

Elderspeak communication and pain severity as modifiable factors to rejection of care in hospital dementia care

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Abstract

Background: Rejection of care (RoC) occurs when persons living with dementia (PLWD) withstand or oppose the efforts of their caregiver. Improvements in hospital dementia care are needed, and one way to address this need is by identifying factors that lead to RoC, particularly those that are modifiable. Elderspeak communication is an established antecedent to RoC among PLWD in nursing homes. The purpose of this study was to extend these results to acute care settings by determining the impact of elderspeak communication by nursing staff on RoC by hospitalized PLWD.

Methods: Care encounters between nursing staff and PLWD were audio-recorded, transcribed verbatim, and coded for semantic, pragmatic, and prosodic features of elderspeak. RoC behaviors was scored in real-time using the Resistiveness to Care Scale. A Bayesian repeated-measures hurdle model was used to evaluate the association between elderspeak and both the presence and severity of RoC.

Results: Eighty-eight care encounters between 16 PLWD and 53 nursing staff were audio-recorded for elderspeak and scored for RoC. Nearly all (96.6%) of the encounters included some form of elderspeak. Almost half of the care encounters (48.9%) included RoC behaviors. A 10% decrease in elderspeak was associated with a 77% decrease in odds of RoC (OR = 0.23, 95% CI = 0.03, 0.68) and a 16% decrease ($e^{\beta} = 0.84$, CI = 0.73, 0.96) in the severity of RoC. A one-unit decrease in pain severity was associated with 73% reduced odds of RoC (OR = 0.27, CI = 0.12, 0.45) and a 28% decrease ($e^{\beta} = 0.72$, CI = 0.64, 0.80) in the severity of RoC.

Conclusions: Both elderspeak by nursing staff and RoC by PLWD are present and pervasive in acute care. Pain and elderspeak are two modifiable factors of RoC in hospitalized PLWD. Person-centered interventions are needed that address communication practices and pain management for hospitalized PLWD.

KEYWORDS

acute care, communication, person-centered care, resistiveness to care

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INTRODUCTION

Preventing behavioral and psychological symptoms of dementia (BPSD) in hospitals is critical because persons living with dementia (PLWD) are twice as likely to be hospitalized compared to cognitively intact older adults, and hospitalized PLWD are significantly more likely to experience complications, adverse events, and increased length of stays.^{1,2} While hospitalized, 75% of PLWD experience BPSD, with aggression being the most common form.³ Rejection of care (RoC) is a form of reactive aggression that occurs when PLWD withstand or oppose the efforts of their caregiver.^{4,5} RoC can be active, such as when it is targeted directly at the caregiver (e.g., hitting) or more passive, such as when it resembles refusal (e.g., pushing away equipment).⁶

Preventing RoC is critical to meeting the medical and psychosocial needs of PLWD, who typically need more care assistance than cognitively intact older adults due to having a higher severity of acute illness, higher levels of incontinence, and a greater risk of pressure ulcers.^{2,7,8} Unfortunately, RoC by PLWD is not always met with a person-centered response. Formal caregivers often use physical and chemical restraints to manage RoC and rarely discontinue the task or attempt to re-approach at a later time.^{6,9,10} In order to reduce RoC, interventions at the patient level (e.g., unmet needs), caregiver level (e.g., communication), and environmental level (e.g., over- or under-stimulation) are needed¹¹ and these interventions should be targeted at modifiable factors to RoC. Although managing and preventing RoC are well researched in long-term care settings, less is known about RoC in the acute care environment where strategies and interventions to reduce BPSD are missing.¹²

Research in long-term care has previously identified modifiable and nonmodifiable factors to RoC. Pain has generally demonstrated a positive and significant relationship with RoC^{13–15} whereas other factors such as dementia severity, delirium, and gender have shown less consistent results. Persons with a higher severity of dementia tend to exhibit more RoC,^{14,16} although this relationship has not been found in all studies.^{17,18} The presence of delirium superimposed on dementia led to greater odds of RoC compared to PLWD without delirium in one study.¹⁴ Females with dementia have been found to be at lower odds of exhibiting RoC compared to males with dementia,¹⁴ although this relationship is not evident across all studies.¹⁷

Elderspeak communication or communication that sounds like baby talk is a known antecedent to RoC in long-term care. Elderspeak is a form of communication overaccommodation used with older adults that are evidenced by inappropriately juvenile lexical choices and/or

Key points

- Hospitalized patients with dementia exhibited rejection of care (RoC) in nearly half of the care encounter with pulling away, crying, and grabbing objects occurring most frequently.
- RoC was more likely and more severe when elderspeak communication by nursing staff was more frequent.
- RoC was more likely and more severe when patients were experiencing greater pain.

