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Revising the Preferences for Everyday Living Inventory for Use In the Nursing Home

Kim Curyto, PhD, **Kimberly S. Van Haitsma, PhD**, **Gail L. Towsley, PhD, NHA**
Dr. Curyto is Community Living Center Psychologist, Veterans Administration, Western New York Healthcare Service, Batavia, New York; Dr. Van Haitsma is Associate Professor and Director, Program for Person Centered Living Systems of Care, College of Nursing, Pennsylvania State University, University Park, Pennsylvania; and Dr. Towsley is Assistant Professor, University of Utah College of Nursing, Salt Lake City, Utah.

Abstract

A valid tool is needed to assess preferences that are relevant and important to nursing home (NH) residents. Originally developed for older adults receiving home care services, the authors adapted the Preferences for Everyday Living Inventory (PELI) for use with NH residents. Content validity was initially established using a panel of experts in long-term care. PELI items were cognitively interviewed with 31 Veteran and 39 non-Veteran participants ($N = 70$). Responses from cognitive interviewing guided substantial revisions of the PELI (>25% of items) to include language that NH residents use and understand, reducing potential measurement error and ensuring the preferences assessed are relevant to NH residents. Future work will further adapt the PELI for use with more diverse groups and health care settings, and assess its psychometric properties. Using the PELI will help move clinical teams closer to the goal of providing person-centered care informed by individual preferences.

The culture change movement in long-term care aims to transform the nation's nursing homes (NHs) by empowering staff, creating home-like environments, and delivering *person-centered care* (PCC). Moving care away from a narrowly defined "medical" model, PCC is a holistic, biopsychosocial model in which all aspects of a resident's life, including social, psychological, spiritual, and medical, are regarded as important. Several theoretical models of PCC have been developed that include a range of concepts (McCormack, Roberts, Meyer, Morgan, & Boscart, 2012) and agree that one concept is central: the importance of knowing the individual. White, Newton-Curtis, and Lyons' (2008) definition of what it means to know the individual was used for the current study:

> Each person is unique with his/her own life story, cultural experiences, personality, and pattern of daily living—or daily habits, values, needs, and preferences. Knowing the person includes knowing what is important to that person. Care involves supporting continuity between who the person has been and who the person is now by providing care in a manner consistent with that person's biography.

Address correspondence to Kim Curyto, PhD, Community Living Center Psychologist, Veterans Administration, Western New York Healthcare Service, 222 Richmond Avenue, Batavia, NY 14020; kimberly.curyto@va.gov.

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Evidence suggests that PCC is an important element in promoting positive care outcomes. The integration of knowledge about individuals' preferences into care is related to improved decision making about care services (Whitlatch, Judge, Zarit, & Femia, 2006); enhanced quality of care outcomes, such as food intake (Simmons & Schnelle, 2004) and continence (Thompson & Smith, 1998); increased satisfaction with care (Applebaum, Straker, & Geron, 2000); and positive quality of life outcomes, such as decreased agitation (Gerdner, 2000) and increased positive affect and well-being (Lawton et al., 1998; Van Haitsma et al., 2013). Theoretical models of quality of life suggest that environmental factors, such as quiet, psychosocial factors (e.g., access to meaningful and a variety of activities, relationships, social contact), internal need states (e.g., autonomy, dignity, privacy, spiritual well-being, feeling comfortable and safe), and individual functioning (e.g., functional competence and health), all contribute to NH resident quality of life (Kane et al., 2003; Schenk, Meyer, Behr, Kuhlmey, & Holzhausen, 2013). High scores in the quality of life domains of dignity and spiritual well-being have been shown to predict overall satisfaction of NH residents (Burack, Weiner, Reinhardt, & Annunziato, 2012).

Numerous tools assessing satisfaction of NH residents exist (Castle, 2007), but a tool to comprehensively assess personal preferences in NH settings to assist staff in implementing PCC and improve care outcomes is needed. Current methods of assessing preferences for everyday living are narrow in scope, missing broader assessment issues of capturing all NH residents' most important preferences, as determined by the residents. The Centers for Medicare and Medicaid Services' mandated Minimum Data Set (MDS 3.0) was revised to include 18 preference items in the resident preference assessment tool (Housen et al., 2008). Alternatively, tools exist that assess specific areas of preferences, such as toileting (Thompson & Smith, 1998), self-care (Cohen-Mansfield & Jensen, 2007b,c), and recreational and social activities (Kolanowski, Litaker, & Buettner, 2005; Meeks, Shah, & Ramsey, 2009; Richards, Beck, O'Sullivan, & Shue, 2005). No measure assesses comprehensively the preferences most important to NH residents.

