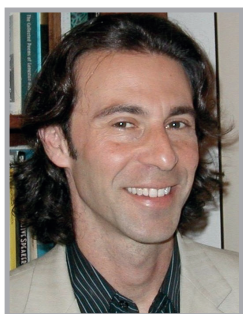


Patient–provider communication and diabetes medication adherence: where do we go from here?



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“Actively engaging patients in setting treatment goals by assessing and incorporating their capacities, desires and values inherently requires effective patient–provider communication strategies.”



For several decades, researchers have explored how patient–provider relationships can influence chronic illness care and outcomes. The domains of patient–provider communication – such as shared decision-making, trust and/or respect, and mutual understanding regarding treatment plans – are increasingly central to patient-centered models of care delivery. For example, new diabetes treatment guidelines call for individualizing clinical control targets, taking into consideration patient health status and risk factors, as well as psychological, social and economic conditions [1]. Actively engaging patients in setting treatment goals by assessing and incorporating their capacities, desires and values inherently requires effective patient–provider communication strategies.

While much of the research on patient–provider communication among diabetes patients has focused on its influence on intermediate outcomes, such as control of cardiometabolic risk factors for complications (i.e., HbA1c, blood pressure and cholesterol), fewer studies have focused on the pathways between

communication and diabetes self-management, such as medication adherence. Medication adherence among diabetes patients is theorized to be a proximal outcome of effective patient–provider communication, linked by such potential mechanisms as advancing patient understanding/knowledge, increasing the quality of medical decision-making and/or increasing patient self-efficacy or empowerment [2]. Improving medication adherence among diabetic patients is an important healthcare priority, given that nonadherence rates for medication regimens range from 10 to 40% depending on the study and pharmacological agent of interest [3]. In the longer term, poor adherence can lead to poorer clinical control and, in turn, higher rates of macro- and micro-vascular complications. Moreover, poor adherence can jeopardize patient safety, when unsuspecting clinicians escalate dosages or intensify regimens, instead of addressing barriers to adherence.

This editorial summarizes some of the most relevant literature on patient–provider communication and medication adherence among diabetes patients, raises important

“...there is a robust body of research suggesting that effective physician communication can improve medication adherence among diabetes patients.”

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considerations regarding barriers to communication for specific patient populations and suggests future directions for advancing research in an era of health reform.

Evidence of the influence of patient–provider communication on diabetes medication adherence

The majority of the literature in this area is cross-sectional in nature and has focused specifically on physician communication and general treatment adherence, and has not been limited to diabetes patients. In the largest meta-analysis published on these general associations (106 studies in total, 87 of which were specific to medication adherence and 31 of which were related to diabetes or chronic illness more broadly), the authors found 19% higher rates of nonadherence among patients who reported poor ratings of physician communication [4]. This meta-analysis also evaluated a second, smaller body of literature evaluating interventions to enhance physician communication as a means to improve adherence. Of 21 studies (14 of which included interventions particular to medication adherence and nine of which were related to diabetes or chronic illness), there was a 12% increase in the prevalence of nonadherence among patients of physicians not trained in communication skills versus those trained. Although the communication interventions varied in their content and methods, this body of research provides evidence that training physicians in communication skills (e.g., eliciting patient involvement and improving psychosocial interactions) can impact patient adherence.

Focusing on the subset of studies specific to medication use among patients with diabetes, there are a few studies of note. First, in a diverse sample across healthcare systems, our group found that patient reports of their providers' general communication and diabetes-specific communication were significantly associated with better medication adherence (11 and 13% improvements, respectively, as measured by a single self-reported adherence measure) [5]. Second, among a sample of older diabetes patients in the Health and Retirement Study, Heisler and colleagues found that higher ratings of explanatory physician communication were significantly related to improved self-reported medication adherence (standardized β increase: 0.13) [6]. Finally, owing to the potential reporting bias when assessing medication adherence via patient

recall, it is particularly important to examine literature that calculates adherence objectively – that is, using pharmacy refill data. In our most recent work, we examined medication adherence in this manner among a diverse sample of diabetes patients within the Kaiser Permanente Care Consortium (California, USA) measuring nonadherence as a gap in continuous medication supply for more than 20% of the time [7]. We found that lower ratings of interpersonal communication, shared decision-making and trust in the healthcare provider were associated with approximately 4–6% absolute increases in overall cardiometabolic medication nonadherence. Of note, when examining oral hypoglycemic, antihypertensive and antihyperlipidemic medications separately, the associations were most robust for oral hypoglycemic agents, suggesting that adherence to diabetes-related medications may be most sensitive to communication. In conclusion, the associations between clinician–patient communication and medication adherence appear consistent even when using objective measures of medication adherence, although with perhaps smaller effect sizes.