Why does this paper matter?

Rejection of care is potentially modifiable by reducing elderspeak communication from nursing staff and by reducing pain severity in hospitalized patients with dementia.

exaggerated prosody; arises from implicit ageist stereotypes; carries goals of expressing care, exerting control, and/or facilitating comprehension; and may lead to negative self-perceptions in older adults and resistive behaviors in PLWD.¹⁹ Elderspeak represents a variety of communication characteristics from simple infantilizing word choices (e.g., sweetie, buddy), to more complex patterns such as tag questions that restrict options despite the appearance of giving choices (e.g., you are ready for breakfast now, aren't you?), and to voice and intonation changes such as a high-pitched sing-song voice. Although these communication patterns are not uniquely used with older adults, they are more frequently enacted with this population due to ageist assumptions that older adults are increasingly incompetent and dependent.¹⁹ In long-term care, the use of elderspeak has known negative consequences; elderspeak communication by care staff doubles the probability of RoC by PLWD,²⁰ and when elderspeak by care staff is reduced, RoC is subsequently reduced in PLWD.²¹

In the hospital setting, it is unknown whether elderspeak communication is a modifiable factor in RoC. This issue is particularly important in hospital settings since two in five hospitalized older adults have some cognitive impairment and one in five has diagnosable dementia.²² Although RoC has yet to be measured in acute care, ethnographic research confirms that RoC is present and nursing staff struggles to respond to this form of BPSD.⁶ The purpose of the current study, entitled the Nurse Talk study, was to identify the impact of elderspeak on RoC by PLWD. We hypothesized that RoC by PLWD would be less frequent when elderspeak by

nursing staff was less frequent when controlling for potentially confounding variables such as pain.

METHODS

Study design

A cross-sectional approach using convenience sampling was used to identify the association between elderspeak produced by nursing staff and RoC by PLWD during hospital dementia care. Care encounters between nursing staff and PLWD were audio-recorded for elderspeak and concurrently observed and scored real-time for RoC. A nursing care encounter was operationalized as an encounter focused on nursing task completion, including but not limited to activities of daily living (ADLs), assessment, medication administration, and procedural care. Non-care task activities (e.g., care updates/planning) were not included.

Sample

Nursing staff and PLWD were recruited from one Midwestern academic medical center from August 2019 to March 2020. Nursing staff were included if they were 18 years or older, spoke fluent English, and provided direct care to PLWD in the participating Neurology, Family Medicine, or Internal Medicine study units. Patients with dementia were included if they were admitted to a participating study unit and had a dementia diagnosis, a report of RoC since admission, and no excluding characteristics. Patients with dementia were excluded if they had a neurocognitive or psychiatric diagnosis other than dementia, were not fluent in English or were staged as having less than a mild severity of dementia on the Functional Assessment Staging (FAST) instrument.²³ Additional information on recruitment and consent is provided in the Methods S1.

Data collection and measures

Point-of-care encounters between nursing staff and PLWD were audio-recorded for elderspeak and scored in real-time for RoC using a Livescribe 3 Smartpen (<https://us.livescribe.com>). The smartpen was used to score RoC incidents concurrent with audio recordings of the encounter. A timestamp captured the exact moment a pen stroke occurred, which noted when an RoC behavior was started and stopped in relation to the spoken communication (Figure S1). This allowed for a retrospective review of the encounter using a digital interactive file. During the ongoing hospitalization

of the consenting PLWD, newly assigned nursing staff were invited to participate.

The main measures of interest were the dependent variable, RoC, and the independent variable, elderspeak. RoC was operationalized using the 13 resistive behaviors described in the reliable and valid Resistiveness to Care scale (RTC-DAT): *adduct, clench mouth, cry, grab object, grab person, hit/kick, pull away, push away, push/pull, say no, scream/yell, threaten, and turn away*.^{4,16} Each behavior is rated on *duration* and *intensity*, which are multiplied by each other to represent *severity*, and then summed for the 13 behaviors. Intensity is rated on a three-point scale (1 = mild; 2 = moderate; or 3 = extreme).²⁴ The duration rating, typically based on 5-min observations, was modified for the Nurse Talk study because not all observations were 5 min. Instead, we used proportions of duration that mapped onto the durations in the original scale: 0 = did not occur; 1 = less than 5%; 2 = 5% to 19.99%; 3 = 20% to 40%; and 4 = greater than 40%. The composite score for severity ranges from 0 to 156. All RoC observations were documented by the first author using the Livescribe 3 Smartpen. The RTC-DAT *intensity* rating was completed immediately following each observation for each of the exhibited behaviors. The amount of time in each behavior was then extracted from the digital interactive Livescribe file to determine the *duration* rating for the ultimate RTC-DAT *severity* score. Intra-rater reliability for RTC-DAT scoring was established prior to data collection using videos of dyadic care encounters collected in a previous study²¹ until 90% intra-rater reliability by the first author was achieved.

