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ORIGINAL RESEARCH

Advance Care Planning: An Exploration of the Beliefs, Self-Efficacy, Education, and Practices of RNs and LPNs

Findings suggest several areas for essential research.

The body of research on advance care planning (ACP) has grown dramatically in recent years. It's essential that all nurses understand what ACP involves, both to be effective patient advocates and to exert leadership and facilitate the cultural changes necessary for promoting ACP across settings and organizations, as experts such as Izumi have noted.[1] In particular, the beliefs and experiences of nurses working in skilled nursing facilities will influence the effectiveness of ACP in such settings, as well as care transitions to other settings. We undertook this study because we wanted to learn more about the ACP-related beliefs and practices of RNs and LPNs in skilled nursing facilities.

BACKGROUND

ACP has many beneficial effects, ranging from patients' and family members' reports of improved quality of life to systemic effects like decreased hospital admissions and lower end-of-life–related costs.[2] Skilled nursing facilities offer distinct opportunities to further explore ACP, especially given that the proportion of older adults in the U.S. population continues to rise. Indeed, it's been projected that by 2020, up to 40% of Americans are expected to die in nursing homes.[3,4] Because residents in skilled nursing facilities have a high volume of encounters with providers, this type of setting was ideal for our research.

Studies examining ACP in nursing homes have often relied on "secondhand" data gathered from databases and chart reviews, and intervention studies have often focused on interventions at a single facility; moreover, such studies have often used the completion of ACP documents (such as advance directives) as a measure of ACP. That said, the research indicates that the presence of ACP varies. Active engagement in ACP in long-term care settings is often carried out only with a minority of older adults.[5,6] The reasons for this are complex. The literature describes numerous barriers to ACP, including patient-based factors, such as cognitive impairment and lack of family involvement; provider-based factors, such as lack of role clarity and discomfort in discussing ACP; and system-based factors, such as inadequate facility policies.[1,7-10]

In skilled nursing facilities, nurses—both RNs and LPNs—constitute the largest licensed group of providers in frequent and consistent close contact with residents. These daily encounters can and should lead to discussions that examine whether expected treatments align with the wishes, values, and beliefs of residents and their family members. Nurses are often the first to recognize a resident's deteriorating health and to interact with family members during such times; they are also often looked to for answers to questions about documents such as advance directives and do-not-resuscitate (DNR) orders. They may oversee care transition to other settings such as hospitals or hospices. Indeed, in a systematic review, Ke and colleagues found that nurses generally felt well positioned to take an active role in ACP facilitation, although they also expressed desires for more training and support.[11]

Study purpose. The purpose of this study was to compare the similarities and differences in ACP-related beliefs, sense of self-efficacy, education, and

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ABSTRACT

Objective: This study compared the advance care planning (ACP)–related beliefs, sense of self-efficacy, education, and practices of RNs and LPNs.

Methods: Data were extrapolated from a larger multisite study that was conducted across seven counties in one midwestern state. The sample consisted of RNs and LPNs working in 29 urban skilled nursing facilities in zip code areas with greater than 10% African American residents. The survey tool, a self-administered written questionnaire, gathered data on participants' demographics and ACP-related beliefs, sense of self-efficacy, education, and practices. The two main outcome variables were the percentage of residents with whom a nurse discussed ACP and the timing of the most recent such discussion.

Results: A total of 136 RNs and 178 LPNs completed the survey. Multivariate mixed-model analysis of the two main outcome variables showed that negative beliefs were not significantly associated with the percentage of residents with whom nurses discussed ACP but were significantly associated with the timing of the most recent ACP discussion. Having higher levels of ACP-related self-efficacy and education were significantly and positively associated with both outcome variables. RNs and LPNs did not differ significantly in their ACP-related beliefs, but RNs reported significantly higher levels of self-efficacy and education than LPNs did.

Conclusions: There has been a paucity of research comparing RNs and LPNs regarding their ACP practices in skilled nursing facilities. Better education and policies that empower nurses to take a more active role are critical to increasing conversations about ACP. Further research exploring how the complementary roles of RNs and LPNs can be used to improve ACP processes and inform ACP policies is needed.

