

Original Article

Cite this article: Shen MJ, Prigerson HG, Maciejewski PK (2023). Associations between Latino ethnicity and the use of emotional support and completion of advance directives. *Palliative and Supportive Care* **21**, 385–391. <https://doi.org/10.1017/S1478951523000366>


Received: 30 June 2022
Revised: 13 February 2023
Accepted: 06 March 2023

Keywords:

Latino; Health disparities; Coping; DNR order; Living will; Health-care proxy; End-of-life care

Author for correspondence: Megan J. Shen, Clinical Research Division, Fred Hutchinson Cancer Center, 1100 Fairview Ave. N., Seattle, WA 98109, USA.
Email: mshen2@fredhutch.org

Associations between Latino ethnicity and the use of emotional support and completion of advance directives

Megan Johnson Shen, PH.D.¹ , Holly G. Prigerson, PH.D.^{2,3} and Paul K. Maciejewski, PH.D.^{2,3,4}

¹Clinical Research Division, Fred Hutchinson Cancer Center, Seattle, WA, USA; ²Cornell Center for Research on End-of-Life Care, Weill Cornell Medicine, New York, NY, USA; ³Department of Medicine, Weill Cornell Medicine, New York, NY, USA and ⁴Department of Radiology, Weill Cornell Medicine, New York, NY, USA

Abstract

Objectives. Latino patients have been shown to engage in advance care planning (ACP) at much lower rates than non-Latino White patients. Coping strategies, such as the use of emotional support, may differentially relate to engagement in ACP among Latino and non-Latino patients. The present study sought to examine the moderating effect of ethnicity on the relationship between the use of emotional support as a coping strategy and completion of advance directives.

Methods. The present study employed a weighted sample ($N_w = 185$) of Latino and non-Latino White patient participants in Coping with Cancer III, a National Institutes of Health-sponsored, multisite, longitudinal, observational cohort study of patients with advanced cancer and their informal caregivers and oncology providers designed to evaluate Latino/non-Latino disparities in ACP and end-of-life cancer care. Main and interaction effects of Latino ethnicity and use of emotional support on patient use of advance directives were estimated as odds ratios.

Results. Use of emotional support was associated with dramatically lower do-not-resuscitate (DNR) order completion to a greater extent among Latino as compared to non-Latino patients (interaction AOR = 0.33, $p = 0.005$). Interaction effects were not statistically significant for living will or health-care proxy form completion.

Significance of results. Use of emotional support is associated with lower odds of completing DNRs among Latino than among non-Latino patients. Seeking and/or receiving emotional support may deter Latino patients from completing DNR orders. Research is needed to address both emotional needs and practicalities to ensure high quality end-of-life care among Latino patients with cancer.

Introduction

Latino/non-Latino ethnic disparities in advance care planning (ACP) are prevalent, heightening the risk among patients with advanced cancer of Latino descent dying without receiving care consistent with their preferences (Carr 2012). Specifically, rates of advance directive completion are significantly lower among Latino patients than non-Latino Whites. This includes dramatically lower rates of completing a living will (9% vs. 67%) and naming a health-care proxy (4% vs. 59%) (Carr 2011). These disparities are disconcerting because ethnicity is a social construct, which suggests that there may be system-level barriers to engaging Latino patients in ACP and a need for culturally tailored interventions. Understanding what drives disparities in ACP engagement among Latino patients is critical to helping inform culturally relevant and more impactful interventions.

Advance directive completion is critical to improving quality end-of-life care because it is linked to higher quality of life (Garrido et al. 2015) and medical care (Brinkman-Stoppelenburg et al. 2014) received at the end of life. Due in large part to lower rates of advance directive completion, Latino patients with cancer are more likely than their non-Latino White counterparts to suffer in the quality of medical care they receive at the end of life. Specifically, Latino (compared to non-Latino) patients suffer from higher rates of futile aggressive care (e.g., cardiopulmonary resuscitation (CPR) and intensive care unit (ICU) stays) at the end of life that does not prolong survival (Braun et al. 2008; Hanchate et al. 2009; Lackan et al. 2009). The aggressive care that Latino patients with cancer often receive at the end of their lives is generally contrary to their preferences and values (Blackhall et al. 1999; Davis 1995; Duffy et al. 2006; Gutheil and Heyman 2006; Mack et al. 2010; Volandes et al. 2008),

associated with poorer quality of life (Mack *et al.* 2010; Wright *et al.* 2008; Zhang *et al.* 2012, 2009), and very costly (Hanchate *et al.* 2009). It should be noted that the type of care received at the end of life is less relevant than ensuring that patients receive care consistent with their beliefs, values, and preferences and that enhances the quality of life at the end of life as it pertains to social, emotional, spiritual, and physical outcomes.

