

Study: Diabetes affects hearing loss, especially in women

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Having diabetes may cause women to experience a greater degree of hearing loss as they age, especially if the metabolic disorder is not well controlled with medication, according to a new study from Henry Ford Hospital in Detroit.

Women between the ages of 60 and 75 with well-controlled [diabetes](#) had better hearing than [women](#) with poorly controlled diabetes, with similar hearing levels to those of non-diabetic women of the same age.

The study also shows significantly worse hearing in all women younger than 60 with diabetes, even if it is well controlled.

Men, however, had worse [hearing loss](#) across the board compared to women in the study, regardless of their age or whether or not they had diabetes.

"A certain degree of hearing loss is a normal part of the [aging process](#) for all of us, but it is often accelerated in patients with diabetes, especially if blood-glucose levels are not being controlled with medication and [diet](#)," says Derek J. Handzo, D.O., with the Department of Otolaryngology-Head & Neck Surgery at Henry Ford.

"Our study really points to importance of patients controlling their diabetes, especially as they age, based on the impact it may have on hearing loss."

The study will be presented Jan. 26 in Miami Beach at the annual Triological Society's Combined Sections Meeting.

According to the American Diabetes Association, nearly 26 million people in the U.S. have diabetes, and another 34.5 million have some degree of hearing loss. Signs of hearing loss include difficulty hearing background noises or hearing conversations in large groups, as well as regularly needing to turn up the volume on a radio or TV.

While the association between diabetes and hearing loss has previously been studied, Henry Ford researchers sought to learn more about hearing differences among patients with well-controlled diabetes, poorly controlled diabetes, and those who do not have diabetes.

The Henry Ford research team reviewed records for 990 patients that had audiograms performed between 2000 and 2008 at the hospital. Patients were categorized by gender, age (younger than 60 years old, between 60-75 years old and older than 75 years old), and if they had diabetes. Those with diabetes were divided into two groups: well-controlled or poorly controlled, as determined by the American Diabetes Association guidelines that use HbA1C blood levels.

Dr. Handzo notes that previous studies about diabetes and hearing loss have not focused on blood-glucose levels, nor did they include such a diverse population based on age and gender.

The Henry Ford team looked at patients' pure tone average, a measurement that determines hearing level at certain frequency, and speech recognition at different ages. The team evaluated pure tone average ranges that focus on the frequency at which most people speak and the very high frequencies used in music and alarms.

Women between the ages of 60 and 75 with poorly controlled diabetes

had significantly worse hearing than those whose diabetes was well-controlled and the control group. Among the women younger than 60, those with diabetes – regardless of whether or not it was being controlled – had worse hearing than non-diabetic women.

For the men in the study, there was no significant difference in hearing between those with diabetes that well-controlled or poorly controlled, as well as those who did not have diabetes.

"Younger males in general have worse hearing, enough so to possibly mask any impact diabetes may have on hearing. But our findings really call for future research to determine the possible role gender plays in hearing loss," says Dr. Handzo.

Provided by Henry Ford Health System

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