Keywords: advance care planning, licensed practical nurses, LPNs, registered nurses, RNs, skilled nursing facilities

practices of RNs and LPNs working in skilled nursing facilities. We focused on RNs and LPNs because the roles are unique and complementary. A mutual understanding is vital to a team perspective that supports ongoing ACP discussions across settings and the life span.

METHODS

We used data from a larger multisite study that was conducted across seven counties in one midwestern state.[12] The data extrapolated from the larger study were drawn from selected urban skilled nursing facilities in zip code areas with greater than 10% African American residents. The larger study's main aim was to determine the impact of race and disease trajectories on nurses' and social workers' judgments about ACP. For the current analysis reported here, we had too few social workers to permit comparison with RNs and LPNs.

Sample. The original sample was recruited through letters sent to directors of nursing and licensed administrators at the aforementioned skilled nursing facilities. The initial letter explained the study; two weeks later, follow-up phone calls were made to the directors and administrators, asking for access to nurses to invite their participation. Of the 95 skilled nursing facilities that met our inclusion criteria, 29 (31%) participated. Reasons for facility nonparticipation included scheduling issues, administrative turnover, a need for corporate approval, and the demands of surveyor visits. In 33 instances, we could not reach a director or administrator despite at least three attempts; and one facility closed shortly after the initial recruitment letter was sent. At the participating facilities, several months often elapsed between the initial mail contact and data collection. Approval for the study was obtained from the institutional review board at the home institution of the primary investigator (one of us, KRB) before data collection began.

For the current analysis, the subsample consisted of 136 RNs and 178 LPNs from the 29 participating facilities. In the larger study, although we did obtain responses from all the providers who agreed to participate, we did not obtain responses from every provider within each facility. At any given facility, the percentage of providers completing surveys ranged from 5% to 100%, with an average of 54%. Without the two lower outliers (5% and 18%), the average percentage of providers was 67%.

Measures. The larger study used a multipart survey instrument. For this article, we analyzed the data gathered from several parts of that survey, including demographic characteristics and questions about ACP-related beliefs, sense of self-efficacy, education, and practices. With regard to beliefs, all of the items assessing beliefs were negative statements.

Demographic data included licensure, sex, race and ethnicity, age, years of service at the current facility, and percentage of time spent in direct contact with residents. Eleven items assessed respondents'

ACP-related negative beliefs and sense of self-efficacy using statements such as "I believe discussing advance care planning is too upsetting for residents and their families." Respondents answered via a 9-point scale, with 1 representing "strongly disagree" and 9 representing "strongly agree." An exploratory factor analysis indicated that these 11 items clustered into two separate factors or subscales. We then conducted a promax rotation, a statistical method that allows factors to be correlated when there is an association. Accordingly, three of the 11 items loaded on the ACP self-efficacy factor, including feeling confident about helping residents be actively involved in ACP planning and feeling that one's past personal experiences with ACP made it easier to have ACP discussions. Eight of the 11 items loaded on the ACP negative beliefs factor; these included believing that discussing ACP was too upsetting for residents, believing one's

Table 1. Respondent Demographics for the 136 RNs and 178 LPNs

	RNs[a] n (%)	LPNs[a] n (%)	Total Sample[a] n (%)	*P*
Sex[b]				0.65
Female	124 (91.85)	165 (93.22)	289 (92.63)	
Male	11 (8.15)	12 (6.78)	23 (7.37)	
Race and ethnicity[c]				
White	103 (76.3)	132 (75)	235 (75.56)	0.79
African American	21 (15.56)	35 (19.89)	56 (18.01)	0.32
Other	13 (9.63)	16 (9.09)	29 (9.32)	0.87
Age, years[d]				0.009
< 30	9 (6.67)	25 (14.2)	34 (10.93)	
30–39	26 (19.26)	43 (24.43)	69 (22.19)	
40–49	36 (26.67)	52 (29.55)	88 (28.3)	
50–59	39 (28.89)	43 (24.43)	82 (26.37)	
≥ 60	25 (18.52)	13 (7.39)	38 (12.22)	
Years at current skilled nursing facility				0.004
< 1	40 (29.41)	25 (14.04)	65 (20.7)	
1–4	42 (30.88)	56 (31.46)	98 (31.21)	
5–9	20 (14.71)	38 (21.35)	58 (18.47)	
10–14	9 (6.62)	27 (15.17)	36 (11.46)	
≥ 15	25 (18.38)	32 (17.98)	57 (18.15)	
Percentage of time in direct contact with residents				< 0.001
< 25	26 (19.12)	8 (4.49)	34 (10.83)	
25–49	37 (27.21)	14 (7.87)	51 (16.24)	
50–74	21 (15.44)	23 (12.92)	44 (14.01)	
> 75	52 (38.24)	133 (74.72)	185 (58.92)	

