

Fotonovelas:  
A Health Literacy Tool  
for Educating Latino Older Adults  
About Dementia

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**ABSTRACT.** The purpose of this study was to examine the feasibility and impact of a guided educational intervention centering around dementia-oriented fotonovelas on a community sample of Spanish-speaking Latino older adults with a relatively low level of prior exposure to, or

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knowledge of Alzheimer's disease and related disorders. Two fotonovelas, or "photo novels," were developed and subsequently tested with 111 Spanish-speaking older adults who completed a survey following group administration of a fotonovela. After a discussion to reinforce the educational content, participants were given a second fotonovela to take home. A second assessment was conducted approximately three weeks later. The results suggest that many of the participants increased their overall knowledge of Alzheimer's disease and most reported satisfaction with the educational materials. Implications for use of fotonovelas as an acceptable and cost-effective means of providing health education to an underserved population are discussed. doi:10.1300/J018v30n01\_06 [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <<http://www.HaworthPress.com>> © 2006 by The Haworth Press, Inc. All rights reserved.]

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## INTRODUCTION

There is an urgent need to communicate about Alzheimer's disease and other dementing illnesses to Latinos whose older adult and middle-aged caregiver populations have been increasing and are projected to continue to grow (Ramirez, 2004). The concern within the Alzheimer's services system has been that the increase in numbers of Latino older adults has brought a corresponding increase in the presence of Alzheimer's disease and associated dementias within the ethnic group (e.g., Briones, Ramirez, Guerrero, & Ledger, 2002). Among the many emerging needs is the development of culturally and linguistically appropriate Alzheimer's disease and dementing illness materials for dissemination to Latinos (Gallagher-Thompson, Solano, Coon, & Areal, 2003). Fotonovelas (pictorial story magazines) are one type of tool that may be used for this educational purpose.

Translated literally, fotonovelas are "soap opera" type stories told in pictorial formats with reduced levels of text (Flora, 1981). Fotonovelas are a heavily utilized popular culture communicational and entertainment medium within the Latino/Hispanic community (Flora, 1981, 1982). They attract a following among many different kinds of audiences, both the young and old, male and female, although low-income, middle-aged women are the largest audience (Carrillo & Lyson, 1982;

Flora, 1981, 1985). Fotonovelas are read and discussed among family members and neighbors, as well as among school classmates and work colleagues (Hill & Browner, 1982). An interesting characteristic of their distribution among Latino audiences is that fotonovelas also have an extended life after publication. They are often loaned, rented, and even resold to others, especially in poorer neighborhoods (Flora, 1985; Hill & Browner, 1982).

### ***Fotonovelas as Tools for Health Education***

While health care organizations tend to be the most frequent producer of the fotonovela, a variety of private as well as governmental organizations in the USA, ranging from the American Red Cross and AIDS service groups to the Environmental Protection Agency have used the fotonovela format to communicate their messages (Marin & Van Oss Marin, 1990). These health related fotonovelas take full advantage of the popular culture approach to message development and content presentation for Latino audiences. For example, following recommendations from health educators, fotonovela designers scale down their written text and make extensive use of pictures to empower people to take appropriate actions in response to a health concern (Horner, Surratt, & Juliusson, 2000; Matiella, 1990; Plimpton & Root, 1994; Powell, Tanz, Uyeda, Gaffney, & Sheehan, 2002; Root, 1990; Wang & Burris, 1994). They are printed in familiar formats such as newsprint and they use vivid colors in their covers to attract potential consumer interest. These techniques are especially designed for lower-literate and working-class Latino audiences (Baker, Parker, Williams, Pitkin, Prikh, & Coates, 1996; Lee, 1999; Matiella, 1990; Root, 1990). However, with these similarities noted, closer scrutiny reveals a major difference between the *popular culture* and the *health-education/informational type* of fotonovela. The aim of the former is clearly to entertain, while the latter seeks to inform, educate, and empower (Wang & Burris, 1994), albeit in an entertaining manner. Therefore, while the health-education fotonovela often builds itself around an interesting and suspenseful storyline, it is its health-focused message that predominates.

