

Correlation between drug burden and cognitive decline in older adults from the South of Brazil

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Bianca Barros Parron Fernandes¹, Karen Barros Parron Fernandes^{1,2}, Denilson de Castro Teixeira³, Mario Molari³, Eros de Oliveira Júnior⁴, Gustavo Aliano Gâmbaro^{1,2}, Lindsey Mitie Nakakogue¹

1. School of Medicine/ Pontifical Catholic University of Parana (PUCPR), Londrina, Brazil 2. Graduate Program of Health Sciences / Pontifical Catholic University of Parana (PPGCS - PUCPR), Curitiba, Brazil 3. Department of Physical Education - State University of Londrina (UEL), Londrina, Brazil. 4. Center of Research in Health Sciences, University of Northern Parana (UNOPAR), Londrina, Brazil

KEY TAKE-AWAYS: Pharmacotherapy is extremely relevant to the cognitive health of older adults. The overprescription of medications should be discouraged. Healthcare professionals should be aware of strategies for deprescribing patients’ medications.

INTRODUCTION	METHODS	RESULTS	CONCLUSIONS	REFERENCES
The world’s increasingly older population consumes a large amount of medication. Patients’ anticholinergic and sedative burden can be measured by the Drug Burden Index (DBI), and these drugs have been associated with cognitive decline, which is often measured by the Mini-Mental State Examination (MMSE). We aimed to evaluate a possible correlation between the DBI and cognitive decline in older adults.	The study was conducted in Londrina, Paraná, Brazil, in a sample of community-dwelling older adults. Participants were selected from the directories of community outpatient public health units, and the sample was randomly stratified based on the proportion of older adults in each region of the city. We collected data on sex, age, education, exercise, smoking, comorbidities, medication use, and applying the MMSE. We calculated the Charlson Comorbidity Index based on patient comorbidities, and the DBI based on the medications taken in the last month. The Spearman Correlation was used to evaluate the correlation between the DBI and the MMSE. We conducted a logistic regression to also assess this correlation, while controlling for other variables measured.	We included a sample of 484 people, with a mean age of 69.43 ± 6.38. The Spearman test showed an inverse correlation between the DBI and the MMSE (r=-0.2295, p=0.00001). Female sex (OR=2.52, CI=1.60-3.98, p=0.0001), age (OR=1.89, CI=1.25-2.85, p=0.002), education (OR=3.23, CI=1.62-6.45, p=0.001), and hypertension (OR=1.12, CI=1.62-6.45, p=0.001) were correlated with cognitive decline. When controlling for the variables, the DBI was associated with the MMSE (OR=4.01, CI 0.01-0.08, p=0.0001).	The over-prescription of drugs appears to be an additional factor in the cognitive decline of older adults, as well as other known risk factor. Thus, aiming for patient cognitive health, physicians should not only manage comorbid diseases but also be attentive to deprescribing medications.	Wouters H, Hilmer SN, Gnjdic D, Van Campen JP, Teichert M, Van Der Meer HG, et al. Long-term exposure to anticholinergic and sedative medications and cognitive and physical function in later life. <i>Journals Gerontol - Ser A Biol Sci Med Sci</i>. 2020;75(2):357–65. Hilmer SN. Calculating and using the drug burden index score in research and practice. <i>Expert Rev Clin Pharmacol</i> [Internet]. 2018;11(11):1053–5. Available at: https://doi.org/10.1080/17512433.2018.1528145 Tan ECK, Sluggett JK, Johnell K, Onder G, Elseviers M, Morin L, et al. Research Priorities for Optimizing Geriatric Pharmacotherapy: An International Consensus. <i>J Am Med Dir Assoc</i> [Internet]. março de 2018;19(3):193–9. Available at: https://linkinghub.elsevier.com/retrieve/pii/S1525861017306801 Panel UE. American Geriatrics Society 2023 updated AGS Beers Criteria® for potentially inappropriate medication use in older adults. <i>J Am Geriatr Soc</i>. 2023;71(7):2052–81. DiNatale JC, McDonough IM, Ellis AC, Douglas JW, Yaffe K, Crowe-White KM. The Drug Burden Index Is Associated With Measures of Cognitive Function Among Older Adults in the Health, Aging, and Body Composition Study. <i>Journals Gerontol - Ser A Biol Sci Med Sci</i>. 2024;79(7). Siqueira GSA, Hagemann PDMS, Coelho DDS, Santos FH Dos, Bertolucci PHF, Heyn PC. Can MoCA and MMSE Be Interchangeable Cognitive Screening Tools? A Systematic Review. <i>Gerontologist</i>. 2019;59(6):E743–63.
				CONTACT bianca.barros@pucpr.edu.br lindsey.nakakogue@pucpr.br  ALZHEIMER'S ASSOCIATION AAIC>26