Tobacco Usage and Glycemic Control Among Patients With Diabetes in a Rural Practice

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Tobacco use and diabetes are both significant risk factors for the development and progression of atherosclerotic vascular disease and the associated increase in morbidity and mortality. These two risk factors have been shown to have an additive effect in the development of atherosclerosis. A relationship between the two has also been shown: a 1995 European study reported that smokers had higher average glycosolated hemoglobins (A1C) than non-smokers for those with Type I diabetes and a meta-analysis in 20007 reported that smokers had a 1.4 higher relative risk of developing diabetes compared to nonsmokers. There have been no reports of the effect of tobacco use and glycemic control among those diagnosed with Type II diabetes, the most prevalent type of diabetes in the US. This study looked at the relationship between tobacco use and glycemic control among patients with diabetes.

This study was a medical records review of 571 charts in a rural practice using the electronic medical record. We looked at those patients over 18 years old diagnosed with diabetes and compared tobacco users vs. non-tobacco users regarding A1C levels, the risk of A1C being 8% or higher, those with LDL cholesterol of over 100 dL, a blood pressure over 140/90 mmHg and aspirin use.

We found tobacco users had higher average glycosolated hemoglobins, 8.26% compared to nonusers, 7.63% (p=0.0012) with a relative risk of 1.62 (p=0.178) of being 8.0% or above. There was no difference between the groups for blood pressure control, lipid control, or aspirin usage.

This study showed that among patients with diabetes, those who use tobacco had higher glycosolated hemoglobin values and were 1.6 more likely to have a level above the target of 8.0%. These findings need to be confirmed on larger number of practices with better defined patient characteristics.