The PELI was initially developed using a group of more than 500 community-dwelling older adults to be a comprehensive questionnaire about individual preferences for everyday living that covered five conceptual areas of psychosocial preferences; Carpenter, Van Haitsma, Ruckdeschel, and Lawton (2000) and Van Haitsma et al. (2013) provided detailed information on original tool development. The PELI includes items from the preference assessment tool as well as other personal preferences identified as important by older adults in the community. The PELI was considered an ideal tool to be revised to assess preferences, using language most important to NH residents. Because the PELI is not a tool measuring a construct (e.g., depression, function) and does not use a nomothetic approach, the authors did not focus on traditional measurement design features (e.g., consistency, factor analysis) for independent constructs. *Preferences* are viewed as idiosyncratic representations of the way individuals like to meet psychological needs. A methodological approach is described that ensures each item is understandable and reflects a preference important to NH residents.

OBJECTIVE

The PELI was revised for use in the NH population by (a) establishing content validity using an expert panel, (b) examining the content and meaning of preference items through cognitive interviewing of NH residents with and without cognitive impairment, and (c) adapting the PELI to include NH resident language and perspectives on what preferences are most important to them. Participants included residents from a Veteran community living center (CLC) and non-Veteran NH.

METHOD

Measures

Cognition.—The Modified Mini-Mental State Examination (3MS; Teng & Chui, 1987) and Mini-Mental State Examination (MMSE; Tombaugh, McDowell, Kristjansson, & Hubley, 1996) are well-validated screening measures to estimate levels of cognitive functioning in older adults. Higher scores on these measures indicate more intact cognitive functioning. To evaluate cognition, the 3MS was used in the Veteran group and the MMSE in the non-Veteran group, using cutoffs from previous research. A 3MS cutoff of greater than the second percentile, based on norms for age and education (Jones et al., 2002), was used to determine eligibility in the Veteran group to include residents with moderately impaired to intact cognitive functioning. A cutoff on the MMSE of 22 or more was used to determine eligibility in the non-Veteran group to include residents with mildly impaired to intact cognitive functioning (Housen et al., 2008). MMSE items were pulled from the 3MS to calculate an MMSE score for the Veteran group to compare scores with the MMSE scores in the non-Veteran group.

Psychosocial Preferences.—Preferences were measured using the PELI. The original PELI comprised 55 items assessing the level of importance of preferences in the areas of *social contact*, *growth activities*, *leisure activities*, *self-dominion*, and *enlisting others in care*. PELI items are rated on a Likert-type scale, where 0 = *very important*, 1 = *somewhat important*, 2 = *not very important*, and 3 = *not important at all*; lower scores reflect stronger preferences, consistent with scoring on the MDS 3.0. The MDS 3.0 response option of *important but can no longer do* was recorded and respondents were encouraged to rate the importance of the preference if they had assistance or could engage in or meet the preference, despite perceived barriers. A second level of assessment consisted of nested questions in both dichotomous (*yes*/*no*) and open-ended formats asking about detailed information for the specific preference endorsed as important.

Participants and Setting

Participants were recruited from 90 beds in the CLC in western New York VA and from 1,496 total beds across seven NHs in eastern Pennsylvania. Recruitment and consent procedures received institutional review board approval for all sites. Criteria for participant selection included: age 55 or older, a 3MS score of the third percentile or higher in the Veteran group and an MMSE of 22 or greater in the non-Veteran group, a resident of the facility for at least 1 week, and medically stable as determined by the medical provider.

Of 75 potential Veteran residents available, 13 were determined by their medical provider to be medically unstable; 14 did not meet criteria for length of stay or age, or were determined not cognitively able to participate; and 11 were determined not able to provide consent and legal representatives were not successfully contacted. Thus, 37 residents met inclusion criteria and 34 agreed to participate. One participant was discharged before interviewing could commence and two did not meet qualifying criteria on the 3MS, leaving 31 participants.

Eighty non-Veteran residents were identified and referred by seven NHs across Eastern Pennsylvania; one resident was determined by his or her medical provider to be medically unstable. Thus, 79 residents met inclusion criteria and 66 agreed to participate. Twenty-two participants were not available for interviews, two did not understand the consenting process, and three did not meet qualifying criteria on the MMSE, leaving 39 participants. A total of 70 participants, including 31 Veteran residents (41%) and 39 non-Veteran residents (48%), participated in interviews.

The Veteran CLC and non-Veteran NH groups had many similarities, but were also different (Table 1). On average, participants were in their mid-70s, Caucasian, and graduated from high school. Distinctively, the Veteran group was primarily male and more likely to be married or divorced/separated than the non-Veteran group. On average, both populations had stayed in their residence for 2 years, although the Veteran group demonstrated greater variability in length of stay. Average scores on the MMSE were similar, with greater variability in the Veteran group than the non-Veteran group.

