

Stoppcog As A Modifiable Clinical-pharmacological Phenotype Of Cognitive Vulnerability In Older Adults:

Sunday-0915

Isadora Fassulla Odebrecht¹, Ana Beatriz Freixes do Nascimento¹, Fabiana Luisa Hornung², Bruna de Freitas Brazzolotto², Karina de Guadalupe Bertoldi Giroto², Bruna Gomes de Camargo¹, Letícia Fernandes Saraiva¹, Larissa Furlan Ribeiro da Silva¹, Cristina Pellegrino Baena², Karen Barros Parron Fernandes³.
¹School of Medicine, Pontifical Catholic University of Parana (PUCPR), LONDRINA, Brazil, ²Graduate Program of Health Sciences, Pontifical Catholic University of Parana (PPGCS - PUCPR), Curitiba, Brazil, ³Graduate Program of Health Sciences, Pontifical Catholic University of Parana (PUCPR), LONDRINA, Brazil.

High pharmacological burden, specifically STOPPCog exposure, is a significant determinant of cognitive risk in older adults, emphasizing the importance of medication quality over quantity.

INTRODUCTION	METHODS	RESULTS	CONCLUSIONS	REFERENCES
Potentially inappropriate medications for cognition represent a relevant modifiable risk factor for cognitive vulnerability in older adults. The STOPPCog criteria capture exposure to drugs with anticholinergic and sedative properties, indirectly reflecting systemic cholinergic burden. Experimental and observational studies suggest that reduced acetylcholinesterase activity is associated with poorer performance in memory, attention, and executive function, even among non-demented older adults. However, the clinical-pharmacological profile and determinants of STOPPCog exposure in real-world outpatient populations remain insufficiently described. This study aims to estimate the prevalence of STOPPCog exposure and to investigate its clinical and pharmacological determinants among older adults attending a clinical outpatient service.	This cross-sectional followed the EMERGE checklist and included 597 individuals. After ethical approval, all individuals were informed about the study goals and signed an informed consent prior to any procedure. The resumed method is shown in figure 1. Figure 1 – Study workflow and analytical strategy. Poisson Regression addressed potential factors associated with STOPPCog exposure. Additionally, Pareto analysis identified individuals with the highest pharmacological burden who may benefit from targeted medication review.	The main demographic and pharmacotherapeutic characteristics, together with the distributions of STOPP-Cog medication use and cognitive status, are presented in Figures 1–3. Participants using STOPP-Cog medications had poorer cognitive performance and greater pharmacological burden than those without STOPP-Cog medication use ($p<0.001$; Figure 5). Pareto analysis showed that the top 20% of patients accounted for 77% of the total Drug Burden Index (DBI). STOPP-Cog medication users were more likely to belong to this high-burden subgroup than non-users (34.9% vs. 14.2%; Figure 6). Pharmacological burden was the strongest factor associated with STOPP-Cog medication use. Both DBI and total number of medications were independently associated with a higher prevalence of cognitive-risk medication use, identifying potentially modifiable targets for medication review (Figure 7).	STOPPCog exposure identifies a distinct and clinically meaningful pharmacological phenotype characterized by high and concentrated anticholinergic/sedative burden. The strong attenuation of the medication count effect after DBI adjustment highlights pharmacological quality, rather than quantity alone, as the primary determinant of cognitive risk. These findings support STOPPCog as a practical tool to identify high-impact targets for deprescribing interventions in outpatient care.	BELKACEM, A. et al. Association of anticholinergic burden with hippocampal subfields volume in first-episode psychosis. <i>Psychiatry Research - Neuroimaging</i>, v. 348, abr. 2025. CARMO, L. P. do et al. Polifarmácia em idosos: a importância da atenção primária em mitigar os efeitos adversos oriundos da medicalização. <i>Brazilian Journal of Implantology and Health Sciences</i>, v. 6, p. 1864–1875, 2024. LEELAKANOK, N.; D'CUNHA, R. R. Association between polypharmacy and dementia — A systematic review and meta-analysis. <i>Aging and Mental Health</i>, v. 23, n. 8, p. 932–941, 2019. MALEKZADEH, M. et al. Drug prescription patterns and compliance with WHO and beers criteria in older patients. <i>BMC Geriatrics</i>, v. 25, n. 1, dez. 2025. MCGETTIGAN, S.; CURTIN, D.; O'MAHONY, D. Deprescribing in cognitively vulnerable older people: development and validation of STOPPCog criteria. <i>Age and Ageing</i>, v. 54, n. 2, fev. 2025. NASREDDINE, Z. S. et al. The Montreal Cognitive Assessment, MoCA: a brief screening tool for mild cognitive impairment. <i>Journal of the American Geriatrics Society</i>, v. 53, n. 4, p. 695–699, 2005. ODEBRECHT, I. F. et al. Prescribing Patterns and Pharmacotherapeutic Risk Among Community-Dwelling Older Adults in Brazil: A Cross-Sectional Study. <i>Cureus</i>, jun. 2025. TINÔCO, E. E. A. et al. Polifarmácia em idosos: consequências de polimorbidades. <i>Brazilian Journal of Surgery and Clinical Research - BJSCR</i>, v. 23, n. 3, p. 77–81, 2018.