### ***Fotonovelas and Health Literacy***

A specific aim of the health-related fotonovela is to address the problem of health literacy which has gained the attention of professionals throughout the health field (Gazamarian, Baker, Williams, Parker, Scott,

Green et al., 1999; Health Literacy, 1999; Horner, Surratt, & Juliusson, 2000; Kahn & Kelly, 1991; Miles & Davis, 1995) especially with regard to culturally diverse populations (Baker, Wilson, & Kars, 1997; Kefalides 1999; Miles & Davis, 1995). Prior research has shown that it is not sufficient to provide health information in the language of the target population. One must also adapt educational materials for different levels of overall literacy, but more specifically for health literacy itself (Baker et al., 1996). Health literacy is operationalized as the accurate communication of biomedical and other health-related information in formats intelligible to the target audience (Baker, Parker et al., 1997; Grace & Christiansen, 1998). For example, many persons may be able to handle some basic reading and/or writing tasks. These individuals may be able to write out grocery lists, write brief messages to friends, and solve simple math problems, such as checking for the correct change when making purchases. However, these same persons may falter when trying to understand complex biomedical information surrounding a condition, such as Alzheimer's disease, that is being communicated in an education session or in response to a referral for services (Baker et al., 1996; Baker, Parker et al., 1997; Bishop, 1991; Woloshin, Schwartz, Katz, & Welch, 1997). They may likewise fail in reading comprehension when handed printed material about the disease to take home with them. General literacy, as assessed by overall reading and writing skills, remains a problem for the society as a whole. An estimated 47 percent of the total adult population can be classified as functionally illiterate in English (Baker et al., 1996; Kaestle, Campbell, Finn, Johnson, & Mickulecky, 2001; Kirsch, Jungelblut, Kenkis, & Kolstad, 1993). As general literacy rates are lower among Latinos compared with Euro-Americans there is a need for a further study of the effectiveness of fotonovelas as an educational tool for Latinos. Little is known about the process of integrating fotonovelas into educational interventions for community-based populations in need of education on Alzheimer's disease.

This paper discusses the preliminary process of employing the Alzheimer's disease fotonovelas with Spanish-speaking Latinos. Using a community-based research process, we describe a fotonovela-based guided educational intervention designed to increase participants' awareness of dementia-related caregiving issues. We also discuss the characteristics of the participants, their level of satisfaction with the fotonovelas, and the impact of the intervention on their knowledge of Alzheimer's disease.

## **METHODS**

### ***Content of the Fotonovelas***

We produced two Spanish language Alzheimer's fotonovelas for use with low- and moderate-literate adults: a short 24-page fotonovela with brief summary segments, *Unidos en la Lucha* (Together We Can Do It) and a longer 32-page one with an extended plot line, *Que le Pasa a Abuelito* (What is Happening to Grandfather?). The texts of the fotonovelas are available online (Alzheimer's Association, 2005). These fotonovelas were designed for use with Latinos across subgroups (e.g., Mexican, Cuban, Puerto Rican). Initial validation of the fotonovelas during their developmental phase was conducted with 7 Chapters of the Alzheimer's Association National network with high concentrations of Latinos. During this early phase of the study a Spanish language version of the fotonovelas that was appropriate for use across Spanish dialects and regions was developed.

The fotonovelas were designed to counter some of the common myths regarding Alzheimer's Disease and related disorders (e.g., that there were herbs that could cure Alzheimer's, and that memory loss was a normal part of aging). The content stresses the lack of a cure for the disease and the fact that dementia is not normal to aging, even though Alzheimer's presents primarily during the latter third of life. Additionally, the fotonovelas emphasize the need for the family and others to rally around the designated caregiver, and for the family members and/or friends to seek help from physicians to obtain a diagnosis, and also to engage the health services community in supportive care. While the core Alzheimer's disease and dementing illness content of both fotonovelas is the same, the shorter one focuses more on service access and utilization issues, while the longer walks the reader through the differential diagnosis process.

### ***Sample***

The targeted respondents were community-based Latino adults who were frequenting nutrition programs, senior housing complexes, or social clubs in the community. These settings shared a common clientele, primarily attracting Spanish-speaking Latinos, predominantly of Mexican heritage, and with low and moderate income. All settings had regularly scheduled activities and a history of having outside presenters come for various educational or entertainment purposes.

A community sample rather than a clinical population was solicited as a goal to provide critical information to family members regardless of whether a formal diagnosis of dementia had been made. We estimate that consistent with the known demographic breakdown in San Diego County at the time of the intervention, approximately 85% of the Latinos were of Mexican heritage.