Despite these known disparities, little research has focused on how individual-level factors, such as coping styles, might be differentially related to advance directive completion among Latino and non-Latino patients with cancer. Understanding how coping styles may differentially influence rates of advance directive completion among Latinos and non-Latinos could be critical to understanding how best to engage patients from different ethnic backgrounds in ACP. Prior research indicates that active coping strategies like seeking and receiving emotional support from others, as measured by the widely used Brief COPE (Carver 1997), are associated with positive mental and general health outcomes.

While this pattern may hold true for the general population, use of emotional support may have differing effects among patients who are terminally ill and at the end of life (Maciejewski *et al.* 2012). Patients who are terminally ill, such as patients with advanced cancer, engage in varying coping styles to manage the impact that cancer treatments and poor prognoses have on them (Hagan *et al.* 2017). Limited prior work suggests that coping strategies operate differently among patients with advanced cancer than among the general population. For instance, behavioral disengagement has been associated with higher rates of do-not-resuscitate (DNR) order completion and lower rates of futile intensive care near death (Maciejewski *et al.* 2012). Although behavioral disengagement is considered a negative coping strategy because it is avoidant in style, outcomes such as reduced futile aggressive care seemingly indicate some level of patient engagement in ACP. Because this type of care is often counter to the “standard” care offered in medical settings at the end of life, patients often have to explicitly express a desire for no futile aggressive care. Similarly, positive coping strategies such as use of emotional support may have different effects on ACP outcomes among those who are terminally ill.

Not only may the use of emotional support as a coping strategy work differently among patients who are terminally ill, but ethnicity may play a moderating role in this relationship between the use of emotional support and ACP outcomes. Prior work indicates that Latino patients with cancer are most likely to utilize coping strategies such as positive reframing (i.e., finding meaning and positive emotions despite having cancer), family support, and religion and spirituality (Carrion *et al.* 2017). Latino patients also often report a more explicit involvement of family members and loved ones into ACP (Kwak and Haley 2005; Smith *et al.* 2008), highlighting the critical role of family members in this process. Thus, the engagement with one’s emotional support network among patients with advanced cancer may look differently among Latino than non-Latino patients.

For instance, Latino patients may engage in or utilize emotional support at higher levels than their non-Latino counterparts due to the critical role that social support plays in their decision-making. Furthermore, because Latino patients report more explicit and direct involvement of their family members in ACP, they may report higher levels of engagement in ACP when engaged in emotional support. In short, the effects of emotional support strategies on advance directive completion outcomes may differ for Latino patients relative to non-Latino Whites. Understanding how ethnicity moderates the relationship between emotional support and

advance directive completion could illuminate potential drivers in disparities in ACP outcomes, such as DNR order, living will, and health-care proxy form completion.

The present study sought to determine Latino/non-Latino differences in emotional support’s effect on completion of advance directives among patients with advanced cancers. To do this, we examined the moderating effects of Latino ethnicity (Latino and non-Latino White) on the relationship between the use of emotional support and completion of advance directives (living will, health-care proxy, and DNR order) among patients with advanced cancer. Based on prior research (Carr 2011; Carrion *et al.* 2017), we hypothesized that (1) Latino patients would engage in the use of emotional support at higher rates than non-Latino patients; (2) Latino patients would have lower rates of completion of advance directives than non-Latino patients; and (3) emotional support would have a stronger positive effect on advance directive completion among Latino than non-Latino patients.

Methods

Sample

The present study is based on a sample ($N = 188$) of patient participants in Coping with Cancer III (CwC III), an National Institutes of Health–sponsored (R01 MD007652), multisite, longitudinal, observational cohort study of patients with advanced cancer, their informal (often family) caregivers, and their oncology providers designed to evaluate the influence of medical, religious, and sociocultural beliefs on Latino/non-Latino ethnic disparities in ACP, and end-of-life cancer care. CwC III participants were recruited between November 2015 and May 2019 at the following institutions: Memorial Sloan-Kettering Cancer Center (New York, NY), Columbia University Medical Center (New York, NY), Northwestern University Robert H. Lurie Comprehensive Cancer Center (Chicago, IL), Rush University Medical Center (Chicago, IL), University of Texas-Southwestern (Dallas, TX), University of Texas at El Paso (El Paso, TX), and University of Miami Health System (Miami, FL). Institutional review board (IRB) approval was obtained from all participating sites. Informed consent was provided by all study participants.

