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Linking Resident Behavior to Dementia Care Communication: Effects of Emotional Tone

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Abstract

Care for older adults with dementia is complicated by behaviors such as verbal and physical aggression and withdrawal that disrupt and increase the costs of providing care. These behaviors, referred to as resistiveness to care (RTC), have been linked to staff elderspeak communication, measured by behaviorally coded explicit behaviors. This study examined videotapes of nursing home (NH) residents with dementia interacting with staff during bathing to explore the relationships between implicit messages communicated by nursing staff and resident RTC behavior.

Implicit messages in nursing staff communication were rated using the Emotional Tone Rating Scale by naïve coders. Associations between implicit ratings of care, respect, and control were analyzed in relation to RTC scale scores. Highly controlling communication was significantly correlated with increased resident RTC ($r = .49$, $p < .05$). Associations between the care and respect dimensions of communication were not significantly correlated with RTC; however, trends in hypothesized directions were identified. The association between emotional tone and RTC found in this study suggests that it is an important factor in care. Understanding affective messages is a first step in modifying these implicit messages conveyed during staff-resident communication. Research is needed to confirm these findings and to identify and test interventions to teach staff to reduce controlling messages that will to reduce RTC and improve care.

As the population afflicted with Alzheimer's disease and other dementias expands from 5 million today to 16 million by 2050, direct and indirect costs of care, currently estimated at $148 billion yearly in the United States, will dramatically rise (Alzheimer's Association, 2008). Caring for a growing population of older adults who suffer from dementia is complicated by challenging problem behaviors including aggression, agitation, wandering, withdrawal, and vocal outbursts. These behaviors commonly progress over the disease course, add to family caregiver stress, and precipitate nursing home (NH) placement (Balestri, Grossberg & Grossberg, 2000; Cohen-Mansfield, 2001).

It is estimated that 73% to 90% of residents with dementia in NHs and assisted living facilities exhibit problem behaviors, most frequently during the provision of personal care (Cohen-Mansfield, Marx, & Rosenthal, 1989; Sloane et al., 2007). Problem behaviors add to both subjective and objective burden for NH staff as well as family members (Schulz,

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O'Brien, Boodwasa, & Fleissner, 1995). Because these behaviors disrupt personal care activities, they are termed resistiveness to care (RTC).

Impaired communication has been identified as a primary predictor of RTC in dementia NH care (Talerico, Evans, & Strumpf, 2002). There are many barriers to communication for residents in NHs who have limited opportunities for communication and rely primarily on communication with staff to meet their need for a human connection (Lubinski, 1995). Heavy workloads limit nursing staff communication with residents and limit focus on care tasks instead of on interpersonal communication that is critical to maintaining personhood in dementia (Buron, 2008; Grainger, 1995). Within an institutional framework, staff power over residents is communicated in controlling (Lanceley, 1985) and dependency-reinforcing communication (Baltes & Wahl, 1996). Additionally, intergenerational differences between residents and staff lead to patronizing communication or elderspeak that sounds much like babytalk, and conveys messages of incompetence to elders (Caporael, 1981; Kemper, 1994).

Researchers are now investigating specific characteristics of NH communication that are most problematic. An observational study using video recordings of NH care identified sequential relationships between explicit nursing staff elderspeak communication and RTC behavior of residents with dementia. Communication behaviors such as terms of endearment and pronoun substitutions as well as specific nonverbal communication behaviors were coded per operational definitions. That study (Williams, Herman, Gajewski, & Wilson, 2009) found that residents with dementia were twice as likely to exhibit RTC when staff used elderspeak compared to normal communication.

An emotional tone imbalance in dimensions of care, respect, and control is one aspect of elderspeak communication (Hummert & Ryan, 1996). However, emotional tone and related concepts have also been used to characterize implicit messages conveyed in parent-child and healthcare provider-patient communication unrelated to elder care (Agha, Rotter, & Schapira, 2009; Dowdney, Mrazek, Quinton, & Rutter, 2006; Haskard, Williams, DiMatteo, Heritage, & Rosenthal, 2008; Laiable & Song, 2006; Morgan, 1998).

Implicit emotional tone rating supplemented coding of explicit psycholinguistic measures of elderspeak in past communication research (Williams, 2006). Recordings of staff communication collected after communication training demonstrated significant reductions in psycholinguistic (explicit) measures of elderspeak as well as emotional tone (decreased controlling and increased respectful messages). However, 2 months later the emotional tone (implicit messages) returned to baseline levels while reductions in the psycholinguistic measures were maintained. Thus, emotional tone is either a separate construct linked to elderspeak or a measure of implicit in contrast to explicit communication. The current reanalysis was undertaken to evaluate how implicit affective messages may impact resident RTC in dementia care.

