Goal Setting

Patient-reported use of collaborative goal setting and glycemic control among patients with diabetes

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ABSTRACT

Objective: Little is known about how patient–clinician communication leads to better outcomes. Among patients with diabetes, we describe patient-reported use of collaborative goal setting and evaluate whether perceived competency and physician trust mediate the association between collaborative goal setting and glycemic control.
Methods: Data from a patient survey administered in 2008 to a cohort of insured patients aged 18+ years with diabetes who initiated oral mono-therapy between 2000 and 2005 were joined with pharmaceutical claims data for the prior 12 months and laboratory data for the prior and subsequent 12 months ($N = 1065$). A structural equation model (SEM) was used to test mediation models controlling for baseline HbA1c.
Results: The hypothesized mediation model was supported. Patient-reported use of more collaborative goal setting was associated with greater perceived self-management competency and increased level of trust in the physician ($p < 0.05$). In turn, both greater perceived competence and increased trust were associated with increased control ($p < 0.05$).
Conclusions: Findings indicate that engaging patients in collaborative goal setting during clinical encounters has potential to foster a trusting patient–clinician relationship as well as enhance patient perceived competence, thereby improving clinical control.
Practice implications: Fostering collaborative goal setting may yield payoffs in improved clinical outcomes among patients with diabetes.

1. Introduction

Despite the availability of effective pharmacological and other treatments, clinical control, measured by hemoglobin (Hb) A1c, is often not achieved among patients with diabetes [1,2]. Recently, interest has centered on how the features of patient–clinician communication may affect health outcomes [3]. Of particular interest is the role of active patient participation during clinical encounters [4].

Previous observational [5–8] and interventional studies [9] have highlighted the benefits of active patient participation in medical encounters, although findings in the context of diabetes care are mixed [10]. One key component of active patient participation is collaborative goal setting [11]. Collaboratively setting a goal has been shown to lead to increased levels of goal commitment [4,12–17]. Furthermore, collaboratively helping patients set and follow up on goals may be an effective way to help patients improve their self-efficacy, an important predecessor to effective self-management, and thus glycemic control and other patient-centered outcomes [11,18]. Furthermore, the act of collaboratively setting goals may be beneficial to patient–clinician rapport, improving factors, such as patient trust, which have been shown to improve patient adherence to recommended treatment [19]. As such, the American Diabetes Association's clinical practice guidelines acknowledge the importance of collaborative goal setting in diabetes care management [20].

Among patients with diabetes, patients' perceptions of collaborative care (including collaborative goal setting) have been shown to be associated with patients' reported self-management [7] and, indirectly, with hypertension control [5]. However, the relationship between collaborative goal setting and clinical control among

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patients with diabetes remains poorly understood. Using a patient survey joined with laboratory data on HbA1c control among a sample of insured, primary care patients with diabetes, we describe patient-reported use of collaborative goal setting when receiving medical care for their diabetes, and evaluate the associations between patient reports of collaborative goal setting and subsequent glycemic control (as measured by HbA1c). As advocated by Street and colleagues [3], we do so by evaluating plausible pathways through which communication may contribute to healing. Specifically, we evaluate whether patient perceived self-management competence and physician trust mediate the relationship between patient-reported use of collaborative goal setting when receiving medical care for their diabetes and subsequent glycemic control.

2. Methods

2.1. Patient selection

Survey-eligible patients were selected from a previously established cohort of insured patients aged 18 years and over who initiated oral mono-therapy between 2000 and 2005 [21]. This cohort included all insured patients receiving diabetes care between 2000 and 2005 from a salaried, multi-specialty group practice in southeast Michigan. The medical group, which staffs 27 ambulatory clinics in Detroit and its surrounding suburbs, is owned by an integrated health system which maintains a large data repository that is commonly used for research purposes.