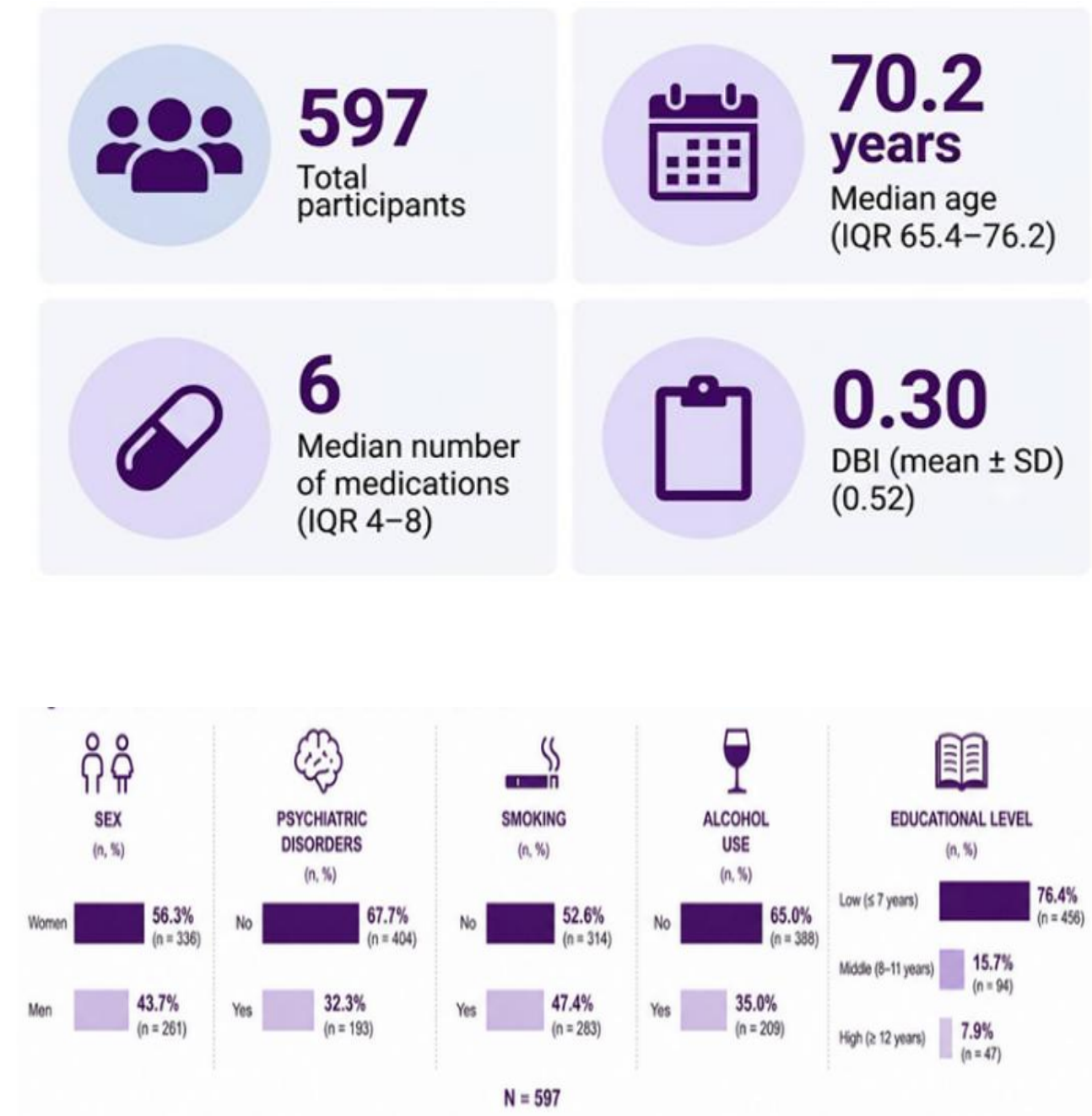


Figure 2 - Summary of the main demographic and pharmacotherapeutic characteristics of the study population.

