

Use of lipid-lowering drugs, even when associated with polypharmacy, reduces risk of hospitalization in PWH >50 years

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P331

Background

Due to more effective and less toxic antiretroviral therapy (ART), people living with HIV (PWH) live longer, a phenomenon expected to grow in the next decades. With advancing age, effectively treated PLWH experience not only a heightened risk for non-infective comorbidities and multimorbidity, but also for geriatric syndromes and frailty. In addition, older PWH have a higher prevalence of polypharmacy (PP).

Interventions addressing risks of PP among PWH are still in early stages, and tools to identify systematically under-prescribing and over-prescribing are lacking. For example, statin prescribing rates in PWH are suboptimal. Studies indicate that a significant proportion of PWH who meet criteria for statin therapy are not receiving it, highlighting a gap between guideline recommendations and clinical practice, resulting in adverse health outcomes.

The objective of the study was to compare most commonly used drug classes and polypharmacy in people with and without HIV (PWH and PWOH) >50 years in relation to risk of same-year hospitalization.

Methods

- This was a **cross-sectional study** of ART experienced PWH and PWOH > 50 years in Modena, Italy. **Inclusion criteria were:**
 - being resident and having a general practitioner in Modena;
 - taking at least one drug class prescribed for chronic use according to Anatomical Therapeutic Chemical (ATC) Classification (including ART for PWH).
- Groups were **matched in 1:10 ratio** for age and sex.
- A dedicated software (Navapharma) was able to trace any dispensing medication from both hospital and all local pharmacies in Modena province in 2023.
- Polypharmacy** was defined as chronic use of at least 5 drug classes. Risk of **hospitalization** was defined as at least one hospitalization for any cause in Modena province in 2023.
- Logistic regression model (LRM)** was used to determine risk factors associated with hospitalization.

Results

- 317 PWH and 3170 PWOH were included, median age was 60 years, 2409 (69.1%) were males. The comparison between the groups is summarized in Table 1.
- In the unadjusted model, PWH were at higher risk of 1-year hospitalization when compared to PWOH (OR= 2.50; 95% CI = 1.70-3.52; p<0.001).

	People with HIV (PWH); N = 317	People without HIV (PWOH); N = 3170	p
Male sex, N (%)	219 (69.1%)	2190 (69.1%)	1.00
Age, years, median (Q1, Q3)	60.0 (57.0-65.0)	60.0 (57.0-65.0)	1.00
Polypharmacy, N (%)	100 (31.5%)	396 (12.5%)	<0.001
Use of LLD, N (%)	194 (61.2%)	1321 (41.7%)	<0.001
Use of proton-pump inhibitors, N (%)	66 (20.8%)	697 (22.0%)	0.63
Use of antidepressants, N (%)	52 (16.4%)	297 (9.4%)	<0.001
Use of antipsychotics, N (%)	13 (4.1%)	81 (2.6%)	0.11
Hospitalization, N (%)	45 (14.2%)	199 (6.3%)	<0.001

Table 1. Comparison between PWH and PWOH

- The same was confirmed in LRM (OR= 1.69; 95% CI = 1.17-2.45; p=0.005), after adjustment for polypharmacy (OR=1.29; 95% CI=1.21-1.37; p<0.001), use of proton-pump inhibitors (OR=1.80; 95% CI=1.31-2.47; p<0.001) and lipid-lowering drugs (LLD) (OR=0.62; 95% CI=0.45-0.85; p=0.003).
- In LRM with interactions, both PWH (OR=3.48; 95% CI=1.94-6.25; p<0.001) and PWOH (OR=1.58; 95% CI=1.13-2.21; p=0.007) without use of LLD were at higher risk of hospitalization, while PWH with polypharmacy and LLD had reduced risk of hospitalization (OR=0.88; 95% CI=0.80-0.99; p=0.02).

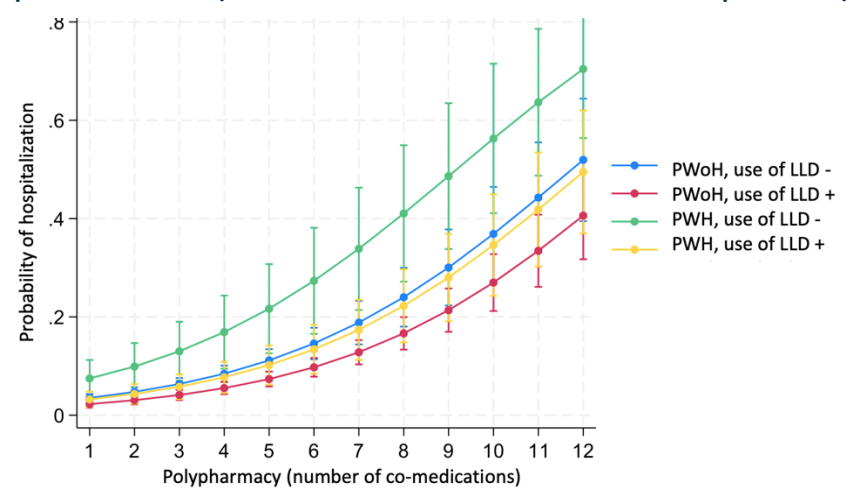


Figure 1. Adjusted predictions for hospitalization according to polypharmacy, HIV status and use of LLD.

Conclusions

- Prevalence of polypharmacy was higher in PWH and was associated with an increased risk for hospitalization.
- Use of LLD, even when associated with polypharmacy, significantly reduced probability of hospitalization, highlighting the importance of cardiovascular disease prevention and appropriate prescription in PWH.

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