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The Impact of a Telenovela Intervention on Use of Home Health Care Services and Mexican American Elder and Caregiver Outcomes

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Abstract

A two-group randomized controlled trial tested a telenovela intervention (a culturally congruent videotaped dramatization with guided dialogue) to increase Mexican American elders' and family caregivers' awareness of and confidence in home health care services (HHCS), thereby increasing use of HHCS and improving elders' and caregivers' outcomes. Both groups had significant increases in awareness of and confidence in HHCS. The intervention group used HHCS more than the control group (91.1% versus 71.2% of total visits authorized) although this was not a statistically significant difference ($p=.18$). Use of HHCS was associated with increased elders' and caregivers' mutuality (the quality of the elder-caregiver relationship), and decreased caregiving burden and caregiver depression. The predictive role and measurement of awareness and ways to improve the intervention are discussed. Findings are especially important with today's focus on transitional care to keep elders at home and prevent unnecessary readmissions.

Older adults should receive appropriate and timely transitions between types and locations of health care through interprofessional and patient-centered care (Naylor, Aiken, Kurtzman, Olds, & Hirschman, 2011). However, Latino individuals receive post-hospital home health care services (HHCS) less than other groups. Latino individuals comprise 16.9% of the general population (US Census Bureau, 2008–2012), but make up only 7.7% of HHCS clients (Caffrey, Sengupta, Moss, Harris-Kojetin, & Valverde, 2011). Mexican-American (MA) individuals comprise the largest group of the Latino population (64.9%; Lopez, Gonzalez-Barerra & Cuddington, 2013). MA elders are in great need of HHCS as their

family structures change and because they are more functionally impaired at younger ages than other Latino and non-Latino elders (Angel, Torres-Gil, & Markides, 2012).

HHCS visits are intermittent for home-bound clients needing skilled care (Madigan et al., 2014). Skilled care can be provided by licensed nurses and therapists (e.g., physical, occupational, speech) to promote health and independence (Medicare Payment Advisory Commission, 2010). Non-skilled, home care aide visits may be included only if skilled visits are also necessary (Murkofsky & Alston, 2009).

Under-use of HHCS is a critical disparity because of the resulting financial and human costs involved. Financially, HHCS cost (~\$140/day; National Association of Home Care & Hospice, 2013) is significantly less than hospitalization (~\$1,625/day; Oh, 2012) and nursing home cost (~\$200–230/day; Administration on Aging, 2010). Preventable 30-day readmissions were roughly estimated to cost Medicare \$15 billion (Logue & Drago, 2013). Additionally, under the Affordable Care Act (ACA) of 2010, hospitals lose money for re-hospitalizations (Naylor et al., 2011). Human costs include increased complications from hospitalization (Tao, Ellenbecker, Chen, Zhan, & Dalton, 2012); whereas use of HHCS decreases elder functional impairment and health care services utilization (e.g., re-hospitalizations, emergency department (ED) visits, and nursing home placement; Romagnoli, Handler, & Hochheiser, 2013). Also, besides preventing costs to society, use of HHCS reduces the costs of caregiver illness, burden, depression, and mortality (Romagnoli et al., 2013). Using HHCS also ensures safe and timely transitions between types and locations of health care, a priority of the ACA (Naylor et al.).

Culturally congruent interventions that focus on MA elders and their caregivers are needed because MA and Anglo caregiving experiences are different (Friedemann, Buckwalter, Newman, & Mauro, 2013). Besides a preliminary study (Crist & Haradon, 2011), no other intervention studies to increase use of HHCS by MA elders exist. Given the importance of family in the MA culture, interventions targeted for MA elders that include their caregivers are needed to improve elder self-management and decrease caregiver and healthcare burden. Our intervention, a culturally appropriate video drama, addressed the need for HHCS and was built on MA unique sociocultural traditions including the families' devotion toward caring for their elders.

The primary purpose of this study was to test the efficacy of an innovative intervention to increase use of HHCS. The intervention consisted of a culturally appropriate telenovela (a filmed dramatized story in English or Spanish) with a follow-up guided dialogue. Previously, a theoretical model predicting use of HHCS had been tested and two significant factors that were amenable to change were found: *awareness of HHCS* and *confidence in HHCS* (Crist, Kim, Pasvogel, & Velásquez, 2007). Therefore, the intervention was designed to focus on these two factors to increase use of HHCS. Additionally, the telenovela addressed a third significant factor, *familism*, a strength that did not need to be changed but rather recognized and promoted. Familism is the MA cultural norm that families take care of their elders (Koerner & Shirai, 2013). This additional component ensured the intervention would be culturally acceptable.

The aims of this study were to assess: (a) the efficacy of the intervention on elders' and caregivers' awareness of HHCS and confidence in HHCS and elders' use of HHCS; (b) elders' and caregivers' awareness of HHCS and confidence in HHCS as predictors of elders' use of HHCS; and (c) the relationship between use of HHCS and elder and caregiver outcomes.

Conceptual Framework

The conceptual framework depicts the four key constructs: (a) Intervention, (b) Factors Influencing Use of HHCS, (c) Use of HHCS, and (d) Outcomes from Use of HHCS (Figure 1). Within the conceptual framework, key concepts, or variables, are listed in Figure 1 and defined below.

