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Elderspeak's Influence on Resistiveness to Care: Focus on Behavioral Events

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Abstract

Resistiveness to care (RTC) in older adults with dementia commonly disrupts nursing care. Research has found that elderspeak (infantilizing communication) use by nursing home staff increases the probability of RTC in older adults with dementia. The current analysis used GSEQ software to analyze behavior sequences of specific behavioral events. We found that older adults with dementia most frequently reacted to elderspeak communication by negative vocalizations (screaming or yelling, negative verbalizations, crying). Since negative vocalizations disrupt nursing care, reduction in elderspeak use by staff may reduce these behaviors thereby increasing quality of care to these residents. The results clearly demonstrate that sequential analysis of behavioral events is a useful tool in examining complex communicative interactions and targeting specific problem behaviors.

Keywords

dementia care; communication; problem behaviors; resistiveness to care

Introduction

Elderspeak (infantilizing communication) is commonly used by nursing staff while providing care to older adults in long term care (LTC) settings, especially to older adults with dementia.^{1, 2, 3} Prior research has shown that cognitively intact older adults find elderspeak to be patronizing and demeaning.^{4, 5} Ongoing research has also established a strong relationship between elderspeak and resistiveness to care in older adults with dementia.¹ Resistiveness to care (RTC) may indicate unmet needs of persons with dementia.⁶ RTC stresses family caregivers and precipitates nursing home (NH) placement where it adds to stress, burnout, and turnover, disrupting care and increasing costs by 25–30%.^{7, 8, 9} This study further explored how LTC residents with dementia responded to nursing staff elderspeak communication by examining their specific resistive behaviors. The study aims were to determine what specific resistive behaviors were directly related to the use of elderspeak by nursing staff.

Background Information

Elderspeak is an intergenerational communication style that is common in interactions between staff and residents in LTC settings.^{1, 3} Elderspeak (i.e. infantilization, or secondary baby talk)

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features simplistic vocabulary and grammar, shortened sentences, slowed speech, elevated pitch and volume, and inappropriately intimate terms of endearment.⁵

Features of elderspeak include diminutives, inappropriately intimate nominal references such as “honey” and “good girl.” Collective (plural) pronouns substitute the plural reference when a singular form is grammatically correct and imply that the older adult cannot act independently. For example, “Are *we* [italics added] ready for *our* [italics added] bath?” Tag questions prompt resident responses, thus suggesting the resident’s inability to independently choose. “You want to get up now, *don’t you* [italics added]?” Very short sentence length, is used as a strategy to simplify speech and simplified vocabulary and grammar are also common modifications in elderspeak communication.^{4, 5}

A nursing assistant who is taking care of a resident may use elderspeak in communication with a resident. For example “*we’re* ready to take *our* medicine now, aren’t *we, honey?*” The pronoun substitutions in this message indicate that the resident is unable to act independently, a tag question prompts the desired answer, and the resident is referred to with a diminutive that is inappropriately intimate. In contrast, the same message conveys more respect without elderspeak as “are you ready to take your medicine now, Mr. Smith?”

Prior observational analysis found a temporal relationship between nursing staff communication and resident RTC in dementia care.¹ RTC behavior was twice as likely to occur following use of elderspeak communication compared to normal talk. This research analyzed behavioral coding of general states of nursing communication and resident RTC and did not differentiate specific behavioural acts within these states. Elderspeak, as a communication state, includes different actions that occur together or separately and include both verbal and nonverbal communication. Table 1 lists these types of communication. RTC also includes actions that occur together or separately and are verbal or nonverbal. These actions are listed in Table 2. Further analysis to examine what specific RTC behavioral events occurred most commonly in relation to nursing elderspeak communication was undertaken to develop a more complete picture of this antecedent-consequence relationship.

METHODS

Psycholinguistic, observational, and behavioral analyses were conducted to examine relationships between elderspeak communication and subsequent RTC in this study of activities of daily living (ADL) care, when elderspeak and RTC frequently occur.^{10, 11, 12} Eighty caregiving interactions between nursing staff and residents with dementia (N = 20) were video recorded and computer-archived for analysis. Computerized frame-by-frame sequential analyses linking staff communication and subsequent resident cooperative or RTC behaviors were performed.

