ORIGINAL research

Rates of Resident Need-Driven Behaviors and Nursing Assistant Skill Use in Nursing Homes

Angela K. Hochhalter, PhD,
Alan B. Stevens, PhD, Louis Burgio, PhD

Challenging behaviors of nursing home residents with dementia often represent unmet needs and are thus termed "need-driven" behaviors. Facility staff members can become stressed when need-driven behaviors are difficult to manage. This study describes the rates of resident need-driven behaviors and the frequency with which staff members use skills that are thought to be effective or ineffective for managing those behaviors. Data for this investigation were collated from baseline in-person observations from the "Working As Informed Teams" (WAIT) project, a controlled trial that compared two staff development interventions aimed at improving behavioral care skills and teamwork to address resident needs that lead to need-driven behaviors. Disruptive vocalizations, restlessness, and resident-specific "target behaviors" were the most commonly observed need-driven behaviors. Staff skills were often not used in addressing these behaviors, suggesting the need for staff education and development to improve use of skills that may reduce rates of need-driven behavior.

Common behaviors of nursing home residents with dementia include withdrawing from others, apathy, agitation, restlessness, repeated statements, and aggressive acts toward staff members or other residents. Algase and colleagues[1] labeled conducts of these types "need-driven dementia-compromised behaviors." The label represents the possible origin of typical behavioral symptoms of dementia—needs generated by background and proximal factors. Background factors are relatively stable and include neurological disease progression, cognitive abilities (e.g., memory impairment), general health (e.g., pain, motor ability), and psychosocial factors. Proximal factors are relatively less stable, and include personal characteristics, the physical environment (e.g., noise, cluttered hallways), and the social environment (e.g.,

quality of interactions with staff members). Need-driven behaviors represent attempts to meet needs created by these factors. For example, a person who is disoriented about his or her location (background factor) has limited ability to communicate (background factor), and who is hungry (proximal factor) may look through drawers in others' rooms. This can be quite disruptive in a nursing home, even though the need-driven behaviors model suggests it is a reasonable, goal-directed behavior for the person with dementia who is disoriented, hungry, and unable to communicate.

Need-driven behaviors are frustrating and burdensome for staff members, who value their relationships with the residents for whom they provide care.[2,3] Caring for persons with such behaviors can be especially challenging and stressful if staff members cannot identify resident needs and enact management strategies that meet or consider needs. The need-driven behavior model is a helpful framework for professional and family caregivers, because it suggests both causes and possible solutions for behaviors that make provision of care difficult. The model is useful for understanding origins and potential interventions for most behaviors that challenge caregivers,

including passive behaviors (e.g., decreased socialization and verbalizations),[4] wandering,[5] aggression, vocalization, and agitation.[1,6]

Selection and enactment of appropriate behavior management strategies to address unmet needs require staff members to acknowledge the multiple domains of the resident's life in the nursing home. Physical needs can be obvious when functional limitations are visible. Physical needs related to hunger, pain, and climate are less recognizable, yet often result in need-driven conduct. Resident social, psychological, and emotional needs are as important as physical needs to the effective management of need-driven behaviors and delivery of high-quality care. Helping staff members understand all types of resident needs and develop skills to meet those varied needs is a worthy and achievable staff development goal.[7]

Studies have shown that nurse aides and other nursing home staff members can learn to use behavioral care skills to compensate for background factors, adjust proximal factors, and reduce frequency of need-driven behaviors.[8-10] Effective types of behavioral skills include use of customized pleasant activities, relaxation techniques, redirection or distraction, environmental modifications, matching levels of stimulation to resident preference, using simple and direct communication, and giving single-step instructions.[8,9,11] Many of these skills can be integrated into usual staff–resident interactions and do not require additional time on the part of busy staff members. In fact, skillful interactions with residents may reduce the frequency of disruptive conduct like aggression, which can slow care routines.

