Geriatric Nursing 36 (2015) S10–S15

Contents lists available at ScienceDirect

Geriatric Nursing

journal homepage: www.gnjournal.com

Feature Article

Caregiver person-centeredness and behavioral symptoms during mealtime interactions: Development and feasibility of a coding scheme

Andrea L. Gilmore-Bykovskyi, PhD, RN [a,b,*]

[a] Geriatric Research Education and Clinical Center (GRECC), William S. Middleton Hospital, United States Department of Veterans Affairs, Madison, WI, USA
[b] University of Wisconsin–Madison School of Nursing, 5136 Cooper Hall, 701 Highland Avenue, Madison, WI 53705, USA

Keywords:
Dementia
Behavioral Symptoms
Person-Centered Caregiving
Video-observation

A B S T R A C T

Mealtime behavioral symptoms are distressing and frequently interrupt eating for the individual experiencing them and others in the environment. A computer-assisted coding scheme was developed to measure caregiver person-centeredness and behavioral symptoms for nursing home residents with dementia during mealtime interactions. The purpose of this pilot study was to determine the feasibility, ease of use, and inter-observer reliability of the coding scheme, and to explore the clinical utility of the coding scheme. Trained observers coded 22 observations. Data collection procedures were acceptable to participants. Overall, the coding scheme proved to be feasible, easy to execute and yielded good to very good inter-observer agreement following observer re-training. The coding scheme captured clinically relevant, modifiable antecedents to mealtime behavioral symptoms, but would be enhanced by the inclusion of measures for resident engagement and consolidation of items for measuring caregiver person-centeredness that co-occurred and were difficult for observers to distinguish.

Introduction

In the nursing home (NH) setting, mealtime can represent a challenging time for caregivers and residents, nearly half of whom have some form of cognitive impairment.[1] Cognitive losses experienced by persons with dementia eventually lead to partial or complete loss of the ability to initiate or sustain attention to complex feeding tasks such as locating food, chewing and swallowing.[2] Persons with dementia also regularly experience behavioral symptoms, such as agitation, which occur more commonly during mealtimes and contribute to frequent disruptions in eating.[3,4] The various cognitive, functional and behavioral barriers to achieving positive mealtime experiences for persons with dementia are often referred to as mealtime difficulties.[5,6] Persons with dementia who experience sustained mealtime difficulties are at increased risk for a variety of poor outcomes including inadequate nutritional intake, unintentional weight loss, malnutrition and dehydration, which ultimately contribute to diminished physical health and quality of life.[7] Reducing mealtime difficulties, such as behavioral symptoms, may result in more eating time, which in turn could lead to better nutrition.

Past research suggests that the quality of interactions between direct care staff and the person with dementia can influence nutritional intake, but it is not known what specific types of interactions most effectively reduce behavioral symptoms during mealtimes.[8–10] Person-centered interactions with caregivers have been found to be effective at reducing behavioral symptoms during other care processes, such as bathing, but little is known about what specific types of person-centered interactions that might effectively reduce mealtime behavioral symptoms.[11–13]

Past studies on caregiver-resident interactions during mealtimes have explored the overall positive/negative nature of caregiver statements during a particular meal, but have not examined caregiver person-centeredness.[2,10] Past research has also relied largely on static observational methods to examining interactions.[7] Static observation precludes an understanding of the dynamic, time-sensitive nature of interactions that take place between caregivers and persons with dementia and the temporal link between caregiver actions and behavioral changes in the person with dementia. Additionally, static observational methods do not

* Corresponding author. Tel.: +1 608 262 9532; fax: +1 608 280 7291.
E-mail address: algilmore@wisc.edu.

0197-4572/$ – see front matter © 2015 Elsevier Inc. All rights reserved.
http://dx.doi.org/10.1016/j.gerinurse.2015.02.018

provide for an understanding of the complex subtleties of non-verbal communication and cues that take place during mealtimes and their temporal link to changes in the behavior of the person with dementia.

Sequential analysis methods facilitate the examination of temporal associations and patterns during complex interactions[14] and are particularly well-suited to explore dynamic caregiver-resident interactions in NHs.[11,15,16] In order to describe and quantify complex interactions that occur during mealtimes and identify their temporal relationship to changes in behavior, the development of procedures for collecting, coding and analyzing sequential data in the context of mealtimes are needed.

The purpose of this study was to develop procedures for collecting and coding sequential data from naturally-occurring caregiver-resident mealtime interactions. Specific objectives were to 1) determine the acceptability and feasibility of these procedures; 2) assess the feasibility, ease of use and inter-rater reliability of the developed coding scheme; and 3) explore the clinical utility of the coding scheme for informing improvements in behavioral symptom management during mealtimes for NH residents with dementia.

