

# Greater COVID-19 impact for underrepresented racial and ethnic minority groups: A survey study on the Wisconsin Alzheimer's Disease Research Center participants

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## Abstract

**Background:** The COVID-19 pandemic has posed substantial impact on people's life and wellbeing, especially for the aging population who are at greater risk. This study compared the difference in the impact between older adults from underrepresented racial/ethnic groups (URGs) versus non-URGs.

**Method:** The National Alzheimer's Coordinating Center COVID-19 Impact Survey was self-reported by 221 participants aged 49-99 years from the Wisconsin Alzheimer's Disease Research Center clinical core between August and December, 2020. 43 participants who reported "Black or African American" or "American Indian or Alaska Native" in primary or secondary race or reported "Yes" to Hispanic ethnicity were classified as URGs. The remaining 178 participants who reported only "White" or "Asian" in the primary and secondary races and "No" to "Hispanic" ethnicity were classified as non-URGs. The survey inquired on (1) COVID-19 symptoms, testing, diagnosis, and hospitalization; (2) worrying, social isolation, and disruption on everyday life associated with the pandemic; (3) related cognitive, psychiatric, and behavioral changes; and (4) change of willingness in research participation. Group differences on survey responses were tested using Fisher's exact test, non-parametric Kruskal-Wallis test, and binary or ordinal logistic regressions.

**Result:** No significant group difference was found in sex, age, and clinical diagnosis. However, URG participants had lower education and higher Clinical Dementia Rating (CDR) scores (Table 1). URGs were approximately doubled non-URGs in the percentages of experiencing COVID-19 symptoms, having a positive diagnosis, and reporting "very much" or "extremely" worrying about getting COVID-19 and changing willingness to participate in clinical research. Controlling for sex, age, education, and CDR score, URGs were more likely to be tested for COVID-19 (Odds Ratio = 2.37), have significantly reduced income (OR=4.74), experience change in memory or thinking (OR=2.97), and report a greater total number of psychiatric or behavioral changes (OR=2.04). However, URGs felt less isolated from family or friends (OR=0.55).

**Conclusion:** URGs had greater medical, psychological, and economical consequences than non-URGs, which implied racial/ethnic disparities associated with the pandemic. Future research is needed to identify inequities in the social determinants and understand their association with disparities, which would help inform policies and strategies to achieve health equity.

**TABLE 1**

Table 1 Comparison of URG versus Non-URG participants on demographics, clinical diagnosis, and Clinical Dementia Rating (CDR) scores

Variable	The whole sample (n=221)	Non-URGs (n=178)	URGs (n=43)	p-value
Sex (female), n (%)	148 (67.0)	116 (65.2)	32 (74.4)	0.282 <sup>a</sup>
Primary race, n (%)				<b>&lt; 0.0001<sup>a</sup></b>
American Indian or Alaska Native	11 (5.0)	0 (0.0)	11 (25.6)	
Asian	2 (0.9)	2 (1.1)	0 (0.0)	
Black or African American	27 (12.2)	0 (0.0)	27 (62.8)	
White	181 (81.9)	176 (98.9)	5 (11.6)	
Hispanic, n (%)	3 (1.4)	0 (0.0)	3 (7.0)	<b>0.007<sup>a</sup></b>
Age (years), Mean (SD)	68.0 (8.2)	67.8 (8.1)	68.9 (9.0)	0.383 <sup>b</sup>
Education (years), Mean (SD)	16.4 (2.5)	16.8 (2.4)	14.7 (2.2)	<b>&lt; 0.0001<sup>b</sup></b>
Clinical diagnosis				0.159 <sup>a</sup>
Cognitively unimpaired	210 (95.0)	171 (96.1)	39 (90.7)	
Dementia	2 (0.9)	2 (1.1)	0 (0.0)	
Mild cognitive impairment (MCI)	6 (2.7)	3 (1.7)	3 (7.0)	
Impaired Not MCI	3 (1.4)	2 (1.1)	1 (2.3)	
Global CDR score = 0.5, n (%)	30 (13.6)	17 (9.6)	13 (30.2)	<b>0.001<sup>a</sup></b>
CDR sum of boxes, Mean (SD)	0.17 (0.57)	0.13 (0.55)	0.34 (0.65)	<b>0.0002<sup>b</sup></b>

Note. CDR = Clinical Dementia Rating. MCI = mild cognitive impairment. Following the instruction of the COVID-19 Impact Survey, only participants with a global CDR score of 0 or 0.5 were administered the survey. Clinical diagnosis was the most recent diagnosis that was evaluated most close in time from the COVID-19 Impact Survey. *p*-value < .05 are in bold face.

<sup>a</sup> Group difference was tested using the Fisher's exact test.

<sup>b</sup> Group difference was tested using the non-parametric Kruskal-Wallis test.