Persistence with antidementia therapy in Germany: A retrospective cohort study of 567,815 patients

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Background and Objective

- Despite the availability of antidementia therapies, maintaining long-term adherence remains a significant challenge [1].
- This retrospective cohort study aimed to investigate 12-month and 5-year persistence with antidementia drug therapy in Germany and to examine the association between demographic and clinical variables and the risk of therapy discontinuation.

Methods

- This retrospective cohort study was based on the IQVIA Longitudinal Prescription Database (LRx), which includes approximately 80% of prescriptions reimbursed by statutory health insurance funds in Germany [2].
- 567,815 patients aged 60 years or older who received an initial prescription for antidementia therapy between 2016 and 2023 (index date) were included.
- Time to discontinuation was estimated using the Kaplan–Meier method, and a multivariable Cox proportional hazards model was used to assess associations between predefined variables and the risk of discontinuation.
- P-values <0.001 were considered statistically significant, and hazard ratios (HRs) >1.10 or <0.90 were considered clinically relevant.

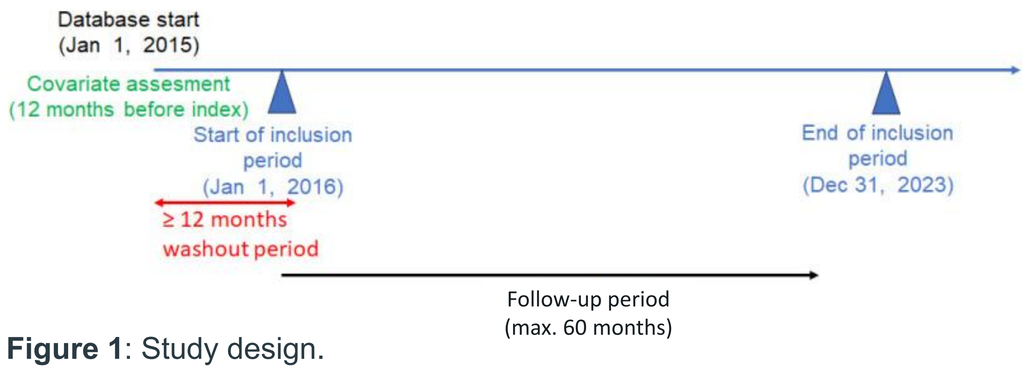

Figure 1: Study design.

Results

- The study included 567,815 patients (mean age: 80.2 years, 59.1% female) (see **Table 1**).
- Five years after the index date, 19.8% of dementia patients were still receiving therapy, with a 12-month persistence rate of 53.1% (see **Figure 2**).
- Cox regression models conducted for the total population revealed that younger age (<70 versus ≥90 years; HR: 1.21; 95% CI: 1.19–1.23; 70–79 years versus ≥90 years; HR: 1.13; 95% CI: 1.11–1.14) was significantly associated with an increased risk of therapy discontinuation (see **Figure 4**).
- Initiating therapy with memantine was associated with a slightly lower risk of discontinuation compared to donepezil (HR: 0.87; 95% CI: 0.86–0.87) (see **Figure 4**).

Table 1: Basic characteristics of the study patients.

Variable	Number and proportion among study patients
N	567,815
Age (Mean, SD)	80.8 (6.7)
Age <70 years	37,965 (6.2)
Age 70–79 years	200,575 (32.5)
Age 80–89 years	329,154 (53.3)
Age ≥90 years	49,653 (8.0)
Sex	
Female	335,298 (59.1)
Male	232,517 (40.9)
Physician who initiated therapy	
Neurologist	401,699 (65.1)
General practitioner	215,648 (34.9)
Initial drug	
Galantamine	38,478 (6.8)
Donepezil	218,207 (38.4)
Rivastigmine	130,785 (23.0)
Memantine	180,345 (31.8)
Co-therapy	
Antidepressants	166,116 (29.3)
Antipsychotics	145,223 (25.6)
Benzodiazepines	32,268 (5.7)
Antihyperglycemic drugs	111,977 (19.7)
Antihypertensive drug	378,813 (66.7)
Lipid lowering drugs	216,559 (38.1)

