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Chronic Pain Self-Management: An Unmet Need among People with Diabetes

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Diabetes is the fifth leading cause of death in the United States and disproportionately affects people in low socio-economic levels.[1, 2] Health outcomes of persons with diabetes are directly related to their self-management behaviors, including adherence to prescription medications, obtaining annual eye and foot exams, nephrological assessments, and adherence to healthy eating and physical activity regimens.[3] Non-adherence, once considered as a patient behavioral problem, is now seen as more indicative of a patients' ability to self-management their chronic disease within the interactive framework of their healthcare providers, healthcare systems, families and communities. [3,4,5]

Several barriers affect the self-management behaviors for people with diabetes.[6] Health care providers are increasingly facing challenges in treating patients with multiple chronic conditions.[7,8,9] About 45% of all U.S. adults report living with one or more chronic conditions and about half of older adults have two or more chronic conditions including diabetes, chronic pain, and hypertension.[10,11] Several symptomatic conditions are more prevalent among patients with diabetes compared to patients without diabetes, including chronic pain, depression, incontinence, falls/fear of falling, and functional disability. [12] Studies have identified that chronic pain is the biggest barrier to effective diabetes self-management.[13]

Chronic pain often coexists with other significant chronic illnesses, including diabetes and chronic heart failure.[9,10] Chronic pain affects about 40% of adults with diabetes and about 60% of U.S. veterans with diabetes.[13, 14] Chronic pain has been shown to substantially interfere with patient's ability to perform recommended levels of physical activity and to adhere to medication regimens. It also contributes to low self-esteem, depression and poor quality of life.[15] In patients with diabetes, chronic pain may be caused by diabetes itself (peripheral neuropathy), or more commonly by conditions related to obesity or other common conditions (e.g., osteoarthritis).[16,17] Due to the serious psychological consequences of chronic pain, it is particularly challenging for health care providers to manage diabetes among patients who also have chronic pain.[17,18]

The presence of chronic pain has been demonstrated to negatively impact diabetes self-management. A study by Krein, et al in 2005 found that chronic pain was a major limiting factor in the performance of self-care behaviors.[13] Even after controlling for general health status and depressive symptoms. Patients with chronic pain had more difficulty following a recommended exercise plan (adjusted odds ratio [OR] 3.0 [95% CI 2.1– 4.1]) and eating plan (1.6 [1.2–2.1]). Furthermore, those with more severe pain reported significantly poorer diabetes self-management than those with mild or moderate pain, (*P*_0.003), including greater difficulty with taking diabetes medications (2.0 [1.2–3.4]) and exercise (2.5 [1.3–5.0]). The authors concluded in another study that targeting chronic pain during initial primary care visits reduced medication intensification by 40% among patients with diabetes.[17] Other studies have also suggested that controlling chronic pain significantly reduced the likelihood of medication change. [18] Addressing chronic pain in the initial encounters may alleviate barriers to self-management and improve the clinical outcomes.[18]

Despite compelling evidence in the literature regarding the effects of chronic pain on diabetes outcomes, very few self-management programs address chronic pain self-management among patients with diabetes. Although several interventions are being developed for chronic disease self-management (not specifically targeting diabetes), there is a need to develop care models that ensure that both pain and other chronic conditions are adequately addressed. Additionally, many accredited diabetes self-management training programs have been established, but the participation of patients who are members of priority populations for such programs remains very low.[1, 18, 19] A failure to develop culturally relevant interventions tailored to individuals and communities with the highest needs has resulted in poor health outcomes and contributed to health disparities.[17, 18] A position statement by the Diabetes Mellitus Interagency Coordinating Committee recognized the unmet need for effective self-management interventions for patients with diabetes, especially among vulnerable populations.[17, 18]

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Previous qualitative studies have tried to identify specific barriers for self-management interventions for diabetes. These barriers include complexity in health education materials received, lack of proper communication with health care providers, and lack of awareness in managing co-morbid conditions.[17] Lack of self-efficacy and motivation are commonly addressed barriers for adherence to self-management interventions.[12, 15,16] Given the complexity of co-existing chronic pain and diabetes, interventions aiming to improve self-management behaviors in this population should ensure that they are easy to implement, require few on-site visits, do not require specialty devices or professionals (chiropractor, massage therapist, etc), can be performed at home, include sustained communication strategies with patients (e.g., follow-up phone calls, web-messages), and can be delivered in rural communities and among underserved populations.

The number of people with diabetes and chronic pain is substantial and growing. It is time that we apply our growing knowledge about how to improve health through better chronic disease self-management to those who could benefit most from these programs. Patients with diabetes and chronic pain represent an important high-risk group with special needs who could greatly benefit from a practical and generalizable disease self-management program tailored to their needs.

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