

Cognitive Impairment and Health-Related Quality of Life in Adults Aged 50 Years or Older in Tumbes, Peru

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Background

Cognitive impairment can decrease daily functioning and may worsen neuropsychiatric symptoms, reducing health-related quality of life (HRQoL). Our aim was to describe HRQoL in adults aged ≥50 years and its association with cognitive impairment and sociodemographic factors.

Methods

A cross-sectional study was conducted in 688 participants aged ≥50 years from Tumbes, a coastal city in Peru. HRQoL was assessed using the EQ-5D-3L and cognitive impairment with the Leganés Cognitive Test. Cognitive impairment was categorized using the established cut-off of ≤22 points; a score ≥23 were classified as no cognitive impairment. Descriptive bivariate analyses of cognitive impairment according to sociodemographic characteristics and HRQoL (EQ-5D-3L domains and EQ-VAS score) were performed using chi-square or Fisher's exact tests, Mann-Whitney U test, and t-test. Ordinary least squares (OLS) linear regression assessed EQ-VAS score as the outcome and cognitive impairment, sex, age, marital status, educational level, and working status as covariates. Interactions between cognitive impairment, sex and education were explored.

Graph 1. Forest plot of adjusted linear regression coefficients for EQ-VAS (β, 95% CI)



*Reference categories of the variables were: no cognitive impairment, male sex, single, primary education, and not working.

Results

The sample included 688 participants; 48.3% were female, the mean age was 58.6 ± 5.5 years, 75.9% were married, 54.2% had attained primary education, 66.7% were working, and 13.5% had cognitive impairment (95% CI: 11.1%–16.3%). Cognitive impairment was more prevalent among female and participants with lower educational levels. Mobility problems on the EQ-5D-3L were more common among participants with cognitive impairment than among those without cognitive impairment (11.8% vs 3.9%; p=0.001); similarly, pain/discomfort problems were more frequent (30.1% vs 21.3%; p = 0.06).

Mean EQ-VAS scores were also lower in the cognitive impairment group (64.4 ± 16.6 vs 72.2 ± 16.6; p< 0.001). In the adjusted multivariable model, cognitive impairment (coefficient=−5.98; p=0.002) and female sex (coefficient=−6.29; p<0.001) were associated with lower EQ-VAS scores, whereas higher education (technical or university studies) was associated with higher EQ-VAS (coefficient=5.61; p=0.001). No evidence of effect modification by sex or educational level was observed in the association between cognitive impairment and EQ-VAS.

Conclusion

Cognitive impairment was associated with lower HRQoL, particularly in mobility, pain/discomfort, and EQ-VAS. Among sociodemographic factors, sex and education were also associated with EQ-VAS.

Table 1. Health-Related Quality of Life Measures by Cognitive Impairment

EQ-5D domain	No cognitive impairment		With cognitive impairment		p-value
Mobility					
No problemas	96.13	572	88.17	82	0.001†
With problemas	3.87	23	11.83	11	
Self-care					
No problemas	98.99	589	98.92	92	1.000‡
With problemas	1.01	6	1.08	11	
Usual Activities					
No problemas	98.32	585	98.92	92	1.000‡
With problemas	1.68	10	1.08	11	
Pain/discomfort					
No problemas	78.66	468	69.89	65	0.060†
With problemas	21.34	127	30.11	28	
Anxiety/depression					
No problemas	94.29	561	93.55	87	0.778†
With problemas	5.71	34	6.45	6	
EQ-VAS					
No problemas	72.15 (16.56)	595	64.41 (16.56)	93	<0.001§
With problemas	80.00 (60-80)		60.00 (50-80)		

† Pearson's chi-square test. ‡ Fisher's exact test. § Mann-Whitney U test

Table 2. Sociodemographic Characteristics by Cognitive Impairment

Variable	No cognitive impairment		With cognitive impairment		p-value
Age, mean (SD)					
No problemas	58.55 (5.53)	595	59.15 (5.51)	93	0.329§
With problemas	3.87	23	11.83	11	
Sex					
No problemas	54.45	324	34.41	32	<0.001†
With problemas	45.55	271	65.59	61	
Marital Status					
Never married	9.58	57	11.83	11	0.753†
Married	76.30	454	73.12	68	
Previously married	14.12	84	15.05	14	
Currently Working					
Yes	32.27	192	39.78	37	0.153†
No	67.73	403	60.22	56	
Education Level					
Primary	51.60	307	70.97	66	0.002†
Secondary	34.79	207	23.66	22	
Higher (technical or university)	13.61	81	5.38	5	

§ Student's t-test † Pearons's chi-square test

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