### ***Study Design***

This study employed a methodology that involved an initial orientation and distribution of the fotonovelas and survey at Session 1, as well as a follow-up assessment at Session 2 approximately three weeks later. Campbell and Stanley (1963) note that not using a pretest is a strategy that can be employed in assessing educational interventions, especially if the material to be tested is so unfamiliar to the test group as to render the pretest inappropriate, or the test situation does not lend itself to pretesting. This research design was culturally aligned to be appropriate for Latinos with no prior participation in research studies or formal evaluations. The rationale for not using a pretest was based on our supposition that, while the target respondents were accustomed to fotonovelas and to having complex health-related information presented at their gatherings, it was not customary for them to be given pretests or for them to receive education regarding dementia. There is a sense of cultural rudeness in asking participants to provide information on a topic with which they might not be familiar and before the content had been provided. There was the expectation that the participants who returned at Session 2 would be familiar with both the research team and their approach, hence there would be sufficient *confianza* (mutual trust) established for data gathering before the question and answer discussion occurred.

### ***Procedure***

Approval for the study was obtained from a university institutional review board and informed consent was obtained from all participants prior to study commencement. The fotonovela-based guided educational intervention was designed to also accommodate participants whose literacy level precluded independent reading of the fotonovela or questionnaire. At Session 1 the researchers introduced themselves, explained the purpose of the intervention, and described the process for eliciting participant feedback on the fotonovelas. The shorter of the fotonovelas, *Unidos en la Lucha* (Together We Can Do It), was distrib-

uted and read out loud in Spanish to those present. On average, this part of the process ranged from 25 to 40 minutes. Then the participants were given a short questionnaire and invited to remain afterwards to discuss the material or ask questions. The discussion period lasted about 30 to 45 minutes and the focus of the discussion varied according to the specific questions asked by the participants. Prior to the end of the session, the second, and slightly longer fotonovela *Que le Pasa a Abelito* (What is Happening to Grandfather?) was distributed for participants to take home. At the end of the session, the research team indicated they would return in three weeks to a month (depending on the group's schedule), to see if the participants had further questions about Alzheimer's disease or dementia.

At the scheduled second session, the researchers administered a second survey prior to beginning a 45-60 minute group discussion also focused on addressing participants' questions. Approximately ten participants did not complete the questionnaire and their data as well as those of persons who were not present at the first session were not included in the outcome analyses. Participants received a small hand-crocheted butterfly gift—a popular gift item among older Latinos as compensation for attendance at the session.

### *Measures*

Given the participants unfamiliarity with surveys and the sharing of personal information with researchers, only limited demographic information was requested. Demographic items included current age, gender, and literacy variables such as self-assessed Spanish and English reading and writing ability. During the assessment, a researcher read the questions aloud until the process became familiar to participants. Other members of the research team responded to individual questions and provided guidance to participants as needed. The research team's objective was to reduce the potential "test" anxiety among participants unfamiliar with surveys and to encourage participants to express their opinions rather than to try to please the researchers.

*Evaluation of the First Fotonovela.* At the end of Session 1 the participants were asked to rate how well they liked, found informative, and understood the fotonovela content. Ratings were coded as "liked," "didn't like" and "unsure."

*Knowledge and Experience with Alzheimer's Disease or Dementing Illness.* Four items pertaining to personal experience with persons or re-

sources (e.g., Alzheimer's Association) for dementia were scored as yes/no responses.

*Knowledge of Alzheimer's Disease.* The evaluation instrument contained a set of 6 questions to test the participants' knowledge of Alzheimer's disease (KAD). The KAD items were rated on a 3-point Likert-like scale ranging from "strongly agree" to "disagree." The response choices were accompanied by illustrations of faces ranging from happy to unhappy to accommodate persons unfamiliar with rating scales or with low health literacy. The knowledge questions included items asking if there was a cure for Alzheimer's disease (there is none to date) and whether Alzheimer's was normal to the aging process. Both misconceptions were known to be present in the Latino community.

### *Data Analysis*

Analyses were conducted using SPSS version 11. Frequencies of the characteristics of the respondents and prior exposure to dementia were calculated. Satisfaction with the tool was assessed descriptively and with Chi-square statistics to examine differences in evaluations across subgroups of participants. Change in individual items on the KAD was assessed through paired T-Test statistics at Sessions 1 and 2. This approach permitted us to determine whether there were benefits to supplementing the brief fotonovela material with the discussion session and the take home version of the fotonovela. Scores for KAD items were also summed across the six items. This total knowledge gained score was used to derive a percent change score used to examine change in knowledge of dementia from Session 1 to 2. The percentage change score (pcchange) was calculated by dividing the change score (Session 2 score - Session 1 score) by the baseline score (Session 1 score) and multiplying by 100, unless the baseline score was equal to 0 in which case pcchange could not be calculated (i.e., division by 0 is not possible). Multivariate logistic regression was used to assess the association of the dependent variable KAD scores (i.e., no improvement from Session 1 to Session 2) and independent variables while controlling for the KAD score at baseline. Demographic independent variables (bilingualism, age and gender) were entered in the model. Given the exploratory nature of the study, significance levels were set at  $p < 0.05$ , although statistical analyses were conducted with Bonferroni pairwise comparisons that correct for the possibility of inflated type 1 error due to multiple comparisons.