The occurrence of need-driven behaviors in nursing homes is well documented in the literature, although active behaviors (e.g., hitting, repeated questions) are measured more often then passive behaviors (e.g., social withdrawal). Generally, reports rely on nursing home records or staff-member reports to establish the frequency of specific types of resident conduct. Resident behaviors are usually defined without regard to resident needs. Fewer data are available from studies using highly specific definitions of behaviors and environmental context (e.g., the occurrence of behaviors during interactions with nursing assistants). In addition, little is known about the rate at which nursing home staff members use behavioral skills to manage residents' need-driven behaviors.

One purpose of this study was to describe rates of naturally occurring need-driven behaviors among nursing home residents with dementia during their most behaviorally active times of day and during personal care. The study focused on active behaviors, such as resisting care and restlessness. A second purpose was to describe nursing assistant use of effective and ineffective behavioral care strategies.

SUBJECTS AND METHODS

Data for this study represent baseline observations from a controlled trial of a staff development intervention. The

project, Working As Informed Teams (WAIT), compared a minimal staff training intervention to a comprehensive system of staff training and management to address need-driven behaviors. Training was heavily influenced by the need-driven behavior model. For example, all staff members were introduced to a process for identifying background and proximal needs from which need-driven behaviors may originate. Observational measures of resident and staff behaviors were collected along with staff surveys about the nursing home work environment.

Resident behaviors are described in categories that approximate those of the Minimum Data Set (MDS) and the Cohen-Mansfield Agitation Inventory (CMAI)[12] rather than those used by Algase and colleagues'[1] model of need-driven dementia-compromised conduct, because the MDS and CMAI labels are familiar to staff members and part of other standardized measures.

Subjects. One-hundred and five residents from six nursing homes in Alabama participated in the baseline phase of the WAIT project. Informed proxy consent for participation was obtained from residents' sponsors under procedures approved by the University of Alabama at Birmingham Institutional Review Board. The mean age of the residents was 80.42 years (standard deviation, 11.56 yr). Most residents were women (82.4%). The residents were either Caucasian (77.5%) or African American (22.5%). Residents who were eligible for the study were expected to remain in the facility for at least six months, had Mini Mental State Exam (MMSE) scores of 24 out of 30 or less and displayed need-driven behavior according to nursing home staff report. The mean MMSE score was 9.0 ± 5.6, although 31.3% of residents were either unable or unwilling to complete this brief measure.

Nursing assistants worked at participating nursing homes and were observed while interacting with participating residents as part of their usual work duties.

Procedure. The principal investigator (A.B.S.) approached nursing home administrators about their facilities' possible participation. Nursing homes received written and verbal descriptions of the study, including commitments required for data collection and staff development activities. Four nursing homes were corporate owned, and two were operated by nonprofit organizations. All served private-pay and Medicare residents. Nursing homes entered the study consecutively. Observations at each nursing home were collected during a period of up to six weeks on weekdays between 8 AM and 6 PM.

The following resident behaviors were recorded: disruptive vocalization, physical abuse, resisting care, restlessness, intrusive behavior, and a resident-specific target behavior. The target behavior for each resident was determined by interviewing multiple staff members (nursing assistants and licensed practical nurses) about that resident's most common need-driven behavior.

skills thought to be effective for meeting resident needs that lead to need-driven behaviors (effective skills) and (2) skills thought to be ineffective for meeting resident needs or addressing need-driven behaviors (ineffective skills). Skills were defined *a priori*. The result of each skill was not coded. For example, arguing with a resident was always coded as an occurrence of ineffective skill use, regardless of the resident's response.

Effective skills included promotion of independent behavior, validation, reinforcement of desired behaviors, distraction, use of single-step instructions, change of environmental stimulation, attendance to physical need, and approaching a resident in a way that is nonthreatening and gains attention. The same effective skills are taught in the WAIT project intervention. Ineffective skills included verbal blocks (e.g., "Stop that"), arguing with the resident, and making negative statements (e.g., "You are being difficult").

Each conduct of interest (i.e., need-driven behavior or behavioral care skill) was strictly defined to allow reliable coding by multiple observers. Research staff members were trained to be reliable observers, and interrater reliability was monitored on an ongoing basis. The observers were also trained to collect data in the least obtrusive manner possible. Observers did not interact with residents or nursing home staff members during observations. Protocols did allow for observers to take action if a resident was in imminent danger, at which time data collection was terminated. Observers wore uniforms similar to those worn by nursing assistants.