PROCEDURE

Expert Panel

The content validity of the PELI was initially examined, addressing the judgment-quantification stage of content validity as outlined by Lynn (1986) by using a panel of 16 experts in long-term care (i.e., eight with research expertise and eight with clinical experience in the areas of direct care, nursing, activity therapy, occupational therapy, dietary, social work, environmental services, and administration). A survey requested the expert panel rate 67 items and the PELI on a 4-option rating scale, ranging from *not relevant* to *relevant to long-term care*. Eleven expert researchers ($n = 6$) and clinicians ($n = 5$) completed the survey, meeting the maximum recommended number of content validity judges. The minimum number of judges who must agree on validity of the items was established as nine of 11 judges by applying the standard error of proportion to reach the 0.05 level of significance (Lynn, 1986). Items retained were rated *relevant with minor alteration* or *fully relevant and succinct*. This liberal content validity approach allowed retaining more items to be evaluated by NH residents during cognitive interviewing.

Cognitive Interviewing

Cognitive interviewing is used to examine the language and meaning of items and adapt a measurement tool for use with different groups in alternative settings (Sullivan et al., 2013; Willis, 2005). To revise the PELI, cognitive interviewing was a useful approach to assess

each preference item separately to ensure it reflected the language used by NH residents to describe preferences important to them. The authors trained the research interviewers in the cognitive interviewing process following methods outlined in previous work (Beck, Towsley, Berry, Brant, & Smith, 2010; Housen et al., 2008). The research team modified the semistructured interview protocol. Items were rated on a 4-point Likert scale, which was shown to participants in large (size = 48) type font. Responses ranged from 0 = *very important* to 3 = *not important at all*. Interviewers asked residents each preference question with the stem, "How important is it to you to…?" After each response, interviewers immediately asked related scripted probes, followed by additional prompts when needed to further assess the resident's understanding and reason for response (Table 2). Cognitive interviews were audiorecorded and behavior observations were noted by the interviewer. Weekly research team meetings addressed questions and concerns about process and technique.

Each PELI item was tested by interviewing a minimum of five participants from the Veteran group. If a problem was identified, the team decided to keep interviewing the item with the same or a new participant or revise the wording and re-interview the item. Interview responses occasionally revealed a new preference area that led to the creation of a new item. For example, during interviews about the preference to participate in household activities, participants indicated the importance of outdoor activities. Cognitive interviewing continued for each item until there were at least five consecutive responses that indicated the item was meaningful and understood accurately using familiar language. The same procedures were followed with non-Veteran participants. When difficulty with an item was determined, cognitive interviewing was conducted using the same process until five consecutive responses indicated accurate understanding of the item and its importance.

Veteran Cognitive Interviewing

Of 72 original PELI items, 18 were previously subjected to cognitive interviewing by the developers of the MDS 3.0, Section F, Preferences for Customary Routine and Activities (Housen et al., 2008) and were not included in cognitive interviewing with Veteran participants. Thus, 54 original items were subjected to the cognitive interviewing process with the Veteran group. Fifteen new items were created as a result of analyses from responses, totaling 69 cognitively interviewed items. When problems were identified, resulting in further testing, one or two additional interviews were needed to arrive at a disposition.

Non-Veteran Nursing Home Cognitive Interviewing

Eighty-five PELI items were interviewed with a non-Veteran NH group, including the 18 preference items from the MDS 3.0 and 67 items retained from Veteran cognitive interviewing. Ten new items were created as a result of analyses from responses, totaling 95 cognitively interviewed items. When interviews indicated the need for further testing, one to five additional interviews were necessary to arrive at a disposition.

Analysis

Verbatim responses and observations were reviewed independently by team members prior to weekly meetings. Summaries categorized participant responses about content, wording, and meaning, and were carefully reviewed by the research team. There are many ways the research team identified potential problems with the item wording, including: (a) observations of hesitation, difficulty remembering or understanding items, and the number of clarifications needed when deciding on importance rating; (b) identifying discordance between responses to probes and item ratings; and (c) difficulties responding with specifics to the probes. Question Appraisal System (QAS-99) (Willis & Lesser, 1999) coding guidelines were followed to characterize the item problem into one of the following categories: readability, instructions, clarity, assumptions, knowledge or memory, sensitivity or bias, response categories, and an “other” category for any issues not covered.

Problems identified were addressed based on procedures from previous work to determine whether revisions were needed (Beck et al., 2010; Housen et al., 2008; Willis 2005). Group consensus was used to identify problematic items, code reasons for item difficulty, and develop alternative wording and new items to be retested when reviewing responses. The research team made one of four final decisions about an item: *retain with no further testing, keep testing*, *reword and keep testing*, or *delete*.

RESULTS

Examining the Content and Meaning of PELI Preference Items

Responses of experts in residential long-term care were obtained to determine initial content validity of 67 PELI items. Based on these responses, 10 items were added, two were deleted, 20 had wording changed, and three were moved to a different domain. Items were added when those with double stems were split and based on a review of other instruments, resulting in a PELI tool of 72 items.

Adapting the PELI Based on Resident Perspective

Item changes were made based on interview responses indicating what preferences were relevant and most important to NH residents and included language that NH residents use and understand.

