

Trends in discontinuation of lipid-lowering and antihypertensive therapies: a real-world data analysis in Italy

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Background and objectives. Large evidence suggests that improving adherence to cardiovascular medications plays a key role to achieve successful clinical outcomes [1,2]. The present analysis was aimed at assessing treatment adherence of patients under lipid-lowering or antihypertensive therapy between 2016 and 2021 in a real-world setting of clinical practice in Italy.

Methods. This is a retrospective analysis on the administrative databases of geographically distributed healthcare entities covering about 5.5 million health-assisted individuals.

A monitoring system was deployed to evaluate discontinuation of cardiovascular therapies, namely lipid-lowering and antihypertensive drugs, over the 6-year period from 2016 to 2021. Discontinuation was determined through the *fail-to-refill* approach [3], mainly based on the date and dose coverage of all prescriptions received (with a 50% tolerance). This means that if a patient maintained such coverage throughout the reference period (refill), he/she was considered adherent (non-discontinuation). The study population was characterized for demographic and clinical variables, specifically age, gender distribution and presence of diabetes mellitus.

Results. A slight increase over time was observed in the rate of adherence to lipid-lowering treatments, ranging from 76.6%-75.6% (2016-2017) to 78.4%-76.3% (2020-2021). Consistently, adherence to antihypertensive drugs ranged from 83.9%-83.1% (2016-2017) to 84.7%-83.4% (2020-2021). Over the years, among the overall treated patients either with lipid-lowering or with antihypertensive drugs, the mean age was 73-75 years in 2016-2017 period, and 69-71 years in 2020-2021. Throughout the whole observation time, no

fluctuations were noticed in gender distribution (48% and 46% males treated with lipid-lowering and antihypertensive drugs, respectively). During the entire 6-year period, patients with diabetes mellitus diagnosis were 29% of those receiving lipid-lowering therapy and 19% of those receiving antihypertensive agents.

Conclusions. These findings revealed in the 6-year period between 2016 and 2021, there was no marked increase in adherence to lipid-lowering and antihypertensive drugs, which remained largely below the recommended levels, in particular regarding lipid-lowering therapy. In conclusion, further efforts are still needed in the territorial pharmaceutical network for the identification and monitoring of non-adherent patients in order to drive them towards a proper therapeutic pathway.

References

1. Chowdhury R, Khan H, Heydon E, et al. Adherence to cardiovascular therapy: a meta-analysis of prevalence and clinical consequences. *Eur Heart J.* 2013 Oct;34(38):2940-8.
2. Chen C, Li X, Su Y, You Z, Wan R, Hong K. Adherence with cardiovascular medications and the outcomes in patients with coronary arterial disease: "Real-world" evidence. *Clin Cardiol.* 2022 Dec;45(12):1220-1228.
3. Degli Esposti L, Buda S, Nappi C, et al. Implications of COVID-19 Infection on Medication Adherence with Chronic Therapies in Italy: A Proposed Observational Investigation by the Fail-to-Refill Project. *Risk Manag Healthc Policy.* 2020 Dec 30;13:3179-3185.