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Authors

Peavy, Guerry

Vọ, Namkhuê

Revta, Carolyn

et al.

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Asian Cohort for Alzheimer Disease (ACAD) Pilot Study
Vietnamese Americans

Guerry M. Peavy, PhD,*† Namkhuê Võ, BS,* Carolyn Revta, MPH,*
Anna T. Lu, BA,* Jody-Lynn Lupo, MS,* Percival Nam, BS,‡
Khải H. Nguyễn, MD, MHS,§ Li-San Wang, PhD,‖ and
Howard H. Feldman, MD*†

Introduction: The objective of this pilot study was to establish the feasibility of recruiting older Vietnamese Americans for research addressing genetic and nongenetic risk factors for Alzheimer disease (AD).

Methods: Twenty-six Vietnamese Americans were recruited from communities in San Diego. A Community Advisory Board provided cultural and linguistic advice. Bilingual/bicultural staff measured neuropsychological, neuropsychiatric, lifestyle, and medical/neurological functioning remotely. Saliva samples allowed DNA extraction. A consensus team reviewed clinical data to determine a diagnosis of normal control (NC), mild cognitive impairment (MCI), or dementia. Exploratory analyses addressed AD risk by measuring subjective cognitive complaints (SCC), depression, and vascular risk factors (VRFs).

Results: Twenty-five participants completed the study (mean age = 73.8 y). Eighty percent chose to communicate in Vietnamese. Referrals came primarily from word of mouth within Vietnamese communities. Diagnoses included 18 NC, 3 MCI, and 4 dementia. Participants reporting SCC acknowledged more depressive symptoms and had greater objective cognitive difficulty than those without SCC. Eighty-eight percent of participants reported at least 1 VRF.

Discussion: This pilot study supports the feasibility of conducting community-based research in older Vietnamese Americans. Challenges included developing linguistically and culturally appropriate cognitive and neuropsychiatric assessment tools. Exploratory analyses addressing nongenetic AD risk factors suggest topics for future study.

Key Words: Vietnamese Americans, genetic diversity, Alzheimer, recruitment, subjective cognitive complaints, vascular risk factors

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Addressing the underrepresentation of older Asian Americans in Alzheimer disease (AD) research is critical given the significant number of Asian Americans over the age of 65 (~2.5 million)[1] and the importance of age as a risk factor for AD.[2] In addition, Asian Americans, Native Hawaiians, and Pacific Islanders are often combined into one category that includes > 40 ethnic subgroups.[3] Disaggregating the larger Asian population into subgroups is essential, given significant demographic, cultural, linguistic, and socioeconomic differences. Increasing knowledge concerning healthcare and health disparities will depend on the "unmasking" of these differences, including the pursuit of information through studies of risk factors for AD and related dementias (ADRD).

The Asian Cohort for Alzheimer Disease (ACAD) investigates genetic and lifestyle factors that contribute to AD risk in Chinese, Korean, and Vietnamese populations across multiple sites in the United States and Canada. In this report, we present the results of a pilot study to determine the feasibility of conducting a more extensive investigation of genetic and lifestyle risk factors in Vietnamese Americans.

Vietnamese Americans number almost 2.4 million individuals either born in Vietnam or reporting Vietnamese ancestry. The number of Vietnamese Americans over the age of 65 is estimated at 23%,[4] with 19% foreign-born. Their recruitment into AD research is critical to define phenotypes,[5] identify differences in AD risk factors,[6] and provide specific information about normal aging. There are, however, multiple factors that limit our ability to address the health needs of older Vietnamese Americans through research. These include resistance to research participation resulting from limited health literacy, stigma associated with cognitive decline and dementia, and mistrust in interactions with research personnel. In addition, there are very few neuropsychological and neuropsychiatric instruments that are culturally adapted, appropriately translated, and validated for Vietnamese cohorts.