Videotaping supports exact observation of behaviors, consistent coding, and measurement of duration, intensity, and patterns of behavior, and it permits repeated review to verify reliability. Complex and simultaneous behaviors, sequences of behaviors, and interrelationships between behaviors can be analyzed from behavioral coding of video recordings.¹³ Coding videotaped data also overcomes recall inaccuracies in staff ratings of resident behaviors and influences of prior resident relationships, stress, and general well being.¹¹ Limitations include alteration of natural behaviors due to awareness of recording and inability to control other factors (past relationships, physical conditions, mood, and environmental factors). These limitations can be minimized by discarding initial segments of recordings.¹³

Sample

Videotaped interactions (N=80) between nursing staff (N=52) and residents with dementia (N=20) during ADL care provided the sample for this study. Following approval of the Protection of Human Subjects by the University IRB Review Board, residents and nursing staff (primarily CNAs) from three participating dementia care facilities were recruited. Meetings describing the study and inviting staff participation were held and residents and their families were notified of the opportunity to participate in the study. Consent was obtained from the surrogate decision maker of each resident participant, from staff participants, with verbal assent from resident participants themselves. They gave written consent for inclusion in video recordings during bathing, eating or oral care, dressing, and other ADL activities.

Procedures

Descriptive data were extracted from the resident's medical record, including age, gender, race/ethnicity, marital status, and psychotropic medication use. Minimum Data Set (MDS) information on functional status, ADL support provided, as well as cognitive abilities was also collected. The Minimum Data Set Cognition Score (MDS-COGs) was computed for each participant using MDS data in the clinical record as a measure of cognition.¹⁴

The mean age of residents in our sample was 82.9 years with a range of 69 to 97. Five (25% were male) and one (5%) was African American; the remaining subjects were Caucasian women. ADL functional score ranged from 7 to 52 in our twenty subjects with a mean of 29.6. Higher scores indicate greater dependency. MDS-COGs scores in our sample ranged from 4 to 9 with a mean of 6.4, indicating a relatively homogeneous sample in the moderate stage of dementia.

Nursing staff who were assigned to participating residents on days of recording were recruited to be included in the ADL care video recordings. Out of 55 nursing staff invited to participate, 52 consented and were included. Three declined due to not wishing to be video recorded. Staff participants were primarily (78%) certified nursing assistants (NAs) and female (83%). The remaining staff participants included nurses, therapists, and social workers who were involved in direct care. They received a onetime \$20 honorarium to acknowledge their efforts in participating. Staff participants were 68% White, 30% African American, 2% Pacific Islander. Two (4%) were Hispanic or Latino. They were 21 to 54 (mean 35) years of age. Staff reported a range of .25 to 31 years (mean 7.5 years) experience in patient care and worked in their current facility for .10 to 18 (mean 3.5) years.

Data Collection

The principal investigator (PI) used a hand-held video recorder to tape residents and staff during daily care activities. Prior to actual recording, the PI spent a day on the resident's unit to allow participants to adjust to the presence of the PI and camera and to identify least conspicuous positions to videotape from. The PI became familiar with care routines for each resident and established that recording would not be too disruptive or upsetting.¹⁵

On the actual day of recording, staff assigned to care for participating residents were invited to sign consent forms and to participate. The PI shadowed the resident during one shift and recorded ADL interactions as they occurred. With a few exceptions, bathing, eating, dressing, oral care, and other ADL activities were captured during the course of one day. To ensure privacy, only activities or portions of activities that did not require a curtain or door to be closed were recorded. Staff and residents and their surrogate decision makers were advised that they could elect not to be recorded during specific times or could have any recorded segments erased by the research team. However, no requests to delete data were received.

Data Reduction

The first ten minutes of recording for each resident was deleted to allow time to adjust to the presence of the PI and videorecording. The remainder of recorded video for each subject was reviewed to identify interactions featuring bathing, eating or oral care, dressing, and another ADL activity for each resident. The first ten minutes of ADL care have been established as reliable representations of verbal ($r = .80 - .93$) and nonverbal ($r = .61 - .92$) behaviors in comparison to entire interactions and are standard intervals in staff-resident interactions in dementia care research.^{15, 16}

The following criteria were used to select video footage for analysis: the staff-resident dyad had to be visible during the interaction, recording quality had to be adequate to understand and transcribe all verbal statements, nonconsenting persons could not be recorded, and interactions had to last at least 30 seconds. The starting point for each interaction was determined by the staff person entering the room, initiating conversation with or orienting the resident to person or task, and ended when the staff person verbalized completion, initiated a new activity, or exited the room.¹⁷ This process resulted in selection of 80 separate interactions for coding. Up to the first 10 minutes of interaction were analyzed. Mean length of these selected video recordings of ADL care was 4.58 minutes (range .5 to 10 minutes). All video data were archived using unique computer data file identifier codes with a secure key maintained by the PI to assure confidentiality and anonymity.