Data were coded on hand-held personal data assistants (PDAs) that ran software designed for observational data collection. The data collection software allowed observers to select the resident being observed and the name of the nursing assistant providing care in drop-down representing each need-driven behavior, the resident's unique target behavior, and any skill being used. For resident need-driven behaviors, the key selected stayed illuminated until physically turned off, allowing data on the duration of the behavior. Staff skill keys did not remain on, because skill use was conceptualized as a discrete event. The software recorded the keys pressed, or "on," for each second of the observation.

Residents were observed in two situations during which need-driven behaviors may be exhibited. These two situations provided a sample of the resident's day-to-day experiences in the facility. First, eight time-sampling observations were collected during half-hour segments of a two-hour time identified by staff members as the time of day when the resident's most frequent and bothersome need-driven behavior was most likely to occur. These time-sampling observations lasted 25 to 30 minutes and did not require the presence of a nursing assistant. Second, activities of daily living (ADL) observations were collected while residents received personal care from a nursing assistant for ADLs.

RESULTS

Observations. Time-sampling observations were completed for all 105 residents in the study. The mean number of time-sampling observations per resident was 7.78 ± 0.98. The most common reasons for completing less than eight time-sampling observations included resident absence (e.g., home visit or hospital stay before observations are complete) and resident death during data collection. A total of 1,414,841 seconds of time-sampling data were collected.

