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Developing a Training for Certified Nursing Assistants to Recognize, Communicate, and Document Discomfort in Residents With Dementia

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Nursing home residents with advanced dementia experience significant symptom burden and may be unable to articulate their needs. Observational tools, such as the Pain Assessment in Advanced Dementia (PAINAD) scale, are available to evaluate changes in behavior that may signify discomfort or pain. Studies proposing a short and effective curriculum, primarily for certified nursing assistants (CNAs) on how to use and incorporate the PAINAD in daily patient care, are scarce. This performance improvement project involves the design and implementation of a training curriculum for CNAs for using the PAINAD and discusses barriers to be considered for further projects. Certified nursing assistant perceptions of their experience with the training and the use of the tool were also assessed with a brief evaluation. Seventy-three initial PAINAD forms were completed along with 52 follow-up PAINAD forms. A paired *t* test (N = 52) showed a significant decrease in the PAINAD scores from initial (mean, 6.06) to follow-up (mean, 1.85) ($P < .001$), suggesting a reduction of patient discomfort. The process of collecting and examining these data was meant to reinforce the identification and reduction of behavioral distress through the application of this tool. The training was perceived as effective and the tool as easy to use, indicating it can be incorporated into daily care responsibilities of CNAs.

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In the long-term-care setting, a majority of residents are living with dementia and may experience significant symptom burden, including pain.[1] Conceptual guidance regarding the importance of learning to identify the behavioral manifestations of pain is provided in citing previous work that links increased pain with increased symptoms of disruptive behavior for persons with dementia. Older adults with advanced dementia often cannot articulate their needs and are unable to report to health care providers that they are experiencing pain or discomfort.[2-4] Their pain or other sources of discomfort are therefore often unrecognized and undertreated.[5,6] Changes in physical or verbal behaviors in this population, such as hitting or screaming, can signify pain or discomfort.[5,7,8] Recognition and anticipation of such changes in behaviors are thus a fundamental part of the optimal care of older adults with dementia who are incapable of communicating their distress.[3,9]

Studies have demonstrated that proper use of appropriate tools to assess for pain or discomfort is essential to understand or attend to the needs of nonverbal residents with dementia.[10,11] Observational tools, such as the Pain Assessment in Advanced Dementia (PAINAD) scale, have been created to evaluate changes in behaviors in patients with dementia who have limited ability to report pain.[12-14] The PAINAD was developed to assess discomfort through the careful observation of changes in 5 possible behaviors: breathing, facial expression, negative vocalizations, body language, and ability to be consoled. The PAINAD tool has been shown to be feasible for use with noncommunicative patients with dementia and helpful in identifying changes in behaviors.[12,13,15-18] The daily care of older adults in the long-term-care setting is a primary responsibility of nursing staff. Certified nursing assistants (CNAs) are the frontline caregivers for this vulnerable population.[19,20] Certified nursing assistants provide consistent, personal, direct care. This involves careful observation of residents including noticing and addressing discomfort and identifying

any changes in an older adult's status.[21-23] However, CNAs do not always receive adequate training to care for patients with dementia who may have communication challenges.[20,23-25] Thus, CNAs can benefit from receiving necessary training to develop skills to identify discomfort, such as learning to use the PAINAD tool. However, finding time to provide education for new skills can be challenging.[26,27] The objective of this performance improvement project was to teach CNAs to use the PAINAD in order to improve the recognition and assessment of discomfort in nonverbal nursing home residents with dementia. A secondary objective was to improve communication practices among staff members who provide care for this vulnerable population. To achieve these goals, we designed and implemented a brief training on the use of the PAINAD tool, established a protocol for PAINAD observation and scoring, tracked staff use of the PAINAD tool, and identified barriers to the use of the PAINAD in practice. Certified nursing assistants were instructed to do an initial PAINAD (when a behavior is first noted) to identify discomfort and then to speak with the charge nurse to report on the PAINAD score and any nonpharmacological intervention conducted. The charge nurse completed the follow-up PAINADs (completed by the end of the shift). These procedures were meant to facilitate the necessary communication around addressing pain in residents who cannot use self-report. Staff members' satisfaction with the training curriculum and subsequent comfort level with use of the PAINAD tool was assessed with a questionnaire at the end of the project period.

The project took place on a dementia unit in a long-term-care setting that adopted a "Comfort Matters" approach (www.comfortmatters.org) to improve care and quality of life for people with dementia, by having staff members focus on daily comfort. This approach to the care of residents with dementia was developed at Beatitudes Campus, a life plan community in Phoenix, Arizona.[7] Comfort Matters practices are based on the understanding that every behavior is communication and that the unmet needs of people with advanced dementia can be understood through careful observation of each individual, with identification of triggers of discomfort, and of what provides relief. Furthermore, with sufficient knowledge of residents and their behaviors, needs can be anticipated, thus preventing discomfort.

