Published in final edited form as:

J Aging Health. 2011 April ; 23(3): 417–432. doi:10.1177/0898264310380454.

Acculturation and Depressive Symptoms among Mexican American Elders New to the Caregiving Role: Results from the Hispanic-EPESE

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Abstract

Objectives—The purpose of this study was to identify characteristics associated with becoming a caregiver among Mexican American (MA) elders and to examine predictors of depressive symptoms among the new caregivers two years later.

Methods—Drawn from the Hispanic Established Populations for Epidemiologic Studies of the Elderly (H-EPESE), 152 MA recent caregivers and 2,023 other MAs were compared. Residualized change regression analysis was conducted.

Results—At baseline, MAs who had recently become caregivers exhibited a significantly greater number of depressive symptoms compared to those who had not. Controlling for background characteristics, physical health, social support, and baseline depressive symptoms, regression analysis revealed that two years later higher acculturation was related to a greater number of depressive symptoms among those who at baseline were new caregivers.

Discussion—Better knowledge of the within-group differences among MA elderly caregivers, especially with respect to acculturation, may better inform interventions for this at-risk group.

Keywords

Mexican American Elders; Caregiving; Acculturation; Depressive Symptoms; Hispanic-EPESE

While the experience of becoming a caregiver has received comparatively little attention in studies of Hispanics and other racial/ethnic groups, there is evidence that in general caregivers have more mental health problems than non-caregivers. This may be particularly true for caregivers from racial/ethnic minority groups, since the combination of stressors experienced while caregiving and the disparities in social and health-related resources often faced by members of racial/ethnic minority groups including Hispanics may increase the likelihood of decreased well-being (e.g., Adams, Aranda, Kemp, & Takagi, 2002; Chiriboga, Black, Aranda & Markides, 2002).

Another area lacking in attention, in studies that have evaluated race/ethnicity and caregiving, is that most have studied differences between racial/ethnic groups rather than

differences within a specific group (e.g., Dilworth-Anderson, Williams, & Gibson, 2002; Aranda & Knight, 1997). The lack of within-group differences is particularly missing for Hispanic caregivers. In one meta-analysis evaluating ethnicity and caregiving, Pinquart and Sorensen (2005) were unable to assess within-group characteristics of one racial/ethnic minority group, Hispanic caregivers, due to the limited availability of studies. These researchers recommended that future studies of Hispanic caregivers focus on within-group characteristics such as level of acculturation and culturally-specific factors and their relationship to caregiving.

Other studies have also suggested the importance of studying within-group differences among Hispanic caregivers and non-caregivers. A recent revision of the sociocultural stress and coping model (Knight & Sayegh, 2010; see also Aranda & Knight, 1997) suggests that cultural factors within Hispanic populations may be associated with differences in caregiver-related stress, which may in turn affect caregiver distress and health outcomes. For example, an important component of Hispanic culture is the family unit, and a greater dependency on family networks for providing support may discourage some Hispanic older adult caregivers from seeking supportive services for either themselves or a care recipient. Hispanic older adults who are less acculturated, or do not speak English as well, may use fewer mental health services (Sentell, Shumway, & Snowden, 2007; Vega, Kolody, Aguilar-Gaxiola, & Catalano, 1999), and therefore may have less formal support and worse health outcomes (Grant et al., 2004; Gonzalez, Haan, & Hinton, 2001). Language, lack of information, and culturally-representative health care professionals in particular have been identified as barriers for seeking treatment for a common mental health concern, depression, in Latino older adults (Barrio et al., 2008). A lack of social resources may be particularly detrimental during the first few months after becoming caregivers, when they must adjust to a host of new demands and challenges (Adams, 2006).