Eight ADL observations were collected over a six-week period, each lasting three to 15 minutes. Eighty-seven of the 105 residents were observed during ADL
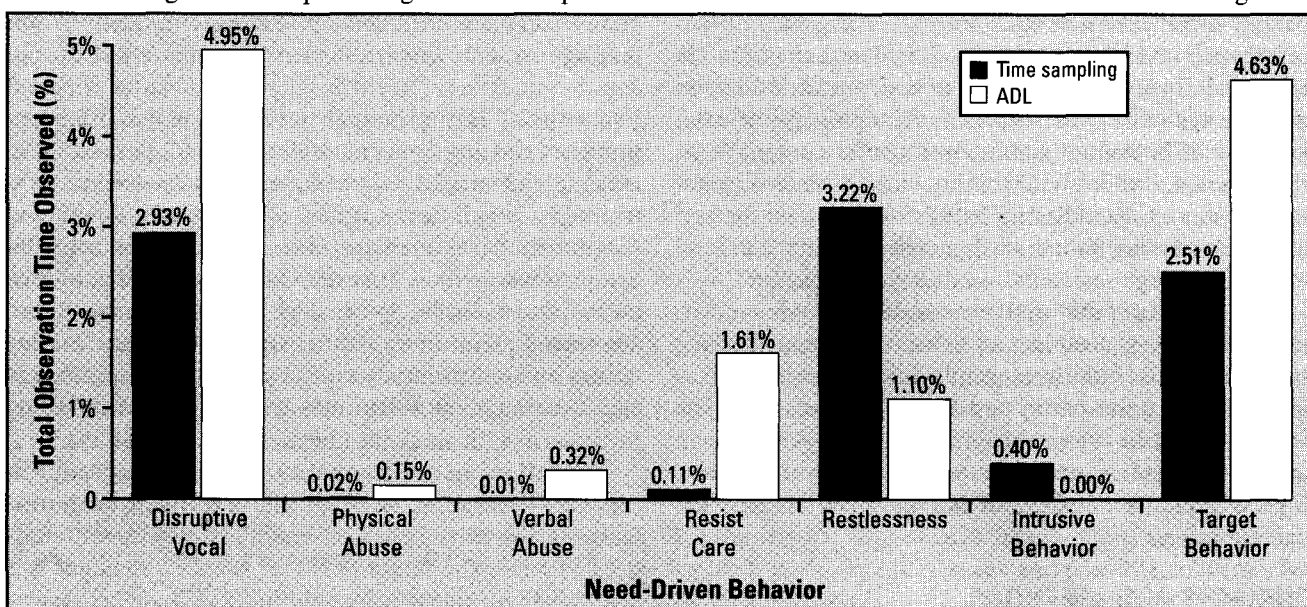
Figure 1. Percent of total observation time that each need-driven behavior was observed across participants during time-sampling and activities of daily living (ADL) observations.
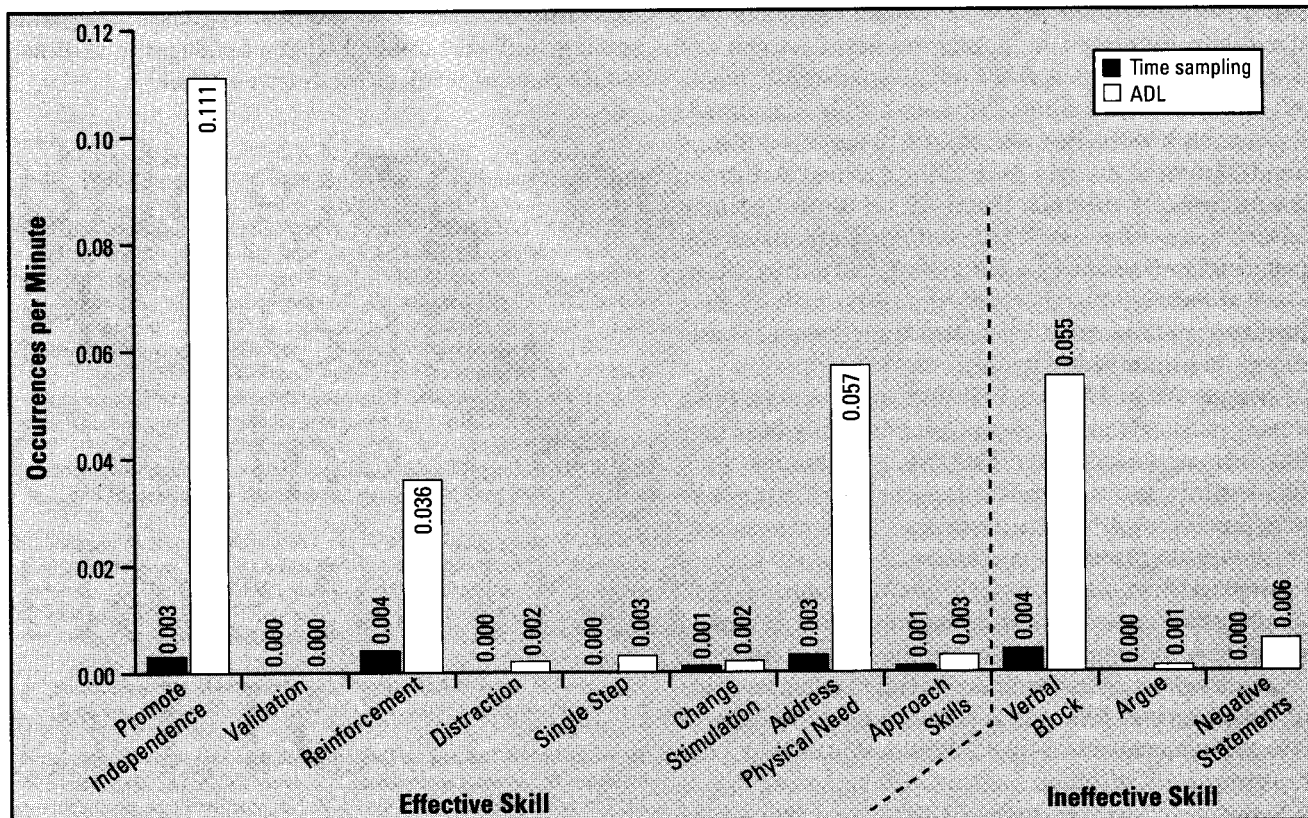
Figure 2. Occurrences per minute of effective and ineffective nursing assistant skill use during time sampling and activities of daily living (ADL) observations. Rates of validation during both types of observation and of distraction during time sampling, single-step instructions during time sampling, arguing during time sampling, and negative statements during time sampling were all between 0 and 3 total occurrences (0/min). Broken line = Separation of effective and ineffective skills.

care. The mean number of ADL observations per resident was 7.41 ± 1.57. These observations were not recorded if residents received help with ADLs only before 8:00 AM or after 6:00 PM. A total of 267,035 seconds of ADL data were collected.