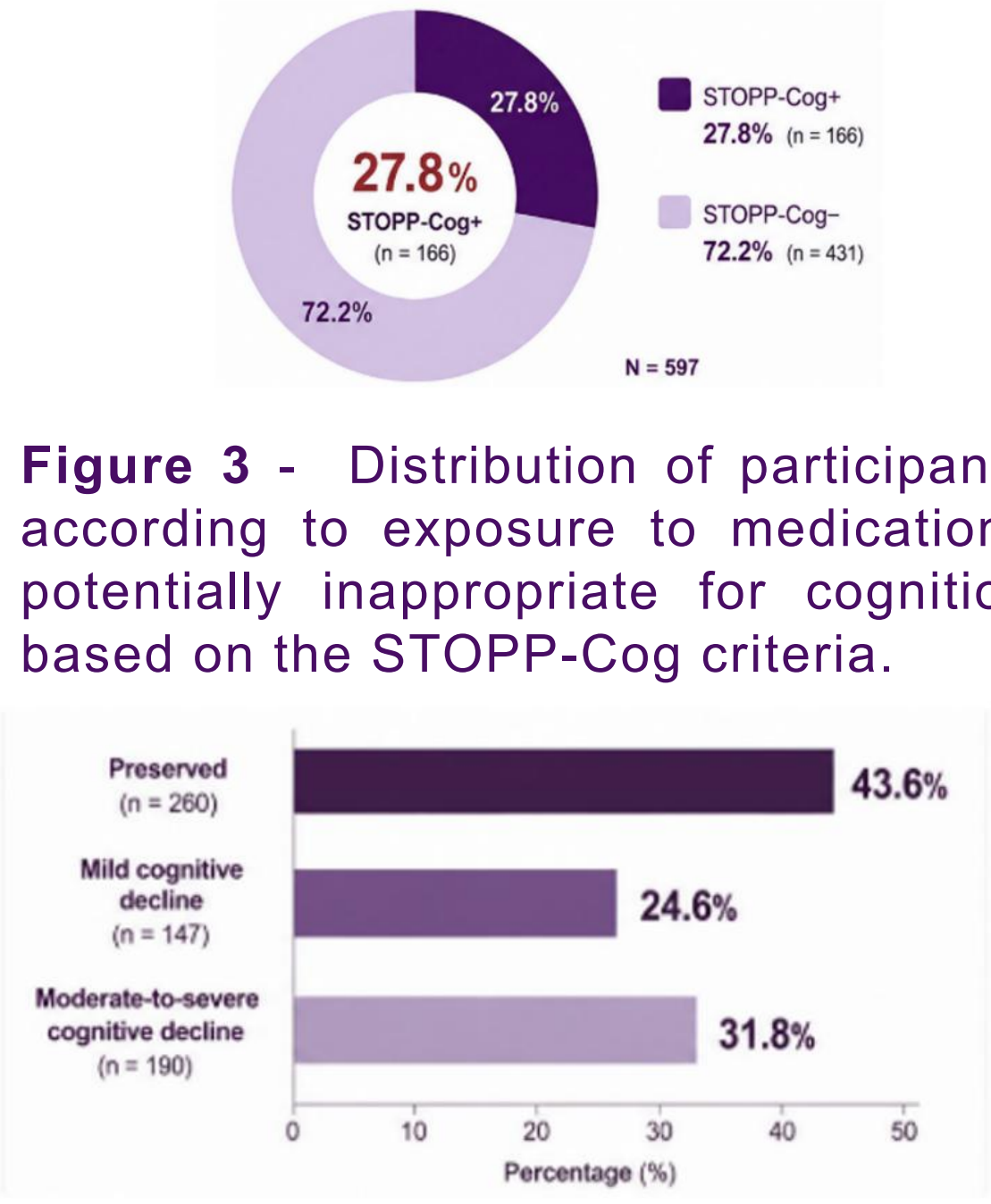


Figure 4 - Distribution of participants according to cognitive status based on the Montreal Cognitive Assessment (MoCA).

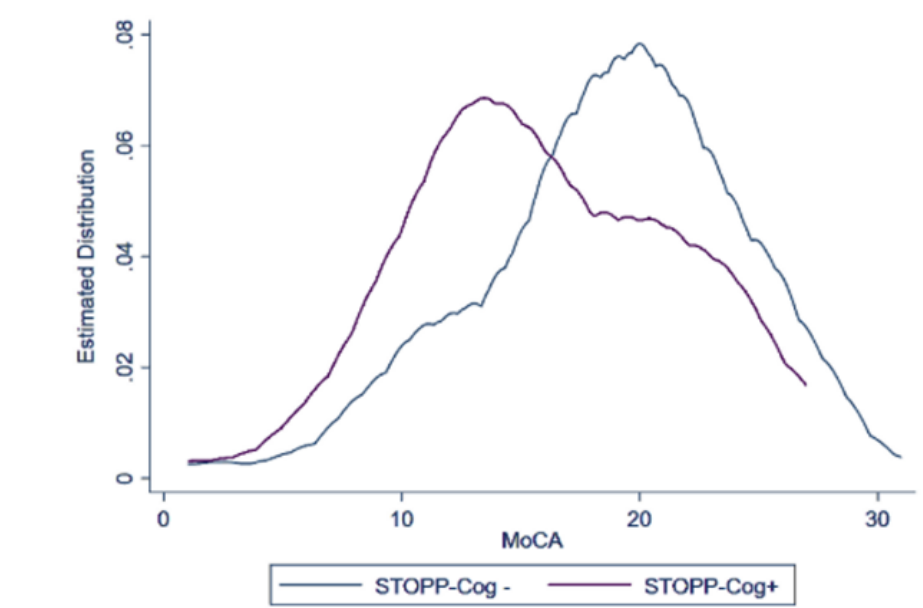


Figure 5 - Kernel density curves showing the estimated distribution of Montreal Cognitive Assessment (MoCA) scores among older adults according to exposure to STOPP-Cog medications.

