

Medication Adherence among Adults With Type 2 Diabetes Mellitus who Lost vs. Gained Weight

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Certain diabetes medications lead to weight gain, whereas others are weight neutral or lead to weight loss. This study investigated whether adults with type 2 diabetes mellitus (T2DM) who lost weight had better medication adherence than those who gained weight, and examined the influence of medication regimen on this association.

Weight change over 1 year (2007 to 2008) was assessed among respondents in the US Study to Help Improve Early evaluation and management of risk factors Leading to Diabetes (SHIELD). Weight loss of $>1.0\%$, $\geq 3\%$, and $\geq 5\%$ of body weight was compared with weight gain of $\geq 1.0\%$. Medication adherence was assessed using the Morisky 4-item questionnaire that evaluates medication-taking behavior, with lower scores representing better adherence.

There were 746 T2DM respondents who lost $>1.0\%$, 483 who lost $\geq 3\%$, 310 who lost $\geq 5\%$, and 670 who gained $\geq 1.0\%$ of body weight. Each weight-loss group had significantly lower Morisky scores (better adherence) than the weight-gain group -- mean scores of 0.389 vs. 0.473 ($p = 0.050$) for $>1.0\%$ weight-loss group, 0.365 vs. 0.473 ($p = 0.026$) for $\geq 3\%$ weight-loss group, and 0.334 vs. 0.473 ($p = 0.014$) for $\geq 5\%$ weight-loss group. Significantly fewer respondents who lost weight had received insulin, SU, or TZD therapy (72%) compared with respondents who gained weight (81%, $p < 0.01$). Other factors did not explain the association between weight loss and better medication adherence, as the T2DM weight-loss respondents were similar to the weight-gain group in age, gender, race, Hispanic ethnicity, education, household composition, exercise habits, and dieting. T2DM respondents with weight loss had significantly better medication adherence and were less likely to be on treatment regimens that increase weight than T2DM respondents with weight gain. These findings suggest that strategies that include antihyperglycemic medicines which also result in weight loss may be associated with better medication adherence.