In October 2008 a subset of this original cohort was identified for survey administration. Survey-eligible patients were those with an office visit to a primary care physician or endocrinologist in the prior 6 months and who maintained their health insurance coverage with the health system-affiliated health plan. Because of the goals of the parent project that assembled the original cohort, patients with an insulin dispensing and those with no HbA1c testing in the prior year were excluded. Using each patient's most recent HbA1c test result in the prior year, the survey was administered to all survey-eligible cohort members with an HbA1c > 8% (N = 418) plus a random sample of those with an HbA1c < 8% (N = 1162), resulting in a survey cohort of N = 1580 patients.

2.2. Data sources

Automated laboratory data. All laboratory values used were obtained from the medical group's affiliated clinical laboratory. Per study eligibility criteria, an HbA1c test result was available for all sample members at the time of survey administration (i.e., baseline). The first HbA1c test result available from the laboratory's automated processing system in the 12 months following survey administration was used for the post HbA1c outcome.

Patient survey. A mixed-mode mail/telephone survey was administered between January 22nd and May 3rd 2008. The survey included questions regarding the patient's perceptions of their health care team's use of collaborative goal setting [5], their own perceived competence in managing their diabetes [6], physician trust [22], height, weight, and socio-demographic characteristics such as marital status, race, and educational attainment. Along with the survey and a stamped return envelope, the mailed survey packet included a $2 bill and a letter of study introduction signed by the principal investigator. The letter, which explained the study and contained elements of informed consent (including an opt-out option), was sent on Health System letterhead. Survey administration followed a modified Dillman process [23]. Non-responders to the mailed survey were contacted via telephone and asked if they would complete a telephone

interview. Survey responders, regardless of mode, received $20 cash.

2.2.1. Pharmaceutical claims data

Outpatient pharmaceutical claims data from the 12-month period prior to survey administration were used to identify and control for the number of different types of oral anti-diabetic medications dispensed to the patient.

2.3. Measures

Primary outcome. The primary outcome of interest was the first HbA1c test result on record in the health system's clinical laboratory in the 12-month period following survey administration. Only test results that were at least 90 days following the baseline HbA1c value, but still within 12 months of survey administration, were considered.

2.3.1. Collaborative goal setting

Patients' perception of collaborative goal setting when receiving medical care for their diabetes was evaluated using three items from the Patient Assessment of Chronic Illness Care (PACIC) instrument [24,25]. For each of these items (i.e., [1] asked to talk about my goals in caring for my diabetes [2]; helped to set specific goals to improve my eating or exercise; and [3] set a goal together with my team for what I could do to manage my diabetes) participants are asked to rate how often each event occurred over the past six months using a scale that ranges from 1 (never) to 5 (very often). The reliability of the resulting factor (latent variable) was confirmed in the current sample: the Cronbach's Alpha internal consistency estimate of collaborative goal setting scale was high (0.83).

2.3.2. Perceived competence

Survey respondents who reported having an HbA1c target level were also asked to report the degree to which they feel able to manage the daily aspects of diabetes care using the previously validated Perceived Competence for Diabetes Scale [6]. Using a seven-point Likert format (where 1 reflects "not at all true" and 7 reflects "very true"), this scale asks respondents to indicate how true four statements are for them. The statements address the patient's ability to manage disease, feeling capable of handling their disease, ability to do own routine care, and feeling able to meet challenges of controlling diabetes. Because survey respondents who did not report having a target level for their HbA1c control were not asked to complete this scale, for analyses we created a binary variable reflective of having an HbA1c target level and reporting high perceived competence (i.e., a score greater than or equal to 20) vs. other (which included both respondents who reported low perceived competence [i.e., a score less 20] and those with no target level for their HbA1c).

2.3.3. Physician trust

Patient-reported interpersonal physician trust was measured using the item "I trust this doctor's judgments about my medical care," [22] with a Likert format ranging from 1 = Strongly disagree to 7 = Strongly agree.

2.3.4. Controls

In addition to these endogenous factors, we considered a number of exogenous factors. These included patient age, gender, race, marital status, and educational attainment. We also controlled for body mass index > 40 (as calculated from self-reported height and weight) as well as the number of different oral anti-diabetic medications dispensed to the patient at the time of survey administration.