Methods

This project was conducted in a large long-term-care facility in New York City on a single 38-bed unit that provides care to older adults with severe to end-stage dementia. Although the CNAs were the primary focus of training given the nature of their work, all staff members who worked on this unit, regardless of discipline, were invited to participate. Certified nursing assistants spend most of their time providing direct care; however, we felt that exposing other members of the interprofessional team to this training would inform them about this tool and support the overall initiative to improve recognition of distress in older adults with dementia.

The project was conducted over a 6-month period. During the first 3 months, the project leader, a geriatric physician fellow, evaluated previously established protocols for assessment and documentation of changes in behaviors. Prior to this performance improvement project, there was minimal direct communication when an older adult was experiencing a distressful behavior. Certified nursing assistants were documenting aspects of daily care only at the end of their shift by responding to several computerized prompts. The prompts included 1 question regarding pain, "Did the resident complain to you of pain during this shift?" Response choices include (1) yes ("You must notify the charge nurse"), and (2) no. Thus, unless pain was indicated verbally and was an obvious source of distress, it was likely missed and not communicated.

A training protocol was then developed with input from nursing and the Comfort Matters program from Beatitudes, Phoenix, Arizona. The remaining 3 months were dedicated to the implementation process, which consisted of training staff in the use of the PAINAD and observing its subsequent use.

As a quality improvement project, the institutional review board in the facility where the project was conducted determined that this project was exempt from human subject review.

The PAINAD tool is a 5-item observational assessment that was developed using input from experienced dementia care clinicians.[12] It is a standardized approach to assessment of discomfort and intensity of discomfort, using observation of (1) breathing, (2) facial expression, (3) negative vocalizations, (4) body language, and (5) consolability, with dimensions of intensity of each, and a total score ranging from 0 to 10 (1-3 = mild pain, 4-6 = moderate pain, 7-10 = severe pain). Its correlation with other pain tools ranges from 0.34 to 0.91, and consistently strong interrater reliability and internal consistency have been obtained in various studies.[28,29] Previous studies support the PAINAD's validity[18] and interrater reliability[17] in the long-term-care setting. This tool can be used to observe an older adult in any situation, such as at rest, dining, or bathing, and takes approximately 5 minutes to complete.

After completion of the training, the implementation process began. The implementation process consisted of initiation of a PAINAD if an older adult exhibited a change in behavior. Any staff member who completed the training could initiate this, and the charge nurse communicated this information to incoming staff for the next shift. The project leader, who was available on a regular basis throughout the project period, supervised the process. In addition, charge nurses were asked to document

a brief summary in the electronic medical record (EMR) about the events that occurred during their shift. Finally, a 9-item evaluation survey regarding the training was conducted at the end of the project (Table).

For this project, the PAINAD was printed on the front and back of a single piece of paper, with one side of the paper labeled as the initial PAINAD and the other side labeled as the follow-up PAINAD. Both the initial and the follow-up PAINAD sheets had instructions to circle the behaviors observed in addition to calculating the score. The initial PAINAD scale included check boxes for different nonpharmacological treatments that could be initiated by the CNA including repositioning, music, soft approach, hygiene, beverage or snack, rest, toileting, take to quiet space, and consideration of constipation. Certified nursing assistants who participated in the training completed the initial PAINAD, but only the charge nurse was responsible for completing the observations on the follow-up PAINAD and making a notation in the EMR documenting what occurred. The follow-up PAINAD also included specifying if a pharmacological treatment was required, which only the charge nurse is permitted to administer.

Training

The training protocol consisted of one 35-minute session. Sessions were offered in person by the project leader, a geriatric physician fellow, several times across each of the 3 nursing shifts in order to reach all staff members. Participants included all regular full-time nursing staff and other members of the interprofessional team (eg, social work). Each session had approximately 6 team members. There were a total of 5 training sessions over a period of 2 weeks. Training was conducted in a room available on the dementia unit. The training took place during work hours. Training materials were not modified for different educational backgrounds. The didactic portion of the training included a detailed explanation of the PAINAD using easy-to-understand language. The project leader explained and defined each of the behaviors included in the tool. The session began with an explanation of the importance of identifying and assessing discomfort for persons who cannot communicate their discomfort verbally, an overview of the PAINAD, and instructions on how to use it. Procedures were then explained for using the initial and follow-up PAINAD documentation sheets.