The results of cross-group comparisons provide suggestions regarding the particular vulnerabilities of Hispanic caregivers that may be relevant to subgroup analyses. For example, Valle and colleagues (1993) evaluated coping styles of Hispanic caregivers compared to non-Hispanic Whites, and found that Hispanic caregivers reacted more negatively to caregiving and made more negative appraisals despite similar caregiving tasks (Valle, Cook-Gait, & Tazbaz, 1993). In an examination of depressive symptoms of caregivers across four racial/ethnic groups (MAs, non-Hispanic Whites, Japanese Americans and African Americans), Adams and colleagues (2002) found that lower income, lower education, and a longer time caregiving was related to a greater number of depressive symptoms among all caregivers. This study, however, was limited in that the MA sample was both small (n=45) and drawn with a nonrandom approach. Other studies have combined various subgroups of Hispanics, with results also suggesting that Hispanic caregivers, and caregivers with low income or education may experience a significantly greater number of depressive symptoms compared to African American caregivers or individuals with higher socioeconomic status (Covinsky et al., 2003; Folsom et al., 2007). Relevant to the present investigation is that MA and other Hispanic caregivers report the greatest number of depressive symptoms and highest percent with symptom levels indicative of major depression compared to other racial/ethnic groups (Adams et al., 2002).

Knight and Sayegh's (2010) version of the sociocultural model suggests that increased social support may mediate caregiver health. The reason is that the greater vulnerability of MAs and Hispanic Americans in general may be a lack of social resources. This scarcity in resources may result at least in part from the fragmentation of family that can result from the immigration experience. Regardless of cause, Hispanic caregivers do seem to have a reduced social network. In their cross-group comparison of caregivers for example, Adams

and colleagues (2002) found MA caregivers to report fewer social supports and a smaller social network than caregivers in the three other groups studied.

Given the paucity of research within subgroups of Hispanic caregivers and the nonrandom sampling strategies of the few studies that have examined individual groups, the current study focused on MA older adult caregivers and non-caregivers who participated in a multi-state, multi-stage probability study. Additionally, the study evaluated men as well as women, since only women were included in many of the previous studies. The specific objectives were 1) to estimate the prevalence of individuals who recently became caregivers among MA older adults, 2) to examine the demographic characteristics related to assumption of caregiving among older MAs compared to those who had not recently become caregivers, and 3) to examine whether level of social support, acculturation, caregiving, and the interaction between caregiving and acculturation is related to depressive symptomatology among older MAs. It was hypothesized that MA caregivers would be more likely to be female and married than MAs who did not recently become caregivers. The rationale for this hypothesis was that in a more traditional population, caregiving during at least the early stages would be more likely to be a spouse (50%) and are often wives (69%; Sorensen, Pinquart, & Duberstein, 2002). Additionally, because the sample consisted of MAs who were older than the general caregiver population, it was hypothesized that they would be more likely to be married and caring for a spouse rather than a parent or child. Increased social support and higher levels of acculturation were expected to correlate with fewer depressive symptoms. It was also hypothesized that the combination of becoming a caregiver and having lower levels of acculturation would be related to higher levels of depressive symptoms.

Methods

Sample

This study utilized data from the first (1993-1994) and second (1995-1996) waves of the Hispanic Established Populations for Epidemiological Studies of the Elderly (H-EPESE), a longitudinal probability sample study of MA older adults. The first two of six existing waves of the H-EPESE study were selected for study since these two waves were not only larger but less subject to the effects of selective attrition than later waves. Moreover, because one key measure, acculturation, was only measured in the first wave, restricting analyses to the first two waves maximized the relevance of the wave one acculturation score.

For initial inclusion in the overall H-EPESE study, individuals had to meet the eligibility requirements of being aged 65 or older, community-dwelling and lived in one of five states classified as having a high proportion of MAs: Texas, California, New Mexico, Colorado, and Arizona (Markides et al., 1999). Respondents were interviewed in either English (21.3%) or Spanish (78.7%), depending on their preference. The probability sampling procedure involved five steps: selecting states with a high proportion of MAs, randomly selecting counties from each state, selecting 209 census tracts randomly from the array of counties, selecting blocks randomly from each census tract, and then interviewing all of the individuals meeting eligibility requirements on that block via house-to-house interviews. The response rate for the study was 86%. Participants were included in the present analyses if they responded "Yes" or "No" to a question regarding assumption of the caregiver role in the past year and if they completed 90% of the depression inventory. Of the 2,175 eligible participants, 152 had assumed the role of caregiver within the year prior to the interview and 2,023 individuals did not. Of the 2,175 eligible participants, mean imputation methods were used to create a complete dataset for the following variables with approximately .01% missing data: BL depressive symptoms, W2 depressive symptoms, education, physical health functioning, and acculturation.