Patients were eligible to participate in CwC III if they had been diagnosed with a locally advanced or metastatic gastrointestinal, lung, or gynecological cancer and had experienced disease progression on at least first-line chemotherapy or, for some specific (e.g., colorectal or ovarian) cancers, had experienced disease progression on at least 2 lines of chemotherapy. Thus, in general, eligible patients had incurable cancers and limited (i.e., months, not years) life expectancies. Patients were excluded from participation if they were under 21 years of age, not fluent in either English or Spanish, severely cognitively impaired (i.e., Short Portable Mental Status Questionnaire (Pfeiffer 1975) score < 6), or judged by research staff members to be too weak or ill to complete study interviews. Trained research staff interviewers gathered information directly from patient participants longitudinally in up to 3 structured interviews, that is, baseline assessments at study entry, first follow-ups nominally 2 months post-baseline and second follow-ups up to 1-year post-baseline (depending on patients’ statuses). Participants received \$25 per interview.

The sample for the present analysis ($N = 188$) consists of CwC III patient participants who completed the baseline interview, identified as either Latino or non-Latino White, and had complete data for variables included in the present study. Among 242

patients who completed the baseline interview, 194 (80.2%) identified as either Latino or non-Latino White (hereafter “non-Latino”). Among these Latino and non-Latino participants, 6 (3.1%) were excluded from the present analysis due to missing data. Participants excluded due to missing data did not differ significantly from those included in the present analysis with respect to Latino ethnicity, age, gender, education level, health insurance status, or marital status.

Measures

Sociodemographic characteristics

During their baseline interviews, patients provided information regarding Latino ethnic origin, age, gender, education level, health insurance status, and marital status. Sites of patient recruitment were categorized by geographic location (North vs. South) and institution type (cancer center vs. hospital).

Use of emotional support

Use of emotional support as a coping strategy was assessed using the Brief COPE (Carver 1997), a well-validated, widely used research instrument that assesses 14 coping methods using 2 items for each method. Use of emotional support was selected for the present study because it has been demonstrated to be a particularly important determinant of psychological adjustment to cancer and QOL (Carver et al. 1999; Kershaw et al. 2004; Lutgendorf et al. 2000, 2002). Use of emotional support was assessed using 2 Brief COPE items: (1) “I’ve been getting comfort and understanding from someone” and (2) “I’ve been getting emotional support from others.” Both items were coded on a 5-point Likert scale (1 = not at all and 5 = very much) and were significantly correlated in the full sample ($N = 188$, $r = 0.62$, $p < 0.001$), in the Latino subsample ($n = 85$, $r = 0.45$, $p < 0.001$), and in the non-Latino subsample ($n = 103$, $r = 0.77$, $p < 0.001$). All analyses were performed using the average score for the pair of items.

Completion of advance directives

During their interviews, patients were asked the following questions: (1) “Have you signed a Living Will?” (2) “Have you signed a Health Care Proxy Form?” and (3) “Have you signed a DNR order?” Response options included “yes,” “no,” “refuse to answer,” and “don’t know.” The present sample included only those who answered “yes” (coded 1) or “no” or “don’t know” (coded 0) to this question.

Statistical analysis

We evaluated bivariate associations between Latino ethnicity and dichotomous study variables, that is, patient sociodemographic characteristics and completion of advance directives, as odds ratios estimated via ordinary logistic regression. We evaluated associations between Latino ethnicity and continuous variables, that is, coping strategies, using Spearman correlations.

To estimate Latino/non-Latino differences in the use of emotional support and completion of advance directives accounting for Latino ethnic differences in sociodemographic variables, we used propensity score weights to minimize sociodemographic differences between Latino and non-Latino patient groups. Propensity score weighting is a common method of matching samples to facilitate inference for between-group effects (Stuart 2010). We constructed stabilized inverse probability propensity weights (Xu et al. 2010) for use in analysis to match Latino and non-Latino groups with respect to patient age category, gender, education level, health

insurance status, marital status, recruitment site geographic region, and institutional setting. Using the stabilized inverse probability propensity weighted (hereafter “weighted”) sample ($N_w = 185$), we evaluated associations between Latino ethnicity and dichotomous and continuous study variables as odds ratios and Spearman correlations, respectively. We evaluated main and interaction effects of Latino ethnicity and the use of emotional support on completion of advance directives (living will, health-care proxy form, and DNR order) in the weighted sample using multiple logistic models. Statistical analyses were conducted using SAS statistical software, version 9.4 (Cary, NC). Inferences are based on 2-sided tests with $p < 0.05$ taken to be statistically significant.