Elder and Caregiver Variables

Three elder and caregiver variables are conceptualized as affecting use of HHCS (Figure 1). Two are predictors: awareness of HHCS, confidence in HHCS; one is contextual: familism.

Awareness of HHCS—Awareness of HHCS is defined as having an understanding about HHCS. The variable includes three dimensions: (a) Awareness that HHCS exist. Elders, family caregivers, and providers have reported that MA elders would have used HHCS more if elders and caregivers had known that these services existed (Crist, Michaels, Gelfand, & Phillips, 2007). (b) Awareness of the need for HHCS. Although elders and caregivers may know that some services exist, they still may not comprehend how HHCS can be helpful in attaining their own individual goals (Crist, Michaels et al., 2007). (c) Awareness of how to access HHCS. Many elders reported they did not know, when asked, how they could get services if and when they needed them (Crist, Michaels et al., 2007). Although awareness of HHCS has been studied since the 1980s, these dimensions have not been considered.

Confidence in HHCS—Confidence in HHCS is defined as the degree to which skilled care provided in the home is trusted rather than feared. The variable is conceptualized as having two dimensions: (a) Elders' and caregivers' trust that care and services received from outside providers coming into the home could improve elders' outcomes. Interpersonal trust in formal HHCS providers affects MA elders' and caregivers' acceptance and potential use of HHCS in the familial cultural context (Crist, Velazquez, Durnan, & Ramírez Figueroa, 2006). (b) Fear that care provided by outsiders coming into the home might not be safe, competent, or respectful. Elders and caregivers often fear that HHCS are designed to replace family care (Crist & Speaks, 2011).

Contextual Variable: Familism—Familism is defined as the expectation that children will be the primary caregivers for their parents and elders (Koerner & Shirai, 2013). The goal in this study was not to change this important MA cultural value but to reframe the use of HHCS as being consistent with familism, i.e., using HHCS assists the elder and caregiver in keeping the elder safe and healthy at home. Familism is seen as part of the cultural context and an essential component of the telenovela.

The Primary Outcome: Elders' Use of HHCS

Use of HHCS was defined conceptually as *using HHCS as prescribed* (for example, if six visits were prescribed, using all six visits). Rather than the most common but simplistic conceptualization of whether HHCS was used or not used, we chose a more precise way to view "use of HHCS," the percent of prescribed visits actually used.

Elder Outcome Variables

Five elder variables were conceptualized as being affected by use of HHCS (Figure 1).

Elders' functional ability, the ability to perform activities of daily living independently, has been shown to improve when HHCS are provided (Felix, Dockter, Sanderson, Holladay, & Stewart, 2006). **Elders' hospital days** have been decreased by HHCS (Romagnoli, Handler, & Hochheiser, 2013). **Elders' ED visits** are often the result of caregiving crises due to the lack of understanding which HHCS in-home training and assistance could prevent (Carrier & Boukus, 2013). **Elders' nursing home placement** has also been decreased by HHCS (Onder et al., 2007). **Elder mutuality** is elders' perception of the quality of the elder-caregiver relationship. Mutuality is conceptualized as having four dimensions: love and affection, shared pleasurable activities, shared values, and reciprocity (Lyons, Stewart, Archbold, & Carter, 2009) and to be an important component of elders' being able to continue to live at home with family caregivers' help.

Caregiver Outcome Variables

Caregiving affects family caregivers' health, with outcomes such as fatigue, difficulty sleeping, gastrointestinal upset, headaches, high blood pressure, extreme weight gain or loss, and higher mortality (Pinquart, 2007). Health can be improved by social support (del-Pino-Casado, Millán-Cobo, Palomino-Moral, & Frías-Osuna, 2014) which could be provided by HHCS. Five caregiver variables were conceptualized as being affected by use of HHCS (Figure 1). **Caregiver health** was conceptualized as the number of medical problems as well as the extent to which those problems interfere with caregivers' daily living. **Caregiving burden** is a controversial variable in the MA cultural context. Being able to help the elder is traditional and still foremost in Latino and MA caregivers' motivation; therefore burden is sometimes claimed to not exist culturally. However, MA caregivers did significantly report burden in previous studies (Crist, Kim et al., 2007; del-Pino-Casado et al., 2014). Caregiving burden has two dimensions: caregivers' *objective* assessment of elders' impairment, conceptualized as assistance with elders' activities of daily living (ADLs); and caregivers' *subjective* perceptions of burden (how tiring, difficult, or upsetting the objective caregiving tasks are for them; Poulshock & Deimling, 1984). **Caregiver depression** and related problems such as irritability, moodiness, restlessness, fearfulness, feelings of loss, feeling trapped, thoughts of suicide, and mortality (Gitlin et al., 2003) have the potential to negatively affect the family care situation. **Caregiver stress** has been documented as feeling anxious, exhausted, and increasingly impatient, and managing multiple roles with little preparation (Valadez, Lumadue, Gutierrez, & de Vries-Kell, 2005). Family caregivers are more likely to be stressed, thus vulnerable to illness, as evidenced by increased salivary cortisol and killer T-cells (Pinquart & Sörensen, 2007). **Mutuality** for caregivers is the same

as was defined above for elders; caregiver mutuality has been associated with decreased caregiver role strain (burden) with use of HHCS (Lyons et al., 2007).