Measures

Background characteristics used in this study included age (measured continuously), gender, marital status (married or not married), educational attainment (continuous variable measuring highest level of education completed), and physical health functioning. Physical health functioning was measured with a performance-oriented mobility assessment (POMA). POMA consisted of a summary score for three categories of physical functioning: walking, balance, sitting (Guralnik, Ferrucci, Simonsick, Salive, & Wallace, 1995). Scores for each of the three areas of assessment ranged from 0-4, (0 = unable to complete task, 1 = poor, 2 = moderate, 3 = good, and 4 = best). Respondents who received a score of (0) included those who tried but were unable to complete the task and those who did not attempt the task for safety reasons. A total POMA score ranged from 0 to 12, with higher scores indicating better physical functioning. All demographic variables were measured at BL.

Social Support—Two variables (perceived support and household size) were used to assess social support. To measure perceived support, participants were asked “In times of trouble, can you count on at least some of your family or friends most of the time, some of the time, or hardly ever?” Scores were reverse-coded so that higher scores represented more perceived support from family or friends. Household size was measured as a continuous variable of the number of people living in the household.

Caregiving—Individuals were identified as recent caregivers if they answered “yes” at BL to the question, “Did you have to assume responsibility for taking regular care of someone else during the past year?”

Linguistic Acculturation—For the present study, acculturation was assessed using three linguistic items where respondents were asked how well they read, speak, and understand English (Chiriboga, 2004; Cuellar, Harris, & Jasso, 1980). These three items assessed the respondent’s self-evaluation of basic English language skills, and are similar to linguistic measures used in previous studies of Spanish-speaking populations (e.g., Jolicoeur & Madden, 2002; Wallen, Feldman, & Anliker, 2002; Moscicki, Locke, Rae, & Boyd, 1989). Though the three items do not capture the full scope of the concept of acculturation, they do provide an idea of ability to communicate in English that was pertinent to our research questions. Scores on each of the three items ranged from 1-4, (1 = not at all, 2 = not too well, 3 = pretty well, 4 = very well), and the maximum summated scores for acculturation was 12. Internal consistency of the three items was high ($\alpha = .97$).

Depressive Symptoms—Depressive symptoms were measured using the full 20-item version of the Center for Epidemiological Studies–Depression scale (CES-D; Radloff, 1977), which contains sixteen negative and four positive items. The CES-D is widely used in the evaluation of depressive symptoms, and has been evaluated to be reliable among Spanish-speaking populations (e.g., Guarnaccia, Angel, & Worobey, 1989; Bromberger, Harlow, Avis, Kravitz, & Cordal, 2004). Participants who preferred to be interviewed in Spanish were measured using a translated version previously used in the Hispanic Health and Nutrition Examination Survey (HANES; Moscicki et al., 1989); internal reliability was .73 for the baseline data and .79 for W2. A summated total score of the CES-D was used in the analysis, with higher scores indicating more severe depressive symptoms (total range: 0 – 60). Probable depression rates were also calculated by using a cutoff score of 16 (Radloff & Teri, 1986). A cut-off score of 16 with the CES-D scale has been also used in other studies of Hispanic populations (in particular Mexican Americans) such as Sacramento Area Latino Study on Aging (Gonzalez et al., 2001) and the HANES (Moscicki et al., 1989).

Analytic Procedure

Inflation weights were used only in an initial step, where BL data were used to estimate the number of older MAs in the five-state Southwestern US region who became caregivers during the year prior to BL data collection. After using the inflated weights to estimate the entire population of Mexican Americans over 65, the estimated percent of older adults who recently became caregivers was calculated by dividing the total population by the number of recent caregivers. In a second step, independent sample t-tests and chi-square tests were run by caregiver status, evaluating unweighted background characteristics (age, gender, marital status, educational attainment, and physical health functioning), social support, acculturation, depressive symptoms (BL and W2), and probable depression rates (BL and W2; CES-D ≥ 16). In a third and last set of analyses, unweighted residualized change regression analyses were conducted to examine the effects of social support, acculturation, and caregiving on changes in depressive symptoms.