Next, 2 videos provided by Comfort Matters (www.comfortmatters.org)[30] were shown to the training participants. The first video (approximately 3½ minutes long) demonstrates a person showing signs of discomfort while interacting with staff. As participants viewed this video, they were asked to use the initial PAINAD to score the

TABLE PAINAD Training Evaluation Questionnaire Results

Question and Scoring	n = 18
Confidence rating (possible 1-5 with 1 = not confident and 5 = very confident)	Prior to training mean, 4.11 (SD, 0.90) Prior to training mean, 4.11 (SD, 0.90)
Part of training most helpful, n (%)	14 (77.8) Videos 12 (66.7) Detailed explanation of the PAINAD 11 (61.1) Small group discussions 11 (61.1) Incorporating examples from residents and their behaviors during our discussion 11 (61.1) Having the PAINAD at the nursing station and training room walls for reference 7 (38.9) PAINAD pocket cards
Amount of training time, n (%)	4 (22.2) Not enough 14 (77.8) Just right
Ease of use, n (%)	17 (94) Somewhat (50) or completely (44.4) agree is easy to use
Likelihood to use on a daily basis, n (%)	17 (94) Somewhat or very likely to use
Quality of the training, n (%)	17 (94) Good or excellent
Prior to this PAINAD training, did you have knowledge about any tools available to evaluate pain or discomfort in residents with dementia? n (%)	17 (94)Yes
Prior to this PAINAD training, did you consider changes in behaviors (eg, moaning, refusing care) in residents with dementia as a sign of pain or discomfort? n (%)	18 (100) Yes

behaviors that may signify discomfort. After completion of the video, there was a brief discussion and comparison of scores. The project leader compared her scores with the participants for this exercise to facilitate a discussion about behaviors that may have been unnoticed by participants. The second video (approximately 3½ minutes long) was the identical video, but was edited to label the behaviors (eg, the woman is frowning when she stands up from the wheelchair).

The training session was concluded with a thorough explanation of the implementation procedures for paper documentation and communication of information. All participants were given a pocket card, which included the PAINAD and a list of nonpharmacological interventions for their reference. After each training, participants were asked to fill out a PAINAD for a particular older adult along with the project leader on 1 occasion, to compare and verify the use and scoring of the PAINAD, and to reinforce what was learned in the didactic training session.

We did not establish a pass or fail criterion for the CNAs to begin using this tool. The geriatric physician fellow reminded CNAs of opportunities in which they could use the tool and encouraged them to practice as much as possible. Certified nursing assistants were aware that our implementation process goal was to improve their skills; thus, no disciplinary action was taken against a team member who was not actively participating.

Implementation

After the staff completed training in the use of the PAINAD, PAINAD documentation commenced. Upon noticing a change in behavior, a CNA or other team member initiated a PAINAD sheet. During the implementation time, a period of 10 weeks, the geriatric physician fellow remained available to assist with completion of the tool. The charge nurse was asked to deposit completed PAINADs at the end of the shift in a box with a slit that was located at the nurse supervisor's office.

During the implementation process, CNAs were encouraged to initiate nonpharmacological interventions to address identified discomfort. Also, CNAs were reminded to communicate all the information collected to the charge nurse who then completed a follow-up PAINAD prior to the end of each shift. The charge nurse also administered pharmacological treatments to the residents as needed. For further communication at each change of shift, the charge nurse communicated any initial–follow-up PAINAD cycles that occurred that day and suggested initiation of further initial–follow-up PAINAD cycles for older adults as needed.

PAINAD Training Session Evaluation

Certified nursing assistants' perceptions about their experience with the PAINAD training and the use of the tool were also assessed. At the end of the 10 implementation weeks, we asked trained team members to fill out a 9-item questionnaire to evaluate the training and use of the PAINAD. The questionnaire assessed ease of use, confidence level prior to and after the training, ability to evaluate changes in behaviors, appropriateness of the length of the training, the feasibility and relevance of the training, and identification of components of the training that were most helpful (eg, videos, discussion, pocket cards).

Statistical Analysis

A paired *t* test was conducted to determine whether PAINAD scores decreased significantly from initial test to follow-up test after behaviors were addressed (using SPSS version 20; IBM Corp, Armonk, New York). Descriptive statistics were used to summarize the evaluation survey results.

RESULTS

Thirty-two of 35 team members (91% response rate) on the unit participated in the training sessions from day, evening, and night shifts. This included 23 CNAs, 4 charge nurses, 1 nurse manager, 3 social workers, and 1 recreation therapist.

