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Rehabilitating Patients With Dementia Who Have Had a Hip Fracture

Part I: Behavioral Symptoms That Influence Care

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Objective: Although evidence suggests that patients with cognitive impairment can benefit from rehabilitation, healthcare professionals (HCPs) on geriatric rehabilitation units (GRUs) often find that providing care to these patients following a hip fracture can be challenging. The objective of this study was to identify the behavioral symptoms that HCPs find difficult to manage in patients with dementia who have had a hip fracture and the strategies that they report using when patients exhibit these symptoms. **Subjects and Methods:** One hundred thirty-three HCPs responsible for providing direct rehabilitation care in 7 GRUs in Ontario, Canada, completed a questionnaire. The questionnaire collected data on the frequency of behavioral symptoms that persons with dementia experienced after hip fracture surgery and on the strategies HCPs used to manage these symptoms. **Results:** The data collected indicate that HCPs perceived patients' anxiety, agitation, and irritability to be the main behavioral symptoms that interfere with their ability to deliver rehabilitation care. HCPs perceived that patients' behaviors occurred frequently enough to influence rehabilitation care, however, only 51% of nursing staff listed strategies they used when patients exhibited behavioral symptoms, whereas as many as 96% of allied HCPs listed strategies. When clients had symptoms, staff used assessment and intervention strategies, which included both nonpharmacological and pharmacological ones. **Conclusions:** The findings from this study indicate that HCPs caring for persons with dementia who are rehabilitated after a hip fracture surgery on GRUs, frequently encounter behavioral symptoms that hinder their care delivery. **Key words:** *behavioral symptoms*, *dementia*, *hip fracture*, *rehabilitation*

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HIP FRACTURES, which are a leading cause of disability and mortality in the elderly, result in significant functional impairment, prolonged length of stay, and excessive institutionalization.[1–4] As a growing

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proportion of the population becomes elderly, the incidence of hip fractures is expected to increase,[5] as is the prevalence of dementia.[6] *Dementia* refers to a global loss of cognitive and intellectual functioning that gradually interferes with social and occupational performance.[7] As a result of changing demographics, 31% to 45% of geriatric orthopedic rehabilitation patients have dementia or cognitive impairment,[8] and this percentage is expected to rise.

Evidence shows that patients with cognitive impairment can benefit from participating in rehabilitation programs targeted at improving their locomotion, self-care, and motor function.[9–16] Rolland et al[10] found that the functional gain related to baseline functional status of patients on a geriatric rehabilitation unit (GRU) was not significantly different between patients with or without cognitive impairment. These results were supported by Barnes et al,[11] who examined outcomes of rehabilitation patients with varying levels of cognitive impairment and found significant functional gains in motor and cognitive Functional Independence Measure scores, regardless of cognitive impairment.[11]

However, healthcare professionals (HCPs) often find it challenging to care for patients with dementia.[1,8] In spite of compelling evidence for the viability of rehabilitation for persons with cognitive impairment who have had a hip fracture, HCPs still struggle with establishing and delivering effective rehabilitation interventions for these patients.[1,8] One predicament is that patients' behavioral symptoms frequently interfere with rehabilitation care processes.

Eighty-three percent of older adults with cognitive impairment experience one or more behavioral symptoms[17] that are often referred to as "challenging behaviors." This catch-all term is used to describe any patient behavior that is deemed to be dangerous to them, their fellow patients, or staff, or that is considered to be antisocial.[18] In the context of dementia, challenging behavior includes symptoms such as irritability, disinhibition, agitation, irritability, anxiety, delusions, and hallucinations.[19]

Symptoms such as agitation, anxiety, and irritability diminish the quality of life for the patient[20] and may influence the quality of care provided by the HCP. Agitated behaviors of the patient contribute to functional decline, increased falls and injury, social isolation, and the use of physical and chemical restraints.[21] These behavioral symptoms are often attributed to the disease by HCPs, and as such, the emphasis is on the patients' disability.[22] However, the clients' agitation, anxiety, or irritability is more likely related to physical discomfort or features within the environment and often results from more than one cause.[23] Consequently, considerable assessment, including observation, is frequently required to understand the nature of the behavior or the message it expresses, before effective strategies and/or interventions can be developed.