Stress from past traumatic experiences and limited acculturation may reduce the degree to which Vietnamese

immigrants seek personal interactions, leaving them without a sense of belonging. In a study by Sorkin et al,[7] Vietnamese Americans were more likely to report a need for mental health services than non-Hispanic Whites. Tran et al[8] found that during the first 10 years of acculturation in the United States, Vietnamese Americans (ages 18 to 73 y) experienced more symptoms of depression than those with longer US residence and that for many, these symptoms were related to "persistent psychological distress, economic challenges, language barriers, and social isolation." Compared with 5 groups of older Asian American immigrants, Vietnamese participants reported the second greatest incidence of depression, possibly associated with the perception of a cultural disconnect with their adult children[9] and/or the subjective perception of cognitive decline.[10,11]

Considering Vietnamese Americans of all ages, it is estimated that 35% are proficient in English.[12] For older adults, even fewer are English proficient, creating a potential barrier to their participation in ADRD research. In addition, differences in educational level and geographically determined language customs may influence the examiner's choice of words when conversing with Vietnamese Americans. Language barriers also impact the selection of cognitive assessment instruments necessary for accurate diagnoses in ADRD research. Dick et al[13] developed the Cross-Cultural Neuropsychological Test Battery (CCNB) to measure cognition in 5 ethnic groups, including Vietnamese. Similarly, Kempler et al[14] developed the Common Objects Memory Test (COMT) to assess learning and memory in these same 5 groups. They found that scores were influenced by age but relatively unaffected by education and ethnic group.

Subjective cognitive complaints (SCC) have been identified as a potential AD risk factor.[15] Meyer et al[11] found that of 600 Vietnamese older adults living in communities in Da Nang, Vietnam, 64% complained of memory decline, with 39% reporting memory loss that interfered with activities of daily living (ADLs). These complaints were associated with both objective cognitive impairment and depressive symptoms. In another study, Lee et al[10] found that SCCs reported by Vietnamese Americans were associated with depressive symptoms, but the study did not include objective cognitive measures.

The role of comorbid brain pathologies in aging and their association with cognitive impairment in older adults have been widely studied and found to relate to midlife vascular risk factors (VRFs).[16] Boyle et al[17] emphasized the added contribution of cerebrovascular pathologies to cognitive decline associated with aging and their interplay with neurodegenerative markers of AD pathophysiology, including amyloid-β. Nguyen et al[18] reported a high prevalence of hypertension and a high rate of cerebrovascular mortality in Vietnamese. The co-occurrence of cerebrovascular disease and AD is common. A potentially causal relationship between the 2 as well as shared genetic risk[19] may be relevant. Current data are typically reported only for Asian aggregates or not reported,[20] highlighting the need for better VRF characterization in Vietnamese Americans.

ACAD is the first large cohort recruited to examine genetic and lifestyle factors associated with risk for AD among older Asian Americans and Canadians. To date, 8 ACAD sites have recruited Chinese, Korean, or Vietnamese community participants, with coordination by the University of Pennsylvania (Principal investigator: L.-S.W.).[21]

ACAD sites have collected cognitive, neuropsychiatric, medical, and lifestyle information, as well as biosamples of blood or saliva for genetic analysis. A consensus team within each site has provided a diagnosis of normal control (NC), mild cognitive impairment (MCI), or dementia related to AD or another neurodegenerative disorder. In addition, a randomized external consensus review by 2 neurologists has been performed to ensure harmonization of diagnoses across all sites. A larger NIA-funded study to expand the sample size and pursue additional Asian American/Canadian subgroups is underway.

Here, we describe the ACAD pilot study focused on a cohort of older Vietnamese Americans enrolled at the University of California San Diego (UCSD) site. The overall goal was to establish feasibility by:
(1) Developing strategies to engage members of the Vietnamese community and build trust in ACAD study personnel and research methods.
(2) Recruiting and enrolling participants who agreed to procedures, including cognitive assessment and biosample collection for genetic testing.
(3) Identifying and implementing cognitive and neuropsychiatric assessment tools with appropriate translations and cultural adaptations.
(4) Exploring potential risk factors for cognitive decline, including subjective cognitive complaints, depressive symptomatology, and VRFs.

METHODS

Participants

Consenting participants who self-reported Vietnamese ancestry and were over the age of 60 were recruited from the community. Exclusion criteria included a non-neurodegenerative central nervous system disease, primary psychiatric disorder, or known major medical illness that could cause cognitive dysfunction. Participants could choose to communicate and complete study assessments in either English or Vietnamese.

