

INFORMANT-BASED COGNITIVE AND FUNCTIONAL IMPAIRMENT IN OLDER ADULTS ACROSS FOUR REGIONS OF PERU

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Methods

We conducted a cross-sectional analysis of community-dwelling adults aged ≥60 from four Peruvian regions (Lima, Tumbes, Huancayo, and Iquitos), assessed door-to-door in the IMPACT Salud project. Trained psychologists administered the informant-based CDR to study partners. CDR global scores (0-3) reflect increasing impairment, none to severe.

Distributions were summarized using medians and proportions. Regional differences were evaluated using Kruskal-Wallis tests with effect sizes (ϵ^2). Adjusted ordinal logistic regression models were fitted for CDR global and domain scores, with Lima as the reference category to facilitate stable estimation and interpretable regional comparisons.

Table 1. Baseline Sociodemographic Characteristics of Participants by Study Region

CHARACTERISTICS	LIMA	TUMBES	HUANCAYO	IQUITOS
N	758	875	767	818
Age, median (IQR)	75 (68-83)	76 (68-85)	74 (68-80)	75 (68-81)
Women, %	67.4	40.6	49.8	55.5
Mini-CDR global =0, (%)*	55.9	40.6	49.8	55.5
Years of education, n (%)**				
0-6	478 (63.1%)	631 (72.1%)	627 (81.7%)	620 (75.8%)
7-11	202 (26.6%)	177 (20.2%)	107 (14%)	165 (20.2%)
12+	75 (9.9%)	66 (7.6%)	32 (3.2%)	33 (4.1%)
Does not recall	3 (0.4%)	1 (0.1%)	1 (0.1%)	--

*A informant-based CDR - GS of 0 corresponds to no dementia ** Percentages may not sum to 100% due to rounding or missing data.

Table 2. Kruskal–Wallis and Epsilon square tests by Informant-based CDR domain

Domain	n	H Statistic	df	p-value	ϵ^2
Global CDR	3218	78.45	3	<0.001	0.0235
Community	3217	115.72	3	<0.001	0.0351
Home & hobbies	3217	112.72	3	<0.001	0.0341
Judgment	3218	86.39	3	<0.001	0.0259
Memory	3218	90.90	3	<0.001	0.0273
Orientation	3218	67.97	3	<0.001	0.0202
Personal care	3214	165.04	3	<0.001	0.0505

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Background

Assessment of functional impairment in older adults is a growing public health priority in low- and middle-income countries (LMICs), where rapid aging coincides with substantial social, cultural, and geographic heterogeneity. In Peru, regional context may influence informant perceptions of impairment. Although the informant-based Clinical Dementia Rating (CDR) is widely used to characterize dementia severity, regional variation in CDR global and domain scores in community-based populations remains understudied.

Conclusion

Informant-reported cognitive and functional impairment varies significantly across regions of Peru, with higher perceived impairment in Tumbes. Although regional differences explained a modest proportion of variability, these findings suggest that geographic and contextual factors influence informant perceptions beyond individual characteristics.

Domain-specific analyses of the informant-based CDR provide insight into regional patterns of impairment and underscore the importance of contextualized interpretation of informant-based assessments in culturally and geographically diverse populations. Future studies incorporating objective cognitive measures are needed to validate and contextualize these findings.

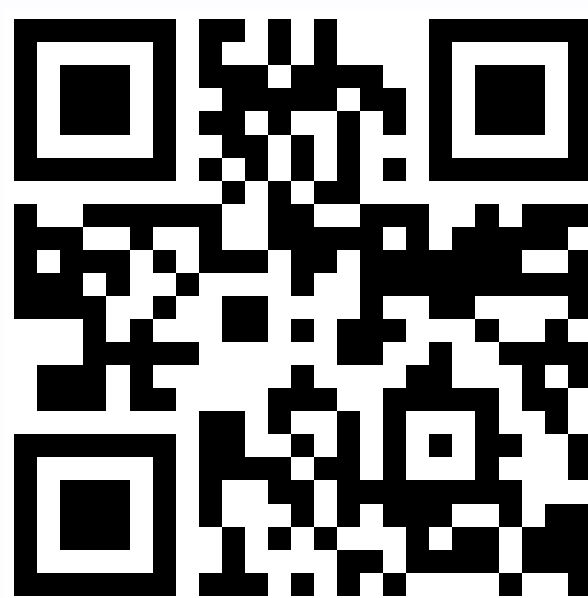
Table 3. Adjusted ordinal logistic regression models for Informant-based CDR-GS and domain-specific outcomes by region

Outcome	Region	OR (95% CI)*	p-value
Mini-CDR Global	Tumbes vs Lima	1.79 (1.48-2.17)	<0.001
	Huancayo vs Lima	0.98 (0.81-1.2)	0.866
	Iquitos vs Lima	1.03 (0.84-1.26)	0.806
Personal care	Tumbes vs Lima	1.65 (1.29-2.11)	<0.001
	Huancayo vs Lima	0.46 (0.33-0.63)	<0.001
	Iquitos vs Lima	0.39 (1.48-0.54)	<0.001
Community	Tumbes vs Lima	1.93 (1.59-2.35)	<0.001
	Huancayo vs Lima	0.95 (0.78-1.17)	0.634
	Iquitos vs Lima	0.86 (0.7-1.06)	0.169
Home & hobbies	Tumbes vs Lima	1.69 (1.38-2.07)	<0.001
	Huancayo vs Lima	0.86 (0.69-1.07)	0.16672
	Iquitos vs Lima	0.73 (0.59-0.91)	0.005
Judgment	Tumbes vs Lima	1.47 (1.21-1.79)	<0.001
	Huancayo vs Lima	0.79 (0.64-0.97)	0.023
	Iquitos vs Lima	0.55 (0.44-0.68)	<0.001
Memory	Tumbes vs Lima	1.64 (1.34-2.02)	<0.001
	Huancayo vs Lima	0.73 (0.58-0.93)	0.010
	Iquitos vs Lima	0.59 (0.47-0.75)	<0.001
Orientation	Tumbes vs Lima	1.69 (1.38-2.07)	<0.001
	Huancayo vs Lima	0.86 (0.69-1.07)	<0.167
	Iquitos vs Lima	0.73 (0.59-0.91)	0.005

*Odds ratios (OR) and 95% confidence intervals were estimated using ordinal logistic regression models adjusted for age, sex, and educational level. Lima was used as the reference category for regional comparisons.



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