[a] Some values may not sum to 136, 178, or 314 because of missing responses.
[b] n = 135 RNs; n = 177 LPNs; n = 312 total.
[c] Values sum to more than 136, 178, and 314 because participants could identify as more than one race or ethnicity (however, percentages were determined by the total number who responded to this question: n = 135 RNs; n = 176 LPNs, n = 311 total). "Other" included respondents identifying as Hispanic, American Indian/Alaskan Native, and Asian American, among others; because these were small subgroups, we combined values under "Other" to preserve anonymity.
[d] n = 135 RNs; n = 176 LPNs; n = 311 total.

knowledge was inadequate, and believing that initiating ACP discussions was outside one's role. Possible total scores ranged from 3 to 27 for self-efficacy and from 8 to 72 for negative beliefs. Total scores for each scale were then divided by the number of items, resulting in a range of 1 to 9 for the analysis. Internal consistency was acceptable for both scales (Cronbach α, 0.74 for the self-efficacy scale and 0.78 for the negative beliefs scale).

Eight questions assessed respondents' ACP-related education. Respondents were asked to what extent they had received training or education on discussing the following with residents and families: goals of care, prognosis, benefits and burdens of treatments, durable power of attorney, living wills, DNR orders, do-not-hospitalize orders, and physician and medical orders for life-sustaining treatment (POLST/MOLST) forms. Each item was rated on a 5-point scale, with 1 indicating "none" and 5 indicating "a lot." Possible total scores ranged from 8 to 40.

Four practice questions captured respondents' personal and professional experiences with ACP. Two questions, answerable with yes or no, assessed respondents' personal experiences: whether they had an advance directive in place and whether they had ever assisted a friend or family member with ACP. Two questions were aimed at measuring respondents' professional practices quantitatively. To assess the overall extent of ACP discussions, we asked, "What percent of residents do you typically discuss ACP [with]?" Possible answers were "less than 25%," "between 25% and 49%," "between 50% and 75%," and "over 75%." To assess continuity of attention to changes in patients' status, we asked, "How long ago was your last discussion with a resident or family member regarding ACP?" Possible answers were "within the past week," "within the past month," "within the past six months," "over six months ago," and "never." Respondents were not provided with a specific script regarding what was meant by discussing ACP. But most of these questions were in the last section of the survey questionnaire, after the education and policy sections that referred to several types of ACP discussions (such as about DNR orders, advance directives, durable power of attorney, and changes in care plans).

Data analyses. Bivariate tests (χ^2 and *t* tests) were conducted to examine for differences between RNs and LPNs regarding demographics and ACP-related negative beliefs, sense of self-efficacy, education, and practices. Data analyses using the GLIMMIX procedure in SAS, version 9.4 (SAS Institute, Inc., Cary, NC) allowed us to predict the two professional practice variables. Fixed effects included the beliefs scale, the self-efficacy scale, the education scale, and the RN-versus-LPN variable. We also adjusted for variables that differed between RNs and LPNs, including age, years of service, and amount of direct contact with residents. Lastly, we adjusted for the random effects of the research sites.

Table 2. Mean Scores for Respondents' ACP-Related Negative Beliefs, Sense of Self-Efficacy, and Education

	RNs mean (SD)	LPNs mean (SD)	*P*
Negative beliefs	2.53 (1.33)	2.82 (1.49)	0.08
Sense of self-efficacy	6.87 (1.96)	6.20 (2.15)	0.005
Education	27.00 (7.50)	24.86 (7.74)	0.02

RESULTS

The sample consisted of 136 RNs and 178 LPNs employed at the 29 skilled nursing facilities. The two groups did not differ significantly by sex or race; most respondents were female (93%) and white (76%). There were significant differences in age, years at current facility, and time in direct care. LPNs were generally younger than RNs, had more years of service within their current facility, and spent more time in direct contact with residents. (See Table 1 for more demographic details.)