Results

Table 1 compares Latino and non-Latino patients with respect to sociodemographic characteristics, use of emotional support, and completion of advance directives in the unweighted study sample ($N = 188$; 45.2% Latino and 54.8% non-Latino). Latino patients relative to non-Latino patients had a greater proportion of patients who were younger (<65 years), less educated (≤ 12 years), not insured, and located in the South (Florida and Texas) (all $p < 0.05$). Latino patients were also significantly less likely than non-Latino patients to have completed a DNR order (18.8% vs. 35.9%), living will (17.6% vs. 56.3%), or health-care proxy form (35.3% vs. 64.1%).

Table 2 compares Latino and non-Latino patients with respect to sociodemographic characteristics, use of emotional support, and completion of advance directives in the weighted study sample ($N_w = 185$; 45.3% Latino and 54.7% non-Latino). In the weighted sample, Latino compared to non-Latino patients did not differ significantly across any of the sociodemographic characteristics. There were no observed Latino/non-Latino differences in use of emotional support. Hypothesis 1, that Latino patients would engage in the use of emotional support at higher rates than non-Latino patients, was not supported. Latino patients were less likely to have completed a living will (21.7% vs. 51.1%; OR = 0.27, $p < 0.001$) or designated a health-care proxy (45.5% vs. 60.4%; OR = 0.55, $p < 0.05$). Latino patients also trended toward being less likely to have completed a DNR order (21.0% vs. 33.3%; OR = 0.53, $p = 0.066$). Hypothesis 2, that Latino patients would have lower rates of completion of advance directives than non-Latino patients, was supported. Among the 85 Latino patients included in the analysis, 26 (30.6%), 17 (20.0%), 13 (15.3%), and 29 (34.1%), were, respectively, of Mexican, Cuban, Puerto Rican, and Other Latino cultural origins.

Table 3 examines multiple logistic regression models for main and interaction effects of Latino ethnicity and use of emotional support on DNR order completion, living will completion, and health-care proxy form completion in the weighted sample ($N_w = 185$). Results indicate that there was an interaction effect between Latino ethnicity and use of emotional support on completion of a DNR order (AOR = 0.33, $p = 0.005$). Use of emotional support was associated with lower odds of completing DNRs to a greater extent among Latino compared to non-Latino patient. Hypothesis 3, that emotional support would have a stronger positive effect on advance directive completion among Latino than non-Latino patients, was not supported as the opposite directionality was observed.

Discussion

Consistent with prior studies and confirming our hypothesis, we found evidence that Latino patients with advanced cancer were

Table 1. Patient characteristics, use of emotional support as a coping strategy, and completion of advance directives by Latino ethnicity in the unweighted sample ($N = 188$)

Patient characteristics	Ethnicity						OR	<i>p</i>
	Full sample		Latino		Non-Latino			
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%		
Age								
≥65 years	73	38.8%	22	25.9%	51	49.5%	0.36	0.001
<65 years	115	61.2%	63	74.1%	52	50.5%	Ref.	
Sex								
Female	111	59.0%	56	65.9%	55	53.4%	1.69	0.084
Male	77	41.0%	29	34.1%	48	46.6%	Ref.	
Education								
>12 years	115	61.2%	31	36.5%	84	81.6%	0.13	0.000
≤12 years	73	38.8%	54	63.5%	19	18.4%	Ref.	
Insurance status								
Insured	176	93.6%	74	87.1%	102	99.0%	0.07	0.010
Not insured	12	6.4%	11	12.9%	1	1.0%	Ref.	
Marital status								
Married	129	68.6%	54	63.5%	75	72.8%	0.65	0.173
Not married	59	31.4%	31	36.5%	28	27.2%	Ref.	
Geographic location								
North (New York and Illinois)	109	58.0%	33	38.8%	76	73.8%	0.23	0.000
South (Florida and Texas)	79	42.0%	52	61.2%	27	26.2%	Ref.	
Cancer center								
Yes	138	73.4%	54	63.5%	84	81.6%	0.39	0.006
No	50	26.6%	31	36.5%	19	18.4%	Ref.	
Coping strategy	Mean	SD	Mean	SD	Mean	SD	<i>r</i>	<i>p</i>
Use of emotional support	4.40	0.89	4.39	0.86	4.41	0.92	-0.01	0.881
Advance directives	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	OR	<i>p</i>
DNR order								
Yes	53	28.2%	16	18.8%	37	35.9%	0.41	0.011
No	135	71.8%	69	81.2%	66	64.1%	Ref.	
Living will								
Yes	73	38.8%	15	17.6%	58	56.3%	0.17	0.000
No	115	61.2%	70	82.4%	45	43.7%	Ref.	
Health-care proxy								
Yes	96	51.1%	30	35.3%	66	64.1%	0.31	0.000
No	92	48.9%	55	64.7%	37	35.9%	Ref.	

