



SCIENTIFIC LETTER

Social determinants of cognitive impairment among older adults in the Dominican Republic: A large-scale administrative registry study



Determinantes sociales del deterioro cognitivo en adultos mayores de la República Dominicana: un estudio nacional basado en registros administrativos

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Population-level evidence on cognitive impairment among older adults remains scarce across Latin America and the Caribbean; most estimates derive from small urban samples and clinically confirmed cases.¹ The Dominican Republic is no exception: despite an ageing population projected to reach 20% by 2050, population-level data on cognitive impairment remain absent, and its emerging National Care System lacks robust epidemiological grounding.² This study identifies the sociodemographic, functional, and psychosocial correlates of cognitive impairment among older adults in the Dominican Republic using the largest available dataset on cognitive functioning in the Caribbean.

We conducted a cross-sectional study using the "Expediente de Desarrollo Integral del Adulto Mayor" (EDIAM), the standardized multidimensional intake assess-

ment of the "Consejo Nacional de la Persona Envejeciente" (CONAPE), the Dominican national authority for older adults. The sample comprised 4408 individuals aged 60 years and older assessed between December 2022 and December 2025 across all regions of the country. Cognitive function was assessed using the Mini-Mental State Examination (MMSE; primary threshold < 24). We estimated a logistic regression model adjusted for age, sex, literacy, region, health insurance, ADL/IADL dependence, depressive symptoms (GDS-15) and loneliness (ESTE II).

Cognitive impairment was identified in 52.7% of participants (MMSE < 24). ADL dependence (OR = 2.51) and IADL dependence (OR = 2.41) were the strongest correlates. Loneliness (OR = 2.22) and depressive symptoms (OR = 1.53) were strong independent correlates. Non-metropolitan residents showed a 23-percentage-point higher prevalence than metropolitan residents (67.7% vs. 44.5%). Literacy (OR = 0.71), private insurance (OR = 0.67), and metropolitan residence (OR = 0.55) were independently protective, while

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Table 1 Correlates of cognitive impairment (MMSE < 24) among adults aged 60 years and older, Dominican Republic (n = 4408).

Characteristics	OR	95% CI	
Age	1.04***	1.03	1.05
Marital status			
<i>In couple</i>	0.82*	0.68	0.99
<i>Single</i>	Ref.		
Knows reading and writing			
<i>Yes</i>	0.71***	0.61	0.81
<i>No</i>	Ref.		
Region			
<i>Metropolitan (Gran Santo Domingo/Ozama Region)</i>	0.55**	0.47	0.64
<i>Other regions</i>	Ref.		
Private health insurance			
<i>Yes</i>	0.67*	0.49	0.91
<i>No</i>	Ref.		
Attending to adult care facilities			
<i>No</i>	Ref.		
<i>Yes</i>			
<i>Day</i>	1.36***	1.15	1.61
<i>Other</i>	1.92***	1.59	2.32
ADL dependency			
<i>Yes</i>	2.51***	2.05	3.08
<i>No</i>	Ref.		
IADL dependency			
<i>Yes</i>	2.41***	2.05	2.83
<i>No</i>	Ref.		
Depression (moderate or severe)			
<i>Yes</i>	1.53***	1.27	1.85
<i>No</i>	Ref.		
Public health insurance			
<i>No</i>	1.61	1.17	2.21
<i>Yes</i>			
<i>Contributive</i>	Ref.		
<i>Pension linked</i>	0.77	0.50	1.16
<i>Subsidized</i>	1.27	0.98	1.64
Loneliness (moderate or severe)			
<i>Yes</i>	2.22***	1.90	2.58
<i>No</i>	Ref.		

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1.

absence of public insurance elevated odds (OR = 1.61). Older age (OR = 1.04 per year), living alone (OR = 0.82 for partnered individuals), and attendance at day care (OR = 1.36) or residential facilities (OR = 1.92) were additional independent correlates. Full model parameters are presented in Table 1.

These prevalence figures exceed typical high-income estimates, reflecting a burden of cognitive impairment in a population with limited access to early detection.³ Functional dependence and cognitive impairment form a vulnerability cluster in which deficits co-occur and reinforce each other; loneliness operates as an independent risk factor for cognitive decline beyond its overlap with depression.⁴ The territorial gradient reflects life-course differentials in

access to education, healthcare, and cognitively stimulating environments,⁵ and the insurance gradient, together with the protective effects of literacy and metropolitan residence, suggests a socioeconomic gradient in cognitive risk. The association between facility attendance and higher cognitive impairment odds likely reflects selection of individuals already in advanced stages, consistent with services operating as a last resort rather than an early intervention point. Cognitive vulnerability is structured by functional dependence, psychosocial disadvantage, and territorial inequality.

Four implications follow for primary care. ADL or IADL dependence should trigger systematic cognitive screening. The co-occurrence with depressive symptoms and loneliness supports incorporating the GDS-15 and ESTE II into rou-

tine geriatric assessment. Non-metropolitan areas warrant targeted outreach given their substantially higher vulnerability and more limited coverage. Insurance status should be treated as a relevant contextual variable in cognitive risk stratification.

The cross-sectional design precludes causal inference, the EDIAM may overrepresent individuals with greater functional needs, and prevalence estimates may be inflated among individuals with limited formal schooling given the MMSE's sensitivity to education. These caveats notwithstanding, the Dominican Republic is building a National Care System in which health has no institutional role. The rates documented here reflect only older adults assessed through CONAPE's outreach sessions; the Ministry of Health conducts no equivalent screening. By the time individuals reach CONAPE, prevention and early intervention are no longer viable. A long-term care system structurally disconnected from health will continue arriving too late, likely translating into higher hospital and emergency care costs downstream.⁶

Ethical considerations

This study used anonymized administrative data under CONAPE's data governance protocols.

Use of AI

The authors confirm that artificial intelligence (AI) was not used in the conduct of this study.

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Conflict of interest

The authors declare no conflict of interest.

Data availability

Data are held by CONAPE and are not publicly available. Requests for access may be directed to the corresponding author.

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