Audio recordings were coded for elderspeak using the Iowa Coding of Elderspeak (ICodE) scheme. The ICodE scheme was developed using an evidence-based approach that combined a systematic literature review of elderspeak studies and integration of previous coding schemes,^{19–21} followed by an iterative implementation process to verify the operationalization of the codes. The ICodE scheme contains five mutually exclusive communication states: elderspeak, neutral speech, silence, staff to staff speech, and patient speech. Elderspeak was further subdivided into three major categories defining the linguistic domain—semantics, discourse, and prosodic—and 11 sub-categories (childish terms, collectives, diminutives, short words/phrases, minimizing words/mitigating expressions, laughing or belittling, exaggerated praise, tag questions, reflective, directive/imperatives, and interruptions) defining the nature of the modification. Coding of elderspeak was completed using Audacity Version 2.3.3 software (<https://www.audacityteam.org/>) and Microsoft Excel in which coders would code communication for the frequency and characteristics of elderspeak based on both the audio file and the written transcript. The coders included

one graduate speech-language pathology student and one undergraduate nursing student. The coders were naïve to the RoC results from the care encounters. After completing extensive training, the coders maintained inter- and intra-rater reliability at ICC > 90%.

Other measures were collected via instruments, self-report or representative reports, and electronic medical record (EMR) data extraction. Delirium severity was measured by the Confusion Assessment Method—Severity short form (CAM-S), in which four categories are summed for a delirium severity score of 0–7 in which 0 represents no delirium and 7 represents severe delirium.^{25,26} Pain severity was measured by the Pain Assessment in Advanced Dementia Scale (PAINAD), in which five categories (breathing, vocalization, facial expression, body language, and consolability) are rated for pain severity based on observation and summed for a rating of 0–10 in which 0 represents no pain and 10 represents severe pain.^{27–29} A PAINAD score of two or greater indicates the presence of pain. The CAM-S and PAINAD were completed for each observation by the first author. Comorbidity severity was measured by the Cumulative Illness Rating Scale (CIRS), a 14-item scale in which each item represents a body system rated for comorbidity severity. The items summed for a total score of 0–56 in which 0 represents no comorbidities and 56 represents severe multi-system failure.³⁰ Dementia severity was measured by the FAST which includes 16 items, which are summed and a score of 0 represents no cognitive deficits, and a score of 8 represents severe dementia.^{31,32} The CIRS and FAST were completed by the first author for each PLWD using a combination of EMR data extraction and representative report. The additional characteristics collected included familiarity with caregiver (number of shifts caring for patient), length of stay, level of stimulation by number of care staff present, sedation status (a receipt of sedative medication in the previous 6 h), time of day, type of dementia, admitting diagnosis, place of residence prior to hospitalization, age, gender, race, ethnicity, and education level.

Data analysis

To determine the impact of elderspeak communication by nursing staff on RoC by PLWD, we began by examining the distribution of the outcome, RoC. The distribution of RTC-DAT scores was highly skewed, with 51% of the observations having no RoC. The positively skewed distribution of RoC is a consistent research finding in which RoC is frequently absent.¹⁶ To address the non-normal distribution, previous research has either dichotomized RoC²⁰ or removed observations with no RoC.²¹ We opted to use

an alternative approach with a Bayesian repeated-measures hurdle model which incorporates all available data by simultaneously modeling the presence of RoC and the magnitude of RoC for the non-zero values while accounting for the within-subjects correlation arising from repeatedly measuring RoC on the PLWD.³³

The hurdle model contains two parts: (1) a logistic regression model evaluating the presence of RoC in all observations, and (2) a truncated log-linear Poisson model evaluating the severity of RoC in all observations containing RoC. Subject-specific intercepts were included in both models and were related through an unstructured covariance matrix. In both models, the proportion of elderspeak by nursing staff was included to test our main hypothesis that more elderspeak by nursing staff would be associated with greater RoC by PLWD. Additional variables were assessed via forward selection using the Widely Applicable or Watanabe-Akaike Information Criteria,³⁴ which balances the trade-off being model fit and parsimony.