Research Design and Methods

A two-group randomized control trial with repeated measures was used to test the *ENCASA* (Elders' aNd Caregivers' Assistance and Support At-home) telenovela intervention to increase use of HHCS. Data were collected at baseline, after the second dose of the intervention/attention control, 1 month post-discharge, and 6 months post-discharge.

The Telenovela-Guided Dialogue Intervention

The intervention was two-part. The first part involved viewing a 12-minute telenovela. The second part was participation in a guided dialogue immediately following the telenovela viewing. Participants were offered this two-part intervention two times. At the end of the first intervention a time was set up for the second intervention within the next 24 hours, before discharge, at the convenience of participants.

Telenovelas can be used as culturally congruent media for presenting health messages to Latino audiences (Vaughn, 2012). Typical telenovelas in Mexico and other Latino countries are television dramas and can be the most likely source for learning about health, leading viewers to discuss the story and initiate changes. This behavior is what the *ENCASA* telenovela was designed to do. The intervention was conceptualized and developed with community-based participatory research principles (Crist, Parsons, Warner Robbins, Mullins, & Espinosa, 2009). Members of the *ENCASA* Community Advisory Council, who have collaborated with the authors for over a decade in this program of research, helped design and create the intervention and control telenovelas and the structure of the guided dialogues. They also played key roles in the translation of the interventions into Spanish and assisted with the professional production of the telenovelas, ensuring that vocabulary was easily understandable. The telenovelas were produced by a local, MA-owned company, identified and selected by the PI and *ENCASA* members (Crist & Haradon, 2011).

The intervention was a theory-driven intervention based on narrative pedagogy (Gilkison, 2013) to increase MA elders' and caregivers' awareness of, confidence in, and subsequent use of HHCS. Information alone is usually not effective in changing attitudes and behaviors. Learning which results in decisions on emotionally-charged topics is dynamic, social, based on dialogue, and occurs through a sense of recognition of like-personalities (Larkey & Hecht, 2010). The telenovela subtly incorporated identification learning and social dialogue throughout the plot; and more overtly addressed the predictors (awareness of HHCS and confidence in HHCS), as well as familism, as the characters considered using HHCS.

Because lack of *awareness of HHCS* is an important reason MA elders and caregivers do not use HHCS (Crist, Kim et al., 2007), characters' scripts included conversations portraying understanding the use of HHCS, to facilitate learning about services in a relevant way. The telenovela dramatization and subsequent guided dialogues were expected to be an effective medium for MA elders and caregivers to increase awareness of HHCS. Also, because lack of *confidence in HHCS* is another reason that many MA elders and caregivers do not use

HHCS (Crist, Kim et al.), often fearing that HHCS are not competent and/or are designed to replace family care (Crist & Speaks, 2011), the script addressed confidence. The MA characters' portrayal in the telenovela was designed to facilitate elders' and caregivers' identifying with the characters as they struggled with a need for care of the elder, the elder's and the caregiver's testing out using the services, and ultimately increasing in their confidence in HHCS. To acknowledge *familism*, with use of HHCS as a MA family decision (Crist, García-Smith, & Phillips, 2006), it was imperative to promote family interconnectedness and include close and extended family when dramatizing MA elders' addressing use of HHCS.

The 12-minute telenovela consisted of four acts: (a) a daughter caregiver expressing concern to her elder mother about her health [emphasizing identification with characters and social dialogue]; (b) the elder's expressing concerns about HHCS to her sister who responds to each barrier with her recent positive experience with HHCS [stressing awareness of HHCS]; (c) a culturally competent HHCS visit with the elder and daughter caregiver [accentuating confidence in HHCS]; and (d) the elder's telling a friend how she enjoyed the HHCS, feels better, and could now attend family events [highlighting familism]. The second part of the intervention, the guided dialogue, lasting approximately 50 minutes, had a protocol to (a) answer informational questions and (b) promote elders', caregivers', and family members' discussing and examining their reactions to issues portrayed in the telenovela (i.e., awareness of HHCS, confidence in HHCS, and their personal view of how familism related to using or not using HHCS). This guided dialogue also employed social discourse, designed to promote elders' and family caregivers' mentally revisiting the story, characters, and message and expressing reactions about opinions, coming to more acceptance to using HHCS. In summary, the two-part intervention was designed to increase awareness and confidence in HHCS, support familism, and to increase use of HHCS and improve elder and caregiver outcomes.

Control Condition

The attention-control condition followed the same protocol as described above for the intervention: two presentations of a "Health Screening for Seniors" telenovela, each followed by a guided dialogue with each session lasting approximately the same length of time. The attention-control telenovela was also a DVD of the same format, quality, and length as the intervention to control for attention effects. The content of this control telenovela was a story about elders' becoming aware of health screening needs, recommended and scripted by the PI and ENCASA Advisory Council. The same company produced both telenovelas with the same actors to ensure similar design, amount of cultural components, drama, and viewer interest in both. Similar to the intervention, the guided dialogue conducted after the control telenovela included discussion questions and prompts to promote dialogue about the control telenovela content and reactions.

