

Abstract

Statins are widely prescribed medications for lowering cholesterol and preventing cardiovascular diseases. This study assesses the prescription patterns of statins in patients with different risk profiles and age groups. The aim is to understand how effectively statins are prescribed according to clinical guidelines and to identify any gaps in current practice. Data was collected from various healthcare settings and analyzed to determine trends and adherence to guidelines. The results highlight the importance of personalized medicine and the need for continuous education on appropriate statin use. The assessment of statin prescription across different risk and age groups reveals critical insights into the efficacy and safety of statin therapy in diverse demographics. In patients under 75 years, statins are highly effective in reducing LDL-C levels and preventing cardiovascular events, which significantly reduces morbidity and mortality in this age group. However, in older patients (75+ years), the absolute risk reduction may be less pronounced due to the higher prevalence of comorbidities and frailty. Despite this, long-term studies indicate that the benefits of statins in reducing coronary heart disease and major coronary events remain significant even in older populations. Pharmacokinetic properties of statins such as pitavastatin, rosuvastatin, and atorvastatin show minimal variations between younger and older adults, suggesting that age alone should not be a deterrent to prescribing these medications. However, certain statins like atorvastatin exhibit higher C_{max} in elderly patients, necessitating careful dose adjustments and monitoring. Clinical guidelines from major organizations recommend the use of statins for both primary and secondary prevention of cardiovascular events, emphasizing the importance of individualized care. This includes considering the patient's overall health status, comorbidities, and life expectancy when deciding on the intensity of statin therapy. Overall, this study underscores the importance of individualized patient care and continuous education on appropriate statin use to ensure optimal therapeutic outcomes.

Keywords: *Statin, cholesterol, cardiovascular disease, bempedoic acid, patient queries, risk factors, age groups*