Active engagement in ACP in long-term care settings is often carried out only with a minority of older adults.

With regard to ACP-related negative beliefs, there was no significant difference in the overall scores for RNs and LPNs. But we did find some differences in answers to certain items. Compared with RNs, LPNs were significantly more likely to agree with the statement "I believe it is not my role to initiate discussions about ACP." LPNs were also more likely to agree with the statement "I do not know enough about diseases and their progression to initiate ACP discussions," although this difference fell just short of significance. RNs scored significantly higher than LPNs overall with regard to sense of self-efficacy and training pertaining to ACP. (See Table 2 for differences between RNs and LPNs in negative beliefs, sense of self-efficacy, and education.)

Regarding ACP-related personal practices, there were no significant differences between RNs and LPNs. Thirty-three percent of RNs and 26% of LPNs reported having an advance directive in place for themselves, and 79% of RNs and 80% of LPNs reported having assisted family members or friends with

ACP. There were also no significant differences between RNs and LPNs regarding ACP-related professional practices. About half of RNs (47%) and LPNs (51%) reported having discussed ACP with less than 25% of residents; the percentages of RNs and LPNs who reported having such discussions with higher proportions of residents were also similar. Overall, the reported timing of the most recent ACP discussions was similar across time-span categories for both groups. That said, 71% of RNs and 58% of LPNs reported having discussed ACP "within the past month," a statistically significant difference.

Lastly, we conducted two multivariate mixed-model analyses, with one model predicting the percentage of residents with whom a nurse discussed ACP and the other model predicting how recently the last ACP discussion took place. We looked at whether RN or LPN licensure or whether ACP-related negative beliefs, sense of self-efficacy, or education were predictive of either practice. We also adjusted for fixed effects of age, years of service at the skilled nursing facility, amount of direct contact with residents, and random effects of the facility site. We found no differences between RNs and LPNs in predicting either practice. We did find associations between ACP-related negative beliefs and both the percentage of residents with whom nurses discussed ACP and the timing of the most recent discussion, although only the latter association was significant. Nurses' sense of self-efficacy and education were also each significantly associated with both practices.

To better illustrate these associations, we split the scale scores into quartiles and plotted these on graphs. Figure 1 shows the impact of negative beliefs, sense of self-efficacy, and education on the percentage of residents with whom the respondents discussed ACP. At each increasing level of negative beliefs, nurses discussed ACP with a lower percentage of residents. In contrast, with each increasing level of self-efficacy and education, nurses discussed ACP with a higher percentage of residents. Figure 2 shows the impact of negative beliefs, sense of self-efficacy, and education on the timing of the most recent ACP discussion, which we consider a more sensitive indicator of nurses' continuity of attention to patients' status. Nurses with fewer negative beliefs and higher levels of self-efficacy and education had the most recent ACP discussions.

DISCUSSION

As might be expected, there were demographic similarities and differences between the two groups of nurses. Both groups were predominantly white, female, and had age distributions reflective of the majority of the nursing workforce in the United States, although data from the most recent National Nursing Workforce Survey show greater diversity among LPNs than RNs.[13] We also found that, consistent with the literature, RNs reported spending less time in direct contact with residents than LPNs did.[14, 15]

We found that RNs and LPNs had similar levels of ACP-related negative beliefs. But the groups differed in that, compared with RNs, LPNs reported

