

Cognitive Reserve And Physical Resilience Factors Associated With Cognitive Decline In Brazilian Older Adults

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Modifiable cognitive and physical resilience factors were associated with lower cognitive decline in Brazilian older adults.

INTRODUCTION	METHODS	RESULTS	CONCLUSIONS	REFERENCES																									
Cognitive reserve (CR) and physical resilience may contribute to resilience against cognitive decline. However, evidence from low- and middle-income countries remains limited. This study aimed to invertigate the association between cognitive reserve and physical resilience-related factors to cognitive decline in Brazilian older adults.	This cross-sectional study included 250 older adults. Cognitive reserve was assessed using the Cognitive Reserve Index Questionnaire (CRIq). Physical variables included frailty, physical activity, handgrip strength, gait speed, calf circumference, and body mass index. The primary outcome was cognitive decline, defined as the presence of mild cognitive impairment and/or dementia. Associations were examined using univariate analyses.	Association between cognitive reserve, physical resilience-related factors, and cognitive decline <table><tr><th></th><th>OR (95% CI)</th></tr><tr><td>Cognitive Reserve</td><td></td></tr><tr><td>Years of education</td><td>0.92 (0.86–0.99)</td></tr><tr><td>CRI Leisure</td><td>0.97 (0.96–0.99)</td></tr><tr><td>CRI Total</td><td>0.98 (0.96–0.99)</td></tr><tr><td>Physical Resilience</td><td></td></tr><tr><td>Physical activity</td><td>0.45 (0.26–0.77)</td></tr><tr><td>Handgrip strength</td><td>0.93 (0.90–0.97)</td></tr><tr><td>Gait speed</td><td>0.26 (0.07–0.88)</td></tr><tr><td>Calf circumference</td><td>0.84 (0.76–0.93)</td></tr><tr><td>Frailty (frail vs robust)</td><td>6.07 (3.08–12.43)</td></tr><tr><td>Lifestyle</td><td></td></tr><tr><td>Alcohol consumption</td><td>3.86 (1.63–9.15)</td></tr></table> OR < 1 indicates lower odds of cognitive decline; OR > 1 indicates higher odds of cognitive decline. Factors associated with lower odds of cognitive decline included years of education, greater leisure-time engagement (CRI leisure), physical activity, handgrip strength, gait speed, and calf circumference. In contrast, frailty and alcohol consumption were associated with higher odds of cognitive decline. These findings support the importance of multidomain prevention strategies targeting cognitive, physical, and lifestyle factors in aging populations.		OR (95% CI)	Cognitive Reserve		Years of education	0.92 (0.86–0.99)	CRI Leisure	0.97 (0.96–0.99)	CRI Total	0.98 (0.96–0.99)	Physical Resilience		Physical activity	0.45 (0.26–0.77)	Handgrip strength	0.93 (0.90–0.97)	Gait speed	0.26 (0.07–0.88)	Calf circumference	0.84 (0.76–0.93)	Frailty (frail vs robust)	6.07 (3.08–12.43)	Lifestyle		Alcohol consumption	3.86 (1.63–9.15)	1. Stern Y, Arenaza-Urquijo EM, et al. Whitepaper: Defining and investigating cognitive reserve, brain reserve, and brain maintenance. <i>Alzheimer's & Dementia</i>. 2020;16:1305–1311. 2. Nucci M, Mapelli D, Mondini S. The Cognitive Reserve Index questionnaire (CRIq): a new instrument for measuring cognitive reserve. <i>Aging Clinical and Experimental Research</i>. 2012. 3. Robertson DA, Savva GM, Kenny RA. Frailty and cognitive impairment—A review of the evidence and causal mechanisms. <i>Ageing Research Reviews</i>. 2013.
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