

# **Polypharmacy and Fragmented Prescribing in Older Adults with Heart Failure: Impacts on Treatment Prioritization and Clinical Outcomes**

Arshveer Malhi

Faculty Mentor: Dr. Tawanda Chivese

TBIOMD 492

Polypharmacy, the concurrent use of multiple medications is highly prevalent in elderly individuals with heart failure. This is because these individuals often have concurrent comorbidities such as diabetes, hypertension, chronic kidney disease, and chronic obstructive pulmonary disease. Elderly individuals with heart failure are commonly discharged on multiple medications, often exceeding polypharmacy thresholds. This can increase medication burden and may affect treatment outcomes, especially when complex regimens make adherence to life-saving medications more difficult. This literature review sought to examine how polypharmacy affects the management and clinical outcomes of heart failure in elderly individuals, with a focus on medication burden, comorbidities, hospitalization, functional decline, and mortality. This review analyzed twenty primary studies from U.S and international cohorts to compare when polypharmacy worsens outcomes and when it may remain clinically necessary. Across the studies, high medication burden was commonly associated with increased drug-drug interactions that lead to increased hospitalization rates and overall functional decline especially when prescribing was fragmented across conditions or providers. However, the evidence also showed that polypharmacy is not automatically harmful, since outcomes may improve when regimens preserve essential heart failure therapies such as ACE inhibitors and or beta blockers. Overall, the concern is not only the number of medications, but how well prescribing is coordinated around heart failure and other comorbid conditions. Polypharmacy becomes most concerning when medication use is uncoordinated, because this can increase treatment burden and may contribute to poorer clinical outcomes.