Setting and Sample

The setting was two university-affiliated hospitals with high percentages of MA patients: on campus and 5 miles away in a predominately MA, low-income neighborhood in a mid-size

city in southwestern United States. The complete intervention took place during elders' hospitalizations at either hospital.

Inclusion criteria for elders were: 55 years of age or older; of Mexican descent; able to read or speak Spanish or English; score of 4 or less on the Short Portable Mental Status Questionnaire (SPMSQ; Pfeiffer, 1975), to screen out elders who had moderate or severe dementia; hospitalized; receiving daily ADL or instrumental ADL (IADL) family caregiver assistance; a non-psychiatric medical or surgical diagnosis; and had a family caregiver who either co-resided or lived within a 30-minute drive of the elder's home. Inclusion criteria for caregivers were: a primary family caregiver, self-identified or identified by the hospitalized elder; of Mexican descent; 18 years of age or older; speak or read Spanish or English; and co-resided or resided within 30 minutes of the elder. Initially, elders not receiving HHCS referrals were not eligible to participate; but they were later included because of recruitment delays (see Crist, Ruiz, Torres-Urquidy, Pasvogel, & Hepworth, 2013). The university institutional review board approved the study's plan for human subjects' protection.

Procedures

Following baseline data collection, participants were stratified by type of family care provider (spouse/other vs. offspring) and randomly assigned to the experimental or control group. The intervention was administered and post-intervention data were collected. There was no evidence that randomization was unacceptable to MA participants.

The telenovelas and guided dialogues occurred during the elder's hospitalization. Elders and their family chose either Spanish or English versions.

Data Collection

Data were collected at (a) baseline, (b) immediately following the second dose of the intervention/attention control (or following the first if the second was refused) while the elder was still in the hospital, (c) one month after hospital discharge, and (d) 6 months after hospital discharge. All data were collected in person in Spanish or English. After the post-intervention data collection, the elder-caregiver dyad was given a large-print monthly calendar and instructed how to record health care usage, i.e., HHCS, hospital, ED, or nursing home. These data were collected in-person at months 1 and 6, and by telephone for Months 2, 3, 4, and 5 after discharge. Each participant was given a small monetary gift for participating in each of the four in-person data collection sessions.

Variables and Measures

All self-report measures had been developed and tested in Spanish and English. Reliability alphas are shown in Table 1.

Elder and Caregiver Measures of Factors Influencing Use of HHCS

Awareness of HHCS was measured with the 7-item Service Awareness Scale (Crist, Michaels et al., 2007). The three subscales measured awareness of: the existence of HHCS available to older people, type/s of HHCS the elder needs, and how an elder/caregiver would

find out about and access HHCS. Confidence in HHCS was measured with the 27-item Confidence in HHCS Questionnaire (Crist, Velazquez et al., 2006). The two subscales measured level of trust in HHCS and level of fear about potential lack of safety and quality of care to be provided by HHCS.

Primary Outcome: Use of HHCS

Rather than using traditional dichotomous measures of use of HHCS (“used” versus “not used”), a more sensitive continuous measure was developed. The number of visits prescribed in the plan of care and the actual number of HHCS visits were collected. A continuous use-of-HHCS score was computed by dividing the actual number of HHCS visits by the prescribed number of HHCS visits resulting in a percentage. For example, if the client only accepted 15 of 20 prescribed visits, 15 divided by 20 visits prescribed equaled a 75% use-of-HHCS score. If clients were discharged early from HHCS because they had achieved the care plan goals without needing the total prescribed visits, the denominator was adjusted to reflect the new number of prescribed visits. Higher HHCS scores actually mean a higher percentage of prescribed appointments kept rather than a greater number of visits. This allowed a comparison of use of HHCS among individuals with differing numbers of prescribed visits. Because we used random assignment to groups, the number of “unintentional” reasons for not using a planned HHCS visit (e.g., unexpected physician visit for new or unrelated diagnosis) were expected to be evenly distributed between the experimental and control conditions.

Elder Outcome Measures

Functional ability was measured with the OARS Multidimensional Functional Assessment Questionnaire (OMFAQ), ADL scale (Fillenbaum, 1988). Elders’ hospitalizations, ED visits, and nursing home days were measured with corresponding questions from the OARS OMFAQ Physical Health Scale. The questions were formatted to be answered as elder/caregivers’ entries on the calendars we had provided. Elder mutuality was measured by the Mutuality Scale.

Caregiver Outcome Measures

Caregiver health was measured using the Caregiver’s Severity of Disease Scale (Phillips, Luna et al., 1996) with two dimensions: the caregivers’ number of medical problems and the degree to which the medical problems interfered with caregivers’ daily living. Caregiving burden’s two dimensions were measured as follows: caregivers’ *objective* burden was measured with the OMFAQ, Activities of Daily Living scale; and caregivers’ *subjective* burden was measured with the Caregiving Burden Scale, Perceived Burden subscale (Poulshock & Deimling, 1984). Caregiver depression was measured using a 10-item condensed version of the CES-D Scale which contained items from each of the four dimensions (Radloff, 1977). Caregiver stress was measured by the Perceived Stress Scale (Cohen, Kamarak, & Mermelstein, 1983). Caregiver mutuality was measured with the same Mutuality Scale used with elders.