Method

Sample

Sixteen video recorded interactions between nursing staff and residents with dementia during bathing were selected for secondary analysis. These recordings were extracted from a set of eighty, 1- to 10-minute video recordings collected during typical daily care in three dementia care facilities. Refer to Williams et al. (2009) for a more detailed description of procedures, including institutional review board approval, recruitment and consenting of participants, sample characteristics, and data collection and reduction procedures. A total of 20 residents were included in the parent study. However 4 residents did not exhibit RTC during bathing. Bathing videos for these 4 subjects were excluded from this analysis because

they did not include RTC, the dependent variable of interest. Bathing care was selected for this reanalysis because RTC is concentrated during bathing. The analysis was limited to the 16 bathing recordings due to the extensive time required for 20 individual raters to view, review, and rate each of the video recordings.

The mean age of resident participants in our sample was 82.9 (range 69 to 97) years. Five were Caucasian men and 1 was an African American woman; the remaining subjects were Caucasian women. All subjects had moderate-stage dementia, as determined from the Minimum Data Set Cognition Scale using clinical record documentation (Hartmaier, Sloane, Guess, & Koch, 1994). Nursing staff were primarily (78%) certified nursing assistants (NAs) and female (83%). Staff participants were 68% White, 30% African American, and 4% were Hispanic or Latino. Staff ranged from 21 to 54 (mean 35) years of age.

Data Collection

Videos were collected in the parent study using a hand-held video recorder to record staff-resident dyads during care activities using established techniques to minimize reactivity and the Hawthorne effect (Caris-Verhallen, Kerkstra, van der Heijden, & Bensing, 1998). A random selection of recordings was made from video footage collected over an entire day that met a priori selection criteria. Bathing was one of the four personal care activities included in the sample.

Resistiveness to Care Scale scores had been computed for each video interaction in the parent study (Williams et al., 2009). The current study adds emotional tone ratings of implicit staff communication in the bathing videos, completed by naïve raters ($N = 20$) who observed and coded the staff communication in each video clip. RTC Scale and Emotional Tone Rating Scale ratings were then correlated to determine any associations between the implicit messages in the staff communication and resident RTC behaviors.

Emotional Tone Coding

The Emotional Tone Rating Scale (ETRS) was used to rate implicit staff communication during the staff-resident video recordings. Twenty naïve raters, blinded to the goals of the research study, completed a 5-point Likert scale for 12 items indicating to what degree the staff person exhibited each of the 12 descriptors (1 = *not at all*, to 5 = *very*). The 12 descriptors represent three theoretical dimensions of emotional tone; caring (nurturance, caring, warmth, and support), respect (polite, affirming, respectful, and patronizing [reverse coded]), and control (dominating, controlling, bossy, and directive) (Hummert, Shaner, Garstka, & Henry, 1998).

Internal consistency of the ETRS has been established in prior research for each dimension of the scale (Cronbach's alphas for caring =.91, respect =.85, and control =.90) with correlations between the four items in each dimension ranging from .46 to .78 (Williams, 1999). The scale also demonstrates relatively high variances with means close to the center of the range within each four-item dimension of care ($M = 13.06$, $SD = 4.11$; respect $M = 12.53$, $SD = 4.13$; and control $M = 12.27$, $SD = 4.65$).

Student volunteers 18 to 47 years of age who were unaware of the study goals and design, rated staff communication in the 16 bathing video recordings. To reduce rater burden, only the first minute of each recording was rated. The initial minute of elder care communication has been established as representative of entire care interactions (Caris-Verhallen et al., 1998). The conversations were randomly ordered and presented individually via computer using MediaLab computer software (Empirisoft, 1997 version). Mean rating scores for staff communication in each video clip were computed within dimensions of care, respect, and control

RTC Coding

Each staff-resident interaction was rated for RTC using the Resistiveness to Care Scale (RTCS; Mahoney et al., 1999) in the parent study (Williams et al., 2009). The RTCS assesses problematic behaviors such as overt aggression as well as more subtle behaviors of clinical relevance to providing personal care (Gibson, 1997). These behaviors include "grab object, say no, adduct [holding the arms or legs tight against the body], grab person, pull away, clench, cry, scream, turn away, push away, hit/kick, threaten, and gegenhalten" [body movements in opposite direction from staff].

