Patients Often Skip Insulin Doses Intentionally

BY SHERRY BOSCHERT

Most adults with type 1 or type 2 diabetes intentionally skip insulin injections, and 20% skip them regularly, according to an online survey of 502 diabetic adults.

The study is one of the first to identify factors that were associated with a greater likelihood of purposefully omitting insulin shots at least occasionally, as 57% of respondents reported doing.

The 388 respondents with type 2 diabetes were more likely to report intentional omissions of insulin, compared with the 114 with type 1 diabetes, according to the report (Diabetes Care 2010;33:240-5).

Respondents who were more likely to skip insulin injections were younger, were students, had lower household incomes, had higher education levels, or did not eat a healthy diet. Skipping insulin also was more likely among respondents who either had to take more daily injections, said the injections interfered with daily activities, or reported pain or embarrassment from the injections.

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Physicians should work with patients to discover their issues around injecting insulin and give them the information or tools they need to overcome some of these barriers, suggested Mark Peyrot, Ph.D., of the department of sociology, Loyola University Maryland, Baltimore, and his associates.

Insulin pens, finer-gauge needles, injection ports, needle-free injectors, and other device-related strategies can reduce pain or embarrassment. "However, we have found that patients do not feel that their health care providers are giving them adequate assistance in managing these problems, even when they raise the issue with their providers," the investigators wrote.

Risk factors for intentionally skipping insulin injections differed for patients with type 1 and type 2 diabetes, separate analyses found. In respondents with type 1 diabetes, lack of a healthy diet, the number of daily insulin injections, and interference with daily activities were significantly associated with skipping insulin. In those with type 2 diabetes, age, education, income, pain, and embarrassment played greater roles in the risk for skipping insulin.

The investigators noted that insulin is used by more than 25% of people in the United States who have diabetes. Nonadherence with insulin regimens has been associated with higher hemoglobin A_{1c} levels and higher rates of hospitalization for diabetes-related complications.

Race and ethnicity were not associated with a likelihood of skipping insulin, contrary to findings in other studies, perhaps because the study controlled for the effects of income and education, or perhaps because the study did not have enough nonwhite participants. Whites comprised 73% of survey respondents, who were recruited by e-mail from the Harris Interactive Chronic Illness Panel.

Also contrary to some previous studies of adherence to insulin regimens, the current study found no significant association between omission of insulin and a history of depression, which surprised the investigators. This may be because the survey did not assess current depression.

Disabled respondents were less likely to skip an insulin injection, perhaps because they get more assistance with care or make a greater effort to attend to their health, the investigators speculated. They were not surprised that poor adherence with a healthy diet was associated with skipping insulin, as previously reported.

The survey's results suggest that intentional omission of insulin is a substantial problem, Katie Weinger, Ed.D., and Elizabeth A. Beverly, Ph.D., wrote in an editorial accompanying the report

(Diabetes Care 2010;33:450-2).

The findings support previous studies that reported low levels of adherence to insulin regimens—intentional or not—in 59%-77% of patients with diabetes.

U.S. physicians are more likely than are doctors in other countries to delay prescribing insulin, and U.S. patients are less convinced of insulin's effectiveness and more likely to blame themselves for needing it, compared with patients in other countries, Dr. Weinger and Dr. Beverly noted. Physicians need to examine their own reluctance to initiate insulin and work with patients around these factors and the ones identified in Dr. Peyrot's study to minimize omission of insulin when needed, they suggested.

VITALS

Major Finding: A majority (57%) of adults taking insulin for diabetes said they intentionally skipped an insulin injection occasionally, and 20% did so regularly.

Data Source: Online survey with 502 participants in a sample weighted to be representative of insulin-using U.S. adults with diabetes.

Disclosures: Patton Medical Devices, which makes an insulin injection device, funded the study. Some of the investigators own stock in and have been advisers to the company.

The few previous studies of reasons that patients decide to skip insulin injections have focused mainly on patients with type 1 diabetes, especially on an association between eating disorders and insulin omission. The current study shows that not all insulin omission is motivated by desire to lose weight in patients with type 1 diabetes. It's unclear whether patients with type 2 diabetes think that skipping insulin will reduce weight.

Weight concerns were not addressed in the study. Neither were some other important issues, said Dr. Weinger, a researcher in the department of psychiatry at Harvard University, Boston, and Dr. Beverly, a researcher at the Joslin Diabetes Center, Boston. These issues include self-care behaviors, and the impact of insulin delivery systems. Nonetheless, the study provides an important look at the avoidance of insulin therapy. ■