Uninformative but proper priors were used for all parameters because the relationship between elderspeak and RoC in acute care settings has not been previously studied, and to ensure the posterior is influenced primarily by the observed data. The model was implemented using the NIMBLE package in R 4.1.0. Posterior means, 95% credible intervals, and the two-sided posterior probability of a non-zero effect for model parameters are provided. The parameters from the logistic regression are reported on the odds ratio scale and parameters from the Poisson regression are exponentiated to provide the estimated multiplicative change in the RTC-DAT score. Bayesian credible intervals provide the region where the true odds ratios or parameter estimates lie with 95% probability, given the observed data.

RESULTS

Sample

The final sample included 53 nursing staff and 16 PLWD in 88 care encounters (Tables S1-S3, Figure S2). The sample of the nursing staff was equally split between staff nurses and nursing assistants, and the majority were female, White, and not Hispanic or Latinx. The nursing staff were generally young ($M = 29.7$ years old, $SD = 10.9$) and most had less than 5 years of healthcare experience (62.3%).

A total of 73 PLWD were admitted to the three hospital units and slightly less than half ($n = 36$) were excluded because they did not exhibit RoC (58.3%), had less than mild dementia (25.0%), were not fluent in

English speakers (8.3%), or had an excluding diagnosis (8.3%). Over half ($n = 21$) of the eligible PLWD did not enroll because contact with their legal representative could not be made before discharge (57.1%), they were not interested in participating in research (38.1%), or they died prior to consent (4.8%). No differences in gender, race or ethnicity, primary dementia diagnosis, or age were identified between the enrolled, eligible, and ineligible PLWD.

The 16 observed PLWD included nine males and seven females that were diagnosed with a diversity of dementias including Alzheimer's disease, unspecified dementia, and other dementia diagnoses, and were mostly staged at the moderately severe level. Hospital admission was for a variety of medical complaints, including general medical conditions, traumatic falls, and neurologic impairments. The sample was primarily non-Hispanic White.

A total of 10 h and 47 min of care encounters were recorded for elderspeak and scored for RoC. Each patient was observed for an average of 40 min (SD = 30 min) in 5.5 observations (SD = 2.6) with an average of 3.8 different nursing staff (SD = 1.8). The 88 care encounters included both ADL care (58.0%) and non-ADL care (42.0%), and nearly two-thirds (64.8%) occurred in the morning. The patients were rated as being in pain (PAINAD ≥ 2) in almost half of the observations (49.9%), with an average pain score of 2.6 (SD = 2.9). Delirium was identified in 11 (13.6%) observations, with an average severity rating of 1.8 (SD = 1.5).

Elderspeak and rejection of care

Elderspeak was used 11.7% (SD = 10.4%) of the time when considering all communication states across the 88 observations. Elderspeak ranged from 0.0% of the time to a maximum of 57.4% of the time. The other communication states averaged 31.2% (SD = 17.6%) neutral, 39.6% (SD = 25.1%) silence, 5.0% (SD = 7.9%) staff to staff, and 12.4% (SD = 13.7%) patient speech. Examples of elderspeak communication by nursing staff and RoC by PLWD are provided in Table 1. Additional information on elderspeak use by the nursing staff and the Nurse Talk study methods are reported elsewhere.³⁵

Hospitalized PLWD exhibited RoC in nearly half (48.9%) of the care encounters. The majority (75.0%) of PLWD exhibited RoC in at least one observation; however, four PLWD (25.0%) exhibited no RoC in any of the observations. The RTC-DAT score remained positively skewed with an average score of 5.88 (SD = 6.71) when only the 43 observations with RoC were included (Table 2). *Pull away*, *cry*, and *grab object* occurred in the

TABLE 1 Examples of elderspeak by nursing staff and rejection of care by patients with dementia