A total of 73 initial PAINAD scales were completed, and 52 follow-up PAINAD scales were completed. Forty-five of the initial PAINADs (62%) were conducted by CNAs from the day shift. Fifteen initial PAINADs (21%) were completed by CNAs from the evening shift, and 13 (17%) were completed by CNAs from the night shift. Overall, CNAs completed the initial PAINADs as opposed to other members of the interdisciplinary team. Follow-up PAINADs were completed by the charge nurse. No information is available regarding the 21 cases where the charge nurse was unable to complete the follow-up PAINAD by the shift's end. Most of the residents who were evaluated with PAINADs were women (98%), which was expected because there was a small number of men living in this community (5 of 38 residents [13%] were men) when this project took place. While 22 of the 38 residents (58%) had at least 1 initial PAINAD completed, 10 of these residents had more than 1 PAINAD completed as they tended to exhibit more obvious behaviors (eg, yelling). The implementation process was well accepted overall.

Among the initial PAINAD scales completed, the most frequently recognized behavior was negative vocalization with a score of 2 (eg, crying), and the least frequently recognized behavior was breathing with a score of 2 (eg, noisy labored breathing). Some CNAs shared that they felt breathing was difficult to identify as a change in behavior because often it was a subtle change. Overall, among the follow-up PAINAD scales completed, in each of the 5 categories, the most frequent response

was a score of 0, which suggests a lack of discomfort or pain. A paired *t* test was conducted (N = 52), which showed a significant decrease in the total PAINAD scores from initial (mean, 6.06 [SD, 2.23]) to follow-up (mean, 1.85 [SD, 2.13]) conditions (t_{52} = 12.15, P < .001). Most observations were completed during the day shift, which is the busiest shift when older adults are participating in activities or receiving nursing care. Descriptive information on the nonpharmacological interventions that were utilized and on specific notes in the EMR regarding use of the initial and follow-up PAINADs is not reported as these data were largely missing. However, most CNAs reported that they routinely used a nonpharmacological approach.

A total of 18 of 32 team members who participated in the training completed the 9-item questionnaire (Table). The 18 team members included all trained regular full-time CNAs (n = 17) and 1 recreation therapist. All participants said the PAINAD was easy to use, and they will likely incorporate it into the daily care of the residents. Most participants felt the quality of the training was excellent, and the amount of time dedicated to it was just right. The majority of the participants found the videos (77.8%) and the detailed explanation of the PAINAD tool (66.7%) to be helpful, whereas only 38.9% found the pocket cards to be useful. Almost all (94%) indicated knowing, prior to this training, about tools available to evaluate for pain or discomfort. All respondents said that prior to the training they considered changes in behaviors (eg, moaning, refusing care) in residents with dementia as a sign of pain or discomfort. Some provided additional comments sharing that the burden of the additional paperwork might be one of the main discouragements to continue to use despite this tool being helpful and easy to them. Some examples of comments provided in the surveys were as follows:

> *Time-consuming, especially when you are providing care for many residents. It would be easier if it was touch screen.*
>
> *We don't have enough time to use the PAINAD in the daily resident care when you're working short sometimes, and you want to take good care of your residents to make them comfortable and happy.*
>
> *Sometimes finding the time can be difficult.*

DISCUSSION

Team members learned to use and incorporate the PAINAD in their care as a tool to recognize discomfort and pain in a group of elders with advanced dementia who have difficulty communicating their needs. While a decrease in the PAINAD score from initial to follow-up assessment indicates successful intervention on the part of the CNAs, the process of having the follow-up completed is an indication of increased communication between CNAs and charge nurses regarding an older adult's discomfort. The latter was considered evidence that CNAs were able to identify a distressful behavior in a resident and communicate it to the charge nurse for further evaluation. We do not know whether the lack of follow-up for some of the initial PAINADs conducted was due to a lack of communication or the busy schedule of the charge nurse.

Team members were encouraged to document and record nonpharmacological interventions that seem to have facilitated a decrease in PAINAD score from initial to follow-up measure; however, this information was infrequently documented. As a result, it was impossible to determine what treatments were favorable to achieve a reduction of the score at follow-up. Ideally, the identification of discomfort for persons who have difficulty communicating their needs will become more routine with accompanying and increased use of nonpharmacological interventions that are then documented in a less time-consuming system such as the EMR.