Results

Background Characteristics of the Sample and Study Variables

Table 1 summarizes background characteristics and study variables (social support, acculturation, and depressive symptoms) of MA new caregivers and other older adult MAs. Using inflation weights adjusting to the population, the frequency distribution provided an estimate that approximately 23,125, or 6.7%, of MAs age 65 and over in the five-state Southwestern region of the United States became caregivers from 1993 to 1994. As hypothesized, MAs who recently became caregivers were significantly more likely to be female, ($p < .05$). A greater percent of recent caregivers were married (63.2%) than individuals who did not recently become caregivers (55.9%), but chi-square test results were not statistically significant. Average educational attainment was significantly higher for individuals who became caregivers in the past year compared to those who did not ($p < .05$). While caregivers did have higher physical health functioning scores compared to the remainder of the sample (7.26 vs. 6.94), the difference was not statistically significant. Acculturation was, however, significantly higher among recent caregivers ($p < .001$). On average, 49.3% of the recent caregivers self-reported speaking, understanding, and reading English either “pretty well” or “very well.” Only 34.6% of individuals who did not recently become a caregiver self-reported the same level of acculturation. There were no significant differences in social support measures. Both those who had or had not recently become caregivers had, on average, between 2-3 members in the household. Additionally, approximately 70% of both groups reported that “most of the time” they had someone they could count on in times of trouble.

MA recent caregivers had significantly higher depressive symptoms compared to the remaining sample at BL ($p < .001$) and at W2 ($p < .05$). Recent caregivers were also more likely to fall into the category of probable depression (CES-D ≥ 16) at BL ($p < .01$) and at W2 ($p < .05$). Both the average scores of depressive symptoms and probable depression rates for the entire sample decreased from baseline to the second wave of data collection, regardless of caregiver status. Recent caregivers, however, decreased significantly more than MAs who did not recently become caregivers. Recent caregivers decreased from an average CES-D score of 12.17 to 8.57 from BL to W2, compared to a decrease in average score from 9.09 to 6.91 for the non-recent caregiver group. The rates of probable depression among recent caregivers also decreased from BL (30.3%) to W2 (18.4%), as did the rates for the remaining subjects (20.6% at BL to 12.8% at W2).

Residualized Change Regression Analysis

Table 2 summarizes results from residualized change regression analyses. Bivariate correlations were run on all study variables prior to regression analyses in order to check for multicollinearity, and all correlations were less than .70, the suggested cut point recommended for the lack of multicollinearity (Tabachnick & Fidell, 1996). Controlling for depressive symptoms at BL, individuals who were female ($\beta = .07, p < .01$) and had poor physical health functioning ($\beta = .11, p < .001$) reported significantly higher depressive symptoms at W2. As hypothesized, individuals living in households with fewer individuals were more likely to have higher depressive symptoms ($\beta = -.05, p < .05$). Becoming a caregiver and acculturation level, when treated as separate variables, were not significantly related to greater depressive symptoms at W2, but the interaction between assuming a caregiving role and acculturation was significant ($\beta = -.31, p < .05$).

Interpretation of the Interaction between Caregiving and Acculturation

Figure 1 illustrates the interaction between caregiving and acculturation on W2 depressive symptoms. After controlling for background characteristics and social support, caregivers who were highly acculturated (defined as one standard deviation above the mean) had significantly higher depressive symptoms than did caregivers with low acculturation. For individuals who had not become caregivers in the recent past, level of acculturation did not have an effect on depressive symptoms.