Data and Power Analyses

Power analyses conducted using PASS 2005 suggested 60 dyads (30 per group) were needed to be able to detect an effect size (f) of .41 with a power of .70 and an effect size (f) of .46 with a power of .80 for the interaction effect in the 2×4 ANOVAs (Hintze, 2004).

Results

Seventy-four dyads (elder and caregiver) consented to participate in the study (Table 2). Of these, 22 had a referral to HHCS. Most caregivers were spouses/other (63.5%); offspring constituted 36.5%. Elders' responses to the acculturation scale indicated slightly more identification with MA culture than caregivers'. There were no significant differences in the demographics between the intervention and control groups for elders and caregivers.

Intervention Effects on Awareness, Confidence, and Use of HHCS

The intervention did not significantly impact either the elders' or the caregivers' awareness of or confidence in HHCS, i.e. there were no significant *group-by-time* interaction effects (see Tables 3 and 4). For *elders* there were significant *main effects of time* for the awareness of the need for HHCS subscale and the trust subscale, with awareness of the need for HHCS decreasing and trust increasing over time. For *caregivers* there were significant *main effects of time* for the awareness of HHCS and the awareness of access to HHCS subscale, with both increasing over time.

The intervention group used HHCS more (M=91.1%, SD=18.1) than the control group (M=71.2%, SD= 42.0) although this was not a statistically significant difference (p=.18).

Awareness and Confidence as Predictors of Use of HHCS

For *elders*, the relationships of awareness of HHCS and confidence in HHCS with use of HHCS were not significant. For *caregivers*, there was a significant negative relationship between awareness of HHCS with use of HHCS ($r = -.46$, $p = .04$) and awareness of the existence of HHCS with use of HHCS at 1 month post intervention ($r = -.46$, $p = .04$) indicating that greater knowledge and awareness were associated with less use of HHCS.

Relationships between Use of HHCS and Outcomes

For both *elders* and *caregivers*, there were significant positive relationships between use of HHCS and mutuality at 1 month ($r = .63$, $p = .01$ and $r = .70$, $p < .01$, respectively) and 6 months ($r = .47$, $p = .03$ and $r = .68$, $p < .01$, respectively) post intervention (Table 5). For caregivers, there were significant negative relationships between use of HHCS and objective burden ($r = -.45$, $p = .05$), perceived burden ($r = -.60$, $p = .01$), and depression ($r = -.48$, $p = .04$) at 1 month post intervention.

Discussion

Most results, although not as strong as anticipated, were in the expected direction. Also, there were some interesting patterns consistent with our previous studies related to

caregiving burden, and new associations with mutuality. We discuss our findings according to the aims, implications for the ACA, research implications, and limitations.

Efficacy of the Intervention on Awareness, Confidence, and Use of HHCS

This is the first study to measure the effects of a telenovela intervention on awareness of HHCS and confidence in HHCS. Findings were in the predicted direction. Although there were no statistically significant intervention effects, there were improvements over time in awareness of HHCS and confidence in HHCS for both groups. The significant time effects provide evidence that viewing and discussing a telenovela (whether focused on HHCS or on health screening for seniors) can increase awareness of HHCS and confidence in using HHCS. The effect on use of HHCS (91.1% versus 71.2% difference) is further evidence that a telenovela intervention can increase use of HHCS by MA elders.

Effect of Awareness and Confidence on Use of HHCS

There was an unexpected negative relationship between awareness of HHCS and use of HHCS - greater awareness was associated with less use. Perhaps elders and caregivers who are more aware of the existence of HHCS “take it for granted,” assume that it is always an option, and do not feel the need to use it: that they can use it less and it will always be available if they need it. It may also be that only a minimal level of awareness is necessary and that beyond that point the relationship between awareness and motivation to use HHCS is diminished. Based on these results as well as interviews with participants, and continued collaboration with the ENCASA Community Advisory Council (Crist, Bruno, Ruiz, & Hepworth, 2013), awareness should continue to be promoted using explicit factual messages about HHCS but with a primary focus on increasing confidence through more identification with characters’ trust.

Effect of Use of HHCS on Elder and Caregiver Outcomes

The effect of HHCS on outcomes was in the expected direction and validates continued promotion of its use by MA elders. Our finding positive correlations of mutuality, the quality of elder-caregiver relationship, with use of HHCS is consistent with evidence that HHCS’s support and care enhances mutuality for both caregivers found in non-Hispanic white samples (Archbold, Stewart, Greenlick, & O’Keeffe-Rosetti, 2005). This finding is important in the cultural context of MA elders and caregivers. Although mutuality does not increase over the trajectory of long-term family care, its decline can be decelerated (Lyons et al., 2007). Also, results support the construct validity and cultural equivalence of the mutuality measure translated into Spanish (Crist, Escandón, Stewart, & Archbold, 2008).

