

# RESEARCH NOTE: HISPANIC HEALTH

## CHARACTERISTICS OF MEXICAN-AMERICAN ELDERS WITH DEMENTIA PRESENTING TO A COMMUNITY-BASED MEMORY EVALUATION PROGRAM

**Objective:** To determine sociodemographic characteristics associated with the initial presentation of Mexican-American elders to a community-based memory evaluation clinic.

**Methods:** Retrospective review of the charts of 89 Mexican Americans presenting consecutively to an outpatient memory evaluation clinic in San Antonio, Texas.

**Principal findings:** Mexican Americans presented for evaluation with more moderate-to-severe cognitive impairment than previously reported. They also tended to have high levels of IADL (83.1%) and gait/balance (52.3%) impairment, as well as high levels of depressive symptoms (63.1%).

**Conclusions:** Mexican Americans present for initial evaluation for memory decline with moderate-to-severe cognitive decline and significant dementia-associated co-morbidities. In Mexican Americans, caregiver burden, fall risks, depressive symptoms, and need for IADL support should be addressed on the initial visit for memory decline. (*Ethn Dis.* 2002;12:517-521)

**Key Words:** Dementia, Mexican American, Diagnosis

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### INTRODUCTION

Dementia is a major cause of morbidity and mortality in the United States. In 1990, it was estimated that there were 4 million individuals with Alzheimer's disease, with an estimated 14 million Americans expected to develop the disease by the middle of this century.<sup>1</sup> Estimates suggest that 10.3% of community-dwelling elders suffer from a dementing disorder,<sup>2</sup> with an incidence of 0.3% to 1% per year. Preliminary data indicates that minority groups may suffer from higher rates of dementia when compared to non-Hispanic Whites.<sup>3,4</sup>

Although information on dementia in Mexican Americans is sparse, various studies have examined the prevalence of cognitive impairment among mixed Hispanic or non-mainland US populations. Kemp and colleagues demonstrated that 26% of a primarily Mexican-American elder sample in Los Angeles County met the criteria for cognitive impairment.<sup>5</sup> Bird et al also reported that the prevalence of severe cognitive impairment was significantly higher in the Puerto Rican Hispanic population than reported in similar studies in other US communities.<sup>6</sup> However, Alonso Serra et al recently reported that cognitive impairment in a different sample of Puerto Rican elders may be less than previously thought.<sup>7</sup>

The potential for increased numbers of older Mexican Americans has important implications for caregivers. Mexi-

can Americans appear to be disproportionately cared for in the community until higher levels of cognitive and functional disability are reached when compared to their non-Hispanic White counterparts.<sup>8</sup> This indicates that ethnic differences may exist in the characteristics of community-dwelling Mexican-American elders with dementia. With the growing number of older Hispanics and the potential increase in the number of older Hispanics with dementia, the burden of dementia care may be substantial for the Mexican-American community, which may lead to increased caregiver burden with the potential for elder abuse.

The purpose of our study was to ascertain the characteristics associated with a group of Mexican-American elders being evaluated for memory decline in a community-based memory disorders clinic, and define the factors associated with those at the moderate-to-severe stage of dementia.

### METHODS

#### Subjects

This study involved a retrospective review of charts for 89 consecutive subjects who self-identified as Mexican Americans on presentation to the University Cognitive Disorders Clinic. The majority of the elders ( $N=63$ ) were referred by clinic providers in the frail elder clinic for further evaluation for memory decline. A smaller group ( $N=10$ ) was referred by other primary

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*Estimates suggest that 10.3% of community-dwelling elders suffer from a dementing disorder<sup>2</sup> . . . Preliminary data indicates that minority groups may suffer from higher rates of dementia when compared to non-Hispanic Whites.<sup>3,4</sup>*

care providers. All elders underwent a 2-hour assessment. Additional interviews were administered to knowledgeable proxy respondents for 22 individuals (24.7%) who had incomplete evaluations and were unable to complete the questions due to severe cognitive impairment.