## RESULTS

### *Descriptive Analyses*

A total of (181) participants were present at the first Session. When investigators returned for the second session, 111 participants (61.3%) were present. Persons who attended the second session only were invited to participate but their data were not used in the study. The sample thus consists of the 111 participants who attended both sessions.

There is no evidence that persons who were not present at Session 2 deliberately missed the session and there were few significant differences between those who attended Session 2 and those who did not. There were no statistically significant differences between the two groups in age, percentage of bilingual persons, prior knowledge of someone with dementia, or knowledge of dementia scores at Session 1. However, there was a significant gender difference ( $\chi^2 = 5.64$ ,  $df = 1$ ;  $p < 0.02$ ) as the group present at Session 1 included a higher percentage of males (40% vs. 27%).

*Participant Demographics.* Participants averaged 68.6 years of age (SD = 8 yrs) with a range from 55 to 90 years. For certain analyses we used the census-related designation of older adults to divide the sample into three age groups: the young old 55-64, the mid-old 65-74, and older old 75+. Consistent with the population of older adults attending community-based programs, more women (77%) than men participated in the sessions. All participants spoke Spanish, and 92% reported that they could read Spanish. The 50% of the participants who also could speak or read English were considered to be bilingual.

*Participant Literacy.* On a self-report basis, nearly all participants were literate in Spanish. However, anecdotally, the researchers' observed minor reading problems, such as "slow" readers who could not keep pace, or repeatedly lost their place throughout the session. The presenter reading through the fotonovela had to often pause to either allow the audience members to catch up, and/or remind them of which page of the fotonovela was next. Additionally, when it was time to fill out the Session 1 questionnaires, the research staff had to assist the participants as to where to place the response they had selected, even though the questionnaire had included a "happy face" format for the "yes/no," and "not sure" questions.

*Prior Knowledge and Experience with Dementia and the Alzheimer's Association.* We also assessed prior knowledge of Alzheimer's

disease and dementing conditions at Session 1. Among the participants slightly less than a third (31.5 %) indicated they knew someone with memory problems, while 34.2% noted they knew something about Alzheimer's disease. Only 18.2% indicated they knew about the Alzheimer's Association, and a much lower number (8.1%) had had any contact with the Association.

### *Response to the Fotonovela*

At Session 1 the participants were asked several evaluative questions. As can be seen in Table 1 the participants indicated overwhelmingly that they liked the product, found it understandable and understood the content. To better determine the response of various subgroups to the fotonovela, we examined differences in evaluations by gender, age category, and bilingualism. There was a gender difference in the percentage of persons liking the fotonovela ( $\chi^2 = 12.56, df = 2; p = 0.002$ ), finding it informative ( $\chi^2 = 8.36, df = 2; p = 0.02$ ), and finding it understandable ( $\chi^2 = 14.53, df = 2; p = 0.001$ ). There was a significant difference across age categories regarding how informative participants found the fotonovela ( $\chi^2 = 10.16, df = 4; p < 0.05$ ). Subsequent pairwise analyses indicated that

TABLE 1. Evaluation of the Alzheimer's Disease Brief Fotonovela by Participant Characteristics (%)

	Liked the Fotonovela	Found the Fotonovela Informative	Found the Fotonovela Understandable
<b>Gender</b>			
Male	69.2**	73.1*	65.4**
Female	91.5	92.9	90.6
<b>Age (years)</b>			
55-64	87.2	97.6**	83.3
65-74	88.1	88.1	92.9
75+	81.5	74.1**	74.1
<b>Bilingual</b>			
Yes	92.2	94.2	90.6
No	80.0	82.1	78.6

\*  $p = 0.05$

\*\*  $p = 0.01$

the young older group of participants found the fotonovela more informative than did the old old group ( $\chi^2 = 8.73$ ,  $df = 2$ ;  $p = 0.01$ ). Whether participants were bilingual or not did not affect any of the ratings.