Perceived caregiving burden (how tiring, difficult, or upsetting caregiving tasks were for caregivers), as well as caregiver depression, were negatively associated with use of HHCS. Greater use of HHCS was associated with less burden and depression. This finding is important because the strong MA cultural norm of familism could cause increased burden or depression if HHCS were perceived as an unwelcomed intrusion rather than a support of the family. Although burden is a controversial concept within the MA culture (Crist, McEwen et al., 2009), as demonstrated here it can be decreased with the use of HHCS.

Potential Implications of the Affordable Care Act

The 9th of 10 “Essential Health Benefits” of the ACA is “Preventive and wellness services and chronic disease management” (CMS.gov, 2012). This assurance should include post-hospital HHCS. However, some insurance policies do not cover HHCS. Promoting the benefits, acceptance, and use of HHCS is futile if HHCS is not accessible to vulnerable groups. Policy needs to be changed so that elders may receive HHCS. Penalties for re-hospitalizations (Sacks et. al, 2014), which the use of HHCS can prevent, have incentivized more thorough and diligent case management. However, post-acute care (PAC) costs are being scrutinized (Chandra, Dalton, & Holmes, 2013), which could potentially create disincentives to make referrals for PAC such as HHCS. Furthermore, when discharge planning is relegated to specific, limited, case management staff only, and staff nurses are not also involved in discharge planning from the first day of hospitalization, patients needing referrals to HHCS do not receive them as a consistent standard of care.

Research Implications

Although sometimes HHCS are not offered when they would have been appropriate (Bowles et al., 2009), our study focused on the MA elders’ and their caregivers’ accepting HHCS after referral. Discharge planning for MA elders needs to be explored further. Also, given the promise of the findings reported here telenovelas should be tailored and tested with other vulnerable minority groups. As was done with the ENCASA telenovela, it would be important to collaborate with cultural community partners during development of their script, language, and research design.

Limitations

The measures for awareness of HHCS and confidence in HHCS (Crist, Michaels et al., 2007; Crist, Velásquez et al., 2006) may need revision. The reliability of the 6-item awareness scale needs improvement and the most obvious approach would be to generate more appropriate items. Findings not being more significant may also have been due to needing to include more explicit information about HHCS in the telenovela and use a control that is less similar. Our control telenovela that addressed health screening for seniors was probably more like another intervention than a control condition.

Additionally, although we recruited more participants than were indicated by the power analysis, our final sample size for analysis was not as large as we desired because of the lack of referrals to HHCS. Policy issues regarding how MA elders are even offered HHCS need to be addressed. “Dyads” in the Latino community is an important design issue in cross-cultural research. It is a fallacy to assume that a MA family has one “caregiver.” Caregiving responsibilities and activities are usually shared among offspring, the spouse, and other extended family members, although social support in MA families has been shown to be decreasing (Phillips & Crist, 2008). However, we were able to have the elder and family designate one person who provided most of the care. Future studies should address the multiplicity of the caregiver role. Addressing these issues should lead to more robust results.

Summary

The under-use of HHCS, especially among MA elders, is critical. Post-hospital care costs billions of dollars each year, but can be significantly reduced by using HHCS. This innovative community-based intervention has promise to improve outcomes for MA elders/caregivers through culturally congruent telenovelas to increase use of HHCS and reduce important health disparities in MA elders and caregivers.

This study provides empirical support to and greater understanding of interventions that directly target ethnic/cultural barriers. The telenovela promotes naturally existing sources of cultural strengths to provide more equal access to HHCS. Results include improved outcomes such as enhanced MA elder and caregiver mutuality and reduced MA caregiving burden. HHCS research with underserved and culturally diverse groups is needed (Greysen et al., 2014). Predictions of fewer caregivers for more elders (Redfoot, Feinberg, & Houser, 2013) and increasing health disparities for minority ethnic groups increase the importance of intervention research with them (Martin, 2011). We need to conduct more studies related to ethnicity, disparities, and planning post-hospitalization care.

There is a need for interventions to improve elders' and families' understanding of the post-hospital care needed during hospital-to-home transitions (Romagnoli, Handler, Ligons, & Hochheiser, 2013). The intervention reported in this study demonstrated the value of introducing HHCS in a culturally relevant manner and should be easily transferred and used in ambulatory care and other settings as well as the hospital. The use of the telenovela will enable providers to thoroughly inform their clients about their option for HHCS with the telenovela. This study should lead to future interdisciplinary translational research that will reduce health disparities within vulnerable populations by increasing their use of HHCS.

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Figure 1.
Conceptual Framework

Table 1

Variables, Measures, and Reliability

Variable	Measure	Cronbach's Alpha	
		Elder	Caregiver
Awareness of HHCS total score	Awareness of HHCS Scale	.59	.70
Awareness of Existence of HHCS subscale		.60	.68
Awareness of Need for HHCS subscale		.47	.78
Awareness of Access to HHCS subscale		.48	.81
Confidence in HHCS total score	Confidence in HHCS	.81	.81
Trust subscale		.73	.85
Fear subscale		.76	.81
Mutuality	Mutuality Scale	.91	.95
Acculturation	Ethnic interaction, language, identification, acceptance		
Mexican American		.68	.53
Anglo		.89	.81
Functional Ability ^a	OARS OMFAQ,	.87	
Instrumental ADLs subscale	IADL/ADL scales	.83	
ADLs subscale		.73	
Caregiver's Severity of Disease Scale ^b			
Number of Medical Problems			.60
Interfere with Daily Living ^c			
Objective Burden ^b	OMFAQ scales		.93
Perceived Burden ^b	Caregiving Burden Scale, Perceived Burden subscale		.86
Depressive Symptoms ^b	Condensed CES-D		.81
Perceived Stress ^b	Perceived Stress Scale		.79