Extensive training was required to achieve agreement for coding operationally defined behaviors with 90% agreement between research assistants on practice materials. Thirteen behaviors were identified, timed for duration of behavior using a 5-point scale (*did not occur*, *less than 16 seconds*, *16 to 59 seconds*, *1 to 2 minutes*, *over 2 minutes*) and rated for intensity (*mild*, *moderate*, *extreme*). Behavior duration was multiplied by its intensity, resulting in a weighted score that was summed for all items. The total score ranged from 0 (*no resistiveness*) to 156 (*maximum resistiveness*).

RTCS interrater reliability has been established at 95% with internal consistency established in two LTC dementia populations (Cronbach's alphas .82–.87). Construct validity was established using principal components factor analysis, resulting in a 3-factor solution that explained 53.3% of the variance. Content validity is reported at 1.0 ($p \leq .05$) and significant correlation with the Discomfort Scale for Dementia Scale (Hurley, Volicer, Hanrahan, Houde, & Volicer, 1992) provide evidence for criterion-related validity of the RTCS.

Analysis and Results

Communication rated high in the controlling emotional tone dimension was significantly correlated with increased resident RTC ($r = .49$, $p < .05$). Associations between the care and respect dimensions of communication were not significantly correlated with RTC behaviors; however, negative associations occurred between RTC and respect in messages ($r = -.21$, $p = .21$) and between RTC and care ($r = -.14$, $p = .31$). Internal consistency for the ETRS was high (chronbach's alpha = .94) for the three dimensions of emotional tone.

Discussion

This study analyzed a small number of staff-resident interactions extracted from a convenient sample of daily NH care activities. The recordings were collected for the parent study to approximate representative examples of communication during routine daily care. Time requirements and feasibility for multiple raters to observe and rate implicit aspects of communication limited the total sample of videos analyzed in this study, also limiting the strength of conclusions. Future research should expand sample size and include additional care activities. The high rate of agreement between the 20 naïve raters who independently observed and scored the videos suggests that the ETRS is a reliable tool to capture and quantify implicit communication behaviors.

Our findings suggest that affective or implicit messages (or emotional tone) conveyed in NH staff communication are quantifiable and are associated with variations in resident behaviors during care. In our sample, messages conveying higher levels of control were associated with increased RTC. These results should be interpreted with caution considering the limited sample size and strength of the associations established by correlational analyses. Future research should replicate this study to determine whether these findings generalize to other settings. The effects of emotional tone on older adults with different conditions and at different stages of dementia should also be determined. Testing temporal relationships

between communication of varied emotional tone and resident RTC is also needed to determine whether this is an antecedent-consequent relationship or whether emotional tone variations occur in response to, rather than as an antecedents to, RTC behavior.

The ETRS and RTC scale ratings used in this study were observational measures derived from videotaped data of interpersonal interactions between NH residents and staff. Resident and staff awareness of being recorded (made obvious by the investigator presence with a video camera) may have altered naturally occurring behaviors and a Hawthorne effect may have occurred. To minimize this possibility, staff were asked to act normally and told that the focus was on the resident behaviors. Residents seemed to adjust to the presence of the investigator. Although standard strategies were used to minimize the investigator and camera obtrusiveness, these shortcomings are acknowledged. The advantages of being able to repeatedly review and analyze different communication and behavioral factors and assess coding reliability outweighed the limitations of video recording in this study.

Ongoing research is needed to confirm the findings of this study and to identify the relationships between implicit and explicit messages conveyed in communication. A better understanding of these communication factors and their relationship to behavioral responses is needed to identify how to improve communication effectiveness. Future research should investigate how care staff can alter the underlying affective or implicit messages in their communication (as well as their explicit communication) and how to best train care staff to communicate more effectively. Research is also needed to determine the optimal balance of care, respect, and control in variable patient care situations. Determining optimal emotional tone and operationalizing communication strategies to meet this goal remain to be established.

However, the potential for relatively brief staff training in communication skills to significantly impact cooperation with care and quality of life hold potential promise (Williams, 2006; Williams, Kemper, & Hummert, 2003). Research to develop and test behavioral interventions for persons with dementia should be expanded to include both implicit and explicit communication, critical aspects of therapeutic dementia care, as a means to overcome RTC behaviors and improve quality of life for residents and staff alike.

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