**Variables**

Age, gender, educational attainment, living arrangements, household income, marital status, primary language, primary caregiver, and medical insurance status were collected. The MMSE was administered in either Spanish or English according to patient preference. The English and Spanish versions of MMSE were adopted from the Diagnostic Interview Scale (DIS) used in prior community surveys.<sup>6</sup> In the present study, the conventional MMSE cut off score of <24 was used while scores of 0–20 were used to delineate severe-to-moderate impairment and scores of 21–24 were used to delineate mild cognitive impairment.<sup>9</sup> IADL function was assessed using the modified OARS questionnaire.<sup>10–13</sup> Gait and balance were assessed using Tinetti’s gait and balance scale, a validated instrument commonly used to test the elderly.<sup>14</sup>

All subjects were screened for depressive symptomatology using the 15-item Geriatric Depression Scale (GDS-

**Table 1. Demographic correlates of Mexican-American elders at initial presentation for cognitive impairment evaluation**

Correlate	N = 89 (%)	$\bar{x}$
Age		76
65–74	33 (37.1)	
≥75	56 (62.9)	
Gender		
Female	60 (67.4)	
Marital status		
Married	35 (39.3)	
Divorced	10 (11.2)	
Never married	4 (4.5)	
Widow & widower	40 (44.9)	
Living with other		
Yes	71 (79.8)	
No	18 (20.2)	
Household income		
≤\$4999	43 (48.3)	
≥\$5000	46 (51.7)	
Medical insurance		
Medicare	28 (31.5)	
Medicare and county supported	13 (14.6)	
Medicare, Medicaid and county supported	8 (9.0)	
Medicare/Medicaid	18 (20.2)	
County supported	18 (20.2)	
Medicaid and county supported	4 (4.5)	
Education (by grade)		5.5
0–8th grade	70 (78.7)	
≥9th grade	19 (21.3)	
Primarily Spanish speaking		
Yes	62 (69.7)	
No	27 (30.3)	
Patient caregiver		
Spouse	31 (34.8)	
Adult child	44 (49.4)	
Other relative	9 (10.1)	
None	5 (5.6)	
Adult child caregiver		
Male	8 (27.6)	
Female	39 (65.0)	
Number of medications		
4 or less	36 (40.4)	
4 or above	53 (59.6)	
Levels of dementia		
Mild	24 (27.0)	
Moderate	43 (48.3)	
Severe	22 (24.7)	

15), with a cut-off value of >5 indicating clinically important depressive symptoms.<sup>15–17</sup> Polypharmacy was defined as the use of 5 or more medications.<sup>18</sup>

**Analyses**

Differences in the severity groups, based on mean total MMSE scores, as well as differences in impairment rates by sociodemographic characteristics

**Table 2. Association between level of dementia and impairment in Instrumental Activities of Daily Living (IADL), Geriatric Depression Scale (GDS), Tinneti Gait and Balance Scale, Education and Living with Significant Other**

	Mild N = 24 (%)	Moderate/Severe N = 65 (%)	Total N = 89 (%)	$\chi^2$
No. of IADL's for which help needed				
0	13 (54.2)	5 (7.7)	18 (20.2)	
1	3 (12.5)	6 (9.2)	9 (10.1)	
2 or more	8 (33.3)	54 (83.1)	62 (69.7)	.000
GDS score				
≤4	19 (79.2)	24 (36.9)	43 (48.3)	
≥5	5 (20.8)	41 (63.1)	46 (51.7)	.001
Gait & balance				
≤24	5 (20.8)	34 (52.3)	39 (43.8)	
≥25	19 (79.2)	31 (47.7)	50 (56.2)	.007
Education				
≤8th	16 (66.7)	54 (83.1)	70 (78.7)	
≥9th	8 (33.3)	11 (16.9)	19 (21.3)	.086
Living with other				
No	8 (33.3)	10 (15.4)	17 (20.2)	
Yes	16 (66.7)	55 (84.6)	71 (79.8)	.061

were analyzed by frequency distributions. Depressive symptoms, functional condition, and gait/balance status were evaluated with a chi-square test. Independent variables were then entered into multiple regression models using criteria of  $P \leq .05$  on the bivariate comparisons. Ordinary least squares regression was employed to model the continuous measure of the total MMSE scores, and logistic regression with a 95% confidence interval was employed to model the dichotomous measure of moderate-to-severe vs mild cognitive impairment.