Discussion

This study sought 1) to estimate the prevalence of caregiving among MA older adults, 2) to evaluate characteristics related to becoming a caregiver and 3) to examine predictors of depressive symptoms among one racial/ethnic group of elders, Mexican Americans. Previous research estimating the population of caregivers among MAs is limited, and even more limited among the older adult population of MA caregivers. Using inflation weights, results provided an estimation that approximately 23,125 individuals, or 6.7%, of the entire population of older adult MAs living in the southwestern United States during 1993 and 1994 had assumed the role of caregiver. These numbers, in the context of the findings in this and other studies of the potentially stressful consequences of becoming a caregiver as a racial/ethnic minority, suggest the need for a better understanding of the potential for poor health outcomes in these populations.

The study also identified several characteristics associated with the assumption of the caregiving role that could be useful when targeting individuals for interventions. Consistent with past research, MAs who had recently become caregivers were significantly more likely to be female (Evercare and National Alliance for Caregiving, 2008). However, it was unclear why those who had recently become caregivers had higher levels of education and acculturation. While education and acculturation are conceptually related, there is no obvious reason why either of these characteristics would predispose these older individuals to become caregivers. One possible explanation of the relationship between higher education/acculturation and caregiver status is that more successful MAs were more likely to take on the responsibility of caring for family members other than their spouses.

The study also supports existing literature suggesting that MA caregivers may be at increased risk of depressive symptoms (Adams et al., 2002), and adds to this research by incorporating an objective measure of health status, social support, and acculturation into the evaluation of depressive symptoms within a representative sample of MA older adults. By utilizing residualized change regression analyses, analyses were able to control for prior depressive symptoms using two times of measurement. Additionally, the relationship

between household size and depressive symptoms supports previous research and theory emphasizing the importance of family and informal social support for maintaining caregiver health (Pinquart & Sorensen, 2007). Controlling for background characteristics, the availability of household members as a familial support network for Mexican American older adults' was related to a reduction in depressive symptoms. Given the potential for lack of adequate social networks for some MA older adults, these results underscore the need for health care professionals to first identify depressive symptoms in MA older adults and to then work with the older adults' and their families to reduce risk of depression, regardless of caregiver status.

Although caregiving and acculturation by themselves did not predict a greater number of depressive symptoms approximately two years after assumption of the caregiving role, results of the interaction of acculturation and caregiving produced significant results. The results suggest that caregivers who are more acculturated may have a greater risk of depressive symptoms. Though this finding was not in line with our expectations, it is supportive of some research (e.g., Escobar, Nervi, & Gara, 2000) that suggests greater acculturation or "Americanization" may be detrimental for both physical and mental health outcomes. In other words, to the extent that a higher level of acculturation is associated with a lowered sense of familial obligation, and possibly reduced family solidarity, the result may be higher depressive symptoms among more acculturated caregivers.

One complexity is that our analyses controlled for the effects of physical health, education, social support, and other background characteristics, and these covariates may differ by acculturation status. When additional analyses were run without controlling for physical health and social support, caregivers who were more acculturated actually had fewer depressive symptoms. These differences in results highlight the importance of further investigations into the complex relationship of acculturation to family and social values in general, among Mexican Americans.

The limitations of this study should be noted. In this particular data, we were unable to examine the quality and types of family relationships. Given that the present investigation was conducted with older MA adults, it is likely the current sample of new caregivers consisted of older adults caring for either their spouse or younger family members. Spousal caregiving may be predictive of a greater number of depressive symptoms compared to other family relationships (Covinsky et al., 2003). However, caring for grandchildren in Hispanic communities is increasingly common and approximately half of Hispanic grandchild caregivers may exhibit some depressive symptomatology (Burnette, 1996). Because of the psychosocial stress related to either caregiving relationship (spouse or grandparent), the current results may be reflective of the overarching and general stress related to adaptation to the caregiver role. Additionally, it is unclear what the history of caregiving might be for the individuals who had not become a caregiver during the period of study. These individuals may never have been a caregiver or may have been a caregiver for several years (not just within the past year), and thus answered "no" to the question "Did you have to assume responsibility for taking regular care of someone else during the past year?"