Item Changes Based on Veteran Interviews.—Of the 69 (i.e., 54 original and 15 new) items cognitively interviewed with the Veteran participants, 18 (26%) were modified, 16 were retained, and two were deleted. There were 23 wording changes across these 18 items and, based on QAS-99 coding guidelines, included eight changes for problems related to readability, eight for issues of item clarity, none for problems with response categories, four for assumptions, none for relying on knowledge and memory, and three for sensitivity and bias. Of the 15 new items, comprising 21% of PELI items interviewed, 10 were added when a new preference topic was uncovered based on participant responses and five were added based on wording used from previously existing preference measures (Cohen-Mansfield & Jenson, 2007a,b,c). Three items were deleted due to the perception that the topic was not an important psychosocial preference, had a lack of sensitivity or bias, and

overlapped with another related PELI item based on participant responses and nested as a detailed follow-up question to the overlapping item. Item disposition fell into one of four categories: (a) MDS item that was previously interviewed (n = 18); (b) item wording unambiguous and retained with no change (n = 51); (c) item wording changed and item retained (n = 16); and (d) item deleted (n = 3). This resulted in 85 items included in the PELI for use with Veteran NH residents.

Item Changes Based on Non-Veteran Interviews.—Of the 95 items (i.e., 67 original, 18 MDS, and 10 new) cognitively interviewed with non-Veteran participants, 20 (21%) were modified and retained. There were 28 wording changes across the 20 items and, using QAS-99 coding, 12 changes were for problems related to item clarity, 10 for issues with response categories, four for sensitivity and bias, and two for assumptions. There were no issues with readability or relying on knowledge and memory. Of the 10 items demonstrating response scale problems, eight were changed to include an open-ended question to prompt personal associations to the preference before it was rated and two added a preemptive *yes*/*no* question to ascertain the relevance of rating the preference of using tobacco products and low vision options for reading (Table 3). Of the 10 new items (11% of PELI items interviewed), two were added to the PELI tool based on wording from previously existing preference measures (Hulicka, Morganti, & Cataldo, 1975). Two original PELI items found to be double-barreled were split into separate preference items, resulting in four additional items. In addition, four items were created as a result of analyses from responses revealing new important preferences.

Of the 23 deleted items, nine were nested as a detailed follow-up question to an overlapping preference item to improve item clarity, 11 were deleted due to problems with item clarity, one was deleted due to overreliance on knowledge or cognitive abilities, one was deleted due to assumptions, and one was deleted due to poor readability. At completion, item disposition fell into three categories: (a) item wording retained without modification (n = 52); (b) item wording changed and item retained (n = 20); and (c) item deleted/not retained (n = 23). This resulted in 72 items in the PELI tool for use with NH residents (Appendix A, available in the online version of this article).

Results of the analysis of cognitive interviewing responses of the Veteran and non-Veteran participants demonstrated differences in identification of new preferences important to both groups and in understanding the response scale (Table 3). Items added based on interview responses from the Veteran group included the importance of respect, controlling bedroom lighting and temperature, bed arrangement, choices related to nail and mouth care, learning more about medical problems, being involved in outdoor activities and sports, and participating in ethnic traditions. Items deleted based on the Veteran group’s responses included the importance of sharing likes and dislikes with a caregiver and gambling on occasion. In contrast, responses from the non-Veteran group led to deleting many items, such as discussing personal things with caregivers, talking about spiritual matters, using non-traditional health care treatments, taking supplements to boost health, getting rehabilitation, using laxatives and suppositories, challenging activities, listening to the radio, spending time in your room, and watching surrounding activity. Many of these deleted items were nested as a detailed follow-up question to an overlapping item. Added items based on

non-Veteran group responses included choosing preferred name, medical care provider, who is involved in care discussions, and personalized bathroom needs.

Themes from Cognitive Interviews Across Multiple PELI Items

These observations were not included in the tally of item-specific problems or changes, but rather coded separately by three reviewers as themes related to the overall PELI.

Abstract concepts within preference instructions.—Initial instructions for the PELI included the directive to "imagine that you could do anything you want and that you were free from disability." This stance was chosen in an attempt to assess "pure" preferences, free from the constraint imposed by physical or cognitive limitations or the intransigence of the living environment found in many NHs and CLCs. However, resident feedback indicated that it was too difficult and abstract to make decisions based on circumstances that were not reflective of current reality. Therefore, the instructions were modified to read, "Some of the questions may ask about things you feel you can no longer do by yourself, but I'd like to know if these activities would be important to you if you could do them with assistance or find a way to do them."

Compound nature of response ratings.—Some residents were observed to have difficulty with rating importance of a preference, which included two concepts: (a) understanding whether they like a specific preference and (b) assessing the level of importance of a preference. The original PELI used the stem "do you like," but was changed to reflect the concept of rating level of importance. Response categories using the Likert rating scale were kept to indicate level of preference importance, despite occasional difficulty observed. In addition, based on resident feedback, numeric ratings were added in conjunction with verbal importance ratings to assist with identifying and communicating a rating for each preference.

