EFFECTS OF STATIN THERAPY ON HOSPITALIZATION AND MORTALITY IN PATIENTS WITH DIABETES: A RETROSPECTIVE COHORT STUDY

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OBJECTIVES: Clinical practice guidelines suggest that to achieve greater reductions in cardiovascular risk, statin therapy should be prescribed for diabetic patients at earlier stages. The objective of this study was to assess the influence of statin therapy on diabetes-specific hospitalization and all-cause mortality in diabetic patients enrolled in a state Medicaid program. METHODS: This is a retrospective cohort study of patients with diabetes using Medicaid pharmacy and medical claims data. Patients aged 40 years or older with a diagnosis of diabetes, who had continuous coverage in a state Medicaid program from January 2002 to December 2004, and who had a diagnosis of diabetes in 2002 were included in the study and were followed up until December 2004. Statin therapy was measured in using pharmacy claims data of 2003 and statin use was defined as at least two filings prescriptions for statin medications in 2003. The primary outcomes of interest were diabetes-specific hospitalization and all-cause mortality in 2004. Multivariate regression analyses were performed to assess the impact of statin therapy on outcome measures. RESULTS: A total of 21,110 patients met our inclusion criteria. Among them, 76.6% were females and the mean age was 62.9 (±12.3) years. Less than 30% (28.7%) were prescribed statin medications in 2003. After controlling for baseline patient characteristics including age, gender, race, prior hospitalization, comorbidities (measured using Charlson comorbidity index), and use of oral hypoglycemic agents, and antihypertensive medications, in comparison to non-users, statin users were 29.1% less likely to have diabetes-specific hospitalizations (OR: 0.719; 95% CI: 0.628–0.824). The odds for all-cause mortality were also lower in statin users as compared to non-users (OR: 0.480; 95% CI: 0.327–0.703). CONCLUSIONS: The results of this study show that statin use rate is low among adults enrolled in a Medicaid program. Statin therapy in adult diabetic patients reduces diabetes-specific hospitalizations and all-cause mortality.

DIABETES/ENDOCRINE DISORDERS – Conceptual Papers & Research on Methods

AN OPEN-SOURCE, INTERACTIVE MODEL TO ASSESS THE OUTCOMES AND ECONOMICS OF DIABETES INTERVENTIONS IN CANADA

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OBJECTIVES: Several decision-theoretic models exist to assess the long-term outcomes and economics of diabetic interventions. Since the models are proprietary, users are limited in their ability to critically review program code and modify inputs for their specific setting. The main objective was to develop a diabetes model with open-source code that is un locked, transparent, and modifiable by users, which are important considerations for pharmacetical decision makers, particularly in Canada. METHODS: The analytical framework is similar to the United Kingdom Prospective Diabetes Study (UKPDS)-based model (Clarke et al., Diabetologia 2004), and is created in Microsoft Excel, using visual basic. It is adaptable to both individual- and cohort-level data. Relationships between outcomes (e.g., myocardial infarction) and exogenous variables (e.g., HbA1c) were based on the equations as reported by Clark et al. The model was further modified to include (1) costs and disutilities associated with hypoglycemia and (2) options for emerging treatment intensification regimens as the patient’s diabetes progresses. The model uses Canadian resource use data as defaults. The model was validated against the findings of the Ontario Diabetes Economic Model (ODEM, http://www.path-hta.ca/diabetes.pdf, 2006). RESULTS: The quality-adjusted life-year gain of 8.23 for the control arm in published results of the second and fourth factors both related to poor physical health with the second factor including those items relating to empowerment and low A1c while the fourth factor included extruvision, low activity levels, and increased glycemetic events. Factor three was high weight and waist circumference as well as low activity levels, and factor five was primarily readiness to change. Communality scores ranged from .317 to .829. CONCLUSIONS: Factor analysis can help explain underlying factors affecting patients with diabetes. Future analyses will use these factor scores to predict the effectiveness of DSME.