

## Documents

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**The Impact of Potentially Inappropriate Medications and Polypharmacy on 3-Month Hospital Readmission among Older Patients: A Retrospective Cohort Study from Malaysia**

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**Abstract**

Introduction: Potentially inappropriate medications (PIMs) use and polypharmacy are two issues that are commonly encountered among older people. They are associated with several negative outcomes including adverse drug reactions and medication-related hospitalization. There are insufficient studies regarding the impact of both PIMs and polypharmacy on hospital readmission, especially in Malaysia. Aim: To investigate the possible association between polypharmacy and prescribing PIMs at discharge and 3-month hospital readmission among older patients. Materials and method: A retrospective cohort study involved 600 patients ≥60 years discharged from the general medical wards in a Malaysian teaching hospital. The patients were divided into two equal groups: patients with or without PIMs. The main outcome was any readmission during the 3-month follow-up. The discharged medications were assessed for polypharmacy (≥five medications) and PIMs (using 2019 Beers' criteria). Chi-square test, Mann–Whitney test, and a multiple logistic regression were conducted to study the impact of PIMs/polypharmacy on 3-month hospital readmission. Results: The median number for discharge medications were six and five for PIMs and non-PIMs patients, respectively. The most frequently prescribed PIMs was aspirin as primary prevention of cardiovascular diseases (33.43%) followed by tramadol (13.25%). The number of medications at discharge and polypharmacy status were significantly associated with PIMs use. Overall, 152 (25.3%) patients were re-admitted. Polypharmacy and PIMs at discharge did not significantly impact the hospital readmission. After applying the logistic regression, only male gender was a predictor for 3-month hospital readmission (OR: 2.07, 95% CI: 1.022–4.225). Conclusion: About one-quarter of the patients were admitted again within three months of discharge. PIMs and polypharmacy were not significantly associated with 3-month hospital readmissions while male gender was found to be an independent risk factor for readmission. © 2023 by the authors.

**Author Keywords**

hospital readmission; Malaysia; older patients; polypharmacy; potentially inappropriate medication

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