Procedures

Participants were enrolled following the consent process that included a written informed consent approved by the UCSD Office of IRB Administration. Individuals directed questions about the consent to a well-informed bilingual member of the study team. If a participant was considered to lack capacity due to cognitive impairment, a legally authorized representative signed the consent with assent from the participant. All study procedures were conducted remotely using a customized electronic tablet programmed for ease of use by older adults. The tablet was delivered to the participant in his/her home or facility with instructions for a one-button connection with the research examiner who was available to discuss with the participant any questions or problems about the technology. Remote administration using the tablet allowed the participant to avoid potential exposure to illness during the COVID pandemic, participate in the research in a familiar environment, and avoid the burden of travel to a testing site.

Developing translations from English into Vietnamese (eg, outreach materials) was completed using a multistep approach to ensure translated materials were reliable, linguistically correct, and culturally appropriate. Bilingual individuals involved in the translation process included research team members, Community Advisory Board

(CAB) members, and professional translators. This multistep process included an initial translation from English to Vietnamese. These were subsequently reviewed and verified to ensure that the translation done by the initial translator captured the meaning of the original/English instruments and was grammatically correct at an appropriate literacy level and culturally relevant. Finally, a certified service reviewed and certified the translations, a requirement of the local site Institutional Review Board.

The ACAD Outreach workgroup designed outreach materials describing the objectives and procedures of the study. Bicultural/bilingual research personnel, UCSD students with Vietnamese ancestry, and a CAB of trusted community leaders familiar with local Vietnamese communities contributed information concerning sociocultural customs and language, including existing stigmatized concepts (eg, dementia). The UCSD study team and community partners distributed the English and Vietnamese outreach materials to engage older adults in geographically targeted Vietnamese communities in San Diego County. Three community partners (ie, San Diego Vietnamese Association, Asian Pacific Health Foundation, UDW Home Care Providers Union) assisted in efforts to support research participation.

Bicultural/bilingual members of the UCSD research team provided potential participants with a description of study procedures to assess interest, prescreened individuals to ensure eligibility, and facilitated participant involvement to build trust. For physician medical examinations, a staff member or student fluent in Vietnamese provided translations.

The study did not specifically investigate potential safety issues. However, if the study team developed concerns about suicidality, unsafe driving, or elder abuse during the evaluation, specific steps outlined in the consent for such circumstances were followed. These included mandatory reporting or direction to appropriate resources for further assessment and management.

Data Collection Packets

There were 3 Data Collection Packets (DCPs). Part A included questions concerning demographics and diet (Mediterranean Diet Assessment Scale (MEDAS),[22,23] as well as the Clinical Dementia Rating Scale (CDR).[24] Part B included questions about potentially enriching physical, cultural, and cognitive activities (eg, reading, music lessons) throughout the life span (Rush Early Life Enrichment Inventory).[25]

Part C consisted of neuropsychological, psychiatric, functional, and medical assessments. Neuropsychological tests were chosen, in part, from previously validated cross-cultural instruments, with others adopted to test skills (eg, memory) important for ADRD diagnostic considerations. Neuropsychological tests included the Cognitive Abilities Screening Instrument (CASI)[13,26] and the Common Objects Memory Test (COMT).[14] Additional tests included the Clock Drawing Test[27] and category fluency (ie, animals, vegetables). Cognitively normal and mildly impaired participants[28–30] completed the 15-item Short Form of the Geriatric Depression Scale (GDS).[31] The Functional Assessment Questionnaire (FAQ)[32,33] measured independence in instrumental ADLs. The clinical evaluation included medical history, health status, current medications, and a remotely conducted neurological examination. At consensus conferences following evaluations, team members used all data (ie, cognitive, behavioral, functional, medical) and informant reports (when available) to determine the diagnostic category (ie, NC, MCI, or dementia).

Statistical Analyses

Quantitative data included descriptive statistics as well as independent sample t tests and Levene test for equality of variance to determine differences between groups on continuous variables and differences in variance, respectively. Standardized effect sizes (Cohen d) were calculated to describe the magnitude of differences between groups.[34,35] IBM SPSS, version 28.0.1.1 was used for analyses.