### *Dissemination of Fotonovela Content*

The participants' actions with regard to use of the fotonovelas between the two sessions were assessed. Nearly three-fourths of the participants indicated that they had read the fotonovelas again prior to the second session. Another 60.4% noted that they had talked with someone about dementia. Of those who had talked with others, 53.8% said they had talked with family members, 36.5% talked with friends, and 9.6% reported conversing with service providers about dementia and the fotonovelas. Finally, 40.5% said they passed the fotonovelas to others to read.

### *Knowledge of Alzheimer's Disease*

The percentage of participants with correct answers on the KAD at Sessions 1 and 2 were compared. As shown in Table 2, there were knowledge gains on five of the six knowledge questions at Session 2. The knowledge gain item that improved the most was correctly recognizing that wandering is a symptom of Alzheimer's disease. Fewer participants learned that a caregiver alone is unable to provide all the required care.

TABLE 2. Session 1 to 2 Change in Knowledge of Alzheimer's Disease Scores (%)

	% Correct		% Gain		p values
	Session 1	Session 2	Session 1	Session 2	
1. There is a cure for Alzheimer's disease	46.8	62.2	+15.4		0.019
2. Alzheimer's is caused by aging	53.2	64.0	+11.8		–
3. Forgetting/memory problems are related to AD	66.7	85.6	+18.9		0.001
4. Wandering is a related symptom of AD	42.3	75.7	+33.4		0.001
5. Multiple tests are needed for diagnosis	65.8	83.8	+18.0		0.002
6. Caregiver can care for patient alone	42.3	58.6	+16.3		0.015
Overall Knowledge Gains	52.9	71.6	+18.8		0.001

### *Characteristics Associated with Knowledge Change*

Subjects were categorized by their scores on the six KAD questions at Session 1 so that the impact of the intervention could be assessed on participants who varied in their exposure to or level of knowledge of dementia. Those participants with scores of 1 or 2 on the KAD were classified as having low knowledge ( $n = 30$ ). Those with scores of 3 or 4 were classified as having medium knowledge ( $n = 39$ ). Finally, those with scores of 5 or 6 were classified as having high knowledge ( $n = 29$ ) at Session 1. As noted above, those with pretest scores of 0 ( $n = 13$ ) were excluded from the analyses resulting in a total sample size of 98 for these analyses. The Session 1 scores of these 13 participants increased an average of 3.46 points ( $SD = 1.66$ ) at Session 2.

Significant differences in percentage change scores among the three categories of pretest scores greater than zero were found ( $F [2,95] = 37.12, p < .001$ ). A Bonferroni *post hoc* pairwise comparison indicated that the low knowledge pretest group improved significantly more than the medium or high pretest groups ( $p < .05$ ). Prior knowledge of a person with a memory problem was not associated with change in scores between the two assessments.

The overall multivariate model of dementia knowledge change was significant. The three sociodemographic variables entered into the model correctly predicted knowledge change in 66 percent of the sample. Of the three variables entered, only bilingualism was significantly related to knowledge change (odds ratio = 2.30,  $p < 0.05$ ). Bilingualism was associated with a slightly more than two times greater likelihood of having an improved knowledge of dementia at Session 2.

## **DISCUSSION**

We examined the feasibility and impact of a guided educational intervention centering around dementia-oriented fotonovelas on a community sample of Spanish-speaking Latino older adults with a relatively low level of prior exposure to, or knowledge of Alzheimer's disease and related disorders. The majority of 111 participants who participated in the two sessions of dementia education were satisfied with the educational materials and demonstrated increased knowledge at the end of the educational intervention. The greater improvements in knowledge of Alzheimer's disease were associated with middle-aged and bilingual participants.

The Alzheimer's fotonovela-based guided education intervention was associated with significant learning gains in the participants. At the second session, participants were more accurately informed about Alzheimer's disease than after their initial exposure to the shorter fotonovela. The data revealed that in the interim between the baseline and Session 2 assessments, almost three quarters of the respondents indicated that they had read through the fotonovelas again. This suggests that fotonovela-based educational interventions might require more than one exposure to the material. The activities during the interim period between assessments may contribute to the reinforcement of the educational material and also serves as an indicator of the impact of the fotonovelas. Likewise, the high rates of sharing the fotonovelas by the participants is consistent with earlier observations about the "community recirculation" phenomena observed with popular culture fotonovelas (Flora, 1981). It should be noted that the activities that occur outside of the clinic or agency undertaking a fotonovela intervention could be readily monitored by practitioners.

