



Caregiver Approach During Mealtime is Temporally Related to Behavioral Symptoms Exhibited by Nursing Home Residents with Dementia

Andrea Gilmore-Bykovskiy, PhD, RN^{1,2}; Tonya Roberts, PhD, RN^{1,2}; Barbara Bowers, PhD, RN, FAAN²; & Roger Brown, PhD²
¹Madison VA GRECC, ²University of Wisconsin-Madison School of Nursing



What We Learned: Sequential analysis identified clinically-relevant temporal relationships between various caregiver approaches and behavioral symptoms, supporting person-centered approaches as a low-cost strategy to improving dementia symptom management.

Background

Gap

- Nursing home (NH) residents with dementia regularly experience behavioral symptoms such as agitation that occur more frequently during mealtimes
- The quality of interactions with caregivers has been shown to reduce behavioral symptoms during other care processes such as bathing, with **person-centered interaction** being the most effective
- No methodology is available to quantify the dynamic, time-sensitive nature of caregiver-resident interactions and behavioral symptoms

Purpose

(1) To develop a feasible approach to quantifying the temporal qualities of caregiver-resident mealtime interactions, and (2) to identify temporal relationships between caregivers' person-centered/task-centered actions and residents' behavioral symptoms during mealtime cares

Methods

Design: Video-recorded observation
Setting and Sample: 33 mealtime observations; N=12 residents, N=8 staff from two NH facilities
Coding: A coding scheme was developed to enable timed event coding using items from valid/reliable observational tools to measure caregiver *person-centered/task-centered actions* and resident *behavioral symptoms*^{1,2} and completed by 4 trained observers
Analysis: (1) *Feasibility*—Inter-observer reliability, time to complete framework, ease of use (2) *Temporal relationships*—Identified using lag-based sequential analysis using GSEQ V5.1 to compute conditional probabilities, odds ratios and Yule's Q

Results

Feasibility

Reliability

Inter-Observer Reliability Coefficients and Precision Estimates		
Statistic	Coefficient	Standard Error
Cohen's Kappa	0.906481	0.050578
Gwet's AC1	0.915582	0.046848
Brennan-Prediger	0.91498	0.47109
Percent Agreement	0.921053	0.043744

Time to Complete Coding

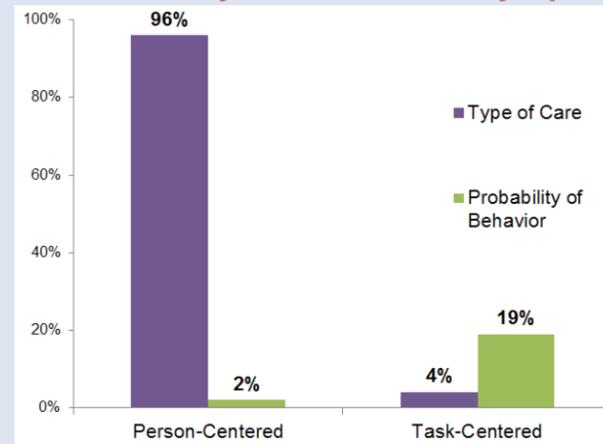
The ratio of coding time to video length averaged 2.5 times the length of video [range 1.3-4.6], which decreased over course of study.

Ease of Use

- Observers indicated that the framework was:
- ✓ **Easy to manage**
 - ✓ **Questions easy to resolve using coding manuals codes that were challenging to distinguish**
 - ✓ **Ease of use would be improved with consolidation of caregiver** (i.e. showing approval/showing interest)

Temporal Relationships

Relative Frequency of Caregiver Behavior and Probability of Behavioral Symptoms



- Caregiver actions were predominantly person-centered (96%) but behavioral symptoms were much more likely to occur following task-centered actions (**19-21% likelihood, Yule's Q .89-.90; OR 17.38-18.53**) than following person-centered actions (**2% likelihood, Yule's Q .18-.21; OR 16.26-18.83**)
- This pattern was consistent across a range of timeframes but was greatest at a 45-to-60 second interval between caregiver and resident behaviors



Conclusions

- The coding scheme was feasible, reliable and easy to use and captured clinically-relevant, modifiable antecedents to behavioral symptoms
- Findings support expanded use of sequential analysis to examine antecedents to dementia-related behavioral symptoms which have not been identified using other methodologies. This method may also be uniquely relevant to people with dementia who often experience and respond to events "in the moment"
- This study provides additional, valuable insight into the utility of caregiver person-centeredness as a low-cost strategy for improving management of dementia-related behavioral symptoms
- Application of this coding scheme in a larger, more diverse sample is merited
- Future research should examine the differential influence of unique caregiver actions on behavioral symptoms in persons with dementia

Limitations

- Small sample size
- All caregivers were female, had substantial caregiving experience and were consistently assigned to the residents in the study

Citations

1. Coleman, C. K., & Medvene, L. (2012). A Person-Centered Care Intervention for Geriatric Certified Nursing Assistants. *The Gerontologist*, 53(4), 687-98.

2. Rosen, J., Burgio, L., Kollar, M., Cain, M., Allison, M., Fogleman, M., et al. (1995). The Pittsburgh Agitation Scale: A User-Friendly Instrument for Rating Agitation in Dementia Patients. *The American Journal of Geriatric Psychiatry*, 2(1), 52-59.

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