Behavioral Coding

Using the Noldus Observer Video Pro program, videos were coded for nursing communication and resident behavior states.¹⁸ Communication state was coded as elderspeak, silence, and normal adult speech and considered as potential antecedents of RTC behavioral responses. Resident behavior state was coded as neutral, cooperative, and resistive to care. Each resident behavior and nursing communication state included both verbal and nonverbal behaviors.

Communication and RTC states and specific RTC behaviors were coded to time sync with the videos using the Noldus program. A computer key was assigned for each state with the video starting in the default state (i.e., normal speech for communication, neutral for resident behavior). Each state remained in effect until the key for an alternate state was pressed. Thus, only one communication state and one resident behavior state could occur at a time.

In addition to RTC behavior states, specific RTC behavioral events also were coded, using a coding system based on the Resistiveness to Care Scale.¹⁹ RTC behaviors (see Table 1) within the RTC state were also assigned an individual key. These behavioral events can co-occur and have no duration. The key assigned to each behavior was compressed at each occurrence of the resident resistive action and therefore reflect a tally of the number of occurrences of this action.

Although second by second coding is extremely time consuming (we estimate one hour to code each 5 minutes of videotaped interactions), this method has been effective in research on interpersonal interactions in LTC.^{17, 20} Extensive training in behavioral coding of resident behaviors was required until inter-rater reliability of at least 90% agreement was achieved on practice materials within a 3 second time interval in 10% of the sample video clips. Behaviorally coded resident RTC was correlated with nursing staff reports of "resists care" frequency as reported on the MDS ($r = .67, p < .001$). To avoid bias, one RA team coded the video clips for communication and another team coded resident behavior.

The present study describes the results of the timed-event sequential analysis that were used to test hypotheses concerning possible antecedent-consequent sequential relationships between elderspeak and resident RTC behavior events. Using the GSEQ for Windows 4.1.4 program

developed by Bakeman and Querau were able to examine whether elderspeak communication preceded specific RTC behaviors.²¹ Figure 1 illustrates a second by second data record for one staff-resident interaction using the plot graph from this program.

Analysis

Staff communication and resident RTC behaviors varied across interactions. During bathing the proportion of time nursing staff used elderspeak ranged from 4 to 99% ($M = 58\%$, $SD = 30\%$), silence ranged from 0 to 96% ($M = 37\%$, $SD = 31\%$), and the proportion of normal talk ranged from 0 to 34% ($M = 6\%$, $SD = 8\%$). Resident RTC during bathing ranged from 0–99% ($M = 54\%$, $SD = 35\%$) in these staff-resident interactions.

The coded data were transformed into Sequential Data Interchange Standard (SDIS) format and subsequently entered into the GSEQ program. The data from the 80 videos was pooled over units (residents) and sessions (care episode types). A five to ten second reactionary interval has been established as a standard in prior nursing staff-resident interaction research.²² Therefore we examined the association between resident RTC behavior and the nursing staff communication state occurring seven seconds earlier. A significant association between staff communication type and subsequent resident RTC was observed, $\chi^2(16, N = 80) = 85.89, p < .001$. In other words, staff communication style and resident RTC show a high degree of synchronicity.

To correct for nonnormal distribution of data, z scores were computed for subsequent analyses of specific RTC behaviors. Resident RTC actions of push away, no/negative, and scream/yell were significantly more likely to co-occur with elderspeak communication and occurred less frequently than expected with cry, $Z_{\text{push away}} = 2.127, p = .0334$, $Z_{\text{no/negative}} = 2.138, p = .0325$, $Z_{\text{scream/yell}} = 4.223, p < .001$, $Z_{\text{cry}} = -6.441, p = .001$. Silence, however, tends to significantly co-occur more often than expected with resident RTC actions of cry and less often than expected with no/negative and scream/yell, $Z_{\text{cry}} = 6.643, p = .001$, $Z_{\text{no/negative}} = -2.014, p = .0441$, $Z_{\text{scream/yell}} = -4.057, p < .001$ (Table 3 and Figure 2). Figure 3 shows the RTC types of behavior grouped by pushing, pulling or turning away, by grabbing actions and negative vocalizations like nos, negatives and crying.

However, it should be noted the frequency of normal speech observed was low compared to elderspeak and silence. Because of this, column sums were unevenly distributed and some adjusted residuals were not normally distributed as seen in Table 3.

