techniques used to teach about food must be adapted to the learning skills of the patient and family. For most Spanish-speaking patients in the Boston area, teaching about portion sizes and the timing of meals was important, but information about the exchange system was not considered necessary (16). The exchange system has many advantages for trained professionals analyzing a diet history, but there are inherent drawbacks for patients. In a survey of physicians and patients in Michigan, diet was cited as the biggest problem in diabetes (18). Patient performance on standardized questions about exchanges was uniformly low. A study of social class and modes of communication revealed that people who did not go beyond grammar school were unable to classify their observations into groups (19). Cherokee patients with diabetes gave a number of reasons for not following diet therapy (20). There were 22 responses indicating that the patient could not individualize the diet. This inability was the second most frequent response, after complaints of hunger, weakness, and dizziness. The South Carolina Diabetes Control Program documented the mismatch between diabetes educational materials and the comprehension level of program participants (21). Although nearly all written and oral instructional materials were presented at the 10th-grade reading level, more than half of the program participants could not understand materials at the 5th-grade level. The National Health Interview Survey revealed important information about the educational background of patients with diabetes. Of the patients ≥ 17 yr old, 54% had < 12 yr of education, whereas 31% of the general population had a comparable educational background (22).

Nutrition education in gradual increments has been recognized as important for effective counseling (23). The Swanson Foundation has prepared materials with single concept messages for Indians such as "eat less food" and "eat less fat." These materials have been well accepted by the patients. Single concepts can be implemented gradually with small, achievable steps. An incremental approach with single concepts was used in the Winnebago and Omaha Indian communities. The average fasting glucose after a year of follow-up in 27 patients responding to diet alone fell from 270 to 143 mg/dl (P. Stegmayer, F. Lovrien, M. Smith, T. Keller, and D.G., unpublished observation). From a theoretical viewpoint, Rosenstock (24) has explained this by ex-

panding the health-belief model to include self-efficacy. Conviction to carry out a regimen is best achieved when elements of the regimen are taught in a gradual, incremental way rather than prescribed for implementation all at once.

Models developed in communication research also provide a theoretical framework for understanding diet therapy among minority patients (25). In one model, there are five stages in the process of adopting new behavior: initiation, information, evaluation, trial, and adoption. At the initiation stage, individuals become aware that information about diet may be useful. At the information, or interest, stage, the person seeks additional facts about the diet system. These must be provided in a form that the patient can comprehend or the process will go no further. It is here that educational techniques that make information understandable to poor readers are crucial (26). At the evaluation stage, the patient tries the change in his/her mind and then actually attempts the behavior. At the information and evaluation stages, economic and cultural factors begin to play critical roles. Dietary changes have to be feasible at the trial stage, both in terms of availability of food and acceptability of the food-related behavior. It is only after completion of all of these stages that the individual adopts the change on a continuing basis.

ACKNOWLEDGMENTS

I thank Dr. Judith Wylie-Rosett, Dr. Yvonne Jackson, and Dr. Ann Grandjean for guidance. The superb editorial assistance of Annette Romero is gratefully acknowledged.

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