ABSTRACT:

Antidiabetic drugs commonly used for Type 2 Diabetes Mellitus (T2DM) are associated with decreased risk for Chronic Obstructive Pulmonary Disease (COPD) exacerbations in patients with comorbidity. Degree of risk reduction is influenced by medication class. Treatment algorithms for T2DM suggest cost should be a factor in determining which medication to prescribe and there is a large range in costs between medications. Socioeconomic status (SES) has been shown to affect the burden of disease in patients with T2DM. SES likely influences the specific medication class that patients are prescribed and thus might affect COPD outcomes in comorbid patients.

To test the hypothesis that SES is associated with medication prescription, Phase 1 and 2 participant data from the COPDgene cohort was examined. 854 participants that were identified to have received antidiabetic medications were divided into groups based on surveyed ranked variables that estimated SES. The variables that were examined were School Completed, Drug Cost Covered and Income. Insurance coverage was not examined, as approximately 97% of participants were insured. These groups were then matched to the medication that they were prescribed. Medication classes included Biguanides (metformin), Incretinmimetics, Thiazolidinediones, Alpha-Glucosidase Inhibitors, Ishophloroglucin A, Sulfonylureas, Meglitinides, Amylin Analogues, and Insulin. After statistical examination using chi square tests, there were no significant differences ($p < 0.05$) between SES groups and medication prescription based on our data. These results were not attenuated by additional adjustment for gender, age, or race.