Also consistent with prior observations that fotonovelas are especially popular with middle-aged women (e.g., Flora, 1985), the female participants responded more favorably to the content than did the males. Additionally, the young old (middle-aged) participants found the information more informative than the older participants. The middle-aged participants might have found the content informative, as they are more likely to be called on as caregivers and the nurturers of the family than the oldest participants (Clark & Huttlinger, 1998; Phillips, Torres De Ardon, Kommenich, Killeen, & Rusinak, 2000). Nonetheless, the overall positive ratings suggest the appropriateness of using fotonovelas with the broad age range of Latino adults encountered in the intervention. Further evaluation of the use of fotonovelas with younger adults also appears to be warranted.

The apparent ability of the fotonovela-based intervention to educate what may be considered a hard-to-reach segment of persons with little knowledge of dementia is encouraging. With this noted, the lower Alzheimer's disease knowledge gain scores of monolingual Spanish speakers warrants further study. It may be that these participants represent the subgroup which is typically excluded from educational interventions, and from the bulk of information on dementia that is made available by specialized dementia-related agencies serving persons who seek out professional resources. This population may need more intensive education to achieve comparable learning gains. As suggested by more recent findings, Latino caregivers are less likely than Euro-Americans to

seek professional help (Dilworth-Anderson, Williams, & Gibson, 2002; Valle, Yamada, & Barrio, 2004) especially during the early stages of dementia. Therefore a double-barreled effect may be in place, when strictly conventional educational approaches are employed. Many people in need of Alzheimer's disease-related educational materials may be overlooked, and when they are engaged, the usual types of educational materials may not be suitable.

Additionally, the stigma associated with a diagnosis of dementia may be another barrier that can preclude many Latinos from seeking health education on Alzheimer's disease (Gallagher-Thompson et al., 2003). Providing a culturally and linguistically compatible educational intervention may permit a wider dissemination of complex biomedical knowledge with less likelihood of stigma. Although the participants' perception of stigma associated with dementia was not directly assessed, the percentage of persons reporting that they discussed the fotonovelas (60.4%) or shared them with others (42.3%) suggests that the story-based material did not elicit stigma.

While the fotonovela-based educational intervention appeared to increase the general knowledge of participants about Alzheimer's disease, it had a lesser impact on deeply held beliefs about dementia. For instance, consistent with prior research (e.g., Hinton & Levkoff, 1999; Hinton et al., 2005), a substantial percentage of participants continued to believe that dementia is a normal part of aging at the second assessment session. Likewise, in line with the literature on familism and the importance of family caregiving among Latino populations (e.g., Phillips et al., 2000; Purdy & Arguello, 1992) nearly half of the participants continued to believe that a caregiver alone could manage a person with dementia. This latter belief, however, may not coincide with the actual reality of family caregiving being experienced by some Latinos (Purdy & Arguello, 1992; Valle et al., 2004). Longer exposure to educational materials and more emphasis on the etiology and resources for Alzheimer's disease may be needed to counter these strongly held orientations.

Although this sample reported high levels of literacy in Spanish, the anecdotal data surrounding the intervention itself indicated that many participants fit the profile of persons with low to moderate levels of health-related literacy, especially around the complex topic of Alzheimer's disease and related disorders. This finding suggests that, as was done in this study, there remains a need for health educators to provide support and additional assistance to older adults in reading and generalizing the fotonovela content to their own experiences. The results of this

study suggest that the fotonovela had a greater impact when accompanied by discussions and supportive educational techniques that included an opportunity for participants to share and exchange information with others between educational sessions as well as within the guided fotonovela education intervention itself. Further research is needed to test this finding with other samples.

There are several limitations to consider in interpreting our findings. First, the generalizability of our convenience sample is limited. While the sampling strategy employed is consistent with other community-based studies (e.g., Dilworth-Anderson, Williams, & Gibson, 2003; Gallagher-Thompson et al., 2003), our findings relate only to Latino older adults who attend certain community-based programs. However, those Latinos with the most need of the fotonovela content may be caregivers of persons with a dementia-related illness. These caregivers are less likely to participate in community-based setting and services and remain a challenge to reach.

We were also unable, given the brevity of our survey, to more fully examine the educational and socioeconomic status of the participants. Failing to disentangle the effects of ethnicity and sociostructural (e.g., socioeconomic status) variables runs the risk of confounding minority status (e.g., poverty, lack of resources, low levels of formal education) with issues related to culture (Valle, 1998; Valle & Lee, 2002). In a similar community sample, the investigators found that the help-seeking behaviors of the Latino caregivers were little influenced by education and income (Valle et al., 2004). Nonetheless, the effects of socioeconomic status on the acceptability and utility of fotonovela interventions remains an area in need of further study.