Overall, the analyses presented in this paper have identified some important characteristics of caregivers within the MA population. The findings may help to explain the potentially complex and important relationship between health, social support, depressive symptomatology, and caregiving for older MAs in the United States, and the results have implications for alleviating depressive symptoms in diverse populations. Researchers should continue to evaluate the specific contributions that may be related to greater depressive symptoms among MA older adult caregivers. Mental health professionals working in the community should work to assist entire families, as well as caregivers, who provide care to a

loved one. Additionally, increased access to culturally-appropriate mental health services is necessary for the growing population of potentially-vulnerable older adult Mexican Americans.

Acknowledgments

This research was supported by a National Institute on Aging grant R01 AG10939-01 (Dr. Kyriakos Markides, PI) and in part from an internal grant from the Department of Aging and Mental Health Disparities and the Presidential Doctoral Fellowship at the University of South Florida.

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Figure 1.

Caregiving x Acculturation Interaction Predicting W2 Depressive Symptoms

Note. High acculturation is identified as 1SD above the mean and low acculturation is 1 SD below the mean.

Table 1

Descriptive Information of H-EPESE Mexican Americans (N =2,175) by recent caregiver (N=152) or other status (N=2,023)

Variable	Total Sample M/SD or %	Recent Caregivers M/SD or %	Others M/SD or %
Age	72.71/6.25 (72.65/6.28) ^a	72.05/6.08 (72.07/6.37)	72.77/6.26 (72.69/6.27)
Gender (Female) [*]	59.4% (58.3%)	69.1% (64.9%)	58.6% (57.8%)
Education [*]	4.87/3.89 (5.09/4.00)	5.72/4.33 (6.13/4.66)	4.80/3.84 (5.02/3.94)
Marital status (Married)	56.4% (56.2%)	63.2% (61.5%)	55.9% (55.8%)
Physical health functioning	6.97/3.28 (6.97/3.35)	7.26/3.11 (7.13/3.04)	6.94/3.29 (6.96/3.37)
Household size	2.52/1.59 (2.64/1.80)	2.70/1.62 (2.66/1.56)	2.50/1.59 (2.64/1.81)
Perceived support (Most of the time)	71.8% (71.5%)	72.4% (79.2%)	71.8% (70.9%)
Acculturation	35.6% (36.7%)	49.3% (49.7%)	34.6% (35.8%)
Depressive Symptoms BL ^{***}	9.31/9.26 (9.86/9.72)	12.17/9.69 (12.35/9.95)	9.09/9.20 (9.68/9.68)
Depressive Symptoms W2 [*]	7.02/8.35 (7.09/8.42)	8.57/8.77 (8.20/8.73)	6.91/8.30 (7.01/8.40)
Probable Depression BL ^{**b}	21.3% (23.6%)	30.3% (33.7%)	20.6% (22.8%)
Probable Depression W2 [*]	13.1% (12.8%)	18.4% (18.0%)	12.8% (12.5%)

Note. Asterisk indicates variables were significantly different by caregiver status.

*
 $p < .05$

**
 $p < .01$

 $p < .001$.

^aItalicized data in parentheses represent the inflated weights for the population.

^bProbable depression: CES-D ≥ 16 .

Table 2

Results from Residualized Change Regression of Depressive Symptoms W2 (n = 2,175)

Step	Variable	<i>B</i>	<i>SE B</i>	β
1	Depressive Symptoms BL	.31	.02	.34***
2	Age	.05	.03	.04
	Female	1.12	.37	.07**
	Education	-.01	.04	0
	Married	.09	.12	.02
	Physical health functioning	-.29	.06	-.11***
3	Perceived support	.20	.19	.02
	Number in household	-.24	.11	.05*
4	Caregiving	-.21	.18	-.03
	Acculturation	-.99	.66	-.03
5	Caregiving x Acculturation	-1.14	.55	-.31*

Note. $R^2 = .12$ for Step 1; $\Delta R^2 = .22$ for Step 2; $\Delta R^2 = .00$ for Step 3, 4, and 5 (ps = .000).

*
 $p < .05$

**
 $p < .01$

 $p < .001$