Attribute	Example
Elderspeak	
Childish terms/phrases	"You might feel like you have to go <i>poo-poo</i> , and that's okay."
Collectives	"Nope, <i>we are</i> gonna stay in bed though."
Diminutives	"I'll let go in just a second, <i>dear</i> ."
Directive/imperatives	"Just lay there. Just relax, okay?"
Exaggerated praise	"You're a pro."
Interrupting	Patient: "May-" Nurse: "Maybe"
Laugh at/belittle	"Are you gettin' cold, Frank? [Chuckles]"
Minimizing words/mitigating expressions	"I'm <i>just</i> gonna <i>borrow</i> one of your toes, okay?"
Prosodic features	High pitch, sing-song, over-articulation, excessive pitch range or volume
Reflectives	Would you take some medicine <i>for me</i> ?
Short words/phrases	"Sit back. Sit down."
Tag questions	"Oh, it feels pretty good, <i>does not it?</i> "
Rejection of care	
Adduct	Turns into fetal position during a bed bath
Clench mouth	Refuses to open the mouth during feeding
Cry	Whimpers during repositioning
Grab object	Grabs telemetry wires during placement
Grab person	Grabs caregiver's scrub top when caregiver attempts contact
Hit/kick	Kicks at caregiver with caregiver's approach
Pull away	Pulls arm away during the blood draw
Push away	Pushes caregiver's hand away when caregiver attempts contact
Push/pull	Grips caregiver's hand forcefully as caregiver pulls and pushes it away
Say no	Declares "no, listen, no."
Scream/yell	Yells in harsh tone
Threaten	Shouts "get the hell outta here."
Turn away	Attempts to get out of bed away from the caregiver as caregiver approaches

most care encounters. These three types of resistiveness, along with *turn away*, also obtained the highest severity scores.

TABLE 2 Presence and severity of rejection of care (RoC) in care encounters

Behavior	Presence of RoC		RoC severity (RTC-DAT Score)			
	All observations (N = 88)		Observations with RoC (N = 43)			
	N	%	Mean	SD	Min	Max
All RoC behaviors	43	48.9	5.88	6.71	1	25
Pull away	19	21.6	1.00	2.07	0	9
Cry	18	20.5	0.88	1.75	0	9
Grab object	17	19.3	0.84	1.23	0	4
Turn away	15	17.0	0.79	1.28	0	6
Scream/yell	14	15.9	0.47	0.74	0	2
Push away	13	14.8	0.44	0.73	0	2
Adduct	10	11.4	0.42	0.93	0	4
Say no	10	11.4	0.37	1.07	0	6
Push/pull	8	9.1	0.23	0.43	0	1
Clench mouth	5	5.7	0.14	0.42	0	2
Hit/kick	5	5.7	0.14	0.42	0	2
Grab person	4	4.5	0.12	0.39	0	2
Threaten	2	2.3	0.05	0.21	0	1

TABLE 3 Hurdle model for presence of rejection of care and severity of rejection of care

Model and variable		95% credible interval	p
Presence of rejection of care	OR		
Elderspeak communication (10% decrease)	0.23	0.03, 0.68	0.009
Pain level (1-unit decrease on PAINAD)	0.27	0.12, 0.45	<0.001
Gender of PLWD (female vs. male)	0.06	0.00, 0.33	0.010
Severity of rejection of care (RTC-DAT)	e^{β}		
Elderspeak communication (10% decrease)	0.84	0.73, 0.96	0.012
Pain level (1-unit decrease on PAINAD)	0.72	0.64, 0.80	<0.001
Delirium severity (1-unit decrease on CAM-S)	0.76	0.57, 0.98	0.039

Contributors to rejection of care

Presence of RoC

The logistic regression model evaluating the presence of RoC in all observations ($n = 88$) demonstrated that elderspeak communication, pain severity, and gender contributed to the occurrence of RoC (Table 3). The odds ratio for pain severity (OR = 0.27, 95% CI = 0.12, 0.45) indicates that a one-unit decrease in the PAINAD score decreased the estimated odds of RoC by 73% after adjusting for the other variables in the model. Female PLWD were also less likely to have RoC compared to male PLWD (OR = 0.06, CI = 0.00, 0.33), after adjusting for all other variables in the model. After adjusting for pain and gender, a 10% decrease in the proportion of elderspeak used by the

nursing staff decreased the estimated odds of RoC by 77% (OR = 0.23, CI = 0.03, 0.68). Figure 1 describes the relationship between elderspeak, pain, gender, and RoC illustrating that at no pain present (PAINAD = 0) males are more likely to exhibit RoC with higher proportions of staff elderspeak use, with pain present (PAINAD = 2) this relationship stay consistent, but with higher probabilities of RoC, and with severe pain (PAINAD = 8) the impact of gender and elderspeak on RoC is less with pain being the greatest contributor to RoC.