Another limitation is the inability to assess whether the participants who attended the first session deliberately chose not to attend the second session. However, given the informal nature of the intervention (i.e., no formal recruitment or notice and only a vague disclosure of intent for the researchers to return to answer any more questions), there is no evidence that the study was responsible for the attendance rate at the selected programs on the second assessment day. Descriptively speaking, males in the dropout group outnumbered the continuers by almost 2 to 1 (40% of the dropouts and 23.4% of continuers were males). This finding will need to be further tested alongside the reported recognition in the literature that women are the primary target audience for the popular culture fotonovelas.

Not administering a pretest prior to the introduction of the fotonovela has been discussed above and was believed to be a culturally necessary

modification to our study design. Despite the lack of a baseline assessment, our findings demonstrated a clear increase in knowledge at the end of the second session. However, we recognize that these are relatively proximal results. Therefore, further research is needed to get a clearer picture of knowledge acquisition and retention over a longer period of time.

These limitations notwithstanding, this exploratory study suggests that the Alzheimer's fotonovela-based guided educational intervention may provide a cost-effective tool for increasing the health literacy of hard-to-reach Latino populations. The approach has built in flexibility. It can be used in conjunction with a more comprehensive dementia-focused psychoeducational intervention as described by Depp et al. (2003), or with more stand-alone educational efforts undertaken by dementia-related services engaged in community outreach. As it stands now, Alzheimer's disease continues to be overwhelmingly conceptualized and responded to from within the medical model (Beard, 2004). Interventions such as that reported here, which consider the cultural context of the illness, may be crucial for reducing health disparities in access to knowledge and services.

## REFERENCES

- Alzheimer's Association. (2005). Hispanic/Latino communities: Education materials. <http://search.alz.org/Resources/Diversity/HispanicLatino.asp>
- Baker, D., Parker, R., Williams, M., Pitkin, K., Prikh, N., Coates, W. et al. (1996). The health care of patients with low literacy. *Archives of Family Medicine*, 5, 329-334.
- Baker, L., Wilson, F., & Kars, M. (1997). The readability of medical information on the InfoTrac: Does it meet the needs of people with low literacy skills? *Reference and User Services Quarterly*, 37, 155-160.
- Baker, W., Parker, R., Williams, M., Clark, W., & Nurss, J. (1997). The relationship of patient reading ability to self-reported health and use of services. *American Journal of Public Health*, 87, 1027-1031.
- Beard, R. L. (2004). In their voices: Identity preservation and experiences of Alzheimer's disease. *Journal of Aging Studies*, 18, 415-428.
- Bishop, M. (1991). Why Johnny's dad can't read: The elusive goal of adult literacy. *Policy Review*, 19-25.
- Briones, D., Ramirez, A., Guerrero, M., & Ledger, E. (2002). Determining cultural and psychosocial factors in Alzheimer disease among Hispanic populations. *Alzheimer Disease and Associated Disorders*, 16, S86-S88.
- Campbell, D., & Stanley, J. (1963). *Experimental and quasi-experimental designs for research*. Skokie: Rand McNally.