less likely to complete advance directives than non-Latino patients, including living wills and health-care proxy forms. We also found evidence that Latino ethnicity modifies the effect of use of emotional support on completion of DNR orders. Specifically, use of emotional support was associated with lower odds of completing DNRs to a greater extent among Latino as opposed to non-Latino patients. These differential effects of use of emotional support on

DNR order completion, however, did not explain Latino ethnic disparities in ACP. Latino ethnicity remained a significant predictor of lower advance directive completion for DNR, living will, and health-care proxy completion. Thus, it appears that the use of emotional support as a coping strategy may operate differently among Latinos and non-Latinos in the promotion of DNR order completion.

Table 2. Patient characteristics, use of emotional support as a coping strategy, and completion of advance directives by Latino ethnicity in the weighted sample ($N_w = 185$)

Patient characteristics	Full sample		Ethnicity				OR	<i>p</i>
	185	100%	Latino		Non-Latino			
			84	45.3%	101	54.7%		
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%		
Age								
≥65 years	65	35.3%	28	33.4%	37	36.9%	0.86	0.622
<65 years	119	64.7%	56	66.6%	64	63.1%	Ref.	
Sex								
Female	104	56.4%	46	54.8%	58	57.7%	0.89	0.695
Male	81	43.6%	38	45.2%	43	42.3%	Ref.	
Education								
>12 years	115	62.3%	51	60.5%	64	63.8%	0.87	0.653
≤12 years	70	37.7%	33	39.5%	37	36.2%	Ref.	
Insurance status								
Insured	176	95.3%	78	93.5%	98	96.8%	0.47	0.296
Not insured	9	4.7%	5	6.5%	3	3.2%	Ref.	
Marital status								
Married	126	68.1%	57	68.1%	69	68.0%	1.01	0.982
Not married	59	31.9%	27	31.9%	32	32.0%	Ref.	
Geographic location								
North (New York and Illinois)	108	58.5%	48	56.9%	60	59.8%	0.89	0.695
South (Florida and Texas)	77	41.5%	36	43.1%	41	40.2%	Ref.	
Cancer center								
Yes	139	75.2%	62	73.9%	77	76.3%	0.88	0.699
No	46	24.8%	22	26.1%	24	23.7%	Ref.	
Coping strategy								
	Mean	SD	Mean	SD	Mean	SD	<i>r</i>	<i>p</i>
Use of Emotional Support	4.45	0.87	4.45	0.86	4.44	0.88	0.00	0.957
Advance directives								
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	OR	<i>p</i>
DNR order								
Yes	51	27.7%	18	21.0%	34	33.3%	0.53	0.066
No	133	72.3%	66	79.0%	67	66.7%	Ref.	
Living will								
Yes	70	37.8%	18	21.7%	52	51.1%	0.27	0.000
No	115	62.2%	65	78.3%	49	48.9%	Ref.	
Health-care proxy								
Yes	99	53.6%	38	45.5%	61	60.4%	0.55	0.044
No	86	46.4%	46	54.5%	40	39.6%	Ref.	

Analysis conducted with the use of stabilized inverse probability propensity weights.

Although underlying mechanisms were not revealed in the present analysis, among Latino patients, receiving emotional support from others appears to inhibit completion of DNR orders. Some possible reasons for this may be the social influence family members play in the patient preferring not to complete a DNR order because they feel the family does not want that.