Methods

Study design

This study was a video-recorded, descriptive, observational study of mealtime care interactions between NH staff and residents with dementia. Observations were conducted between January, 2014 and February, 2014.

Setting and sample

Participants included NH staff and residents with dementia from memory care units in two NHs in the Midwest (one government-owned 120 bed urban facility; one 81 bed private-owned urban facility). Inclusion criteria for NH staff included: 1) being a certified nursing assistant (CNAs); 2) working primarily on the memory care unit; and 3) providing informed consent and agreeing to provide mealtime care to participating residents during observations.

Inclusion criteria for NH residents included: 1) having a documented diagnosis of dementia in their medical record; 2) requiring moderate to significant mealtime assistance; and 3) having a legally authorized representative who provided informed consent for participation. Exclusion criteria for NH residents included: 1) requiring little to no assistance during mealtimes; 2) currently being treated for acute major depression; or 3) having both severe hearing and vision impairment.

Development of computer-assisted coding scheme

To enable sequential analysis of mealtime interactions, a computer-assisted coding scheme was developed to facilitate coding of both the frequency and duration (timed-event) of the person-centeredness of caregiver behaviors and resident behavioral symptoms. Items for measuring person-centeredness and behavioral symptoms were identified from previously developed observational tools that have been both content validated in nursing home populations and have demonstrated satisfactory inter-rater reliability (Table 1). All items were adapted for use with Noldus Observer® XT software to facilitate computer-assisted coding.

Data from one observational session was used to trial the protocols for data management and the coding scheme, which resulted in revisions to the study manuals. Revisions included clarifications for how the beginning and end of the mealtime was defined and when to indicate certain caregiver codes, modifications to a 'lack of interaction' code, and addition of two items to measure task-centered behavior.

A code to specify periods without interaction was modified to specify lack of interaction as an instance when the caregiver was in

Table 1
Coding scheme for measuring mealtime interactions and behavioral symptoms.

Caregiver codes		Resident codes	
Person centered behaviors[a]		**Behavioral symptoms**[b]	
Verbal behavior	*Non-verbal behavior*	*Behavior group*	
■ Greeting	■ Resident-directed eye gaze	Aberrant vocalizations	■ Minimally disruptive: Low volume/louder than conversational; redirectable
■ Asking resident for help/cooperation	■ Affirmative nodding		■ Loud, disruptive: Moderately-severely disruptive; screaming/yelling
■ Giving choice	■ Appropriate use of affectionate touch	Motor agitation	■ Minimal: Pacing/moving about; mildly increased rate of movement; redirectable
■ Assessing comfort or condition	■ Assessing comfort		■ Intense-rapid: Moderately-severely disruptive; not redirectable
■ Orientation	■ Adjusting to resident's pace	Aggressiveness	■ Verbal threats
■ Empathy	■ Proximity		■ Threatening gestures
■ Showing approval	■ Positive gestures/facial expressions		■ Physical toward property
■ Showing interest			■ Physical toward self/others
■ Back-channel response		Resisting care	■ Procrastination/avoidance
■ Positive voice quality			■ Verbal/gesture of refusal
Task-centered behaviors[a]			■ Pushing away to avoid tasks
Verbal behaviors	*Non-verbal behaviors*		■ Striking out at caregiver
■ Verbal controlling	■ Ignoring		
■ Interrupting/changing topic	■ Physically controlling		
■ Controlling voice quality	■ Inappropriate touch		
	■ Outpacing		
Other caregiver codes			
■ Lack of interaction[c]			

[a] Items from the Person-Centered Behavior Inventory (PCBI) and Task-Centered Behavior Inventory (TCBI) were used to measure the person-centeredness of caregiver actions during mealtimes. Both scales have demonstrated inter-observer reliabilities averaging.82 (Coleman & Medvene, 2012; Hannah Lann-Wolcott et al, 2011). Outpacing was added using definitions provided in the Dementia Care Mapping tool, which has demonstrated test-retest reliability ratings >0.8. (D.J. Brooker & Surr, 2006; Fossey, Lee, & Ballard, 2002).

[b] Behavioral Symptoms were measured using the Pittsburgh Agitation Scale (PAS), which has demonstrated inter-observer reliabilities averaging 0.92 in NHs (J. Rosen et al, 1994; Jules Rosen et al, 1995). The intensity rating of 0–4 was modified for each behavior group to a rating of 1–2.

[c] Lack of interaction was coded when there was no interaction for more than 2 min (verbal or non-verbal) when the caregiver was in close proximity to the resident during the meal or for more than 3 min if the caregiver was interacting with another staff member without engaging the resident.