- Carrillo, L., & Lyson, T. (1982). The fotonovela as a cultural bridge for Hispanic women in the United States. *Journal for Popular Culture*, 17, 59-64.
- Clark, M., & Huttlinger, K. (1998). Elder care among Mexican American families. *Clinical Nursing Research*, 7, 64-81.
- Depp, C., Krisztal, E., Cardenas, V., Oportot, M., Mausbach, B., Ambler, C., Leung, L., & Gallagher-Thompson D. (2003). Treatment Options for Improving Wellbeing in Dementia Family Caregivers: The Case for Psychoeducational Interventions. *Clinical Psychologist*. 7, 21-31.
- Dilworth-Anderson, P., Williams, I., & Gibson, B. (2002). Issues of race, ethnicity, and culture in caregiving research: A 20-year review (1980-2000). *The Gerontologist*, 42, 237-272.
- Flora, C. (1981). Fotonovelas: Message creation and reception. *Journal for Popular Culture*, 14, 524-534.
- Flora, C. (1982). The fotonovela in America. *Studies in Latin American Popular Culture*, 6, 15-26.
- Flora, C. (1985). Maids in the Mexican photonovel. *Studies in Latin American Popular Culture*, 4, 84-94.
- Gallagher-Thompson, D., Solano, N., Coon, D., & Arean, P. (2003). Recruitment and retention of Latino dementia family caregivers in intervention research: Issues to face, lessons to learn. *The Gerontologist*, 43, 45-51.
- Gazamarian, J., Baker, D., Williams, M., Parker, R., Scott, T., Green, D. et al. (1999). Health literacy among Medicare enrollees in a managed care organization. *JAMA*, 281, 545-551.
- Grace, G., & Christensen, R. (1998). Literacy and mental health care. *Psychiatric Services*, 49, 1.
- Hill, J., & Browner, C. (1982). Gender ambiguity and class stereotyping in the Mexican fotonovela. *Studies in Latin American Popular Culture*, 1, 48-64.
- Hinton, W., & Levkoff, S. (1999). Construction Alzheimer's narratives of lost identities, confusion, and loneliness in old age. *Culture, Medicine, and Psychiatry*, 23, 453-475.
- Hinton, L., Franz, C., Yeo, G., & Levkoff, S. (2005). Conceptions of dementia in a multiethnic sample of family caregivers. *JAGS*, 53, 1405-1410.
- Horner, S., Surratt, D., & Juliusson, S. (2000). Improving readability of patient education materials. *Journal of Community Health Nursing*, 17, 15-23.
- Kaestle, C., Campbell, A., Finn, F., Johnson, S., & Mickulecky, L. (2001). Adult literacy and education in America. In: Department of Education, Office of Education Research and Improvement, NCES.
- Kahn, A., & Kelley, L. (1991). Impact of illiteracy on rehabilitation of communication disorders: Preliminary considerations. *Educational Gerontology*, 17, 581-589.
- Kefalides, P. (1999). Illiteracy: The silent barrier to health care. *Annals of Internal Medicine*, 130, 333-336.
- Kirsch, I., Jungelblut, A., Kenkis, I., & Kolstad, L. (1993). *Adult literacy in America: A first look at the result of the national adult literacy survey*. Washington DC: National Center for Educational Statistics, US Department of Education.
- Lee, P. (1999). Why literacy matters: Link between reading ability and health. *Archives of Ophthalmology*, 117, 100-103.

- Literacy, H. (1999). Report of the council on scientific affairs. *Journal of the American Medical Association*, 281, 552-557.
- Marin, G., & Van Oss Marin, B. (1990). Perceived credibility of channels and sources of AIDS information among Hispanics. *AIDS Education and Prevention*, 2, 154-161.
- Matiella, A. (1990). *Getting the word out: A practical guide to AIDS materials development*. Santa Cruz: ETR Associates.
- Miles, S., & Davis, T. (1995). Patients who can't read: Implications for health care system. *Journal of the American Medical Association*, 274, 719-720.
- Phillips, L., Torres De Ardon, E., Komnenich, P., Killeen, M., & Rusinak, R. (2000). The Mexican American caregiving experience. *Hispanic Journal of Behavioral Sciences*, 22, 296-313.
- Plimpton, S., & Root, J. (1994). Materials that work in low literacy health communities. *Public Health Reports*, 109, 86-92.
- Powell, E., Tanz, R., Uyeda, A., Gaffney, M., & Sheehan, K. (2002). Injury prevention education using pictorial information. *Pediatrics*, 105, 1-5.
- Purdy, J., & Arguello, D. (1992). Hispanic familism in caretaking of older adults: Is it functional? *Journal of Gerontological Social Work*, 19, 29-43.
- Ramirez, R. (2004). *We the people: Hispanics in the United States*. Washington DC: US Department of Commerce, Economics and Statistics Administration, US Census Bureau.
- Root, J.H. (1990) Effective materials for low-literacy populations. *California AIDS Clearinghouse Reviewer*, 2, 1,3-6.
- Valle, R. (1998). *Caregiving across cultures: Working with dementing illness and ethnically diverse populations*. Washington DC: Taylor and Francis.
- Valle, R., & Lee, B. (2002) Research priorities in the evolving demographic landscape of Alzheimer disease and associated dementias. *Alzheimer Disease and Associated Disorders*, 16 (Suppl 2), S64-S76.
- Valle, R., Yamada, A., & Barrio, C. (2004). Ethnic differences in social network help-seeking strategies among Latino and Euro-American caregivers of family members with dementia. *Aging and Mental Health*, 8, 535-543.
- Wang, C., & Burris, M. (1994). Empowerment through photo novella: Portraits of participation. *Health Education Quarterly*, 21, 171-186.
- Woloshin, S., Schwartz, L., Katz, S., & Welch, G. (1997). Is language a barrier to the use of preventive services? *Journal of General Internal Medicine*, 12, 472-477.

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