Ethnoracial Identity and Cognitive Impairment: A Community Study

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BACKGROUND

Cognitive impairment and dementia contribute to health inequity among older adults – **Black Americans have a higher risk of cognitive impairment compared to non-Hispanic White Americans**[1,2]. Identifying potentially modifiable risk factors associated with mild cognitive impairment (MCI) in different ethnoracial groups could reduce MCI burden and health inequity in the population.

METHODS

Two community-based studies, the **Monongahela-Youghiogheny Healthy Aging Team (MYHAT) and the 15104 Seniors Project (SP15104)**, recruited adults aged 65+ years from a group of small towns of lower socioeconomic status in Allegheny County.

Baseline assessments:

- **Demographics**: age, sex, self-identified race, educational attainment, vocabulary level, health literacy
- **Physical health**: self-reported diabetes, stroke, TIA/mini-stroke; blood pressure; Body Mass Index (BMI)
- **Lifestyle**: physical inactivity; tobacco and alcohol use
- **Sleep patterns**
- **Sensory function**: visual acuity and hearing
- **Mental health**: depression and anxiety symptoms
- **Social connectedness**: social isolation and loneliness
- ***APOE*-ε4 genotype** determined by blood or saliva samples

Outcome:

- **Mild cognitive impairment** based on a 0.5 Clinical Dementia Rating (CDR®) score

Goal:

- To investigate associations among self-identified race, modifiable risk factors, and mild cognitive impairment

RESULTS

Total of 2,845 participants:

- 90.5% White, 9.5% Black
- Median age of 74 years
- Majority women in Black (68.5%) and White (59.5%) participant groups
- Black participants more likely than White participants to have less than a high school education (15.6% v. 9.8%)

Black participants had **significantly higher proportions** than White participants for the following exposures:

- Diabetes & stroke
- High diastolic blood pressure
- Overweight/obesity (BMI > 25)
- Smoking (lifetime and current/past year)
- Sleep disturbances
- Vision loss
- Mild and moderate/severe depressive symptoms
- Loneliness
- *APOE*-ε4 carrier status

Association of self-identified race and MCI
(adjusting for age, sex, and education)

	OR	95% CI	*P*-value
Black v. White (ref)	1.53	1.13-2.06	0.005

The following risk factors were **significantly associated with higher odds of MCI** after adjusting for age, sex, education, and race:

- Diabetes, stroke & TIA
- Physical inactivity
- Lifetime smoking
- Sleep disturbances
- Vision & hearing loss
- Mild and moderate/severe depressive symptoms
- Moderate/severe anxiety symptoms
- Social isolation & loneliness

The exposure-MCI relationships did not differ significantly between Black and White participants.

Exposure-MCI associations
(adjusted for age, sex, education, and race)

	OR	95% CI	*P*-value
Vocabulary level	0.983	0.975-0.991	<0.001
Health literacy	0.298	0.179-0.503	<0.001
Diabetes	1.298	1.052-1.597	0.025
Stroke	4.206	2.835-6.269	<0.001
TIA/mini-stroke	2.099	1.578-2.781	<0.001
High systolic BP	1.083	0.880-1.329	0.557
High diastolic BP	1.193	0.679-2.008	0.600
Underweight	0.805	0.308-1.866	0.677
Overweight	0.824	0.673-1.013	0.091
Obesity (BMI≥30)	0.927	0.757-1.134	0.557
Physical inactivity	1.310	1.050-1.629	0.026
Lifetime smoking	1.310	1.085-1.582	0.010
Lifetime alcohol	1.077	0.816-1.435	0.673
> 30 mins to fall asleep	1.420	1.180-1.707	0.001
Difficulty falling back to sleep	1.343	1.119-1.612	0.004
Early morning waking	1.542	1.274-1.864	<0.001
Falling asleep during the day	1.363	1.130-1.642	0.003
Unilateral vision loss	1.219	0.960-1.544	0.138
Bilateral vision loss	1.511	1.219-1.872	0.001
Unilateral hearing loss	1.383	1.071-1.777	0.023
Bilateral hearing loss	1.518	1.064-2.146	0.031
Mild depression symptoms	1.580	1.277-1.951	<0.001
Moderate/severe depression symptoms	3.230	2.453-4.248	<0.001
Moderate/severe anxiety symptoms	1.624	1.167-2.262	0.010
Social isolation	1.033	1.024-1.042	<0.001
Loneliness	1.023	1.016-1.030	<0.001
APOE-ε4 carrier	1.210	0.957-1.523	0.141

CONCLUSIONS

- **53% higher odds of MCI among Black participants compared to White participants**, consistent with other findings[1]
- None of the exposures had significantly different relationships with MCI among Black and White study participants, **implying that Black and White participants have the same or similar risk factors for MCI**

Potentially modifiable risk factors are associated with 1 in 3 cases of Alzheimer's disease and related dementias[1]. They could be key to delaying or preventing cognitive decline and to guiding public health programs, which have the potential to reduce health inequities in cognitive impairment and dementia.

REFERENCES

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