

Cognitive assessment of Culturally And Linguistically Diverse (CALD) patients: lessons from the Immidem project

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Introduction

Dementia is recognized as a growing public health challenge globally and is gaining **increasing relevance** among culturally and linguistically diverse (CALD) patients.



CALD patients may face a higher risk of **delayed diagnosis** and **suboptimal care** due to barriers for accessing to appropriate services and validity of standard cognitive assessments.



Ensuring **equity in dementia diagnosis and care** constitutes both a clinical and a public health priority.



Introduction

European Multicenter Study (Nielsen, 2011):

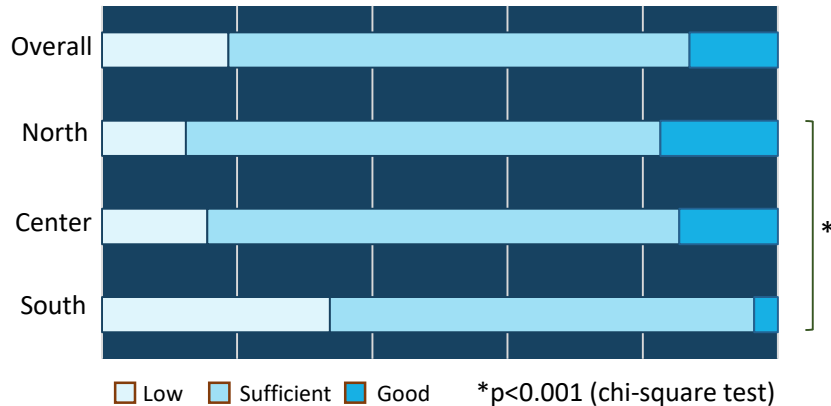
- ✓ Ethnic minority patients commonly seen in dementia centers
- ✓ Assessments used tools validated only in Western cultures
- ✓ Language barriers and lack of culturally appropriate tools impaired diagnostic accuracy

Follow-Up (Nielsen, 2024):

- ✓ Diagnostic challenges persist despite minor improvements

Italian Nationwide Survey – ImmiDem (2020–2022):

Overall quality of the cognitive assessment of migrants

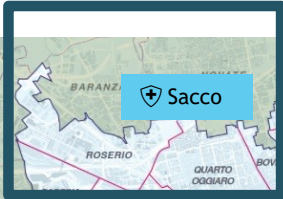


Similar Issues Reported:

- ✓ Norway
- ✓ Germany
- ✓ Scotland

Objective

Assess changes in clinical practice for evaluating CALD patients at Sacco CDCD after the ImmiDem project launch (2020).



distretti

Methods

Retrospective study

Comparison of two periods:

T1: 2016–2020 (pre-ImmiDem) vs. **T2: 2021–2024** (post-ImmiDem)

CALD patient characteristics

- Age
- Sex
- Education (via **ISCED**)
- Language
- Origin (countries grouped by **WHO region** and **World Bank income level**)

Type of assessment

- screening (SCR)
- neuropsychological tests (NPS)

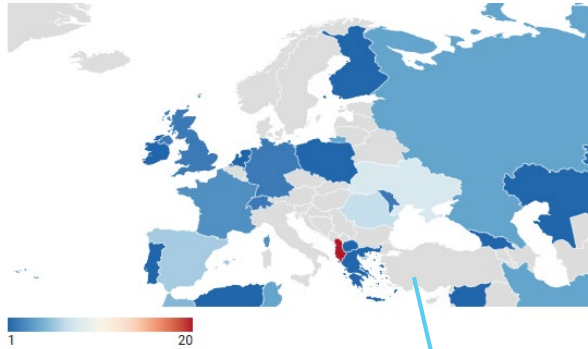
Results

	Overall (n. = 163)	T1: 2016-2020 (n. = 35)	T2: 2021-2024 (n. = 128)	Stat.
ALL	3843	1676	2167	
CALD / all (%)	4.2%	2.1%	5.9%	$\chi^2 = .743$
Age	65.2 ± 13.8	65.1 ± 13.3	65.3 ± 14.1	t = -.07
Education (years)	11.3 ± 5.2	10.3 ± 4.6	11.5 ± 5.3	t = -1.09
Education < ISCED3 (%)	57 (35.2)	12 (34.3)	38 (32.5)	$\chi^2 = .140$
Sex (F): n. (%)	107 (66.6)	22 (62.9)	85 (63.9)	$\chi^2 = .154$
WBG-2: Lower-Middle/ Low Income (%)	55 (33.7)	11 (31.8)	44 (29.1)	$\chi^2 = .743$