Discussion

The current study examines real time relationships between nursing staff elderspeak communication and specific resident RTC behaviors. Results suggest that elderspeak use by staff is perceived negatively by older adults with dementia as evidenced by an increase in RTC when elderspeak was used. One explanation is that the implicit messages of incompetence underlying some aspects of elderspeak communication may conflict with the attempts of persons with dementia to maintain a positive self concept. In their struggle to maintain their personhood, individuals with dementia may react negatively to elderspeak by pushing away from their caregiver, saying no to help, and finally screaming or yelling at their caregiver.²³ Alternatively, RTC may reflect an emotional response of a person with dementia to the lack of respect conveyed by elderspeak.⁴ It is not surprising that this study supports research finding a link between problem behaviors and communication.^{10, 19, 24, 25} Because elderspeak communication is widely used by nursing staff in residential long term care settings, reduction in its use may decrease problematic RTC behaviors.^{2, 3}

Despite the association between staff elderspeak communication and RTC behaviors, our study suggests that in practice, elderspeak predominates, silence is prevalent, and normal adult communication is infrequent. These findings together support a need to alert nursing staff to negative effects of elderspeak communication and for training in effective communication skills in long term care settings. Elderspeak communication use by general nursing home staff has been significantly reduced by a brief intervention that should be tested in dementia care settings.^{2, 3} Potential reductions in RTC behaviors may result in improved quality and reduced costs of care.

Analysis of specific RTC behaviors and antecedents may also benefit dementia care. Staff elderspeak communication or lack of communication in the form of silence may precipitate different types of RTC. In this study residents most frequently reacted to silence during care episodes with crying.

The current research is only a beginning step in the exploration of staff communication behaviors that may trigger resident RTC. Identification of negative communication behaviors that are associated with RTC may lead to targeting the most problematic aspects of staff communication for improvement. For example, if a resident reacts to silence during care episodes with crying, the staff person working with that resident may respond by conversing with the resident when the crying occurs. Future research on larger data sets may help to identify other specific relationships between RTC and types of elderspeak events (i.e. altered prosody [rhythm, stress, and intonation], collective pronoun substitutions, diminutives [terms of endearment]). Current studies are in progress to examine the role of altered prosody within elderspeak and its role in resident RTC.

A simplified system of behavior analysis similar to that used in this study may be developed to identify specific communication events that precipitate challenging RTC behaviors in individual resident care situations. Thus, identifying resident specific RTC precipitants may inform nursing staff of how best to communicate (or communication behaviors to avoid) in facilitating care.

The type of elderspeak used in communication may illicit different reactions in older adults with dementia. Further studies in this area, explicitly targeting specific elderspeak behaviors (i.e. altered prosody, pronoun substitutions, or terms of endearment) may help shed light on whether all forms of elderspeak are perceived negatively by all populations of older adults.

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Figure 1.

Second-by-second observation of Staff communication (Normal (N), Elderspeak (E), Silence (S)) and resident RTC (Turn away (T), Push away (P), No/Negative (Nn)).

Figure 2.

Resident Resistive Behavior in Response to Staff Speech Style. Rate of occurrence is the number times that behavior occurred over all care episodes.

Figure 3. Resident Resistive Behavior in Response to Staff Speech Style grouped by verbal and nonverbal. Rate of occurrence is the number times that behavior occurred over all care episodes.

Table 1

Specific Verbal and Nonverbal Elderspeak Communication behaviors.

Verbal	Nonverbal
Childish vocabulary & grammar	Altered prosody
Collective “we” pronoun substitutions	Altered eye contact
Terms of endearment (diminutives)	Exaggerated gestures
Directives	Altered proxemics
Exaggerated praise	Altered touch
Imperatives	
Reflectives	
Tag questions	
Third party references	

Table 2

Specific Verbal and Nonverbal RTC behaviors.

Given	Target		
	Elderspeak	Silence	Normal
Turn Away	−0.606	0.437	0.628:
Pull Away	2.127	−1.892	−0.931:
Grab Object	−1.853:	1.204:	2.387:
Grab Person	−0.816	1.079	−0.898:
No/Negative	2.138	−2.014	−0.539:
Push Away	1.726	−1.413	−1.191:
Push/pull	−1.876	0.839	3.770:
Scream/yell	4.223	−4.057	−0.786:
Cry	−6.441	6.643	−0.418:

* Adjusted residuals not meeting conditions for normal approximation are followed by a colon.

Table 3

Adjusted Residuals at a Lag of 7 seconds.

Given	Target		
	Elderspeak	Silence	Normal
Turn Away	−0.606	0.437	0.628:
Pull Away	2.127	−1.892	−0.931:
Grab Object	−1.853:	1.204:	2.387:
Grab Person	−0.816	1.079	−0.898:
No/Negative	2.138	−2.014	−0.539:
Push Away	1.726	−1.413	−1.191:
Push/pull	−1.876	0.839	3.770:
Scream/yell	4.223	−4.057	−0.786:
Cry	−6.441	6.643	−0.418:

* Adjusted residuals not meeting conditions for normal approximation are followed by a colon.