Prior research indicates that among racial and ethnic minorities, including Latino patients, family and community members often actively participate in their medical decision-making (Mead et al. 2013). As such, understanding how caregivers and family members are influence patients' medical care decisions is a key area of future research, and highlighting the need include family members

Table 3. Models for main and interactive effects of Latino ethnicity and use of emotional support on completion of advance directives in the weighted sample ($N_w = 185$)

Effect	Model for DNR order				Model for LW				Model for HCP			
	AOR	Lower	Upper	<i>p</i>	AOR	Lower	Upper	<i>p</i>	AOR	Lower	Upper	<i>p</i>
Latino ethnicity (L)	0.47	0.23	0.96	0.038	0.25	0.13	0.49	0.000	0.55	0.30	0.98	0.043
Use of emotional support (ES)	1.24	0.74	2.07	0.416	1.26	0.80	1.99	0.320	1.28	0.82	2.02	0.280
Interaction (L × ES)	0.33	0.15	0.72	0.005	1.35	0.53	3.43	0.525	0.72	0.37	1.41	0.335

Analysis conducted with the use of stabilized inverse probability propensity weights.

in end-of-life decision-making among patients who identify as Latino.

Additionally, patients who feel more emotionally supported and engaged may be more likely to prefer prolonging survival to spend more time with their loved ones or may be receiving support from varying and different sources (e.g., HCP and other family members). Future research should examine why the use of emotional support may serve to demotivate Latino advanced cancer patients from completing DNR orders and to ensure it is due to informed choices about care rather than an oversight in planning for preferred end-of-life care.

The present results do suggest that the use of emotional support may not be the most beneficial in promoting completion of DNR orders among Latino patients. Reasons for this should be explored, including whether it is social or familial pressure to pursue all treatments, desire to be with one's loved one or prolong life, or other reasons driving these differences. Further, these results suggest that interventions that address the ways patients and family caregivers handle emotional distress (e.g., our EMPOWER intervention (Lichtenthal *et al.* 2021)) may be effective for promoting DNR order completion among Latino patients. Specifically, if patients and family members can engage in and receive emotional support in a way that still allows them to plan for end-of-life and ultimately decline and death, they may be more willing to engage in difficult end-of-life care planning such as DNR order completion. Additionally, these results suggest the possible need for educational interventions targeting caregivers and family members around the necessity of ACP and completion of advance directives. If family members hold a strong influence on patients' decision-making, it could be beneficial to target them as well around the importance of engaging in ACP and completing advance directives.

One major strength of the present study is its documentation of specific coping strategies that patients utilize to cope with advanced cancer. Thus, the present study was able to examine the moderating effects of Latino ethnicity on the relationship between the use of emotional support and advance directive completion. Namely, the present study provides compelling evidence that the use of emotional support has differential effects on Latino patients' and non-Latino patients' DNR order completion behaviors.

Limitations

The present study contributes novel and relevant findings regarding differential effects of the use of emotional support on Latino patients' and non-Latino patients' DNR order completion. Nevertheless, there are limitations that should be considered in interpreting the findings. First, because the timing of advance directive completion was not assessed in the present study, it is unclear at what point in time patients completed their advance directives. Thus, it is unclear if the use of emotional support directly

influenced DNR order completion. Second, although the present study found moderating effects of Latino ethnicity on the relationship between use of emotional support and DNR order completion, it did not identify mechanisms by which the use of emotional support might differentially affect these outcomes. Future research should examine potential mechanisms that may underlie the differential effects of coping strategies, such as the use of emotional support, on advance directive completion among non-Latino patients (relative to Latino patients). Third, although use of propensity score weights in the present study allowed us to isolate effects of use of emotional support on completion of advance directives by effectively minimizing sociodemographic differences between the Latino and non-Latino groups, there are almost certainly actual sociodemographic differences between these 2 groups (evident in Table 1) that may influence the studied variables in ways that are not examined in the present analysis. Finally, the present study likely included well-educated Latino patients, given the large number of academic medical centers included in the study. As such, the present results may not generalize to a broader Latino population. Despite these limitations, our findings indicate that a positive coping strategy, that is, use of emotional support, is associated with lower rates of DNR completion among Latino patients as compared to non-Latino patients. This finding is important to consider when promoting certain forms of positive coping strategies among advanced cancer patients ordinarily deemed to be beneficial.

Conclusions

Findings from the present study indicate that coping strategies differentially affect advance directive completion among Latino patients compared to non-Latino patients. Present study findings indicate that use of emotional support as a coping strategy may not support engagement in ACP among Latino patients who are at the end of life. This study highlights the need to understand more clearly how coping strategies may operate differently among advanced cancer patient populations of varying ethnic backgrounds. It is critical for health-care providers to consider how best to improve both non-Latino patients' and Latino patients' abilities to use effective coping strategies for their advanced cancer diagnoses and ultimately engage in ACP and plan for end-of-life care through the completion of advance directives. Moreover, it is important to understand the role of caregivers and family members in influencing patients' medical care decision-making and developing tools to help educate family members as well as patients on the importance of engaging in ACP.