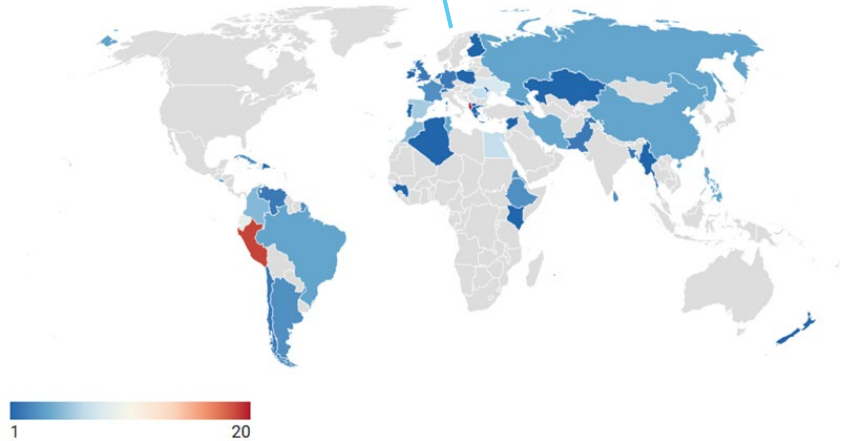
✓ No significant change in age, sex, education, or socioeconomic background across time periods

Results

Geographical origin and language



- **46 countries of origin, most from EURO region (39.9%)**
most frequent: Albania(20), Peru(19), Ecuador(9), Ukraine(8)
- Majority from **Upper-Medium-income countries (47.9%)**



- **79.8%** had some knowledge of **Italian**
(↑ with education: 66% low vs. 93.5% high)
- **Most common languages:**
Spanish (52)
Albanian (20)
Arabic (16)

Results

	Overall (n. = 163)	T1: 2016-2020 (n. = 35)	T2: 2021-2024 (n. = 128)	Stat.
Screening tests (%)	133 (81.6)	28 (80)	105 (82)	$\chi^2 = .076$
○ MMSE: n. (%)	64 (39.3)	17 (48.6)	47 (36.7)	$\chi^2 = .877$
○ MoCA: n. (%)	58 (35.6)	6 (17.1)	52 (39.1)	$\chi^2 = 6.61$ *
○ RUDAS: n. (%)	42 (25.8)	1 (2.9)	41 (30.8)	$\chi^2 = 12.2$ **
○ in Italian	96	20	76	
○ with informal mediator	18	8	10	
○ with cultural mediator	19	0	19	

* p < .05; ** p < .001

- ✓ **MMSE, MoCA, RUDAS: good correlations**
(some classification mismatches in higher-educated, younger CALD patients)
- ✓ **RUDAS unaffected by age/education**, unlike MMSE/MoCA

Results

	Overall (n. = 163)	T1: 2016-2020 (n. = 35)	T2: 2021-2024 (n. = 128)	Stat.
NPS (%)	59 (36.2)	11 (31.4)	48 (37.5)	$\chi^2 = .439$
○ in Italian	28	10	18	
○ with informal mediator	4	1	3	
○ with cultural mediator	27	0	27	

* p < .05; ** p < .001

with **Cross-Cultural tools** mainly with **CNTB subtests**


- ✓ Among patients with some knowledge of Italian, the **support of a cultural mediator** (formal or informal) was deemed useful in approximately half of the cases (24/52; **46.2%**).

Results


	Overall (n. = 163)	T1: 2016-2020 (n. = 35)	T2: 2021-2024 (n. = 128)	Stat.
Cognitive profile:				$\chi^2 = 4.03$
○ NON: n. (%)	15 (9.2)	1 (2.9)	14 (10.9)	
○ SCI: n. (%)	29 (17.8)	4 (11.4)	25 (19.5)	
○ MCI: n. (%)	57 (35)	15 (42.9)	42 (32.8)	
○ DEM: n. (%)	62 (38)	15 (42.9)	47 (36.7)	






- ✓ Dementia was more common in **non-Italian speakers** (26/36; $\chi^2 = 30.1$, $p < .001$)

Discussion

 **+180% CALD referrals**
over ~9 years

- ageing migrant population
- long-term migration trends



 **Sociodemographic profile stable**

-  Age
-  Sex
-  Education
-  Country income level
-  Language proficiency

Diagnostic shift

- ↑ SCD, NON
- ↓ Dementia, MCI
- Possible earlier referrals
- Better diagnostic awareness

 **Remaining challenges**

-  Linguistic diversity
- Cultural heterogeneity
-  Limited normative data
- Interpreter-mediated testing

Discussion

THE CLINICAL NEUROPSYCHOLOGIST, 2018
<https://doi.org/10.1080/13854046.2018.1435826>



Developing a cultural context for conducting a neuropsychological evaluation with a culturally diverse client: the ECLECTIC framework*

Daryl E. M. Fujii

ECLECTIC framework

- E** – Education
- C** – Culture & acculturation
- L** – Language
- E** – Economic access
- C** – Communication style
- T** – Testing situation
- I** – Intelligence: concept of
- C** – Context of immigration

Take home message

Dementia services must adapt to cultural diversity

Cross-cultural tools + mediators improve diagnostic equity

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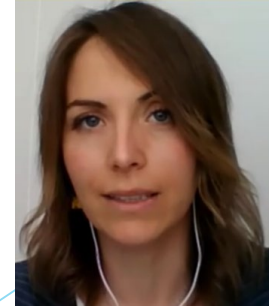
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ORIGINAL ARTICLE



Culturally and linguistically diverse patients in an Italian memory clinic: lessons learned from the ImmiDem project

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