

The South Asian Middle-Aged Risk Tracking for Brain Health (SAMARTH) Study: Participants' Characteristics and Effects of Metabolic Impairment

Yun Cai¹, Akankshi Oberoi¹, Rebecca West¹, Auriel Willette¹, Sharon Sanz Simon¹, Luciana Fonseca¹, Jack Tsao¹, Yian Gu², Ariana Nayak¹, Mahalakshmi Akkinepalli¹, Shruti Kedharnath¹, Yuna Aitha¹, Michal Schnaider Beer¹

1. Krieger Klein Alzheimer's Research Center, Brain Health Institute, Rutgers University

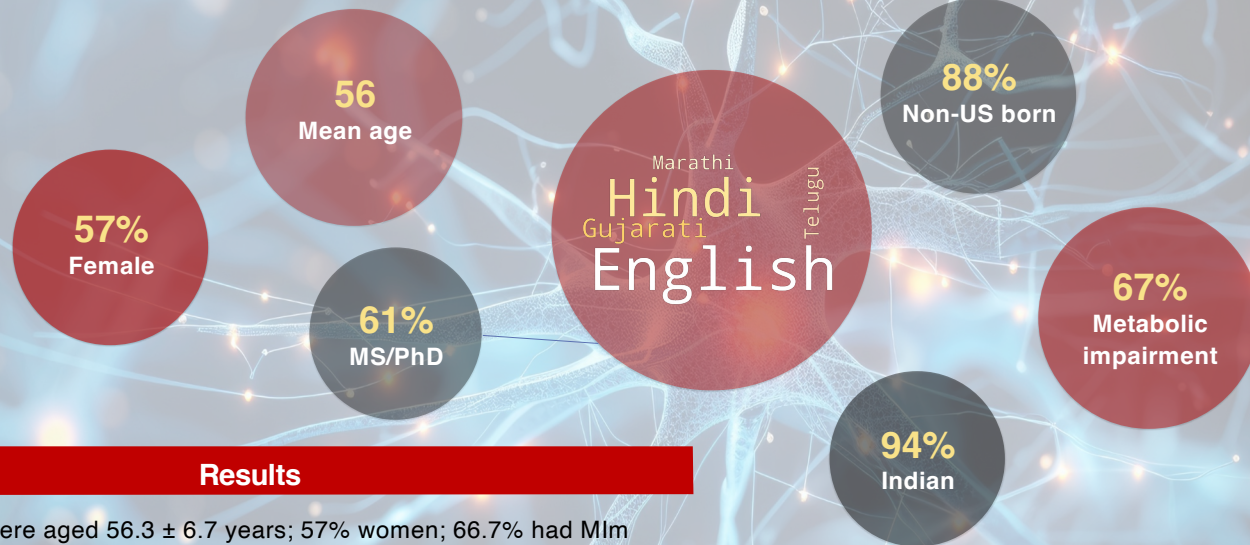
2. Department of Neurology, Columbia University

Background

- South Asians (SAs: India, Afghanistan, Bangladesh, Bhutan, the Maldives, Nepal, Pakistan, and Sri Lanka) comprise nearly 25% of the global population and are the fastest-growing ethnic group in the US
- SAs experience a high prevalence and particularly aggressive profile of metabolic impairment (MIm), including type 2 diabetes, prediabetes, and obesity
- Despite this, SAs remain markedly understudied in Alzheimer's Disease and Related Dementias (ADRD) research
- The SAMARTH study is the first longitudinal, US-based study of cognition in South Asians, examining the role of MIm in cognitive and brain aging

Methods

- The first 100 SAMARTH participants were recruited, aged 45-70 years, and residing in New Jersey and surrounding areas
- Participants completed the UDS cognitive test battery, metabolic, anthropometric, psychiatric, lifestyle assessments, and brain MRI to evaluate cognitive trajectories and vascular brain markers
- MIm defined as: type 2 diabetes (T2D), prediabetes (HbA1c 5.7-6.4%), or obesity (BMI >30 kg/m²)
- Clinical, sociodemographic, lifestyle, and psychological characteristics compared between MIm and non-MIm groups



Results

- Participants were aged 56.3 ± 6.7 years; 57% women; 66.7% had MIm
- Groups were similar in sociodemographics; MIm group had higher age at immigration (24.8 vs. 20.7 years)
- No differences in lifestyle (sleep, diet, exercise), clinical (cholesterol, blood pressure), or psychological measures (depression, loneliness)
- MIm group had higher fasting glucose (96.4 vs. 84.6 mg/dL), more prediabetes (50.9% vs. 0%) and T2D (33.8% vs. 0%) (all $p < 0.01$)

Brain MRI (first 20 participants):

- Higher white matter hyperintensities in MIm group ($p = 0.05$)
- Reduced cerebral blood flow in the precuneus in MIm group ($p = 0.057$)

Conclusion

- SAMARTH addresses a critical gap in ADRD research among South Asians
- Preliminary findings suggest, even in midlife, MIm adversely affects cerebral vasculature in the absence of lifestyle or clinical differences
- Findings reveal importance of addressing MIm in this high dementia risk, understudied population