Funding. This research was supported in part by the following grants: K07CA207580 (M.J.S.) and CA197730 (H.G.P.) from the National Cancer Institute, MD007652 (P.K.M. and H.G.P.) from the National Institute on Minority Health and Health Disparities, and UL1 TR002384 (Weill Cornell

Medicine CTSC) from the National Center for Advancing Translational Sciences.

Conflicts of interest. The authors have no conflicts of interest to report.

Ethical approval. All study procedures were approved at each Institution's IRB. All procedures were conducted in accordance with the required ethical guidelines for protection of human subjects in research. Informed consent was obtained from each participant in the present study.

References

- Blackhall LJ, Frank G, Murphy ST, *et al.* (1999) Ethnicity and attitudes towards life sustaining technology. *Social Science & Medicine* **48**(12), 1779–1789. doi:10.1016/S0277-9536(99)00077-5
- Braun UK, McCullough LB, Beyth RJ, *et al.* (2008) Racial and ethnic differences in the treatment of seriously ill patients: A comparison of African-American, Caucasian and Hispanic veterans. *Journal of the National Medical Association* **100**(9), 1041–1051. doi:10.1016/S0027-9684(15)31442-5
- Brinkman-Stoppelenburg A, Rietjens JA and van der Heide A (2014) The effects of advance care planning on end-of-life care: A systematic review. *Palliative Medicine* **28**(8), 1000–1025. doi:10.1177/0269216314526272
- Carr D (2011) Racial differences in end-of-life planning: Why don't Blacks and Latinos prepare for the inevitable? *OMEGA – Journal of Death and Dying* **63**(1), 1–20. doi:10.2190/OM.63.1.a
- Carr D (2012) Racial and ethnic differences in advance care planning: Identifying subgroup patterns and obstacles. *Journal of Aging and Health* **24**(6), 923–947. doi:10.1177/0898264312449185
- Carrion IV, Nedjat-Haiem F, Macip-Billbe M, *et al.* (2017) “I told myself to stay positive” perceptions of coping among Latinos with a cancer diagnosis living in the United States. *American Journal of Hospice and Palliative Medicine* **34**(3), 233–240. doi:10.1177/1049909115625955
- Carver CS (1997) You want to measure coping but your protocol's too long: Consider the brief cope. *International Journal of Behavioral Medicine* **4**(1), 92. doi:10.1207/s15327558ijbm0401_6
- Carver CS, Pozo C, Harris SD, *et al.* (1999) How coping mediates the effect of optimism on distress: A study of women with early stage breast cancer. *Journal of Personality and Social Psychology* **65**(2), 375–390. doi:10.1037/0022-3514.65.2.375
- Davis A (1995) Ethics and ethnicity: End-of-life decisions in four ethnic groups of cancer patients. *Medicine and Law* **15**(3), 429–432.
- Duffy SA, Jackson FC, Schim SM, *et al.* (2006) Racial/ethnic preferences, sex preferences, and perceived discrimination related to end-of-life care. *Journal of the American Geriatrics Society* **54**(1), 150–157. doi:10.1111/j.1532-5415.2005.00526.x
- Garrido MM, Balboni TA, Maciejewski PK, *et al.* (2015) Quality of life and cost of care at the end of life: The role of advance directives. *Journal of Pain and Symptom Management* **49**(5), 828–835. doi:10.1016/j.jpainsymman.2014.09.015
- Gutheil IA and Heyman JC (2006) “They Don't Want to Hear Us” Hispanic elders and adult children speak about end-of-life planning. *Journal of Social Work in End-of-Life & Palliative Care* **2**(1), 55–70. doi:10.1300/J457v02n01_05
- Hagan TL, Fishbein JN, Nipp RD, *et al.* (2017) Coping in patients with incurable lung and gastrointestinal cancers: A validation study of the Brief COPE. *Journal of Pain and Symptom Management* **53**(1), 131–138. doi:10.1016/j.jpainsymman.2016.06.005
- Hanchate A, Kronman AC, Young-Xu Y, *et al.* (2009) Racial and ethnic differences in end-of-life costs: Why do minorities cost more than whites? *Archives of Internal Medicine* **169**(5), 493–501. doi:10.1001/archinternmed.2008.616