Results

Persistence rates

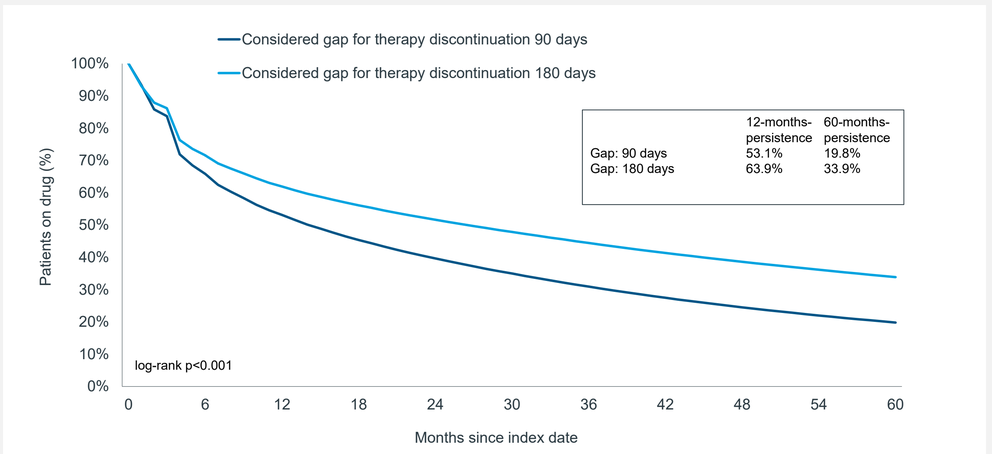

Figure 2: Kaplan–Meier curves for persistence in patients treated with anti-dementia drugs using 90- and 180 days therapy gap.

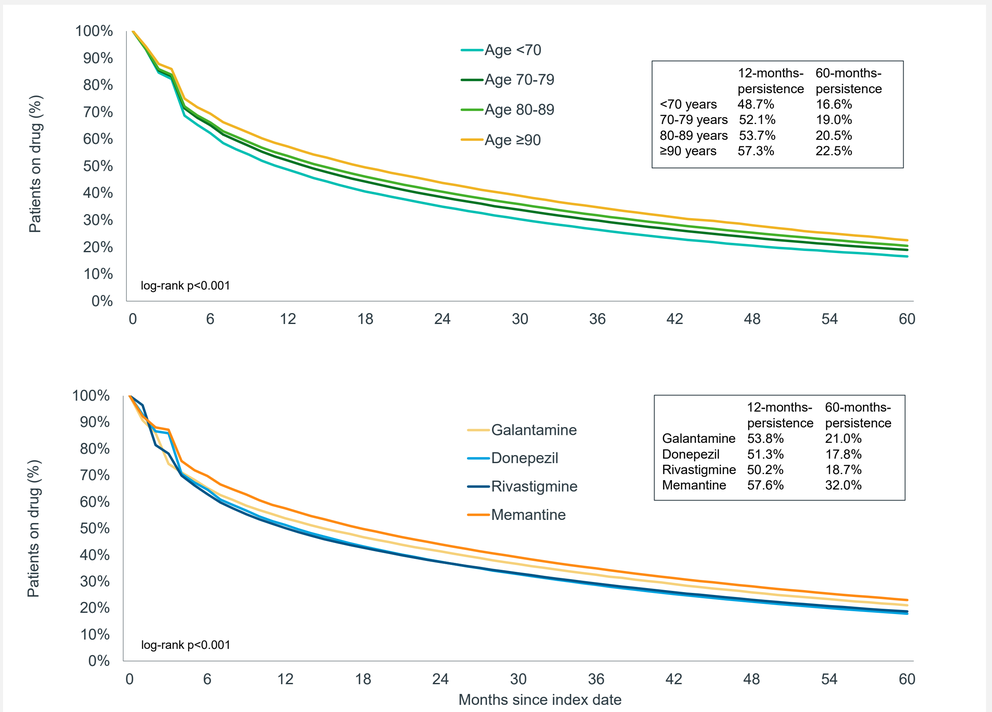

Figure 3: Kaplan–Meier curves for persistence in patients treated with anti-dementia drugs by age group and initial drug.

