In Brief

Interpersonal health communication can affect individuals’ awareness, knowledge, attitudes, self-efficacy, skills, and commitment to behavior change. Personalizing and involving people in their own care facilitates sustained behavior change. Health communication cannot compensate for inadequate health care or inadequate access to health care services nor produce sustained change in complex health behaviors without some type of support network. Health care providers working with people who have limited resources and education sometimes make the erroneous assumption that these individuals cannot adequately comprehend self-care practice recommendations.

Diabetes Care in an Urban Specialty Clinic

People with diabetes all face issues of care and clinical assessment that are similar. Cultural issues, location of the health care setting, and resources available affect the approaches used in providing diabetes care. Meet Rose and Johnny, who receive diabetes care in a large urban diabetes specialty clinic where a team approach is utilized.

Case Study 1: An Empowered Middle-Aged Woman With Longstanding Type 2 Diabetes

Presentation
51-year-old African-American woman Type 2 diabetes, diagnosed in 1983 Height 61 inches, weight 132 lb Recent hemoglobin A1c (A1C) 5.8% Recent microalbuminuria screen: negative Recent blood pressure: 148/88 mmHg, sitting Medications: none Insurance: state Medicaid

Rose hummed as she got ready for her clinic appointment. She was experiencing some changes that she knew were related to menopause, including hot flashes and mood swings. She would discuss how to manage these symptoms with her nurse practitioner. At her last appointment, they had also agreed to discuss the benefits and concerns of hormone replacement therapy (HRT) in view of her medical history. A rise in her blood pressure was noted, and the dietitian had asked about her diet and sodium intake. Rose felt confident she and her health care team would figure out how to keep her healthy and strong for a long time to come. She knew, too, that she would continue to play the biggest role in her own health.

Straightening her dresser a little, she reached for her appointment slip and gazed affectionately at the smiling picture of her youngest child Jean, now 22 and about to graduate from college. Rose recalled that some of her beliefs about her own ability to protect her health dated back to the time of Jean’s birth. Born after a difficult delivery the month of Rose’s 29th birthday, Jean had weighed 9.5 lb. The obstetrician told Rose that she probably had undetected gestational diabetes during her pregnancy. Fortunately, Rose and Jean were fine, but when Rose took a glucose tolerance test 6 weeks after Jean’s birth, she learned she had type 2 diabetes.

Jean’s physician pointed out that they had caught the disease early, and chances were good that gradual weight loss, through a healthy diet and exercise, could help control the disease for years. Having lost a dear aunt to diabetes-related heart disease the previous year, Rose had taken the physician’s advice seriously. During
the year following her diagnosis, she lost 20 lb (from 156 lb on her 61-inch frame). Even though she was nursing, she kept up her walking regimen. Once her plasma glucose had consistently dropped to < 100 mg/dl, she had her A1C checked once a year at the clinic, and it was always within the normal range.

Rose felt she had gotten a lot of mileage from the steps she had taken after her diagnosis. She was proud of her dedication to managing diabetes, which had allowed her so many years of good health. She knew there was a chance her glucose readings could go up again, especially if she gained weight. She was a little bit worried about her blood pressure, but she felt she was an old hand at controlling her diabetes and that, together, she and her health care team could prevent diabetes complications. She was also grateful that her husband was supportive of her efforts to exercise and to eat properly. He actually liked some of the recipes from the diabetes cookbook. Rose knew that managing diabetes by sticking to her diet and exercise regimens and regular medical supervision would go a long way to protect her from heart disease and other complications.

**Questions**

1. What additional information does Rose need to maintain glycemic control?
2. Aside from HRT, are there additional medical issues that need further discussion and reinforcement?
3. What additional strategies can you suggest to help Rose stay in good health?

**Discussion**

To build on Rose’s feeling of empowerment, her blood glucose monitoring technique should be reviewed. Encouraging continued periodic monitoring at variable times can help Rose monitor her individual response to changes in food intake, weight, physical activity, and hormone levels. If Rose chooses HRT, she should be cautioned regarding the potential increase in glucose in response to both the HRT and other menopausal changes.

Rose’s ethnic background and history of type 2 diabetes place her at increased risk for hypertension. Like most women with diabetes, she has a two- to fourfold increased risk for heart disease. These risks should be discussed in detail, as well as the preventive benefits of continued daily physical activity and a diet that is low in fat and sodium, high in fiber, and of appropriate carbohydrate content.

In addition to a sodium restriction, she would benefit from diuretic therapy. This is an especially good choice for initiating antihypertensive therapy for those on limited incomes or without insurance reimbursement for medicines.

Careful monitoring of her blood pressure should continue, and Rose could be encouraged to keep a record of her blood pressure when she visits the nurse at her church or walks to the nearby fire station. Finally, according to American Diabetes Association recommendations, Rose should receive aspirin therapy for the primary prevention of coronary heart disease (CHD) events because she is > 30 years of age, has diabetes, and has one or more identified risk factors for heart disease.

Positive reinforcement of current self-care activities is important. In addition, Rose would benefit from reminders about annual and periodic exams that should be performed, including mammogram, retinal exam, foot exam, microalbuminuria screening, and assessment of blood pressure, lipids, and glycemic control. Providing Rose with a diary for recording dates and results of these measures can reinforce to her that she is in charge of her health care. Periodic assessment for peripheral neuropathy and review of Rose’s technique for self-assessment of her feet is also recommended. Rose’s physician may also recommend cardia stress testing because Rose already is known to have one risk factor for CHD in addition to diabetes.

