

Magnitude of A1c improvement in relation to baseline A1c and amount of weight loss in response to intensive lifestyle intervention in real-world diabetes practice: 13 years of observation

Eldib AH, Dhaver S, Al-Badri M et al. Magnitude of A1c improvement in relation to baseline A1c and amount of weight loss in response to intensive lifestyle intervention in real-world diabetes practice: 13 years of observation. *J Diabetes*. 2023 May 16. Access study here: <https://pubmed.ncbi.nlm.nih.gov/37194402/>

Background:

In 2005, the Joslin Diabetes Center started the Why WAIT (Weight Achievement and Intensive Treatment) program, a 12-week multidisciplinary intensive lifestyle management (ILI) program which included medication adjustment, dietary and exercise intervention, behavioral support and group education, designed for weight reduction and intensive diabetes management in real-world clinical practice. The program showed an initial and significant decrease in A1c by 0.9% ($p < 0.001$) after 12 weeks of ILI, and that participants in the Why WAIT program were able to maintain weight loss of 6.4% after 5 years.^{1,2}

Study Objective:

To evaluate the magnitude of A1C change in relation to baseline A1c and the amount of weight loss in adults with diabetes who underwent ILI over 13 years.

Methods:

Researchers performed a retrospective chart review of adults with diabetes and obesity who enrolled in Why WAIT from Sept. 2005 to May 2018 (baseline and 12-week data). Groups were stratified by A1c as follows: Group A: $\geq 9\%$; Group B: 8% to $< 9\%$; Group C: $> 6.5\%$ to $< 8\%$.

Results:

- 590 adults, 58% female and 83.7% with T2DM.
- All 3 groups achieved significant weight reduction after 12-weeks of ILI. The amount of weight reduction did not differ between the three groups ($p = 0.22$) (Figure 1).
- Group A achieved a significantly greater A1c reduction than Group B and C; Group B achieved a significantly greater A1c reduction than Group C (Figure 2. All $p < 0.001$). The amount of A1c reduction differed significantly between the 3 groups ($p < 0.0001$).
- The difference in A1c reduction between the three groups remained statistically significant after adjusting for age, sex, diabetes type, diabetes duration, and percentage of participants treated with insulin ($p < 0.001$).

References:

1. Hamdy O, Mottalib A, Morsi A, et al. *BMJ Open Diabetes Res Care*. 2017;5(1).
2. Hamdy O, Carver C. *Curr Diab Rep*. 2008 Oct;8(5):413-20.

Figure 1

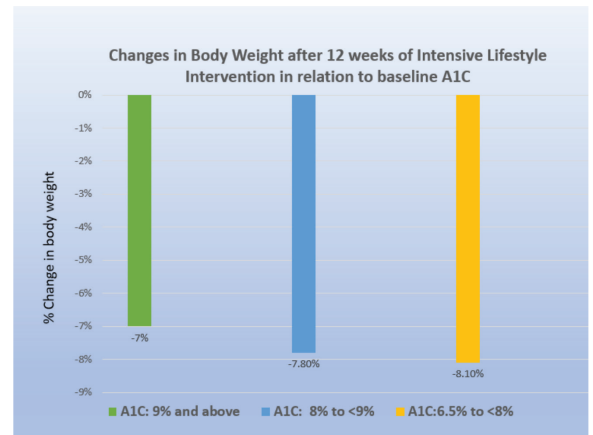
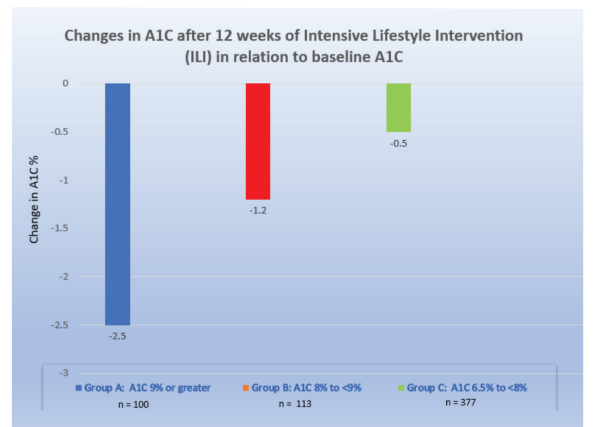


Figure 2



Conclusion:

This real-world study spanning over 13 years showed that ILI may decrease A1c by up to 2.5% and in participants achieving similar magnitude of weight loss, A1c reduction was more prominent in those with higher baseline A1c levels. Although this study was not an RCT comparing ILI to standard diabetes care, it was conducted among individuals with similar body weight and BMI in a real-world clinical practice, offering a realistic expectation for patients and clinicians of the role ILI and weight loss play in the management plan. It not only reinforces the role of ILI as a first-line management strategy for patients with diabetes, but it also shows the value to those poorly controlled who are likely on concomitant medication therapy to manage higher A1c levels.