Factors associated with anti-dementia drug discontinuation (HR, 95% CI)

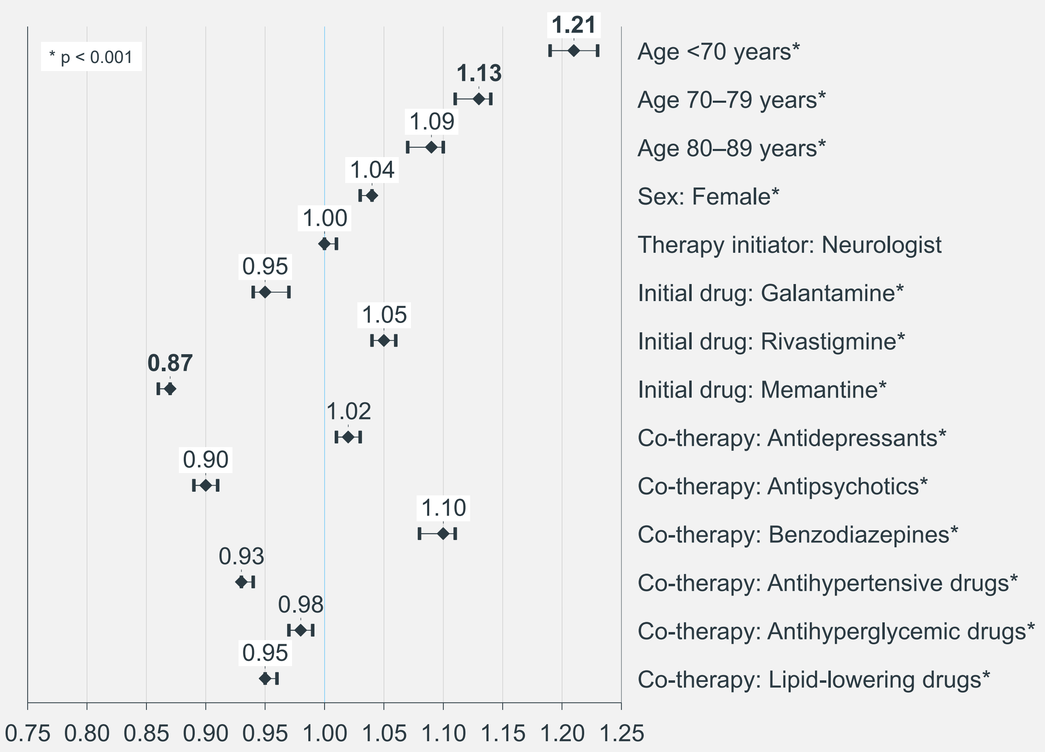

Figure 4: Association between predefined variables and risk of therapy discontinuation (multivariable Cox regression models). Reference for Age: ≥90 years, Sex: Male, Therapy initiator: GP, Initial drug: Donepezil.

Discussion

Clinical Implications: In this study, half of the patients discontinued antidementia therapy within one year and 80% within five years. Younger age was linked to a higher risk of therapy discontinuation, while memantine therapy was associated with improved persistence, potentially reflecting better adherence among patients with more advanced dementia.
Study Limitations: The study relies on pharmacy dispensing data without clinical details such as dementia subtype or severity. Residual confounding and lack of information on discontinuation reasons need to be further studied.
Future Directions: From a public health perspective, anti-dementia pharmacotherapy remains an essential component of comprehensive dementia care. Strategies to reduce discontinuation should focus on greater integration of caregivers into treatment planning and the use of digital tools, such as medication reminder apps, to support adherence [3,4,5].

References: [1] Sistanizad M, Peterson GM, Ling T, et al. Persistence with anti-dementia medications: a systematic review and meta-analysis. *Age Ageing* 2025; 54: afaf151. [2] Kostev K, Wang Y, Singh R, et al. German Longitudinal prescription database (LRx): description of characteristics, use in pharmacoepidemiological research, and limitations. *Int J Clin Pharmacol Ther* 2024; 62: 20–28.[3] Hackett K, Lehman S, Divers R, et al. Remind me to remember: a pilot study of a novel smartphone reminder application for older adults with dementia and mild cognitive impairment. *Neuropsychol Rehabil* 2022; 32: 22–50. [4] Quintana M, Anderberg P, Sanmartin Berglund J, et al. Feasibility-usability study of a tablet app adapted specifically for persons with cognitive impairment-SMART4MD (Support Monitoring and Reminder Technology for Mild Dementia). *Int J Environ Res Public Health* 2020; 17: 6816. [5] Yousaf K, Mehmood Z, Saba T, et al. Mobile-health applications for the efficient delivery of health care facility to people with dementia (PwD) and support to their carers: a survey. *Biomed Res Int* 2019; 2019: 7151475.

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