Excessive alcohol intake in type 1 diabetes is especially dangerous. Fear of uncompensated hypoglycemia is of primary concern. How to deal with this in everyday life is described in this case study of Johnny.

**Case Study 2: Recurrent Hypoglycemia in an Individual With Type 1 Diabetes and History of Alcohol Abuse**

**Presentation**

37-year-old African-American man
Type 1 diabetes diagnosed in 1982
Height 67 inches, weight 138 lb
Laboratory values drawn during this hospitalization:
Plasma glucose 38 mg/dl, A1C 8.7%, serum creatinine 1.6 mg/dl, potassium 4.7 mg/dl, +1 proteinuria
Medications: insulin, NPH 28 units + regular 7 units before breakfast; NPH 12 units + regular 5 units before supper; enalapril, 2.5 mg twice daily
Blood pressure 162/94 mmHg (sitting)
Insurance: none

Johnny flashed a big smile as the nurse walked up to his bed. “I guess you’re not surprised to see me here,” he said. Johnny has had type 1 diabetes for 23 years. He and the nurse knew each other from the nurse’s visits to his bedside during previous hospital admissions for severe hypoglycemia. His story was always the same: he had been playing cards with his friends and drinking alcohol and had forgotten to eat.

The nurse had counseled him in the past and suggested that he enroll in an alcohol treatment program, consider changing social groups, and eat four times a day if he was going to be drinking alcohol. Although Johnny always agreed to make behavior changes, he had much difficulty following through, even when the change he wanted to make was self-identified.

Johnny lived in a housing project with his elderly mother. He had completed the 6th grade and could read simple sentences. His income came from doing odd jobs in the neighborhood. When he wasn’t working, he generally spent time playing cards and drinking with his buddies.

The food his mother purchased was subsidized by food stamps. She made sure that healthy food choices were packed for him to take along whenever he left home. A few things were predictable about Johnny: he always took his morning dose of insulin and ate breakfast, and he rarely missed his diabetes clinic appointment.

**Questions**

1. What additional information is needed to assess the best course of action for prevention of Johnny’s recurrent hypoglycemia?
2. Are there other confounding factors that may be responsible for Johnny’s recurrent hypoglycemia?
3. What strategies can you identify that would reduce the risk for hypoglycemic episodes requiring hospitalization?
Discussion
To assist in identifying the causes of Johnny’s hypoglycemic episodes, answers to the following questions are needed:
• Is there a time and frequency pattern to the hypoglycemia?
• Does he recognize any warning signs for hypoglycemia?
• What is his food intake on the days when severe hypoglycemia occurs?
• Can he see the unit markings on his syringe, and is he able to correctly draw up his insulin dosages?
• Does he ever omit his evening dose of insulin? If yes, how often?

Confounding factors that can contribute to Johnny’s recurrent hypoglycemia include:
• Progression of diabetic nephropathy. Often the reoccurrence of hypoglycemia is the first indication of diabetic nephropathy. Johnny has an elevated serum creatinine and proteinuria, both of which are indicative of some degree of kidney damage. Quantitative measurement for his glomerular filtration rate and protein excretion would help define what stage of diabetic nephropathy he is in.¹
• The presence of autonomic neuropathy is often seen in people with a long duration of diabetes. Autonomic neuropathy can lead to hypoglycemic unawareness and eventual severe hypoglycemia.
• The intake of alcohol can block hepatic gluconeogenesis from taking place during periods of hypoglycemia.
• Poor visualization of unit markings on insulin syringes can lead to inaccuracies in insulin dosing. If Johnny has problems with addition, he may not be able to draw up and mix the correct dosages of insulin.

Additional strategies and management options to consider to reduce the risk for hypoglycemic episodes requiring hospitalization include:
• Provision of a low-dose insulin syringe with easy-to-read unit markings or use of a syringe magnifier
• Simplification of insulin doses and reinforcement of correct measurement technique
• Use of a premixed insulin
• Identification of portable sources of carbohydrate that Johnny would agree to consume every 3 hours
• Provision of hypoglycemia awareness training to alert Johnny to all of the subtle signs of hypoglycemia
• Education of Johnny’s friends and family as to causes, signs, treatment, and prevention of hypoglycemia
• Assessment of the degree of Johnny’s alcohol intake and consideration for referral to a low- or no-cost alcohol treatment program, such as one run by a church or the Union Mission.

Follow-up
The last time the hospital nurse saw Johnny for severe hypoglycemia, he had not yet engaged in an alcohol treatment program. However, he agreed to try a different management approach in hopes of preventing another hospital admission. He would use a special set of color-coded cards to remind him to eat when he was drinking with his buddies. Three laminated plastic rectangles were created in the shape of a playing card. Johnny agreed to integrate these cards into his pack and to talk with his buddies about having food available when they played cards.

At the next clinic visit, Johnny saw the nurse practitioner. She noted that the color-coded playing cards were working. Johnny was eating some form of carbohydrate-containing food when he drank and played cards with his buddies. In fact, his buddies were also taking a food break when the laminated card appeared in the deck. Finally, Johnny had found a solution he could live with. His glycemic control was never really in target, but his hospital admission rate for severe hypoglycemia dropped from an average of once a month to once every 6–8 months.

References

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