^a Only measured in Elder^b Only measured in Caregiver^c Too few cases to calculate Cronbach's alpha

Table 2

Demographic Information: Elders and Caregivers

Demographic Characteristic	Elders			Caregivers		
	Control N=36	Intervention N=38	Total N=74	Control N=36	Intervention N=38	Total N=74
Age						
Mean (SD)	67.67 (7.3)	68.11 (8.9)	67.89 (8.1)	53.86 (12.6)	50.47 (14.4)	52.12 (13.6)
Range	55–83	55–83	55–83	19–76	18–80	18–80
Gender, n (%)						
Male	17 (47.2%)	20 (52.6%)	37 (50.0%)	7 (19.4%)	4 (10.5%)	11 (14.9%)
Female	19 (52.8%)	18 (47.4%)	37 (50.0%)	29 (80.6%)	34 (89.5%)	63 (85.1%)
Race, n (%) ^b						
White	22 (61.1%)	28 (73.7%)	50 (67.6%)	18 (50.0%)	20 (52.6%)	38 (51.4%)
Other	14 (38.9%)	10 (26.3%)	24 (32.4%)	10 (27.7%)	16 (42.1%)	26 (35.1%)
Marital Status, n (%)						
Single, Never Married		2 (5.3%)	2 (2.7%)	6 (16.7%)	8 (21.1%)	14 (18.9%)
Married	22 (61.1%)	21 (55.3%)	43 (58.1%)	25 (69.4%)	25 (65.8%)	50 (67.6%)
Widowed	8 (22.2%)	8 (21.1%)	16 (21.6%)	1 (2.8%)		1 (1.4%)
Divorced	5 (13.9%)	3 (7.9%)	8 (10.8%)	2 (5.6%)	5 (13.2%)	7 (9.5%)
Separated	1 (2.8%)	3 (7.9%)	4 (5.4%)	1 (2.8%)		1 (1.4%)
Acculturation – MA						
Mean (SD)	15.80 (2.4)	16.52 (2.7)	16.17 (2.5)	15.53 (2.3)	15.94 (2.2)	15.74 (2.2)
Range	10.11–20.00	9.89–20.00	9.89–20.00	8.56–20.00	11.11–20.00	8.56–20.00
Acculturation – Anglo						
Mean (SD)	12.19 (4.1)	12.64 (4.1)	12.42 (4.1)	14.08 (3.2)	14.80 (3.6)	14.45 (3.4)
Range	4.89–18.67	5.33–20.00	4.89–20.00	7.56–20.00	6.67–20.00	6.67–20.00

^a Significant difference between groups^b Ethnicity: 100% Latino/Hispanic/Mexican American

Table 3

Elder Changes over Time in Awareness of HHCS and Confidence in HHCS

Variable	Baseline		Post Intervention		1 Month Post Intervention		6 Months Post Intervention		F (df) Sig. ^c Effects: Group by Time Group
	Control Mean (SD)	Experimental Mean (SD)	Control Mean (SD)	Experimental Mean (SD)	Control Mean (SD)	Experimental Mean (SD)	Control Mean (SD)	Experimental Mean (SD)	
Awareness of Home Care Services ^a	6.77 (3.7)	6.58 (3.9)	7.36 (3.8)	7.33 (5.2)	5.64 (3.1)	7.33 (5.9)	6.64 (4.2)	6.75 (3.9)	.95 (3,132) .42 .70 (3,132) .55 .15 (1,44) .70
Awareness of Existence of HHCS subscale ^a	2.50 (2.5)	2.13 (2.4)	2.59 (3.0)	2.46 (2.7)	2.18 (2.2)	3.33 (4.7)	2.82 (2.8)	2.92 (3.0)	1.03 (2,6,112.5) .38 .56 (2,6,112.5) .62 .08 (1,44) .79
Awareness of Need for HHCS subscale ^a	2.41 (1.9)	2.17 (2.1)	2.68 (2.0)	2.63 (2.3)	1.32 (1.6)	2.25 (2.0)	1.41 (1.7)	1.67 (2.1)	1.16 (2,5,111.7) .32 4.39 (2,5,111.7) .01 ^d .29 (1,44) .60
Awareness of Access to HHCS subscale ^b	1.86 (1.4)	2.32 (0.6)	2.14 (1.2)	2.32 (1.2)	2.24 (1.0)	1.91 (1.2)	2.43 (1.5)	2.27 (0.9)	1.62 (3,123) .19 0.90 (3,123) .44 .02 (1,41) .88
Confidence in HHCS ^a	2.72 (0.1)	2.71 (0.4)	2.74 (0.2)	2.84 (0.3)	2.79 (0.3)	2.74 (0.2)	2.79 (0.4)	2.88 (0.3)	0.88 (2,5,110.5) .44 1.55 (2,5,110.5) .21 .44 (1,44) .51
Trust subscale ^a	2.84 (0.1)	2.87 (0.4)	2.93 (0.3)	2.99 (0.2)	3.10 (0.4)	3.00 (0.3)	2.95 (0.5)	3.09 (0.4)	1.42 (3,132) .24 4.24 (3,132) .01 ^d 0.18 (1,44) .67
Fear subscale ^a	2.55 (0.3)	2.50 (0.4)	2.47 (0.5)	2.63 (0.5)	2.63 (0.5)	2.61 (0.6)	2.56 (0.4)	2.59 (0.5)	0.74 (3,132) .53 0.61 (3,132) .61 0.12 (1,44) .73

