

Study reveals significant gaps in patient self-management of diabetes in Trinidad and Tobago

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One in three diabetes patients at the Penal Health Center, located in the Penal region of Trinidad and Tobago, fail to take the medications their physicians prescribe for high blood sugar, blood pressure or cholesterol. And nearly all of these patients fail to engage in physical exercise needed to improve their health, according to results of a study in Trinidad and Tobago.

The study was conducted by a team of experts from the Trinidad and Tobago Health Sciences Initiative's [Diabetes](#) Outreach Program, a collaborative program between Johns Hopkins Medicine, the University of Trinidad and Tobago, the University of the West Indies, Trinidad and Tobago's Ministry of Health and Ministry of Tertiary Education and Skills Training and several other local organizations aimed at improving the health care sector through educational collaborations and [research initiatives](#).

Researchers set out to analyze factors that influence [patients'](#) self-management and nonadherence behaviors, and give [health care providers](#) information on how best to assist people who are struggling with day-to-day [diabetes management](#).

The investigators were led by Felicia Hill-Briggs, Ph.D., ABPP, associate professor at the Johns Hopkins University School of Medicine and director of diabetes research for the Trinidad and Tobago Health

Sciences Initiative, and Akenath Misir, B.Sc., M.B.B.S., M.P.H., FRSPH, acting chief medical officer of Trinidad and Tobago's Ministry of Health. They studied data from more than 500 patients between the ages of 25 and 87.

Patients were asked to complete a Patient Self-Care Risk Assessment during a routine visit to the health centre. The survey focused on social and behavioral history, general health and disease-specific regimen behaviors.

The study investigators discovered that nearly all patients lacked understanding of how to manage their diabetes effectively and how the disease affects the human body. Targets for blood sugar, blood pressure and cholesterol control, as well as symptoms of high and low blood sugar, also were not understood by most patients, who reported that they "forgot" to take their medications, or stopped taking them whenever they "felt better."

The study also revealed that patients with diabetes self-monitored their blood sugar only 35 percent of the time, and paid attention to foot care and diet only half the time (57 percent and 62 percent, respectively). Fewer than 5 percent of patients had heard of a test called HbA1c as a measure of longer-term blood sugar control.

Although almost half of patients (48 percent) described themselves as overweight, 85 percent considered themselves "fit" or "partly fit". Nearly all engaged in harmful dietary practices, including frequent consumption of fast foods and heavily sweetened beverages, adding salt during cooking, and eating fruits and vegetables only twice a week.

Alarmingly, the researchers reported, 85 percent of the patients in the study reported "sitting" as their primary leisure behavior, and more than half indicated that they never tried to increase their physical activity.

Nearly one in three also reported financial problems as a barrier to following a good diabetes control regimen, and one in five identified family-related problems and caregiver roles as barriers to managing their own care.

One in five patients was clinically diagnosed with depressive disorder. Almost half (49 percent) said they experienced occasional symptoms of depression, and one in four reported that these feelings made it difficult to take care of their diabetes. One in four patients also reported heavy alcohol use, defined as consuming five or more drinks in a single day during the week prior to the survey.

Patients unanimously expressed the view that it is "very important" for physicians to involve them in medical decision-making, explain how diabetes affects them, discuss treatments, listen to their complaints and concerns and counsel them. However, half of all patients rated their satisfaction with the delivery of these aspects of care as relatively low.

The research also identified several positive indicators for patient engagement and behavior change, and showed that patients deemed their role in their care as important. Patients also showed high rates of confidence in their ability to take action and remain motivated.

Patients reported prior success with modifying behaviors including smoking and alcohol consumption, and reported interest in fully understanding the behavioral aspects of managing their condition.

The study also revealed that well-focused, evidence-based interventions are necessary to address the behavioral and self-care needs identified in this patient population, including integrating an Assessment of Behavior into the primary care setting, establishing peer counselor programs for diabetes self-care education and training, initiating nurse care management intervention for depression, reducing smoking and alcohol

behaviors, reducing challenges to patient interpretation of HbA1c by standardizing the test, performing clinical tests at regular intervals to provide time-relevant feedback to patients, and ensuring reliable documentation of clinical results in the medical record and dashboard.

"Over the past 25 years, the incidence of diabetes has increased worldwide. Today, Trinidad and Tobago is ranking among the countries with the highest prevalence and the fastest-growing number of cases," says Hill-Briggs. "The World Health Organization estimates that the prevalence of diabetes in Trinidad and Tobago is 12 percent to 13 percent, almost twice the global average. This means that improving diabetes care and its outcomes requires intervention at multiple levels, including the health care system and providers, and the community." She adds, "However, day-to-day management of diabetes depends largely on the patient, who must change his or her behaviors and strictly adhere to a complex self-care regimen."

The Diabetes Research Program is one component of the Trinidad and Tobago Health Sciences Initiative Diabetes Outreach Program (DOP). It was established with the four-fold mission:

- To bring advances in diabetes care through research done in Trinidad and Tobago,
- To provide a source of support and a research infrastructure for young health care professionals interested in careers devoted to diabetes,
- To provide much-needed data to inform public [health](#) decisions related to expenditures, so that decisions regarding what to fund and where to put resources for diabetes care will be based on solid evidence developed in Trinidad and Tobago, and
- To establish Trinidad and Tobago as a regional and international leader in diabetes among middle-income countries.

Provided by Johns Hopkins University

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