

11. Department of Neurology, Hospital de Salamanca, Salamanca, Spain
12. Faculty of Medicine and Health, University of New South Wales, Sydney, Australia
13. Memory Clinic, Neurology Service, Salvadoran Social Security Institute, San Salvador, El Salvador
14. Universidad Tecnológica Centroamericana, Tegucigalpa, Honduras
15. Department of Neurology, Weill Institute for Neurosciences, University of California-San Francisco, San Francisco, California, USA
16. Facultad de Medicina Finlay-Albarran, Medical University of Havana, Havana, Cuba
17. Population Health Sciences Institute, Faculty of Medical Sciences, Newcastle University, Newcastle, UK
18. Department of Neurology, Washington University School of Medicine in St. Louis, St. Louis, Missouri, USA

**Objectives:** Because of the continued transition to older populations, various strategies have been developed to estimate the social impact and burden of health care. Regarding mental health, a strategy in the elderly is the measurement of neuropsychiatric symptoms (NPS), these include a wide range of behavioral and psychological manifestations. These are more frequent in the presence of some diseases, such as neurodegenerative syndromes, among which dementias and Parkinson's disease (PD) stand out. The present study seeks to analyze the frequency of NPS, its relationship with the presence or absence of neurodegenerative syndromes and some characteristics of the elderly and caregivers.

**Methods:** This is an analysis of data from 12,865 elderly people evaluated within the protocols of the Dementia Research Group 10/66 in 6 Latin American countries (Cuba, Dominican Republic, Puerto Rico, Mexico, Venezuela and Peru). The presence or absence of parkinsonism, dementia and parkinsonism plus dementia (PDD) was identified through previously validated and published Methods. The NPS were assessed using the 12-symptom questionnaire version of the Neuropsychiatric Inventory. Other characteristics such as age, sex and education, in patients and caregivers; socioeconomic status, disability and comorbidities in the elderly; relationship with the elderly, needs and care-burden were assessed in caregivers.

**Results:** The most frequent symptoms were depression and sleep disorders in the four groups (without non-NDS neurodegenerative syndromes, parkinsonism, dementia and PDD, ranging from 23% to 49%. About a third of the elderly with parkinsonism, half of those with dementia, and 3 out of 5 of the elderly with PDD had 3 or more NPS. The odds ratios (OR) of each NPS measure by multivariate logistic regression models shown OR from 1.4 to 1.9 in the presence of parkinsonism; between 1.7 and 9.3 in the presence of dementia; and between 1.9 and 10.2 in the presence of PDD.

**Conclusions:** From a clinical and public mental health perspective, it is necessary to implement systematic Methods for NPS screening, as well as develop support strategies for families and caregivers, mainly of those with neurodegenerative syndromes.

**Keywords:** neuropsychiatric symptoms, dementias, parkinsonism, parkinsonism-dementia, Latin-American

#### **4 - Dementia in Latin America – Social determinants of health and genetic ancestry. (Jorge J Llibre Guerra)**

**Authors:** Jorge J Llibre-Guerra<sup>1</sup>, Miao Jiang<sup>2</sup>, Isaac Acosta<sup>3,4</sup>, Ana Luisa Sosa<sup>3,4</sup>, Daisy Acosta<sup>5</sup>, Ivonne Z. Jimenez-Velasquez<sup>6</sup>, Mariella Guerra<sup>7</sup>, Aquiles Salas<sup>8</sup>, Ana M Rodriguez Salgado<sup>9</sup>, Juan C Llibre-Guerra<sup>10</sup>, Nedelys Díaz Sánchez<sup>11</sup>, Matthew Prina<sup>12</sup>, Alan Renton<sup>13</sup>, Emiliano Albanese<sup>2</sup>, Jennifer S. Yokoyama<sup>14,15</sup>, Juan J. Llibre Rodriguez<sup>11</sup>, for the 1066 Dementia Research Group.

1. Department of Neurology, Washington University School of Medicine in St. Louis, MO 63110, USA.
2. Institute of Public Health, Faculty of Biomedical Sciences, Università della Svizzera italiana, Lugano, 13 6900, Switzerland.
3. Laboratory of the Dementias, National Institute of Neurology and Neurosurgery, Mexico City 14269, Mexico.
4. National Autonomous University of Mexico, Mexico City 04510, Mexico.
5. Universidad Nacional Pedro Henriquez Ureña (UNPHU), Internal Medicine Department, Geriatric Section, Santo Domingo 1423, Dominican Republic.
6. Internal Medicine Department, Geriatrics Program, School of Medicine, Medical Sciences Campus, University of Puerto Rico, San Juan, Puerto Rico 00931, USA.
7. Instituto de la Memoria Depresion y Enfermedades de Riesgo IMEDER, Lima 15073, Perú
8. Medicine Department, Caracas University Hospital, Faculty of Medicine, Universidad Central de Venezuela, Caracas 1053, Venezuela.
9. Global Brain Health Institute, University of San Francisco California, San Francisco, CA 94117, USA.
10. Department of Neurology, Hospital de Salamanca, Salamanca 37007, Spain
11. Dementia Research Unit, Facultad de Medicina Finlay-Albarran, Medical University of Havana, Havana, 10400, Cuba.
12. Population Health Sciences Institute, Faculty of Medical Sciences, Newcastle University, Newcastle upon Tyne, NE2 4AX United Kingdom
13. Department of Neuroscience, Icahn School of Medicine at Mount Sinai, New York, NY 10029, USA.
14. Department of Neurology, UCSF Weill Institute for Neurosciences, University of California, San Francisco, San Francisco, CA 94158, USA.
15. Department of Radiology and Biomedical Imaging, University of California, San Francisco, San Francisco, CA 94158, USA.

**Objectives:** Leveraging the non-monolithic structure of Latin America, which represents a large variability in social determinants of health (SDoH) and high levels of genetic admixture, we aim to evaluate the relative contributions of SDoH and genetic ancestry in predicting dementia risk in Latin American populations

**Methods:** Community-dwelling participants aged 65 and older (N = 3808) from Cuba, Dominican Republic, Mexico, and Peru completed the 10/66 protocol assessments. Dementia was diagnosed using the cross-culturally validated 10/66 algorithm. The primary outcome measured was the risk of developing dementia. Multivariate linear regression models adjusted for SDoH were used in the main analysis.

**Results:** We observed extensive three-way (African/European/Native American) genetic ancestry variation between countries. Individuals with higher proportions of Native American (>70%) and African American (>70%) ancestry were more likely to exhibit factors contributing to worse SDoH, such as lower educational levels ( $p < 0.001$ ), lower SES ( $p < 0.001$ ), and higher frequency of vascular risk factors ( $p < 0.001$ ). In unadjusted analysis, American individuals with predominant African ancestry exhibited a higher dementia frequency ( $p = 0.03$ ) and both Native and African ancestry predominant groups showed lower cognitive performance relative to those with higher European ancestry ( $p < 0.001$ ). However, after adjusting for measures of SDoH, there was no association between ancestry proportion and dementia probability, and ancestry proportions no longer significantly accounted for the variance in cognitive performance (African predominant  $p = 0.31$  [-0.19, 0.59] and Native predominant  $p = 0.74$  [-0.24, 0.33]).

**Conclusions:** The findings suggest that social and environmental factors play a more crucial role than genetic ancestry in predicting dementia risk in Latin American populations. This underscores the need for public health strategies and policies that address these social determinants to reduce dementia risk in these communities effectively.

**Keywords:** Dementia, risk factors, Latinos, ancestry, social determinants of health