Cognitive Complexity of Psychosocial Preferences.—Many of the PELI preference items included multiple concepts, requiring the respondent to hold onto more than one idea at a time and use this information to select a rating. For example, with the item, "How important it is for you to choose when to eat?", the concepts of "importance," "choice," "time of day," and "eating" must all be held in working memory and considered relative to each other before rating importance. Attempts were made to decrease the number of concepts that the PELI items referenced, but many preferences were expressed by participants during interviews as multifaceted and based on context, such as the importance of choice in timing of activities.

Situational Dependency and Importance of Context.—Based on interview responses, some items were situationally dependent or tied to context. Residents answered differently depending if they were thinking of "activities that would be important if I could do them," "activities that I perceive to be possible," or "activities I might learn to enjoy." Some residents clearly responded in light of their perception of the likelihood of the preference being fulfilled. If residents believed it was not possible, they described this as a reason for a lower rating of the preference assessed. Responses such as "it depends," "only if

I need it," or "if I were home" indicated that some preferences were viewed to be relevant only in specific situations or settings. Participants who believed that they were in the NH for a short rehabilitation or respite stay were less concerned with the relevance of the assessment of certain preferences.

Person-Specific Factors and Limitations.—Personal experiences or limitations were also described as influencing preference ratings. Lack of experience with a preference or not engaging in a preferred activity being assessed influenced response ratings, evidenced by responses stating that if they did not engage in the activity or preference it must be because it was not important. Personal limitations also affected how importance of preferences were rated, especially if the respondent believed that his or her limitation (e.g., a vision or hearing impairment) would affect the ability to engage in a preferred activity (e.g., watching TV) or made a preference irrelevant (e.g., adjusting the lighting in a room).

DISCUSSION

The current research demonstrated that cognitive interviewing was successful in revising the PELI to include language that Veteran and non-Veteran residents use and understand, and the preferences most important to them, validating the PELI for use with these populations. Asking NH residents for their perspectives to questions about psychosocial preferences in their current living environment and their responses contributed in a meaningful way to the revision of more than 25% of PELI items to reflect shared understanding of language and content. Cognitive interviewing helped identify item changes needed to remove potential measurement error due to difficulties with readability, item clarity, assumptions inherent in the questions, and sensitivity or bias of the item, and also identified items that were double barreled (i.e., assessing two separate preferences). Cognitive interviewing also identified new areas of psychosocial preferences, ensuring the full range of relevant preferences important to NH residents.

Responses indicated that the Veteran and non-Veteran groups reported differences in preferences important to them. These differences, within and outside of the NH population, will be important to understand as the universe of all possible preferences to assess is extremely large, if not limitless. The ability to identify subsets of preferences that are more typically important to groups based on specific characteristics, such as gender or Veteran status, may help future targeting of the assessment of relevant preferences.

Further study is needed to anchor or provide context to ratings (i.e., what is enjoyed and seen as possible versus what would be enjoyed and improved satisfaction) without limiting the validity and usefulness of preference ratings in improving quality of life.

LIMITATIONS

Although efforts were made to include residents with diverse characteristics (e.g., race, ethnicity, gender, cognitive functioning), future work is needed with NH residents to demonstrate greater diversity. It is possible that the language used in the current PELI tool would be difficult to understand or have different meanings to groups with different

backgrounds, and that these individuals would report different preferences as relevant and important. The PELI has not yet been assessed with the short-stay rehabilitation population. Cognitive interviewing can be used to further revise the PELI to reflect important preferences and language used in more diverse populations, such as rehabilitation residents, younger NH residents, women Veterans, individuals with more severe levels of cognitive impairment, and NH residents with racially diverse backgrounds.

The current PELI response categories have been previously interviewed by the MDS development team (Housen et al., 2008) and the MDS 3.0 was launched and is in use in 15,702 NHs and 134 CLCs across the United States. The authors believed it would be beneficial to create a tool that would inform staff about a comprehensive set of important NH resident preferences and meet the need to complete the MDS assessment process.

When revising the PELI for use with individuals with greater cognitive impairment, various methods of asking about preferences may be needed, such as using a *yes*/*no* format to reduce cognitive load. Other clinical geriatric assessment measures, such as the Geriatric Anxiety Scale and Geriatric Depression Scale, have successfully used *yes*/*no* reporting to increase reliable self-report (Pachana, Byrne, Siddle, Koloski, Harley, & Arnold, 2007; Yesavage et al., 1983). Cognitive interviewing may also be used to adapt the PELI for use in other settings (e.g., assisted living and home care, hospital) or based on rehabilitation status. Although a final PELI refined to be applicable to a broad range of residents and settings is desired, cognitive interviewing responses would guide the decision around the need for alternative versions of the PELI to reflect language and preferences most appropriate to distinct populations.