**RESULTS**

Demographic characteristics of the final sample are provided in Table 1. Sixty (67.4%) of the respondents were female. The mean age of the subject group was 76 years. The mean years of education were 5.5. Most subjects were currently living with a significant other. More than 46.1% had incomes less than \$5,000 per year. Also, 69.7% were primarily Spanish speaking. Adult children, the majority of whom were female, pro-

vided a significant proportion of caregiving. A total of 24 (27.0%) subjects were rated mild, 43 (48.3%) subjects were rated in the moderate range, while 22 (24.7%) subjects were rated in the severe range.

Table 2 shows that most subjects presented with moderate and severe cognitive impairment 65 (73%). The moderate and severe groups were pooled for purposes of this analysis. In terms of health-related characteristics, bivariate

associations were evident for education, living with significant other, IADL impairment, gait/balance impairment, and GDS depression symptomatology.

Table 3 shows the association of significant independent variables with subjects' level of dementia as determined by MMSE cutoffs. Subjects were much more likely to have IADL impairment, GDS depressive symptomatology, and gait impairment. They were also more likely to be living with someone, or to speak only Spanish.

**DISCUSSION**

The results of this study indicate that a significant number of Mexican-American elders who present for evaluation of cognitive impairment are at high levels of severity. Among our subjects, 27% had mild impairment and 73% had moderate-to-severe impairment. While the perceived higher level of cognitive impairment in our patient population may be higher due to referral bias, an alternative explanation may be a delay in evaluation after presentation of symptoms on the part of the Mexican-American elder or their family, which can be 3 or more years.<sup>19</sup> Our results also indicate that, at presentation, monolingual Spanish language use is significant. Therefore, Mexican Amer-

**Table 3. Logistic regression analysis shows the MMSE-rated moderate/severe level of dementia**

Variable	OR	95% Confidence Interval	
		Lower	Upper
Living arrangement (vs Others)			
Live alone	2.95	0.56	15.53
Primarily Spanish speaking (vs No)			
Yes	0.97	0.25	3.68
No. of dependent IADL's (vs ≤ 1 needing help)			
≥2	3.14	1.53	6.46
GDS score (vs ≤ 4)			
≥5	8.27	1.91	35.74
Gait and balance (vs ≤ 24)			
≥25	0.27	0.07	1.07

*Among our subjects, 27% had mild impairment and 73% had moderate-to-severe impairment.*

icans visiting clinics for other medical problems may, in fact, be exhibiting early symptoms of dementia that go undetected.

We also found that Mexican Americans with moderate-to-severe cognitive impairment presented with higher levels of IADL limitations, had GDS-depressive symptomatology, and had significant gait and balance problems compared to those at mild stages. These findings are consistent with the literature and understanding of progressive dementia. Elders in the latter stages of the disease suffer from increasing functional disability, depression, and falls.<sup>20,21</sup>

The implication is that Mexican-American elders present with significant morbidity secondary to the severity of their illness at their initial outpatient presentation for cognitive evaluation. Issues of IADL support, depression, and falls should be addressed on initial evaluation of the demented Mexican-American patient to decrease significant comorbid complications.

As expected, the Mexican-American adult offspring (49.4%) provided a significant proportion of primary caregiving. As seen in other studies, these caregiving offspring are usually adult daughters or daughters-in-law.<sup>22,23</sup> Increasing caregiver burden may be the major reason that Mexican-American elders are ultimately brought in for cognitive evaluation, but this remains to be determined.<sup>24</sup>

There are some limitations to our study. While the sociodemographic profile of elders presenting to our clinic is not appreciably different from community-living Mexican-American elders in

general, the implications of our results may not hold beyond the inner city community-based cognitive evaluation setting. Also, it is important to recognize that the study included elders for whom there already was a strong suspicion of dementia and therefore the results cannot be generalized to the majority of community-dwelling Mexican-American elders presenting to primary care clinics.

## CONCLUSION

A significant number of Mexican-American elders that present for memory loss to a community-based dementia evaluation clinic tend to be in the later stages of the disease. They suffer from IADL decline, increased gait and balance problems, depressive symptomatology, and tend to be monolingual in Spanish. Detection and evaluation for cognitive decline of Mexican-Americans who present for other medical care may result in earlier intervention and support for both the patient and their family.

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