

Changes in Diabetes Distress Related to Participation in an Internet-Based Diabetes Care Management Program and Glycemic Control

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Abstract

Background:

This article investigated how changes in diabetes distress relate to receiving care management through an Internet-based care management (IBCM) program for diabetes and level of participation in this program. Further, it examined the relationship between diabetes distress and changes in glycemic control.

Methods:

We enrolled patients of the Veterans Affairs Boston Healthcare System with diabetes who had hemoglobin A1c (HbA1c) levels of $\geq 9.0\%$. Subjects were randomized to usual care ($n = 52$) or IBCM ($n = 52$) for 1 year. We measured diabetes distress at baseline and quarterly thereafter using the Problem Areas in Diabetes (PAID) questionnaire. Glycemic control was determined by baseline and quarterly HbA1c. For subjects randomized to IBCM, we measured participation by observing frequency and consistency of their usage of the IBCM patient portal over 12 months. Linear mixed models were used to analyze THE data.

Results:

PAID scores declined over time for both treatment groups. Among subjects randomized to IBCM, the decline in PAID scores over time was significant for sustained users of the IBCM patient portal but not for nonusers. Moreover, subjects whose usage of the patient portal was sustained throughout the study had lower PAID scores at baseline. With respect to changes in glycemic control, HbA1c reduced individual differences in PAID scores by 44%; a lower baseline HbA1c was associated with lower baseline PAID scores, and over time, the decrease in HbA1c was associated with further decreases in the PAID score.

Conclusions:

Participation in IBCM varies by initial diabetes distress, with people with less distress participating more. For people who participate, IBCM further mitigates diabetes distress. There is also a relationship between achievements in glycemic control and subsequent lowering of diabetes distress. Future research should identify how to maximize fit between patient needs and the provisions of IBCM, with the aim of increasing patient engagement in the active management of their health using this care modality. A key to maximizing fit might be first addressing metabolic control aggressively and then using IBCM for sustainment of health.

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Abbreviations: (HbA1c) hemoglobin A1c, (IBCM) Internet-based care management, (IDEATel) Informatics for Diabetes and Education Telemedicine, (PAID) Problem Areas in Diabetes, (PCP) primary care physician, (VA) Veterans Affairs

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