CLINICAL APPLICATION AND FUTURE DIRECTIONS

Lessons relevant to the clinical use of the PELI were learned through cognitive interviewing. A benefit observed was the enjoyment produced by spending time talking with the resident, getting to know what he or she thought and preferred. Forcing the PELI preference assessment into a one-and-done model was counterproductive. Limited windows of time to force completion or viewing the assessment as simply one more task to be done would ignore the inherent relationship-building aspect of the preference assessment. When using the PELI clinically, the authors recommend allowing time to build the interviewer–resident relationship by breaking interviews into multiple blocks of time adjusted to the stamina of the participant who may have limitations in attention or physical energy to stay on task. It will be important to find real-world ways to do this feasibly in the current NH assessment process.

Although the number of items may seem overwhelming, the PELI can be used clinically in different ways. The full set of items could be used initially. Facilities could then select items for reassessment based on goals for improving preference congruent care. However, the authors do not recommend that clinical teams change item wording in light of the current project’s work to ensure they reflect resident perspective and language. Future work will investigate the top preferences of NH residents. As knowledge is gained about which items are more important in certain settings, based on rehabilitation status, and to certain outcomes

(e.g., measures of satisfaction, quality of care and life), a more structured approach may be created to determine which preference items to ask for each clinical setting, population, and desired outcome.

Care congruent with resident preferences, as assessed by the PELI, is expected to have a positive impact on key outcomes. Preference congruent care will be created from the assessment of PELI preferences compared with follow-up questions about how satisfied a resident is with the fulfillment of important preferences, resulting in preference areas identified as *fulfilled*, *not important*, and *important waiting to be fulfilled* (Van Haitsma et al., 2014). Assessing preference congruent care will help NH staff identify opportunities to measure and improve the quality of PCC. Future work will assess the link between preference fulfillment and specific outcomes.

Cognitive interviewing provided information needed to better understand how individual and situational factors impact rating importance of preferences. Many factors (e.g., perception of the likelihood of preference fulfillment, level of sensory impairment, other person-specific factors or limitations, situationally dependent factors) were described as affecting preference ratings (Heid et al., 2014). The relationship between ratings of preference importance and specific conditions or situations is a testable hypothesis that deserves future research attention. It will also be important to understand how to address potential barriers to assess personal preferences in a valid way to increase the fulfillment of true preferences, resident satisfaction, and ultimately improve quality of care and life, as well as to determine the link between preference fulfillment and quality care outcomes (e.g., decreased disruptive behaviors). Individualized preference assessment using the PELI could then move further toward the goal of providing quality PCC informed by individual preferences and standardized across the care delivery system.

CONCLUSION

Assessment of preferences is complex and important for PCC. Cognitive interviewing was an effective method for refining the PELI to be a valid assessment of preferences, specifically designed for NH residents, that reflects a wide range of preferences important to this population and constructed using their own words.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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REFERENCES

Applebaum R, Straker J, & Geron S (2000). Assessing satisfaction in health and long-term care: Practical approaches to hearing the voices of consumers. New York, NY: Springer.

Beck SL, Towsley GL, Berry PH, Brant JM, & Smith EL (2010). Measuring the quality of care related to pain management: A multiple method approach to instrument development. Nursing Research, 59, 85–92. doi:10.1097/NNR.0b013e3181d1a732 [PubMed: 20216010]

Burack OR, Weiner AS, Reinhardt JP, & Annunziato RA (2012). What matters most to nursing home elders: Quality of life in the nursing home. Journal of the American Medical Directors Association, 13, 48–53. doi:10.1016/j.jamda.2010.08.002 [PubMed: 21450203]

Carpenter B, Van Haitsma K, Ruckdeschel K, & Lawton MP (2000). The psychosocial preferences of older adults: A pilot examination of content and structure. The Gerontologist, 40, 335–348. [PubMed: 10853528]

Castle N (2007). A review of satisfaction instruments used in long-term care settings. Journal of Aging & Social Policy, 19(2), 9–41. doi:10.1300/J031v19n02_02

Cohen-Mansfield J, & Jensen B (2007a). Changes in habits related to self-care in dementia: The NH versus adult day care. American Journal of Alzheimer's Disease and Other Dementias, 22, 184–189. doi:10.1177/1533317507301589

Cohen-Mansfield J, & Jensen B (2007b). Dressing and grooming: Preferences of community-dwelling older adults. Journal of Gerontological Nursing, 33, 31–39. [PubMed: 17310661]

Cohen-Mansfield J, & Jensen B (2007c). Self-Maintenance Habits and Preferences in Elderly (SHAPE): Reliability of reports of self-care preferences in older persons. Aging Clinical and Experimental Research, 19, 61–68. [PubMed: 17332723]

Gerdner L (2000). Effects of individualized versus classical "relaxation" music on the frequency of agitation in elderly persons with Alzheimer's disease and related disorders. International Psychogeriatrics, 12, 49–65. [PubMed: 10798453]

Heid AR, Eshraghi K, Duntzee C, Abbott K, Curyto K, & Van Haitsma K (2014). "It depends": Reasons why nursing home residents change their minds about care preferences. The Gerontologist. Advance online publication. doi:10.1093/geront/gnu04

