

Effects of Psychotherapy in Diabetics with Depression

Introduction

Diabetes and depression are both prevalent in the population today. Per the CDC, 10.5% of the US population (34.2mil people) have diabetes (CDC, 2020). CDC also reports 4.7% of adults report regular feelings of depression, and 9.3% of physician office visits include depression in the medical record. Like many chronic diseases, there is a long-standing correlation between diabetes and depression (Ni et al., 2020). This study aims to identify the effects of this correlation by answering the PICO question: do diabetic patients with depressive symptoms being treated with forms of psychotherapy interventions to supplement conventional diabetic care, compared to those with no treatment at all, improve overall glycemic control, as measured by HbA1c scores?

Design/Sample

Our evidence-based paper focused on Level 1 study of systematic reviews and meta-analysis from 2017-2021, including a Cochrane study. Studies incorporated the effects of psychological interventions such as mindfulness-based stress reduction, cognitive-behavioral therapy, and psychosocial interventions on the HbA1c level and the self-reported PHQ-9 scores of diabetes patients with depressive symptoms. Sample sizes of studies ranged from small-scale of 100 to analysis of 15,000 participants.

Analysis

A total of ten relevant articles were reviewed analyzing the effectiveness of psychological interventions in patients with comorbid depressive symptoms and diabetes, and the overall effect on HbA1c levels. Studies reviewed did show improvement in anxiety and depressive symptoms, and some did report mild short term improvement in HbA1c scores, but none evaluated long term (>1yr) effects. The consensus from most studies is that more investigation is needed to look at long term effects on HbA1c. Most studies were level 1 studies, with good statistical analysis of outcomes. The psychological interventions were varied, from CBT, to online based programs. A direct correlation between the type of psychological intervention and the effect on HbA1c scores could not be clearly established.

Results

Ten articles were included in this paper. The research paper showed that the majority of the psychological interventions utilized have a beneficial effect on the reduction of HbA1c and depressive symptoms among diabetic individuals. However, the degree of reduction in HbA1c and duration of the reduction in HbA1c varied with the different psychological interventions that were used in the studies that were conducted.

- Chew et. al. (2017), a systematic and meta-analysis review, found that cognitive-based interventions showed minimal reduction in HbA1c.
- Newby et. al. (2017) study showed no significant effect with the use of web-based CBT in improving HbA1c scores, although it helped lower generalized and diabetic distress, anxiety, and PHQ-9 scores.
- Ni, Ma, and Li (2020), a systematic review and meta-analysis, found that mindfulness-based stress reduction and mindfulness-based cognitive therapy had temporary improvement in HbA1c among diabetic patients.
- Uchendu and Blake (2016), a systematic and meta-analysis review, found that CBT had short-term and medium-term lowering effects in HbA1c.
- Van Der Feltz-Cornelis et. al. (2020), a systematic review and meta-analysis, showed that psychological interventions on diabetic patients with higher baseline depression scores had a more significant improvement in depressive symptoms and HbA1c compared to patients with lower baseline depression scores.
- Van son et. al., (2013) study found no reduction in HbA1c with mindfulness-based intervention in patients with type 1 or 2 diabetes.
- Winkley et. al. (2019), a systematic review and meta-analysis, showed reduction in HbA1c among patients with T2DM that received psychotherapy treatments which includes CBT, supportive/counseling therapy, and self-help techniques.
- Xie et. al. (2017), a meta-analysis, showed that psychological interventions had a significant improvement in HbA1c in diabetic management of patients with comorbid depression.
- Yang et. al. (2020), a meta-analysis, found a reduction in HbA1c and depressive symptoms with the implementation of cognitive behavioral-based interventions among diabetic patients.
- Zarifsanaiy et.al. (2020), a quasi-experimental study, showed that mindfulness training reduced HbA1c in diabetic patients as well as increase in their level of happiness.

Summary

With regular psychological interventions there was a decrease in depression and anxiety symptoms in type 1 & 2 diabetic patients. Furthermore, various studies had conflicting results as to if HbA1c scores decrease with psychological interventions in addition to medications. Some studies saw improvement, while others did not see any changes. But all studies did not see worsening of blood sugar levels.

Conclusions/Further Study

Based on the ten relevant articles that were analyzed regarding the effectiveness of psychological interventions in patients with comorbid depressive symptoms and diabetes, there is evidence to support implementation of interventions in order to reduce HbA1c scores. For future studies to evaluate the long-term HbA1c reduction, there should be increased sample sizes over longer time periods.

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