The severity of RoC

The truncated log-linear Poisson model evaluating the severity of RoC in all observations containing RoC

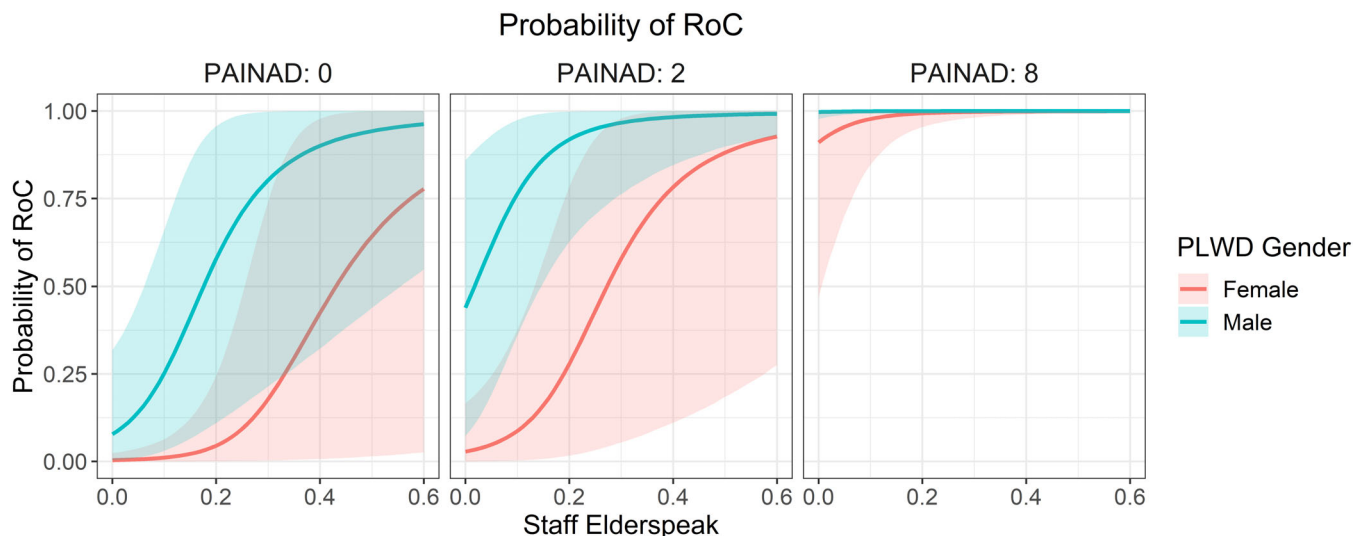


FIGURE 1 Probability of RoC by nursing staff elderspeak based on pain severity and PLWD gender

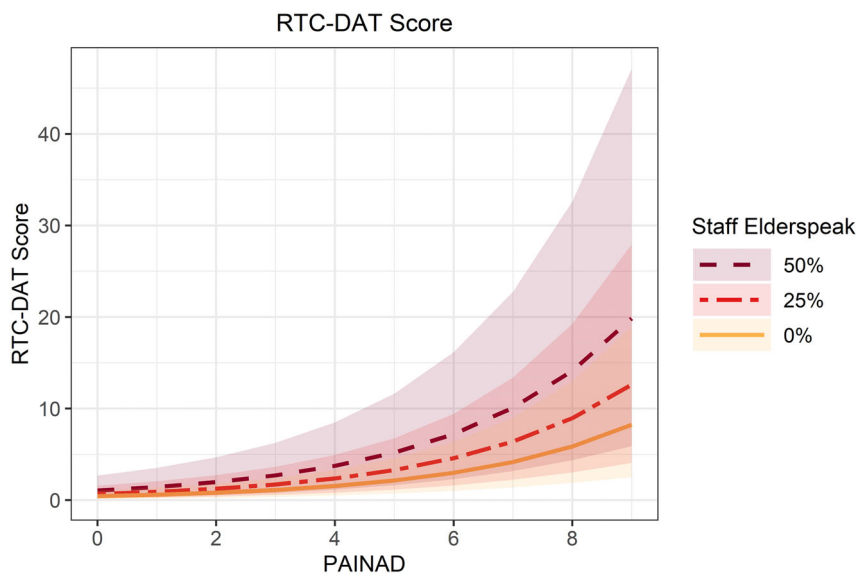


FIGURE 2 Severity of RoC (RTC-DAT) by pain severity based on levels of elderspeak by nursing staff