Natural Occurrence of Need-Driven Behaviors. Figure 1 displays the percent of time-sampling and ADL observation duration during which each resident need-driven behavior occurred. During time-sampling observations, restlessness (3.22% of observation time), disruptive vocalizations (2.93% of observation time), and residents' individual target behaviors (2.51% of observation time) were the most common behaviors recorded. All other behaviors occurred infrequently. During ADL care, disruptive vocalizations (4.95% of observation time), target behaviors (4.63% of observation time), and resisting care (1.61% of observation time) were the most common behaviors recorded.

Nursing Assistant Skill Use. Nursing assistants were observed interacting with residents during only 5.14% of the total time-sampling observation time. During ADL observations, nursing assistants were present for 91.8% of the observation time. Activities of daily living observations required that a nursing assistant was present at the start of the observations. Examples of reasons

why nursing assistants were not present for the duration of an ADL observation included leaving a resident after helping her or him to the toilet and leaving a room during care to get needed supplies (e.g., linens, skin care products).

The number of times per minute that each nursing assistant skill occurred was calculated during all time-sampling observations and during all ADL observations. Figure 2 shows occurrences per minute for the eight effective skills and three ineffective skills observed during time-sampling and ADL observations. Rates for all skills were low for time-sampling observations, because nursing assistants spent little time with residents during these observations. During ADL observations, promoting independence (0.111 times/min), addressing physical needs (0.057 times/min) and reinforcement (0.036 times/min) were the most commonly observed effective skills. Verbal block occurred more often (0.055 times/min) than all but two effective skills. Translated into times per hour, nursing assistants were observed promoting resident independence 6.66 times/hr, addressing resident physical needs 3.4 times/hr, and using verbal blocks with residents 3.3 times/hr.

DISCUSSION

Residents displayed fairly low rates of need-driven behaviors during these observations, although the low rates

and types of behaviors coded are consistent with what others have observed in similar studies. McCann and associates[13] conducted five-minute nonparticipant observations of nursing home residents with Alzheimer's disease. They estimated that repetitive actions occurred about 31 times per eight-hour shift, and that screaming or cursing occurred about five times per shift. Recently, Kovach and co-workers[14] gathered nurse reports on frequency of need-driven behaviors and found that agitation, anxiety, verbal outbursts, and purposeless activity were the most common need-driven resident conduct at baseline of their intervention study.

Two points are of particular note in this study. First, nursing assistants were observed spending very little time with residents outside of ADL care, even though time-sampling observations were conducted during the two-hour time block when the staff reported that residents were most likely to show need-driven behaviors. Lack of nursing assistant interaction with residents during time-sampling observations is consistent with well-established reports that nursing assistants are pressed for time and have few spare minutes to interact with residents outside of assigned tasks like ADL care. One study found that 47% of nursing assistant time was allocated only to feeding and resident personal care (e.g., bathing, grooming).[15]

Second, nursing assistants did not use many of the skills that are widely accepted as appropriate in the care of persons with dementia. They did promote independent behavior and address physical needs to some degree. Both are skills that are likely to be emphasized during task-oriented ADL care routines. Likewise, nursing assistant orientation and training programs emphasize resident physical care needs. These findings suggest that nursing assistants rarely used skills like distraction/diversion or giving single-step instructions.

CONCLUSION

The observed lack of effective skill use in this study suggests the need for staff development efforts to help nursing assistants learn to use tools that are likely to help them better meet resident needs and assist them in the management of need-driven behaviors that affect their daily work and experience of work-related stress. The ongoing WAIT Project, from which the data reported herein were derived, will test whether staff development interventions result in initial and long-term changes in nursing staff skill use and whether changes in skill use reduce rates of resident need-driven behavior.

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Address for correspondence: Alan Stevens, PhD, Professor, Scott & White Memorial Hospital, 2401 S. 31st Street (CDM), Temple, Texas 76508. E-mail: astevens@swmail.sw.org.

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