^aControl N=22, Intervention N=24;^bControl=21, Intervention=22^cRepeated Measures ANOVA;^dSignificant at $p < .05$

Table 4

Changes over Time in Caregiver Awareness of HHCS and Confidence in HHCS

Variable	Baseline		Post Intervention		1 Month Post Intervention		6 Months Post Intervention		F (df) Sig. ^d Effects: Group by Time Group
	Control Mean (SD)	Experimental Mean (SD)	Control Mean (SD)	Experimental Mean (SD)	Control Mean (SD)	Experimental Mean (SD)	Control Mean (SD)	Experimental Mean (SD)	
Awareness of HHCS ^a	6.23 (5.1)	5.25 (4.1)	7.59 (4.9)	6.96 (4.8)	7.00 (5.3)	7.21 (4.0)	6.95 (4.7)	6.42 (3.6)	.37 (3,132) .78 2.79 (3,132) .04 ^e .18 (1,44) .68
Awareness of Existence of HHCS subscale ^b	2.18 (3.1)	1.09 (1.6)	2.59 (3.7)	2.26 (2.3)	2.45 (3.6)	2.35 (2.2)	2.64 (3.1)	2.00 (1.8)	.70 (3,129) .55 2.17 (3,129) .10 .59 (1,43) .45
Awareness of Need for HHCS subscale ^b	2.23 (2.7)	2.39 (2.4)	2.23 (2.6)	2.43 (2.5)	2.55 (2.4)	2.30 (2.1)	2.18 (2.2)	2.00 (2.2)	.18 (3,129) .91 .28 (3,129) .84 .001 (1,43) .98
Awareness of Access to HHCS subscale ^c	2.00 (1.4)	2.20 (1.5)	2.95 (1.8)	2.75 (1.2)	2.10 (1.3)	2.90 (1.6)	2.25 (1.1)	2.55 (1.7)	1.45 (3,114) .23 3.27 (3,114) .02 ^e .57 (1,38) .45
Confidence in HHCS ^a	2.78 (0.4)	2.87 (0.4)	2.80 (0.3)	2.99 (0.3)	2.80 (0.4)	3.06 (0.4)	2.85 (0.4)	3.02 (0.4)	.90 (3,132) .44 1.75 (3,132) .16 3.71 (1,44) .06
Trust subscale ^a	3.05 (0.5)	3.14 (0.4)	3.08 (0.4)	3.21 (0.4)	3.05 (0.4)	3.29 (0.4)	3.10 (0.5)	3.26 (0.6)	.56 (2,4, 103,4) .60 .76 (2,4, 103,4) .49 2.04 (1,44) .16
Fear subscale ^a	2.35 (0.5)	2.50 (0.7)	2.42 (0.5)	2.68 (0.4)	2.45 (0.5)	2.74 (0.6)	2.51 (0.7)	2.69 (0.7)	.27 (3,132) .85 1.56 (3,132) .20 2.94 (1,44) .09

^aControl N=22, Intervention N=24;^bControl N=22, Intervention N=23;^cControl N=20, Intervention N=20^dRepeated Measures ANOVA^eSignificant at $p < .05$

Table 5

Correlations of Use of HHCS with Elder and Caregiver Outcomes

Elder Outcome Variables	1 Month Post Intervention r (N) Sig.	6 Months Post Intervention r (N) Sig.
Daily Living	.25 (15) .18	.14 (16) .30
Instrumental ADLs subscale	.16 (15) .28	.20 (16) .23
ADLs subscale	.38 (15) .08	.06 (16) .42
Mutuality	.63 (15) .01 ^b	.47 (17) .03 ^b
Number of Hospital Days ^a		.22 (19) .18
Number of ER Visits ^a		.13 (19) .29
Number of Nursing Home Days ^a		.21 (19) .20
Caregiver Outcome Variables		
Number of Medical Problems	-.28 (15) .16	.21 (16) .22
Medical Problems Interfere with Daily Living	-.24 (11) .24	-.34 (13) .13
Objective Burden	-.45 (15) .05 ^b	-.28 (16) .15
Perceived Burden	-.60 (15) .01 ^b	-.34 (16) .10
Depression	-.48 (15) .04 ^b	-.10 (16) .36
Perceived Stress	-.19 (15) .25	-.35 (16) .09
Mutuality	.70 (15) .002 ^b	.68 (17) .001 ^b

^a Only measured at 6 Months^b Significant at p < .05