RESULTS

Twenty-six Vietnamese Americans enrolled in the study between July 2021 and April 2022. Data from 1 participant who withdrew consent was removed from the database and destroyed. The remaining 25 participants completed the study with adherence to all procedures. Of the 25 completers, 14 were female, and 11 male. Age ranged from 61 to 91 years, and education, from 3 to 20 years (Table 1). All participants were born in Vietnam and arrived in the United States between 1964 and 2014, with age of arrival ranging from 19 to 64 years. Eighty percent chose to complete study procedures in Vietnamese.

Although multiple strategies were used for recruitment[36] (Fig. 1), word of mouth within the

TABLE 1. Demographic/Clinical Variables for Total Cohort and Cohort Divided by Consensus Diagnosis (NC, MCI, and Dementia)

		Consensus diagnosis [mean (SD)]		
	Total sample (N = 25) [mean (SD)]	NC (n = 18)	MCI (n = 3)	Dementia (n = 4)
Age at testing (y)	73.8 (9.2)	70.7 (7.3)	75.3 (9.3)	87.0 (4.5)
Education (y)	12.6 (4.3)	13.1 (3.5)	17.3 (2.3)	7.3 (4.0)
Geriatric Depression Scale /15	3.9 (3.4)	4.2 (3.7)	2.3 (2.5)	NA
FAQ/30	—	1.4 (3.3)	1.7 (1.5)	29.3 (1.5)
Duration of illness	—	NA	2.0 (1.0)	11.3 (8.7)
Age of arrival in the United States	40.3 (14.4)	38.5 (12.8)	30.0 (17.3)	56.3 (8.4)
Years in the United States	33.5 (11.5)	32.2 (11.7)	45.3 (12.0)	30.8 (3.9)
Female (%)	56	61	0	75
Born in Vietnam (%)	100	100	100	100
Year of arrival in the United States (range)	1964-2014	1967-2014	1964 -1989	1985-1994
Tested in Vietnamese (%)	80	83	33	100

FAQ indicates Functional Assessment Questionnaire; MCI, mild cognitive impairment; NC, normal control.
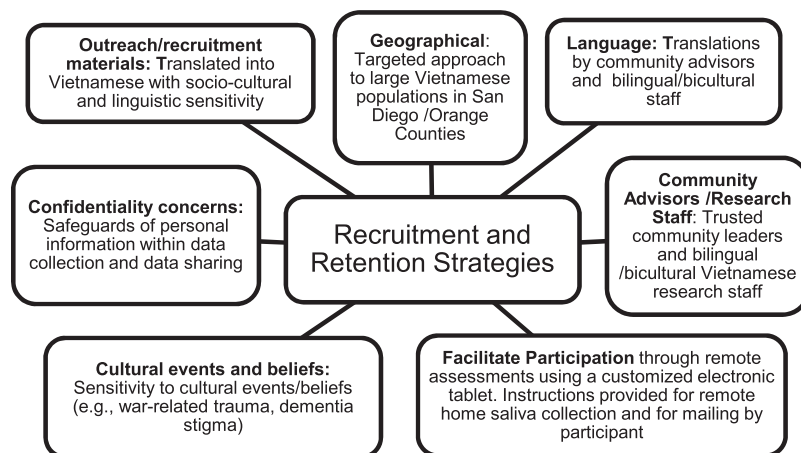
FIGURE 1. Recruitment and retention strategies for the Asian Cohort for Alzheimer Disease (ACAD) Vietnamese pilot study.

Vietnamese community accounted for most of the referrals eligible for enrollment. These included family, friends, neighbors, other ACAD participants, and members of the CAB. For many of the enrollees, a combination of referral sources led to their participation, but the CAB members were cited as at least one of the sources that influenced 11 individuals (44%) to participate.

Following the consensus diagnosis for 25 study completers, 18 received a diagnosis of NC, 3 MCI, and 4 dementia. Three of the 4 with dementia were severely cognitively impaired and unable to perform neuropsychological tests. The diagnosis was based on information provided by the informant. All 4 participants with dementia were further classified as having AD. Two of the 3 participants diagnosed with MCI were classified as single domain amnestic, and one, as executive type. Those with dementia were older than the NC participants ($t = -4.3$; $P < 0.001$) and less educated than those in both the NC ($t = 2.9$; $P = 0.004$) and MCI ($t = 3.8$; $P = 0.012$) groups. Three participants either refused or were unable to provide a saliva sample for DNA extraction.