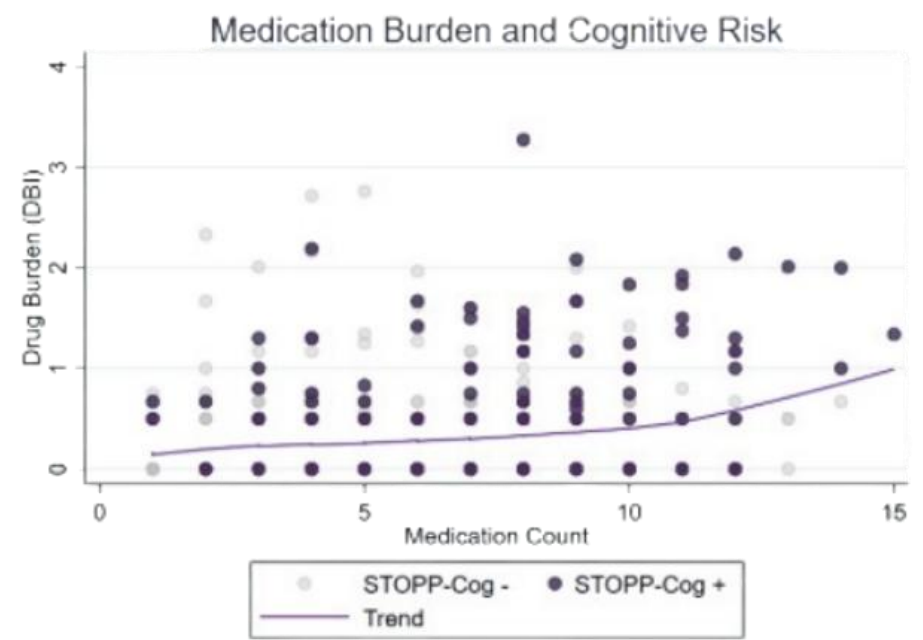


Figure 6. Scatter plot showing the relationship between the number of medications and Drug Burden Index (DBI) according to STOPP-Cog exposure.

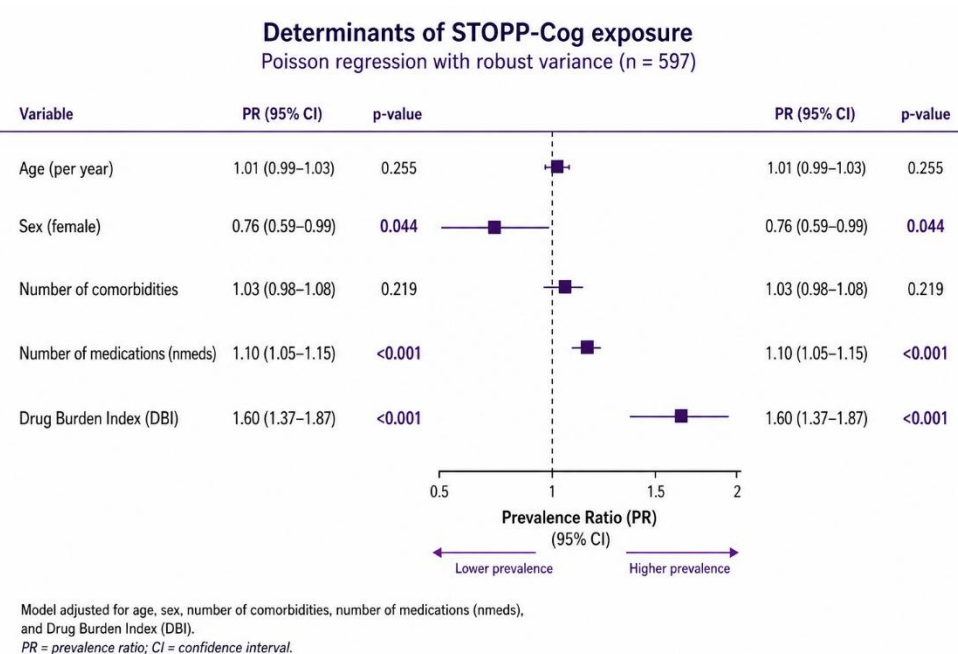


Figure 7. Forest plot showing adjusted prevalence ratios (PRs) and 95% confidence intervals estimated using Poisson regression with robust variance.

CONTACT

Isadora Fassulla Odebrecht
isadora.fassulla@pucpr.edu.br
Supervisor: Prof. Karen B. P. Fernandes
Karen.parron@pucpr.br



@TCPLAB

