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Title*: A retrospective analysis of the effect of pill burden on statin therapy adherence in adult patients.*

Background: Statin therapy has been associated with reducing morbidity and mortality in patients with risk factors for CVD. Previous studies have shown that overall adherence to statin therapy is low.

Methods and Results: Retrospective chart review analyzing prescription fill data in adults 21 to 89 years, receiving at least 3 fills for statin therapy between Dec 2017 and Nov 2018. Adherence was calculated as the proportion of days covered (PDC) ≥0.85. A total of 269 patients were included, with a mean age of 64.8 years. Study population had an overall adherence rate of 84% (226 patients) (average PDC = 0.919 ± 0.102). Total daily pill burden was calculated based on patient medication fill history for oral chronic medication therapy. Patients were categorized by pill burden group: 1 to 3 pills/day (n = 89), 4 to 6 pills/day (n = 97), 7 to 9 pills/day (n = 51), and ≥ 10 pills/day (n = 32). Adherent patients were more likely to be older (OR = 1.04, p = 0.019) and have greater total pill burden (OR = 1.68, p = 0.020). Statin adherence was lower among younger patients with lower daily pill burdens. Logistic regression showed as statin intensity increased, adherence rates decreased (OR = 0.41, p = 0.018). No statistically significant association existed between statin type, gender, or diabetes status among adherent and non-adherent patients.

Conclusions: Overall adherence to statin therapy was excellent, particularly in those of advancing age and who had larger daily pill burdens.