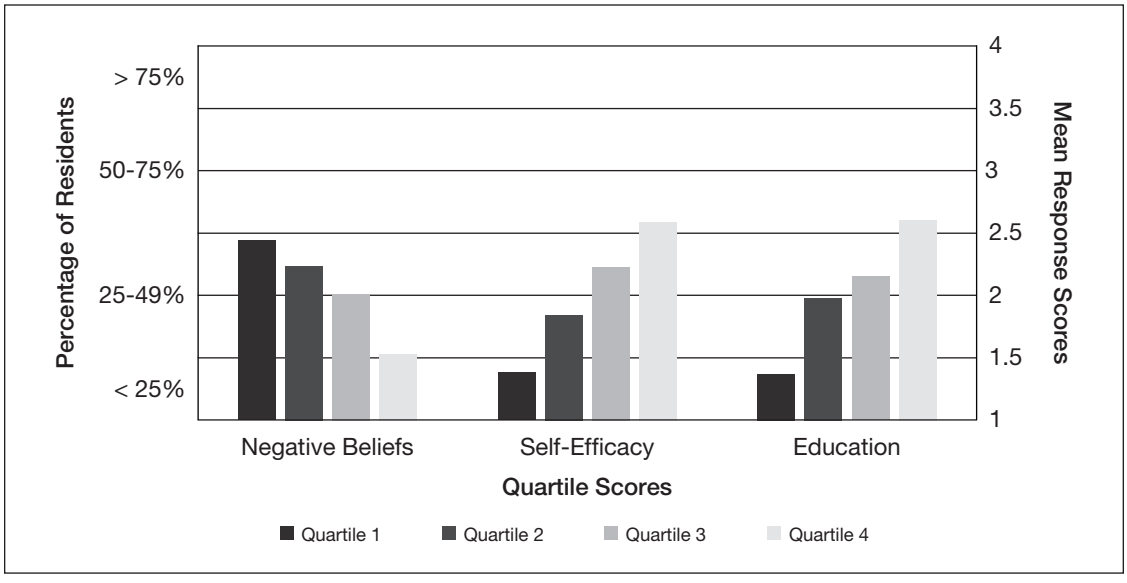

Figure 1. Responses to the survey question "What percent of residents do you typically discuss advance care planning [with]?" are shown as mean response scores divided into quartiles. Quartile 4 indicates the highest levels of negative beliefs, sense of self-efficacy, and education. At each increasing level of negative beliefs, nurses discussed ACP with a lower percentage of residents.

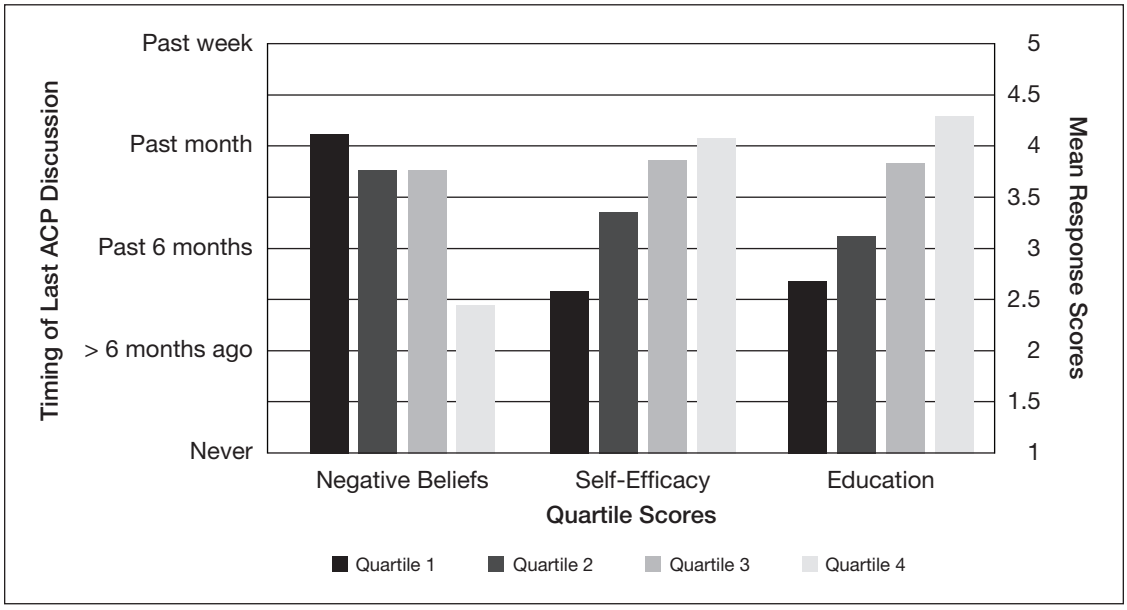

Figure 2. Responses to the survey question "How long ago was your last discussion with a resident or family member regarding advance care planning?" are shown as mean response scores divided into quartiles. Quartile 4 indicates the highest levels of negative beliefs, sense of self-efficacy, and education. Nurses with fewer negative beliefs and higher levels of self-efficacy and education had the most recent ACP discussions.

