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## Effects of individualized health coaching in patients with type 2 diabetes

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## INTRODUCTION

Diabetes is the seventh leading cause of death in the United States<sup>1</sup>. In 2012 the total estimated amount of money spent on diabetes was \$245 billion.<sup>2</sup> To decrease healthcare costs and increase quality of life for the diabetic patient it is important to find the most effective way to treat diabetes to decrease rates of comorbidities and improve patient outcomes.

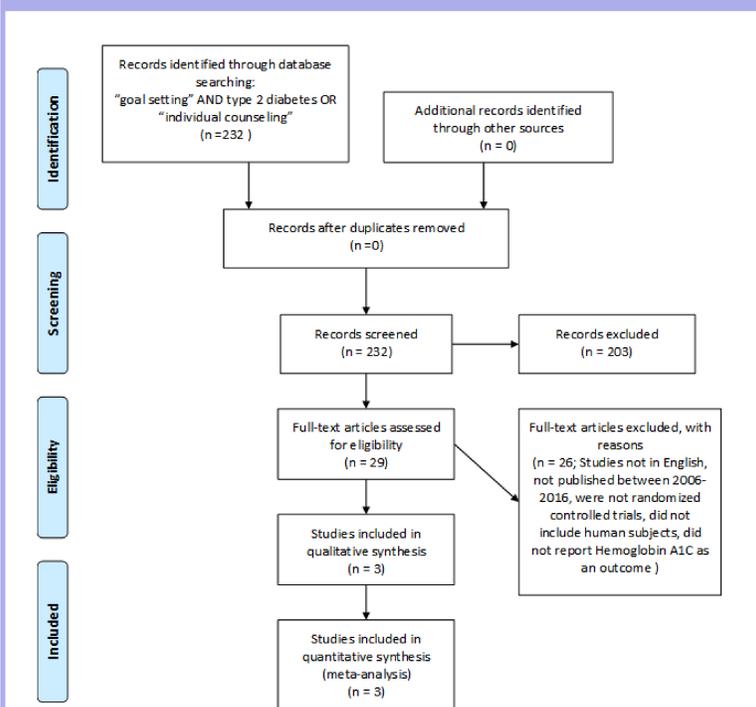
A new strategy of treating diabetes is individualized health coaching. This includes collaboration with many different entities of health care providers, including a nurse or counselor to help the patient make their own goals that they, themselves feel are attainable. This also gives the patient more time to ask questions they might not have had time to ask during the physician visit. The purpose of this review is to determine the efficacy of individualized health coaching on lowering hemoglobin A1c (HbA1c) in diabetic patients.

## PICO

<b>P</b>	Population	Patients with type 2 diabetes
<b>I</b>	Intervention	Individualized health coaching
<b>C</b>	Comparison	Traditional patient education
<b>O</b>	Outcome	Hemoglobin A1c

**Clinical Question:** In patients with type 2 diabetes, is individualized health coaching more effective than traditional patient education in lowering hemoglobin A1c?