Exploratory analyses focused on 3 factors associated with AD risk: subjective cognitive complaints (SCC), depressed mood, and vascular symptoms. There were no significant differences in age and education between the NC participants with and without SCC (Table 2). Based on medium to large effect sizes (0.59 to 0.79), those with SCC compared with those without SCC reported greater GDS and FAQ scores and had greater difficulty on a simple figure copy task and learning and recall of visually presented common objects.

The mean total GDS score fell within the normal range[28] and did not significantly differentiate NCs from MCIs. Females acknowledged more symptoms of depression than males ($t = -2.4$; $P = 0.03$) and showed significantly greater variability in total GDS scores. With a median age split of < 70 versus ≥ 70 years, the younger group (mean age = 65.3 y) reported more symptoms of depression ($t = 2.1$; $P = 0.059$; effect size = 0.88) and showed significantly greater variability ($F = 13.5$; $P = 0.002$) than the older group (mean age = 78.0 y). There was no difference in overall score on the GDS between those reporting less English proficiency and those reporting more; however, those who acknowledged a highly endorsed item on the GDS, a preference to stay home rather than going out and doing new things (48%), rated their English skills less proficient than those who did not ($t = -2.5$; $P = 0.024$). For those who reported being afraid that something bad was going to happen to them (48%), the total GDS score was higher ($t = 2.2$; $P = 0.063$; effect size = 0.94) and more variable ($F = 14.0$; $P = 0.001$), and age was younger ($t = 2.7$; $P = 0.014$).

Eighty-eight percent (88%) of the 25 participants reported at least 1 VRF (ie, hypertension, hypercholesterolemia, diabetes mellitus). Five reported all 3 VRFs. Fifty-seven percent of the participants with MCI or dementia (4 of 7) reported 2 or 3 VRFs; this was true for only 33% (6 of 18) of NCs. When comparing subgroups on neuropsychological tests, we restricted the comparison of individuals with fewer (0 or 1) versus more (2 or 3) VRFs to NC participants to avoid the diagnostic confound due to circularity and found that, based on effect size, those with fewer VRFs performed better on visuospatial tasks (ie, CASI pentagons, clock drawing) than those with more (Table 3).

DISCUSSION

This UCSD ACAD pilot study demonstrated the feasibility of bringing Vietnamese Americans into scientific research designed to address genetic and lifestyle risk factors for AD. The study achieved a high participant completion rate by engaging and recruiting older adults from the Vietnamese community, a population that is significantly underrepresented in dementia research.

To succeed in this pilot study, we faced challenges and unknowns around recruitment success, the utility of the instruments used to measure variables across a range of severity, and the added task presented by COVID-19 to conduct clinical evaluations using remote technology. The pilot study incorporated multiple engagement and recruitment strategies, with word of mouth within the Vietnamese community being the most effective in reaching recruitment goals. Building trust was significantly enhanced by the inclusion of a Vietnamese advisory board and individuals from local Asian community organizations. Bicultural/bilingual research staff involvement in the local Vietnamese community, as well as the UCSD academic environment, allowed completion of screening and research procedures that emphasized sensitivity to cultural preferences and values of older Vietnamese adults within a research setting. Using a simplified remote technology platform with

TABLE 2. Demographic and Clinical Variables for NC Participants (N = 18) Divided by SCC