Housen P, Shannon G, Simon B, Edelen MO, Cadogan M, Sohn L,…Saliba D, (2008). What the resident meant to say: Use of cognitive interviewing techniques to develop questionnaires for NH residents. The Gerontologist, 48, 158–169. [PubMed: 18483428]

Hulicka IM, Morganti JB, & Cataldo JF (1975). Perceived latitude of choice of institutionalized and noninstitutionalized elderly women. Experimental Aging Research, 1, 27–39. doi:10.1080/03610737508257944 [PubMed: 1053201]

Jones TG, Schinka JA, Vanderploeg RD, Small BJ, Graves AB, & Mortimer JA (2002). 3MS normative data for the elderly. Archives of Clinical Neuropsychology, 17, 171–177. doi:10.1016/S0887-6177(00)00108-6 [PubMed: 14589746]

Kane RA, Kling KC, Bershadsky B, Kane RL, Giles K, Degenholtz HB,…Cutler LJ (2003). Quality of life measures for nursing home residents. Journals of Gerontology. Series A, Biological Sciences and Medical Sciences, 58, M240–M248.

Kolanowski AM, Litaker M, & Buettner L (2005). Efficacy of theory-based activities for behavioral symptoms of dementia. Nursing Research, 54, 219–228. [PubMed: 16027564]

Lawton MP, Van Haitsma K, Klapper J, Kleban M, Katz I, & Corn J (1998). A stimulation-retreat special care unit for elders with dementing illness. International Psychogeriatrics, 10, 379–395. [PubMed: 9924833]

Lynn MR (1986). Determination and quantification of content validity. Nursing Research, 35, 382–385. doi:10.1097/00006199-198611000-00017 [PubMed: 3640358]

McCormack B, Roberts T, Meyer J, Morgan D, & Boscart V (2012). Appreciating the 'person' in long-term care. International Journal of Older People Nursing, 7, 284–294. doi:10.1111/j.1748-3743.2012.00342.x [PubMed: 23164250]

Meeks S, Shah SN, & Ramsey SK (2009). The Pleasant Events Schedule—nursing home version: A useful tool for behavioral interventions in long-term care. Aging and Mental Health, 13, 445–455. doi:10.1080/13607860802534617 [PubMed: 19484609]

Pachana NA, Byrne GJ, Siddle H, Koloski N, Harley E, & Arnold E (2007). Development and validation of the Geriatric Anxiety Inventory. International Psychogeriatrics, 19, 103–114. [PubMed: 16805925]

Richards KC, Beck C, O'Sullivan PS, & Shue VM (2005). Effect of individualized social activity on sleep in nursing home residents with dementia. Journal of the American Geriatrics Society, 53, 1510–1517. [PubMed: 16137280]

Schenk L, Meyer R, Behr A, Kuhlmey A, & Holzhausen M (2013). Quality of life in nursing homes: Results of a qualitative resident survey. Quality of Life Research, 1–10. doi:10.1007/s11136-013-0400-2

Simmons S, & Schnelle J (2004). Individualized feeding assistance care for NH residents: Staffing requirements to implement two interventions. Journal of Gerontology, 59, M966–M973. doi:10.1093/gerona/59.9.M966

Sullivan JL, Meterko M, Baker E, Stolzmann K, Adjognon O, Ballah K, & Parker VA (2013). Reliability and validity of a person-centered care staff survey in Veterans health administration community living centers. The Gerontologist, 53, 596–607. [PubMed: 23197392]

Teng EL, & Chui HC (1987). The modified mini-mental state (3MS) examination. Journal of Clinical Psychiatry, 48, 314–318.

Thompson D, & Smith D (1998). Continence restoration in the cognitively impaired adult. Geriatric Nursing, 19, 87–90. doi:10.1016/S0197-4572(98)90044-1 [PubMed: 9611506]

Tombaugh TN, McDowell I, Kristjansson B, & Hubley AM (1996). Mini-mental state examination (MMSE) and the modified MMSE (3MS): A psychometric comparison and normative data. Psychological Assessment, 8, 48–59. doi:10.1037//1040-3590.8.1.48

Van Haitsma K, Crespy S, Humes S, Elliot A, Mihelic A, Scott C,…Abbott K (2014). New toolkit to measure quality of person-centered care: Development and pilot evaluation with nursing home communities. Journal of Post-Acute and Long-Term Care Medicine, 15, 671–680.