## METHODS



## RESULTS

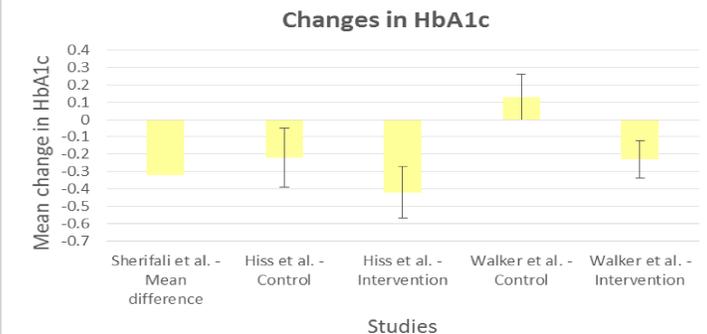
**Table 1:** Overview of studies

Study	Sherifali et al. <sup>3</sup>	Hiss, et al. <sup>4</sup>	Walker, et al. <sup>5</sup>
Objective	To assess the effects of health coaching in individuals with type 2 diabetes on glycated hemoglobin (A1C levels)	To determine the effectiveness of collaboration of a nurse care manager with primary care physicians to improve clinical outcomes for adults with type 2 diabetes.	To determine if telephone health coaching is beneficial to patients with type 2 in lowering HbA1c.
Design	Meta-analysis	Randomized Controlled Trial	Randomized Controlled Trial
Number of Patients	724	197	526
Average age (years)	52.8 to 65.8	Control: 57.0 ± 11.4 Intervention: 55.7 ± 13.1	55.5 ± 7.3
Female (%)	Range: • Control: 36-100 • Intervention: 13-100	• Control: 64 • Intervention: 68	• Control: 65 • Intervention: 68
Intervention	Variety of interventions	Individualized nurse care manager	Telephone calls for health coaching
Length of follow up	3-16 months	6 months	12 months
Critique	<ul style="list-style-type: none"> <li>Wide variation between each intervention</li> <li>Relatively small sample size for a meta-analysis</li> <li>Great degree of heterogeneity</li> <li>Unclear or high risk of bias present in randomized controlled trial</li> </ul>	<ul style="list-style-type: none"> <li>Study length was too short to adequately assess the effects of nurse care manager collaboration</li> <li>Lacked specific inclusion and exclusion criteria.</li> </ul>	<ul style="list-style-type: none"> <li>Blood collection was done with mail in kits, increasing the possibility of inaccuracy of data</li> <li>Number of telephone calls varied greatly among the experimental group.</li> </ul>

## RESULTS, CONTINUED

**Table 2:** Overview of results, change in HbA1c

Study	Sherifali, et al. <sup>3</sup>	Hiss, et al. <sup>4</sup>	Walker, et al. <sup>5</sup>
Control	See Figure 1	-0.22 ± 0.17 (0.20)	+0.13 ± 13 % (p value = 0.04)
Intervention	-0.32 (95% CI, -0.50 to -0.15)	-0.42 ± 0.15 (0.0063)	-0.23 ± 0.11% (p value = 0.04)



**Figure 2:** Changes in HbA1c

## CONCLUSIONS

The three studies compiled above all show statistical significance in lowering diabetic patient's HbA1c using health coaching techniques. Integrative health coaching is a good way to make the patient active in the treatment of their disease.

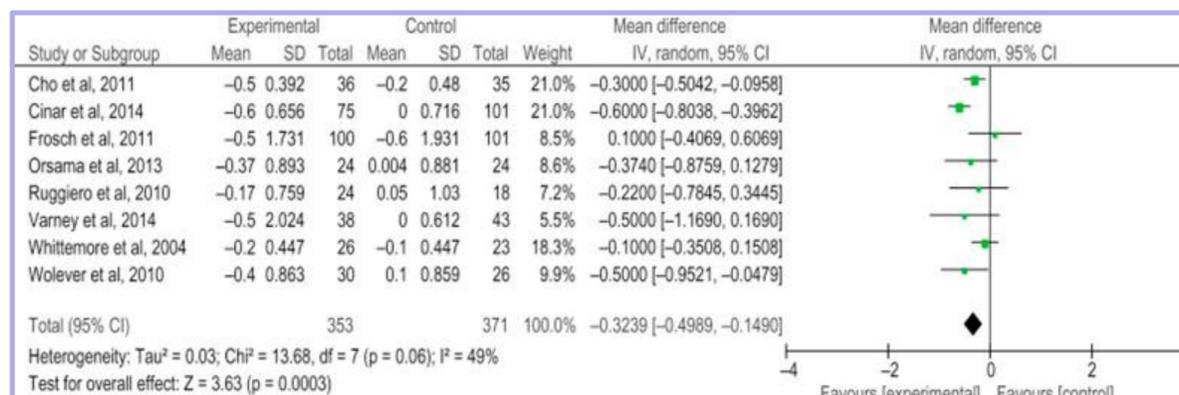
For the future, more longitudinal studies need to be done to track HbA1c changes over a longer period of time. Further studies must also address what component of the individualized plans make health coaching successful. Current research shows individualized health coaching statistically lowers HbA1c in patients with type 2 diabetes and is an option worth pursuing.

## ACKNOWLEDGEMENTS

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**Figure 1:** Forest plot from Sherifali et. al<sup>3</sup> of mean difference in HbA1c.