feeling less knowledgeable about diseases and disease progression and were less likely to see ACP as part of their role. These differences may be related to the fact that RNs reported feeling greater ACP-related self-efficacy and having more ACP-related education. Given that RNs generally receive more comprehensive didactic and clinical education than LPNs, and that RNs tend to handle more administrative duties,[15] these results may not be surprising. But most of the research examining ACP and practice roles has used the generic term *nurse* for RNs, LPNs, and advanced practice RNs.[11,16] We found no relevant studies that specifically examined the role of LPNs or differentiated their knowledge and skills from those of RNs.

Regarding professional practices, we found no significant differences between RNs and LPNs either in the percentage of residents with whom they held ACP discussions or in the timing of the most recent such discussion. Negative beliefs were not significantly associated with the percentage of residents with whom respondents discussed ACP but were significantly associated with the timing of the most recent discussion. The former finding might reflect the small sample size; possibly a larger sample was needed to reveal an association. The latter finding was not surprising because ACP discussions often take place in the context of advanced disease.[17,18] Indeed, in earlier research we found that nurses were more likely to decide that ACP was needed when patients had rapidly declining health, decreasing functionality, or were at higher risk for hospitalization.[12] It stands to reason that nurses' attitudes toward ACP might become more evident during stressful times than when a resident's health is stable. Lastly, a higher sense of self-efficacy and more education were each associated with discussing ACP with a greater percentage of residents and with having a more recent discussion.

These findings are similar to those reported by Coffey and colleagues, who conducted a five-country study exploring RNs' knowledge about and administration of advance directives in end-of-life care.[19] Across all five countries, increased education and confidence were significantly and positively correlated with more comprehensive end-of-life care. It's important to note that advance directives are only one component of ACP and that ACP should be carried out well before the end of life.[20] It's also interesting that, in a study among RNs in the same state as that in our study, Lipson and colleagues found that higher self-confidence about discussing advance directives with patients was correlated with a higher probability of such discussions.[21]

Limitations of our study include recruitment and sampling methods, as well as the use of self-report. We invited skilled nursing facilities to participate, but our access to individual nurses was limited by several factors, including scheduling issues and time constraints. Administrative biases with regard to ACP could have played a role in whether a facility agreed or declined to participate; and individual nurses' biases

could similarly have influenced RNs' and LPNs' participation at a given facility. Furthermore, nurse participation was by convenience, and not all nurses in each facility participated; in one facility, the participation rate was only 5%. The use of self-report was also a limitation. Some respondents may have reported their beliefs and practices based on what they felt were socially desirable answers. And although we included two measures of ACP-related professional practice that asked respondents for quantifiable answers, we could not verify those amounts in actual ACP practice.

CONCLUSIONS AND RECOMMENDATIONS

Despite having more contact with residents, the LPNs in our study did not view their role in ACP to be as critical as the RNs did. Yet these differences did not manifest in practice when LPNs had fewer negative beliefs, a higher sense of self-efficacy, and more education. Clearly, ACP-related education is central to whether and how nurses implement ACP. Such education in the form of ongoing staff training, as well as in nursing school curricula and continuing education, is essential to facilitating the cultural changes necessary for promoting ACP. Nurse educators should continue to monitor and evaluate the ACP content of their didactic and clinical teachings.

Clarifying discussions about ACP policies and guidelines should be undertaken by direct care nurses and their managers. Topics to discuss are ACP roles and responsibilities, including dialogue about one's beliefs, confidence, and past education on the topic.

Our findings, and the lack of research specifically examining the roles of RNs and LPNs in skilled nursing facilities, point to work that still needs to be done. Future research should investigate the differences and similarities between RNs' and LPNs' roles in ACP and explore how RNs and LPNs might best collaborate to achieve optimal ACP outcomes. The results of this study also illustrate the need for further exploration into effective models for education and policy at the levels of individual facilities and health care systems, as well as across professions. Skilled nursing facility administrators and quality improvement teams could observe trends in how RNs and LPNs vary in their approaches to ACP, then consider how those observations can help improve policies at their institutions. ▼

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