The majority of the PAINADs were completed during the day shift. We believe that this trend is due to several factors: the consistent presence of the team leader during that shift, the larger and more consistent number of regular full-time CNAs present, and the increased activity level of elders during this shift. There may have been a greater number of PAINADs completed with even more regular full-time team members present as champions to further urge team members to actively participate. Responses on the posttraining evaluation questionnaire showed that even when CNAs (17 of 18 respondents) said they knew about tools to document change in status in the past they did not regularly use them in daily care procedures. This exemplifies the need for supervision and for champions to be involved during the implementation process to generate observations and to sustain new procedures. We also considered that there might be a need for additional training sessions to remind our team members of the procedures around using the PAINAD tool. However, although it was not captured in the completion of the PAINAD tool, the CNAs did verbally communicate changes in behaviors of the older adults who required attention in a more informal fashion. All of the respondents said that they have considered changes in behaviors as a sign of pain/discomfort; however, they had not been following any procedure for communication.

It is critically important to provide frontline caregivers with educational opportunities that can improve the care of older adults with dementia.[25] Studies have reported that health care providers, including CNAs, are interested in acquiring better skills to understand elders' behaviors and anticipate needs of nonverbal residents with dementia.[19,26] Research also supports the importance of having

validated tools to understand and provide care to this vulnerable population who is unable to communicate its needs.[15] For example, studies have discussed successful protocols to improve pain management practices, including the Campaign Against Pain.[7] However, as we discovered in our study, there are also multiple barriers to be overcome to provide continued training and ensure sustainability of improved assessment when there are fewer resources to devote to this effort.[26] We learned that it is not sufficient to merely incorporate a pain assessment tool such as PAINAD into the patient care protocol. Getting supervisors and other staff members engaged in the project can be a challenge, and the reinforcement of the training skills and goals is also very labor intensive.[15]

One important aspect of our curriculum design is that it was adopted for health care providers who work in a busy care setting and have different levels of education and skill sets. Our experience suggests that role modeling of the appropriate use of validated tools, supplemented by the incorporation of visual aids, may be a promising approach to establish a brief and feasible teaching curriculum for this group of providers. However, in order to continue to improve the care of nonverbal older adults with dementia, we acknowledge the need for additional studies that demonstrate the successful implementation of brief training protocols followed by sufficient time to evaluate sustainability.

Limitations and Barriers

We encountered several limitations through this learning process. Overall, it was challenging to engage our team members in an uninterrupted time period to learn new skills and procedures. Despite an increase in communication among team members, it was also challenging to have the nursing staff incorporate the additional documentation sheet into their daily responsibilities and particularly in having the follow-up PAINAD forms completed. They also shared that the added documentation was time consuming. Staff may benefit from the support from supervisors and mentors to continue to motivate them, value their work, provide feedback, and balance their workload while a new protocol is being established. Staff members proposed that ongoing as opposed to time-limited support and supervision from project leaders could help new practices become sustainable. As we verified prior practices before creating a new protocol, we learned how fundamental it was to understand the frontline caregiver's challenges and willingness to learn new skills.

Another barrier encountered was occasional unpredictable staffing assignments on the evening shifts, which led to having fewer staff members who were familiar with the tool providing care to residents in the unit. In addition, scheduling sufficient training sessions proved to be a challenge given the busy clinical duties of the staff. It requires ongoing interaction with CNAs to support them in identifying how the tools, teaching methods, or any other factor require modification to implement a successful and sustainable new protocol. Completion of the initial and follow-up PAINAD tool was a paperwork burden. Future work on this project will facilitate the incorporation and utilization of the PAINAD tool in the EMR. We propose that with the development of the PAINAD in the EMR further direct communication will be promoted, along with better tracking of how many interventions are completed and a reduction of the paperwork burden.

Overall, in terms of sample size, this project focused on staff members from one unit in a nursing home, specifically on a community serving residents with more severe dementia. These results are meant to encourage further adoption of the PAINAD tool throughout the nursing home for older adults with communication challenges. Also, only half of the project participants completed the evaluation questionnaire, although those who did complete it were CNAs. Perhaps CNAs were most connected with this work, given they have the greatest opportunity to observe elder residents and identify behaviors that indicate discomfort.

Summary

Communication among team members is paramount to obtain positive results and for the sustainability of any protocol to improve and change practices. The PAINAD is an appropriate tool that helps to provide guidance and is practical and short and uses language that can be incorporated into the already busy daily nursing practices. Optimal improvement in ascertainment and treatment of discomfort relies greatly on effective communication among staff members across disciplines. It is possible to develop a short training program with the purpose of teaching how to use a new tool while learning to improve practices that are not time consuming. Modeling support and encouragement are important for the successful adoption of a new protocol.

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