

Does use of statins aggravate glycemic control in patients with type 2 diabetes: A retrospective cohort study

Ephrem Tesfay

Addis Ababa University, Ethiopia

Objective: The main purpose of the study was to assess glycemic control among statin users versus non-users in type 2 diabetes patients for a nine-year follow-up period.

Method: A retrospective cohort study was used on 204 study subjects in Tikur Anbesa Specialized Hospital. Medical records of eligible patients were followed from January 1, 2011 until the occurrence of the outcome, date of administrative censoring or April 24, 2019.

Result: The mean fasting blood glucose of statin users and non-statin users were 176.2 mg/dL (standard error of mean [SEM]: 2.9 mg/dL) and 163.9 (SEM: 3.1 mg/dL, respectively). The Kaplan-Meier analysis showed that non-statin users had a better glycemic control than patients who were taking statins at all levels of time (Log Rank Chi-Square=19.1, $p < 0.001$). Besides this, after propensity score matching, there was a statistically significant difference in mean FBG time between statin users and non-statin users ($t_{202} = 2.901$, $p < 0.004$). Concerning the predictors, there were statistically significant differences for glycemic control for ages ranging from 50 to 54 years (adjusted hazard ratio [AHR] = 0.401; 95% CI [confidence interval]: 0.195–0.823), metformin 1000 mg (AHR=0.410; 95% CI: 0.243–0.693) and simvastatin 40 mg (AHR=0.396; 95% CI: 0.229–0.686) compared to their corresponding controls (75 to 79 years and the absence of the medications, respectively).

Conclusion: This study provides a benchmark for assessing the association of statins with poor glycemic control at the comprehensive specialized hospital. Moving forward, we call for the health care providers to closely monitor the glycemic control of diabetic patients taking statins and place a special effort in optimizing the treatment outcome.

Keywords: Statin users, non-statin users, dyslipidemia, glycemic control, cohort.

Biography

Ephrem Tesfay is a Clinical Pharmacist at Addis Ababa University Tikur Anbesa Specialized Hospital. He holds a BPharm degree from Mekelle University and is currently pursuing his master's degree in Clinical Pharmacy. He has experience in providing pharmaceutical services in various healthcare settings, research and development, clinical practice, consulting and health system management. His research interests include medication safety and clinical pharmacy research, and rational drug use. He is passionate about making sure that patients receive safe and effective pharmacological care in collaboration with medical care providers to ensure patient health outcomes. He is a member of Ethiopian Pharmaceutical Association.