

Making diabetes screening more available at the dentist's office

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(Medical Xpress)—You may have diabetes and not even know it. According the Centers for Disease Control and Prevention, 25.8 million people have diabetes. Of these, 7 million have undiagnosed disease.

Getting treatment for diabetes early is crucial to avoid complications such as kidney failure, blindness and increased risk of heart disease and stroke. In order to target the undiagnosed, health care providers are

working to make diabetes testing available in a variety of health care settings.

With this in mind, University at Buffalo researchers have published results on one of the first studies that focused specifically on the diabetic HbA1c blood test and whether or not it was feasible to perform it chair side in dental office practices.

The results recently appeared in the *Journal of the American Dental Association*.

According to the study's first author Robert J. Genco, DDS, PhD, SUNY Distinguished Professor of Oral Biology and Microbiology and Immunology, while dentists have been conducting patient blood sugar tests for some time, very little in the way of field trial research is available regarding dental visits and HbA1c testing.

Hemoglobin is a protein in red blood cells that carries oxygen. Glycated hemoglobin, or HbA1c, is a form of hemoglobin that reflects plasma glucose concentrations.

The HbA1c blood test is considered essential for patients with diabetes and pre-diabetes because its results can reflect an individual's blood sugar control anywhere from four weeks to three months—not just that day. It also doesn't require fasting and can be done with a finger stick.

Genco said the goal of the study was to determine how practical it was to perform the HbA1c test for diabetes as part of a regular dental visit, recognizing that about two thirds of individuals in the U.S. visit a dentist at least yearly.

"Research has shown that uncontrolled diabetes is associated with an increased progression of [periodontal disease](#)," said Genco. "And those

with diabetes and periodontal disease may have worse glycemic control and may be at greater risk for heart and kidney complications."

Genco noted the treatment of periodontal disease in patients with uncontrolled diabetes may actually improve glucose control in some patients.

The patients in the study were 45 years and older and were not aware of their diabetic status. Genco and his team evaluated the patients for diabetes risk using the American Diabetes Association Diabetes (ADA) Risk Test and the HbA measurement.

Values for a normal HbA1c are less than 5.7 percent; pre-diabetic levels are 5.7 percent to 6.4 percent; diabetic levels are higher than 6.5 percent.

Of the 1,022 patients screened, 416 (40.7 percent) had an HbA1c blood level of 5.7 or greater and were referred to physicians for diagnosis and follow-up. Of those 416, 35.1 percent received a diagnosis of diabetes within one year.

The patients were further studied according to where they received treatment and testing: 78.8 percent were seen in a [community health center](#) and 21.4 percent were seen in private dental offices.

Of the patients who were given the ADA Diabetes Risk Test, more than half seen in the community health center were at high risk of developing diabetes. In contrast, in private dental offices, fewer than one fourth of the patients were at high risk.

Genco said the study showed that it is practical to check HbA1c of dental patients. However, there were some issues that emerged during the study that needed further evaluation.

First, only 21.5 percent of patients who were seen in the private dental offices who had an HbA1c of 5.7 percent or greater sought diagnostic workup from their physicians. This low compliance occurred despite patients having consented to the process of screening and possibly being referred to a physician prior to taking part in the study.

Conversely, in the community health center, 78.8 percent of the patients who were referred to physicians sought and obtained a medical diagnosis.

Genco was surprised by these results and said there are a number of possibilities that might cause poor compliance among study subjects, among them denial, fear of being diagnosed diabetic, costs, lack of motivation for patients who are not experiencing symptoms and lack of access to medical care.

He added that the patients in the community health center were primarily African-American and Hispanic. In those populations, because of a higher incidence of diabetes, there may have been greater awareness about the disease and its complications.

"Also, most of the dental patients in the community health center were [patients](#) of record of a primary physician in that same center with shared electronic medical and dental records," said Genco. "What this tells us is that in the future, we need to consider within the study the reasons for poor compliance. We should also take from this the success of the community health center and the importance of a shared medical-dental home."

The study also found dental offices need standardized criteria for documenting and diagnosing periodontal disease more accurately.

Inspired by the fact that he never met either of his grandfathers, both of

whom died early due to complications related to diabetes, Genco has devoted a good deal of his research to the relationship between diabetes and periodontal disease.

"Because of this, I would like to make a contribution to the understanding and control of [diabetes](#), especially since it is closely linked to periodontal disease."

Provided by University at Buffalo

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