Van Haitsma K, Curyto K, Spector A, Towsley G, Kleban M, Carpenter B,…Koren MJ (2013). The Preferences for Everyday Living Inventory (PELI): Scale development and description of psychosocial preferences responses in community-dwelling elders. The Gerontologist, 53, 582–595. doi:10.1093/geront/gns102 [PubMed: 22936532]

White D, Newton-Curtis L, & Lyons K (2008). Development and initial testing of a measure of person-directed care. The Gerontologist, 48(Suppl. 1), 114–123. doi:10.1093/geront/48.Supplement_1.11 [PubMed: 18694992]

Willis GB (2005). Cognitive interviewing: A "how to" guide. Retrieved from http://appliedresearch.cancer.gov/archive/cognitive/interview.pdf

Willis GB, & Lesser JT (1999). Question Appraisal System QAS-99. Retrieved from http://appliedresearch.cancer.gov/areas/cognitive/qas99.pdf

Whitlatch C, Judge K, Zarit S, & Femia E (2006). Dyadic intervention for family caregivers and care receivers in early-stage dementia. The Gerontologist, 46, 688–694. [PubMed: 17050761]

Yesavage JA, Brink TL, Rose TL, Lum O, Huang V, Adey MB, & Leirer VO (1983). Development and validation of a geriatric depression rating scale: A preliminary report. Journal of Psychiatric Research, 17, 37–49. doi:10.1016/0022-3956(82)90033-4

Table 1

Cognitive Interviewing Participant Descriptions for Veteran and Non-Veteran Residents

	Veteran Group (*N* = 31)		Non-Veteran Group (*N* = 39)		Comparison	
Variable	**Mean (*SD*)**	***n* (%)**	**Mean (*SD*)**	***n* (%)**	***t* Test (*p* Value)**	**Chi-Square (*p* Value)**
Age (years)	74 (9.9)		78.6 (10.4)		1.9 (0.07)	
Gender		31(96.8)		10 (25.6)		35.7 (<0.001)
Education (years)						
≥High school		25 (80.6)		33 (85.7)		1.6 (0.18)
Race						
Caucasian		26 (83.9)		30 (76.9)		0.5 (0.56)
African American		5 (16.1)		9 (23.1)		
Marital status						
Married		15 (48.4)		3 (8.3)		26.1 (<0.001)
Divorced/separated		8 (25.8)		2 (5.6)		
Widowed		5 (16.1)		25 (63.9)		
Never married		3 (9.7)		9 (22.2)		
Veteran status		31 (100)		4 (11.4)[a]		51.8 (<0.001)
MMSE total score (0 to 30)	26.4 (2.7)		26.4 (1.6)		−0.1 (0.93)	
Length of stay (days)	646.6 (867)		646.1 (598)		0 (0.99)	

Note. MMSE = Mini-Mental State Examination.

[a]Recognized as Veterans despite living in the non-Veteran nursing home.

TABLE 2

Cognitive Interviewing Probes and Example Response

Preferences for Everyday Living Inventory Item	**Response**
1. How important is it to you to spend time by yourself?[a]	1
A. What were your thoughts as you gave your answer? (What came to mind as I asked you this question?)	Being alone, no interruptions.
B. Can you give me an example of the **[insert stem]** you were thinking of when you gave your answer?	Reading, prayer, resting.
C. What do the words **[insert stem]** mean to you?	Being all alone, being alone to think.
D. Has this ever been more important to you?	When I cannot find a place without interruptions.
E. How did you decide that **[insert stem]** is **[insert importance rating response]** to you?	Because I spend a lot of time by myself.
F. Tell me in your own words what this question is asking. (Is there a different way we could ask this question?)	Are you able to find time to be alone to think with no interruptions?

[a]Item rating, where 9 = *no response*, 0 = *very important*, 1 = *somewhat important*, 2 = *not very important*, and 3 = *not important*.

TABLE 3

Example of PELI Item Disposition Following Interviews With Veteran and Non-Veteran Participants

PELI Item	Veteran Group	Item Disposition	Non-Veteran Group	Item Disposition
20	How important is it to you to do gardening activities?	Kept as is	How important is it to you to take care of plants?	Changed
21	How important is it to you to have books, newspapers, and magazines to read?	Minimum Data Set item, not interviewed	Do you have difficulties reading due to eyesight? If yes, I′d like to know if these activities would be important to you if you could do them with assistance or find a way to do it. How important is it to you to have reading options for low vision available to you? If no, how important is it to you to have reading materials available to you?	Changed
32	How important is it to you to listen to the radio?	Kept as is	How important is it to you to listen to the radio?	Deleted
57	How important is it to you to setup your room the way you want?	Changed	How important is it to you to setup your room the way you want?	Kept as is
60	How important is it to you to choose what to eat?	Kept as is	How important is it to you to choose what to eat?	Kept as is
67	How important is it to you to do certain things to feel better when you are upset?	Changed	What helps you feel better when you are upset? How important is it to you to do certain things to feel better when you are upset?	Changed
72[a]	How important is it to you to decorate your room in a certain way?	Deleted		
76	How important is it to you to keep the lighting in your room at a certain level?	Added	How important is it to you to adjust the lighting in your room?	Changed
87	How important is it to you to do outdoor tasks?	Added	How important is it to you to do outdoor tasks?	Kept as is
120[b]			How important is it to you to choose your medical care professional?	Added and changed

Note. PELI = Preferences for Everyday Living Inventory.

[a]Item not available for the non-Veteran group because it was deleted when interviewed with the Veteran group.

[b]Item not available for the Veteran group because it was created after the Non-Veteran group interviews.