Barriers to patient–provider communication among diabetes patients

Although improved communication has been shown to be related to better medication adherence, it is essential to highlight the disparities in communication across patient populations, as not all patients have comparable experiences when communicating with their providers. Specifically, racial/ethnic minority diabetes patients report barriers to shared decision-making with their providers [8]; those with limited health literacy report the poorest communication in terms of general clarity and explanation of their condition and processes of care [9] and barriers to initiating a prescribed insulin regimen [10]; and limited English proficient patients report suboptimal communication with their providers across several domains [11]. Moreover, diabetes patients with depression report significantly lower communication in terms of elicitation of patient problems and concerns, explanation of condition, empowerment and decision-making [12]. Finally, numeracy – or the ability to understand and use numbers in daily life – can influence patients' ability to adhere to their medication regimens [13].

This is particularly important for designing future interventions focusing on either providers

or patients, as existing barriers to effective communication must be explicitly addressed in order to improve medication adherence. There must be careful consideration to developing patient communication strategies for diabetes self-management (both verbal and written) that are appropriate and accessible across cultures and languages, as well as literacy and numeracy levels. The importance of improving communication within these subgroups cannot be overstated, as these groups also tend to experience additional sociostructural or contextual barriers to self-management, poorer clinical control and, ultimately, greater burden of diabetes complications.

Conclusion & future perspective

There are several important future methodological issues to consider in this body of work. First, although the aforementioned studies examined several types of patient–provider communication and different classes of medications, the specific pathways between communication and adherence are not fully understood. For example, understanding whether interpersonal versus diabetes-specific communication (or a combination of both), or elicitive versus explanatory communication, impacts adherence most effectively is largely unanswered. In addition, certain classes of medication may carry additional complexity (adverse side effects and/or perceived benefits compared with others), therefore, understanding and supporting shared decision-making in this dynamic context is an area ripe for exploration. While there is often low concordance between diabetes patients and their providers on treatment plans, agreement could significantly improve diabetes self-management activities [14]. Use of diabetes medication decision aids could facilitate shared decision-making. These tools (with easy-to-understand comparisons of medications, including side effects, intended outcomes and daily routines) have been shown to increase patient engagement in choosing medications and patient knowledge, although the rates of nonadherence in selected study samples were too low to detect significant differences in subsequent medication use [15]. Furthermore, a deeper understanding of patient communication with providers other than physicians, such as with nurse practitioners [16], is a critical area for research, as multidisciplinary care teams proliferate within primary care practices.

Finally, there is much to be learned about how communication will be impacted as new digital

communication modalities between patients and providers become standard practice. A majority of patients are interested in online services for their care management, including electronic communication with providers, and the US federal government is compensating physicians to increase such patient access through meeting ‘meaningful use’ criteria. While these online services hold promise for improving diabetes care processes and outcomes [17], there is little research about how they affect communication or adherence. One study of email content between patients and providers suggested that it can be used to deliver patient-centered care, including informational exchange, as well as emotional support [18]. Another recent study found that use of online services, such as email, increased the amount of in-person visits [19], suggesting that electronic communication does not substitute for in-person visits. Beyond the overall impacts, there are also concerns regarding exacerbating existing barriers to communication with the introduction of new technologies – particularly because there are documented differences (by race, socioeconomic status and health literacy [20]) in the use of these online services to date.

In summary, there is a robust body of research suggesting that effective physician communication can improve medication adherence among diabetes patients. Moving forward, we must engage patients in more meaningful ways in this dialog, particularly to understand barriers to adherence and develop shared treatment plans within the context of patients’ daily lives. Moreover, we must look to new communication media, such as email and other online services, to enhance and extend patient–provider relationships, with special attention to reducing barriers to communication for all patients.

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