($n = 43$) demonstrated that elderspeak communication, pain severity, and delirium severity contributed to the severity of RoC. The estimate for pain severity ($e^{\beta}=0.72$, CI = 0.64, 0.80) indicates that a one-unit decrease in the PAINAD score was associated with an average decrease in the RTC-DAT score of 28%, after adjusting for all other variables in the model. A one-unit decrease in the CAM-S score of the PLWD for delirium severity was associated with a mean decrease in the RTC-DAT score of 24% ($e^{\beta} = 0.76$, CI = 0.57, 0.98), after adjusting for all other variables in the model. After adjusting for pain and delirium severity, a 10% decrease in the proportion of elderspeak used by the nursing staff was associated with a 16% decrease in the RTC-DAT score ($e^{\beta} = 0.84$, 95% CI = 0.73, 0.96). Figure 2 describes the relationship between pain, elderspeak, and RoC for

the model on the severity of RoC illustrating that, at higher levels of elderspeak and pain, the severity of RoC increases.

DISCUSSION

The Nurse Talk study identified that elderspeak use and pain severity are important modifiable factors for both the presence and severity of RoC in hospital dementia care. A reduction of elderspeak by 10% was associated with a 77% decrease in odds of RoC and a 16% decrease in the severity of RoC. A one-unit lower PAINAD score was associated with a 73% reduced odds of RoC and a 28% decrease in the severity of RoC. The combination of these findings demonstrates that pain severity is a critical

driving factor for RoC in hospital dementia care, but when pain levels are low, elderspeak is still likely to elicit RoC and that the severity of RoC is typically exacerbated by greater elderspeak use.

Previous research in the long-term care setting has also identified the important relationship between pain and RoC.^{13,14} The Nurse Talk study expanded this evidence to the hospital setting and also demonstrated that pain was poorly controlled in our sample of hospitalized PLWD with nearly half of the observations including a patient with pain. Challenges with pain assessment and management continue to be an issue in hospital dementia care.^{36,37} Hospital nurses cite organizational and educational barriers to adequate pain management in dementia care.³⁶ Reviews have noted that hospital nurses may fail to assess pain in PLWD even when assessment tools are available, and that pain is undertreated in PLWD compared to cognitively intact older adults.³⁷ Innovative approaches to pain management in hospital dementia care are needed for nurses to recognize, assess, and manage pain.^{38,39}

Along with elderspeak and pain, gender of the PLWD and delirium severity were also identified as contributors to RoC in hospitalized PLWD. Female patients with dementia had lower odds of exhibiting RoC compared to male patients, which is consistent with prior research demonstrating that females with dementia are less likely to exhibit RoC compared to males.¹⁴ Prior research has also demonstrated that nursing home residents with delirium are more likely than those without to exhibit RoC,¹⁴ which is consistent with our finding that more severe delirium is associated with higher severity of RoC. This is particularly concerning in the hospital setting, where PLWD is already at double the risk of developing delirium compared to cognitively intact older adults⁴⁰ and PLWD in pain have triple the odds of developing delirium than PLWD who are not in pain.⁴¹ Delirium super-imposed on dementia is a complex issue affected by both modifiable and nonmodifiable factors.⁴² Addressing this is a critical need for hospital dementia care.

Avoiding elderspeak is a key component of person-centered care, which involves respecting and recognizing an individual's personhood. Because elderspeak arises from ageist stereotypes, it depersonalizes interactions, in direct contravention of the tenets of person-centered care.⁴³ Most research on person-centered care has targeted the nursing home setting and has yet to focus on the hospital setting.⁴⁴ The hospital environment creates a unique set of barriers to providing person-centered care because of its specific focus on tasks, procedures, and schedules in a non-homelike environment.^{45,46} A person-centered care philosophy in the hospital setting would ensure that patients with dementia receive both adequate

pain assessment and appropriate communication. For example, caring for a hospitalized patient with dementia in pain faces many challenges due to patient factors (e.g., difficulty in self-report, acute medical needs that may require immediate attention), nursing factors (e.g., lack of knowledge of dementia care and pain management, competing demands), and environmental factors (e.g., understaffing, over- or under-stimulation). The Nurse Talk study identified that elderspeak is associated with RoC in the hospital setting, indicating that this communication pattern is not only a non-person-centered approach but may also lead to RoC. Alternative approaches such as affirming communication that *recognizes* and *validates* personhood, *negotiates* preferences, and *facilitates* needs while promoting independence, are essential to providing person-centered communication to hospitalized PLWD.⁴⁷

The findings from the Nurse Talk study on the relationship between elderspeak and RoC demonstrate the need for communication training in the reduction of elderspeak by hospital nursing staff. There is currently such an intervention for nursing homes, Changing Talk (CHAT), which reduces elderspeak in nursing staff, RoC by residents with dementia, and facility-wide antipsychotic medication administration.^{21,48} The web-based CHAT program for nursing homes is currently being adapted for the hospital setting (CHAT-Acute). A clinical trial is planned to determine whether elderspeak reduction in nursing staff leads to a reduction of RoC in hospitalized patients with dementia.

