New Research

Adherence Among Mexican Americans With Type 2 Diabetes: Behavioral Attribution, Social Support, and Poverty

To the Editor:

Introduction: Mexican Americans who view their own behavior as a cause of their diabetes may take a more active role in self care. Social support may also be related to adherence, although evidence for this comes from research with non-Hispanic groups and only one qualitative study of Latinos. This pilot study’s objectives were to test these hypotheses: (1) Individuals who describe their own behavior as a cause of their diabetes will rate themselves as more adherent with American Diabetes Association (ADA) recommendations and (2) Social support is related to self-rated adherence.

Research Design and Methods: This Institutional Review Board-approved investigation was conducted at a community health center in northern California. Mexican Americans with type 2 diabetes participated in a 30-minute interview, in Spanish. Assessment of social support for the 76 participants included questions similar to those described by Tillotson et al. Patients rated level of support from family, friends, or other on a scale of 1 to 5. The Diabetes Activities Questionnaire (TDAQ) (13 items) measured patients’ self-reported adherence with diabetes recommendations, with questions about diet, exercise, medication, and self monitoring of blood sugar. Participants were also asked what they believed caused their diabetes.

Results: Of the 76 participants (58 female, 18 male; ages 27 to 80 years), most had very low socioeconomic status, low levels of education, and inadequate or no medical insurance. Most (87%) were born in Mexico, and 78% spoke Spanish only. Most (85%) had been prescribed pills, insulin, or both, but few could afford to see a doctor or buy prescriptions. Therefore, some participants used folk treatments (herb teas, cactus plants, and urine) in addition to, or in place of, prescribed medications. Random blood glucose levels ranged from 87 to 786 mg/dL (mean=246 mg/dL). The mean fasting blood glucose was 207 mg/dL (range 101–522). Hemoglobin A1C values ranged from 5.4% to 16.8% (mean=10.0%). For 57 patients whose height was recorded, the average body mass index was 31.

Individuals who described their own behavior as a cause of their diabetes did not rate themselves as more adherent. Only 28% of patients described behavior as a possible cause of their diabetes, e.g., drinking coffee with too much sugar, working too much without eating, drinking too much water at night, drinking too much beer, and eating too much candy. Most respondents believed that their diabetes resulted from causes outside of their control: 32% gave hereditary explanations, and 61% attributed their diabetes to susto (fright or shock caused by a prior traumatic event). Attribution of diabetes to susto was unrelated to degree of adherence.

Self-rated adherence was related to both the degree (P<.01) and source of social support. The spouse was the most supportive person for 39% and other family members for 39%. Other people outside the immediate family, including doctors or friends, were identified as most supportive by only 15%, and 7% did not perceive any supportive person in their lives. Patients with supportive family members had higher levels of adherence than did patients whose major support was outside the family (P<.013).

Conclusions: In contrast to previous reports that 72% of respondents believed their diabetes was caused by past behavior, only one third of our sample reported the same belief. Further, most respondents in our sample believed that a past traumatic event (susto), rather than their behavior, was the primary cause of their diabetes. These results are remarkably similar to observations from rural Mexico. A relationship was found between social support and self-reported adherence. This provides the first quantitative validation of a qualitative report by Lipton and is consistent with studies of Caucasians. In this sample, income and diabetes control were surprisingly low, suggesting that poverty and lack of resources may be the most important determinants of adherence.

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Prevalence of Insulin Resistance Syndrome in a Primary Health Care Center in Kuwait

To the Editor:

Insulin Resistance Syndrome (IRS), which represents a group of atherogenic risk factors, the root cause of which is insulin resistance, has caused much concern over the past few years.

As the name implies, the major abnormality in IRS is insulin resistance. Obviously there is impaired responsiveness to endogenous and exogenous insulin, leading to hyperinsulinemia, which will lead to the metabolic abnormalities that characterize the syndrome. The National Cholesterol Education Program published its third report (ATP III) in 2001 and accordingly the diagnosis of IRS based on the existence of three or more of the disorders that constitute the syndrome (insulin resistance, hypertension, low levels of high-density lipoproteins cholesterol (HDL-C), high triglycerides (TG), and central obesity). Applying these criteria, the syndrome will be found to be highly prevalent in the general population. The third report (ATP III) defined a low HDL as being <40mg/dl in males and <50mg/dl in females, while in the ATP II, HDL-C was considered low when its level was <35mg/dl. It was also highlighted in the ATP III that even borderline elevation of TG should be treated.

People with IRS are at high risk of cardiovascular events. In an attempt to study this high-risk condition, we carried out this study using the ATP III criteria to detect the prevalence of this syndrome in a primary health care center.

The study was conducted in 2002. Subjects were Kuwaiti individuals, ages 30–60 years. The screening included measurements of blood pressure and waist circumference, fasting plasma glucose (FPG), fasting TG, and HDL-C using the lipid analyzer Cholestech.

Waist circumference was considered increased if it exceeded 40 inches in males and 35 inches in females. Low HDL-C was considered when its level was <40mg/dl in males and <50mg/dl in females. High TG was considered when its level was >150mg/dl. Impaired fasting glucose (IFG) was considered when its level was in the range of 6.1–6.9 mmol/L. Blood pressure was considered high if the mean of three consecutive measurements at 2 weeks apart was ≥140/90mmHg for non-diabetic subjects or >130/80mmHg for diabetic patients.

There were 609 participants, 39.4% male and 60.6% female. The diabetic patients comprised 12% and the hypertensive patients 11.8%. Increased waist circumference was seen in 57.5%. IFG was detected in 13.6%, high TG and low HDL-C were found in 46.5% and 56%, respectively. According to the ATP III guidelines, the prevalence rate of IRS among the participants was 32.8%, while with ATP II guidelines, the prevalence would have been 18.1%. In our study, the prevalence of IRS was significantly affected by the age group—it was 26% in the ages 30–40 and 34.4% in the ages >40–60.

Because the root causes of this syndrome are improper nutrition and inadequate physical activity, it is recommended that a healthy lifestyle be adopted, including weight control and increasing physical fitness. Despite the availability of many medications that can control hypertension, blood sugar, and lipids, low HDL-C remains a problem since there is no effective drug treatment to elevate this protective form of cholesterol to the safe levels. That is why we think that the ATP III guidelines will make the IRS easier to diagnose but somewhat harder to manage.

In conclusion, IRS is highly prevalent among the Kuwaiti individuals attending our primary health care center. General practitioners need to have the skills necessary to properly identify and manage this high-risk condition.

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