	NC without SCC (n = 7) [mean (SD)]	NC with SCC (n = 11) [mean (SD)]	Effect size (Cohen *d*)
Age (y)	69.9 (8.6)	71.2 (6.7)	−0.18
Education (y)	13.7 (2.4)	12.6 (4.1)	−0.31
Geriatric Depression Scale/15	2.9 (1.6)	5.0 (4.4)*	−0.60+
FAQ/30	0.1 (0.4)	2.2 (4.1)	−0.63+
Neuropsychological tests			
CASI total/100	91.8 (5.5)	91.5 (4.8)	0.05
CASI pentagons/10	9.9 (0.4)	9.3 (1.0)*	0.70+
Clock to command/15	13.6 (1.3)	12.5 (3.2)	0.43
Common Objects Memory Test			
Learning Trial 1 # recalled/10	6.9 (1.2)	6.6 (1.4)	−0.79+
Learning Trial 2 # recalled/10	8.1 (1.6)	7.2 (1.5)	−0.35
Learning Trial 3 # recalled/10	8.7 (1.1)	8.0 (1.1)	−0.34
Sum of Learning Trials/30	23.7 (2.9)	21.8 (3.4)	0.60+
Short Delay Free Recall/10	8.6 (1.0)	7.7 (1.4)	0.66+
Short Delay Recognition/20	20.0 (0.0)	20.0 (0.0)	—
Animal Fluency, # correct	11.3 (3.1)	10.9 (3.5)	0.11
Vegetable Fluency, # correct	9.6 (4.0)	12.7 (4.2)	−0.77+

*Significant difference in variance.
+Medium to large effect size.
CASI indicates Cognitive Abilities Screening Instrument; FAQ, Functional Assessment Questionnaire; NC, normal control; SCC, subjective cognitive complaint.

translations by bilingual staff enabled completion of well-received assessments. Eighty percent of participants in the pilot study chose to communicate in Vietnamese, a finding somewhat expected given that all participants were foreign-born, older Vietnamese Americans. Providing this choice for language was an essential factor for study recruitment and retention as well as trust-building.

Language had a significant impact on other aspects of the study as well. The selection and adaptation of linguistically and culturally appropriate translations of instructions and test items into Vietnamese resulted in the successful completion of these instruments in all but the 3 participants with severe dementia. The availability of this information, as well as the multidisciplinary, bicultural nature of the consensus team, strengthened the diagnostic process. However, the results underscored the need to validate cognitive measures for assessment of participants with more advanced dementia with instruments that might include existing versions of the Severe Cognitive Impairment Profile (SCIP)[37] or the Severe Impairment Battery (SIB).[38] Finally, regardless of cognitive status, the modest number of validated test instruments available for use in the older Vietnamese American population will require significant instrument development to benefit future ADRD studies.

This pilot study has several limitations. While recruitment of a small sample size succeeded, a much larger sample enrollment may present challenges that necessitate additional approaches to recruitment. The pilot sample size supports only preliminary exploratory analyses of nongenetic AD risk factors. The findings will only be confirmed with the larger sample planned in the forthcoming NIH-funded U19 study titled "Asian Cohort for Alzheimer

TABLE 3. Normal Control Participants (N = 18) Divided by Number of Vascular Risk Factors (Hypertension, Diabetes, Hypercholesterolemia)

	No. vascular risk factors [mean (SD)]		
	0 or 1 (n = 12)	2 or 3 (n = 6)	Effect size (Cohen *d*)
Age (y)	68.4 (5.9)	75.2 (8.2)	−1.01
Education (y)	13.0 (4.0)	13.2 (2.2)	−0.05
Geriatric Depression Scale/15	4.3 (3.6)	4.0 (4.0)	0.07
Functional Assessment Scale/30	1.5 (4.0)	1.2 (1.6)	0.10
Neuropsychological tests			
CASI total/100	92.3 (5.2)	90.3 (4.6)	0.41
CASI pentagons/10	9.7 (0.7)	9.2 (1.2)	0.59
Clock to command/15	13.7 (1.1)	11.3 (4.0)*	0.96
Common Objects Memory Test			
Sum of Learning Trials/30	22.7 (2.9)	22.3 (4.2)	0.10
Short Delay Free Recall/10	7.9 (1.2)	8.3 (1.6)	−0.31
Animal Fluency, # correct	10.8 (3.4)	11.5 (3.3)	−0.20
Vegetable Fluency, # correct	11.3 (4.5)	12.0 (4.1)	−0.17
Female (%)	72.7	27.3	
Male (%)	57.1	42.9	

*Significant difference in variance.
CASI indicates Cognitive Abilities Screening Instrument.