Limitations

The greatest limitation of the analytic approach in the current study was the inability to perform a time-sequential analysis. The current analysis demonstrates a relationship between elderspeak and RoC but does not provide the direction of the relationship. Previous research in nursing homes using a time-sequential approach demonstrated that elderspeak doubles the probability of RoC compared to neutral communication and that the probability of elderspeak when a PLWD is exhibiting RoC is lower than when a PLWD is exhibiting cooperative and neutral behavior.²⁰ However, the Nurse Talk study is strengthened by the use of real-time behavioral rating of RoC rather than retrospective scales.

Although this study used a relatively small convenience sample of PLWD and nursing staff from one Midwestern university hospital, the characteristics of both the PLWD and nursing staff were on-trend with national estimates.^{49,50} However, the study is limited by the lack of racial and ethnic diversity of the PLWD and only included participants fluent in English. Future research should

include more diverse populations and investigate the impact of elderspeak in the context of individual cultures.

CONCLUSION

The Nurse Talk study identified that pain and elderspeak are modifiable factors for reducing RoC in hospitalized PLWD. Preventing RoC is critical to meeting the medical and psychosocial needs of hospitalized PLWD, so they can receive the necessary care with person-centered approaches.

AUTHOR CONTRIBUTIONS

Study Design: Clarissa A. Shaw, Keela Herr, Kristine N. Williams, Jean Gordon; Data Collection: Clarissa A. Shaw; Analysis and Interpretation: Clarissa A. Shaw, Keela Herr, Kristine N. Williams, Jean Gordon, Caitlin Ward; Preparation of Manuscript: Clarissa A. Shaw, Keela Herr, Kristine N. Williams, Jean Gordon, Caitlin Ward.


CONFLICT OF INTEREST

The authors declare no conflicts of interest.

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SUPPORTING INFORMATION

Additional supporting information may be found in the online version of the article at the publisher's website.

Figure S1. Example of manual RoC observation notes on Livescribe dot paper

Figure S2. Recruitment and enrollment in the nurse talk study

Table S1. Characteristics of patients with dementia and nursing staff

Table S2. Characteristics of the care encounters ($N = 88$)

Table S3. Characteristics of enrolled, eligible, and ineligible patients with dementia

Methods S1. Recruitment and analysis

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Editor's Note

That morning, the kids got off to school with no whines or dawdles. Traffic wasn't bad, and I arrived on the ward feeling fine with time to spare before the start of rounds. The nurses were in report and the patients were having breakfast – all but Mr. G. Admitted yesterday for dementia-related behavioral changes, he picked his way along the empty corridor, heading for the open door – he was “wandering.” He was scared. He had no idea where he was. From twenty feet away, I broke into my best big red-lipstick smile: Good morning, Mr. G! Who was I? He saw the smile, he heard my voice, and that was just enough: suddenly he was “home” again. He smiled and took my arm, we strolled together back onto the ward, chatting about nothing special. That was the day I started to learn about magic, the kind that smooths our way to solid, lasting bonds with many an older person who's in trouble but just doesn't need or want our help.

Shaw et al⁴⁸ have done a remarkable study: employing rigorous, intensive data acquisition and analytic methods, they show the harm that can result when magic is replaced by elder-speak in care transactions. Elder-speak, a special kind of depersonalizing, dignity-denying verbal communication – baby talk with old people, typically those who are living with dementia – elicits rejection of the very care we want to give and that our patients need. The authors recognize that reverse causation is possible (i.e., patient factors could prompt staff elder-speak; not surprisingly, care resistance is also associated with male gender and behaviors suggestive of pain), but they rightly call for specialized training in person-centered communication as protection, or at least a countervailing force. I like to think in terms of circular causation: this avoids laying blame and puts relationship at the heart of care exchange. Circular causal models encourage reflectiveness, not only about how I talk/act and you respond/ behave, but about the experiences and emotions that can drive each of us unawares toward harmful outcomes. As professionals, it behooves us to cultivate awareness; this approach could make person-centered communication training about much more than learning how (not) to talk, and perhaps even more effective in action.

–**Soo Borson, MD**