- Kershaw T, Northouse L, Kritpracha C, *et al.* (2004) Coping strategies and quality of life in women with advanced breast cancer and their family caregivers. *Psychology & Health* **19**(2), 139–155. doi:10.1080/08870440310001652687
- Kwak J and Haley WE (2005) Current research findings on end-of-life decision making among racially or ethnically diverse groups. *The Gerontologist* **45**(5), 634–641. doi:10.1093/geront/45.5.634
- Lackan NA, Eschbach K, Stimpson JP, *et al.* (2009) Ethnic differences in in-hospital place of death among older adults in California: Effects of individual and contextual characteristics and medical resource supply. *Medical Care* **47**(2), 138–145. doi:10.1097/MLR.0b013e3181844dba
- Lichtenthal WG, Viola M, Rogers M, *et al.* (2021) Development and preliminary evaluation of EMPOWER for surrogate decision-makers of critically ill patients. *Palliative & Supportive Care* **20**(2) 167–177. doi:10.1017/S1478951521000626
- Lutgendorf SK, Anderson B, Rothrock N, *et al.* (2000) Quality of life and mood in women receiving extensive chemotherapy for gynecologic cancer. *Cancer: Interdisciplinary International Journal of the American Cancer Society* **89**(6), 1402–1411. doi:10.1002/1097-0142(20000915)89:6<1402::AID-CNCR26>3.0.CO;2-H
- Lutgendorf SK, Anderson B, Ullrich P, *et al.* (2002) Quality of life and mood in women with gynecologic cancer: A one year prospective study. *Cancer* **94**(1), 131–140. doi:10.1002/cncr.10155
- Maciejewski PK, Phelps AC, Kacel EL, *et al.* (2012) Religious coping and behavioral disengagement: Opposing influences on advance care planning and receipt of intensive care near death. *Psycho-Oncology* **21**(7), 714–723. doi:10.1002/pon.1967
- Mack JW, Weeks JC, Wright AA, *et al.* (2010) End-of-life discussions, goal attainment, and distress at the end of life: Predictors and outcomes of receipt of care consistent with preferences. *Journal of Clinical Oncology* **28**(7), 1203–1208. doi:10.1200/JCO.2009.25.4672
- Mead EL, Doorenbos AZ, Javid SH, *et al.* (2013) Shared decision-making for cancer care among racial and ethnic minorities: A systematic review. *American Journal of Public Health* **103**(12), e15–e29. doi:10.2105/AJPH.2013.301631
- Pfeiffer E (1975) A short portable mental status questionnaire for the assessment of organic brain deficit in elderly patients. *Journal of the American Geriatrics Society* **23**(10), 433–441. doi:10.1111/j.1532-5415.1975.tb00927.x
- Smith AK, McCarthy EP, Paulk E, *et al.* (2008) Racial and ethnic differences in advance care planning among patients with cancer: Impact of terminal illness acknowledgment, religiousness, and treatment preferences. *Journal of Clinical Oncology* **26**(25), 4131–4137. doi:10.1200/JCO.2007.14.8452
- Stuart EA (2010) Matching methods for causal inference: A review and a look forward. *Statistical Science* **25**(1), 1–21. doi:10.1214/09-STS313
- Volandes AE, Ariza M, Abbo ED, *et al.* (2008) Overcoming educational barriers for advance care planning in Latinos with video images. *Journal of Palliative Medicine* **11**(5), 700–706. doi:10.1089/jpm.2007.0172
- Wright AA, Zhang B, Ray A, *et al.* (2008) Associations between end-of-life discussions, patient mental health, medical care near death, and caregiver bereavement adjustment. *JAMA: The Journal of the American Medical Association* **300**(14), 1665–1673. doi:10.1001/jama.300.14.1665
- Xu S, Ross C, Raebel MA, *et al.* (2010) Use of stabilized inverse propensity scores as weights to directly estimate relative risk and its confidence intervals. *Value in Health* **13**(2), 273–277. doi:10.1111/j.1524-4733.2009.00671.x
- Zhang B, Nilsson ME and Prigerson HG (2012) Factors important to patients' quality of life at the end of life. *Archives of Internal Medicine* **172**(15), 1133–1142. doi:10.1001/archinternmed.2012.2364
- Zhang B, Wright AA, Huskamp HA, *et al.* (2009) Health care costs in the last week of life: Associations with end-of-life conversations. *Archives of Internal Medicine* **169**(5), 480–488. doi:10.1001/archinternmed.2008.587