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Disease" (ACAD). The results, however, encourage that studies such as ACAD can be undertaken and can apply to a broad range of ages and years of education of foreign-born Vietnamese Americans. The finding that sufficient saliva samples for DNA analysis were not obtained from 12% of participants underscores some of the technical difficulties obtaining sufficient saliva in older participants in a remote home setting, as well as potential hesitation to consent to provide DNA. Also, consistent with other studies, the majority of participants in the cohort received a diagnosis of NC, highlighting the anticipated need to recruit larger numbers of cognitively impaired individuals to provide sufficient AD cases for genetic analysis with attention to age stratification. Finally, remote neuropsychological testing using an electronic tablet for video conferencing can limit the willingness of older adults to enroll in the study due to discomfort with technology. Remote testing can also limit confidence in the research data due to unproven reliability and validity of the instruments administered. However, the tablet we employed was customized for ease of use by older adults and was supported by the research staff, so technical problems were addressed before the assessment. Several survey studies[39–41] have found that participants consider testing using remote audio-visual technologies to actually be user-friendly. In addition, recent studies have found remote neuropsychological tests that include measures of memory to be reliable and valid when compared with face-to-face assessments in a variety of research samples including: (1) older adults,[41–46] (2) individuals with low education,[47] (3) rural/underserved populations,[41,45] and (4) diverse groups.[46,48]

Our preliminary exploratory analyses evaluated 3 potential AD risk factors, subjective cognitive complaints, depression, and vascular disorders. Our finding of 61% of normal controls reporting SCC, is consistent with findings from previous studies in which 64% of Vietnamese reported SCC,[11] and Vietnamese Americans reported more cognitive complaints compared with other groups (eg, African Americans, Chinese Americans).[10] In addition, our findings that participants with SCC compared with those without reported more depressive symptoms and were more impaired on aspects of objective cognitive testing were consistent with results from the study by Meyer et al.[11]

Depressive symptoms in the Vietnamese American population have been attributed to a variety of factors including economic challenges, language barriers, and social isolation.[8] For older adults, a sense of cultural disconnect with adult children[9] and the subjective perception of cognitive decline[10,11] may also be factors. English proficiency did not make a difference in the report of depression symptomatology. However, those acknowledging a highly endorsed specific item on the GDS concerning a preference to stay home rated their English skills less proficient than those who did not. Comparing means, women reported more symptoms of depression than men, and younger individuals (below 70 y) reported more symptoms of depression than older participants. However, while GDS scores for the majority of participants fell within the normal range, the results showing differences in groups divided by sex and by age were likely driven by the scores of 4 younger women whose scores suggested clinically relevant depression. These results, the high likelihood that Vietnamese Americans have suffered from trauma, acculturation stress, and discrimination, and findings from previous studies[7–11,49] support the need to address depression and other mental health issues in Vietnamese Americans regardless of demographic characteristics.

Our finding that 88% of participants reported at least 1 VRF (ie, hypertension, high cholesterol, diabetes), and 40%, more than one, is consistent with observations reported by Nguyen et al[18] that Vietnamese Americans have a significant VRF burden and also a high rate of cerebrovascular mortality. While the number of VRFs in our study increased with age, treatment in midlife compared with later life should be considered for impact on dementia risk.[16] Other VRFs including access to care and smoking were not surveyed in this study but are important for investigation in future studies.[18,50]

CONCLUSIONS

In general, the pilot study identified successful strategies for developing relationships with community partners, building trust with older adult Vietnamese American participants for research recruitment and retention, providing effective, linguistically and culturally appropriate language translations, carrying out technology-friendly remote assessments, and providing sufficient information for determining a diagnosis by a team of patient-facing raters and experienced dementia professionals. These support the feasibility of a much larger study to determine genetic and nongenetic risk factors for AD in a population whose underrepresentation in research is a significant concern. Funding has been approved for a multisite study (NIA ACAD U19: PI: L.-S.W.)[21] designed to unmask differences in largely unexplored genetic profiles among Vietnamese Americans and other Asian subgroups (ie, Korean and Chinese Americans and Canadians) and in comparison to populations overrepresented in research (eg, Caucasians). The upcoming study will provide much larger sample sizes to aggregate and disaggregate North American Asian American and Canadian populations.

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