To date, no research has been conducted in rehabilitation settings to examine whether HCPs perceive behavioral symptoms of patients with cognitive impairment as an obstacle to rehabilitation care. Furthermore, it is not clear what strategies HCPs use to deliver care when these patients exhibit such behaviors. Therefore, this descriptive study explored the following questions from HCPs' perspectives: (1) What behavioral symptoms most frequently interfere with rehabilitation of persons with dementia who have had hip fracture surgery? and (2) What strategies are used when patients experience behavioral symptoms during their rehabilitation care? This article explores the HCPs' perspectives about the frequency with which patients' behavioral symptoms interfered with rehabilitation care and the strategies that were used to minimize these symptoms. A second article analyzes the HCPs' perceptions about the frequency of cognitive disturbances during rehabilitative care following hip fracture surgery, and the strategies used to minimize them. The second article is published as part II of this series.

METHODS

Setting and sample

The study population, which was defined as all HCPs working on a GRU in Ontario, included registered nurses (RNs), registered practical nurses (RPNs), nurse practitioners (NPs), physiotherapists (PTs), occupational therapists (OTs), speech-language pathologists (SLPs), social workers (SWs), recreational therapists (RTs), and dieticians (Ds). Respondents were employed full-time or part-time on the GRU. All 8 existing GRUs in Ontario were contacted, and the study was explained. One GRU administrator declined having his staff participate, because the unit's strict admission criteria allowed very few patients with dementia to be admitted. The HCPs from the 7 remaining GRUs were asked to complete a questionnaire. The potential sampling population totaled 200 HCPs, based on the full complement of staff on all 7 units.

Questionnaire development

A questionnaire was developed on the basis of principles described by Dillman.[24] Researchers relied on clinical experience and an extensive literature review about behavioral symptoms of patients with dementia to determine the topics to be questioned.[22] Questionnaire design involved developing wording that was clear and unambiguous.[25] The questionnaire was pilot tested with 10 HCPs working on a GRU in Ontario. On the basis of the pilot testing, the wording of 4 questions was changed to improve clarity. Preliminary content validity, feasibility, and ease of use were established during the pilot testing[24,26] by consensus of the authors with expertise in geriatric rehabilitation and those with expertise in questionnaire construction.

The final questionnaire included questions about the HCPs' characteristics (gender, age, experience on the GRU and in general, and highest education), assessment tools used to guide practice, and patients' behavioral symptoms that interfered with care. The questionnaire was composed of 20 questions. Of specific relevance to this article was one question that had 6 subsections designed to measure the frequency of several behavioral symptoms during care (Table 1), with a corresponding open-ended section asking HCPs to indicate strategies they utilized when patients exhibited these behaviors.

Procedures

Ethical approval was obtained from the research ethics boards at each of the 7 facilities. All HCPs were invited to attend questionnaire completion sessions on the unit. A total of 3 sessions were held per unit. A

Table 1. Definitions of behavioral symptoms presented in questionnaire

Behavioral symptoms	Definition
Agitation	Patient is restless, not calm; patient is physically excited, moves a lot, makes strange noises, screams.
Aggression	Patient hits, kicks, grabs, pushes staff and family members. Patient is verbally aggressive, throws things.
Disinhibition	Patient acts impulsively without thinking. Patient does or says things that are not usually done or said in public. Patient does things that are embarrassing.
Irritability/lability	Patient is impatient and easily irritated. Patient has rapid mood changes different from his or her usual self.
Aberrant motor behavior	Patient paces, does things over and over such as opening closets, repeatedly picks at things, or winds strings or threads.
Anxiety	Patient is very nervous, worried, and frightened for no apparent reason.

research assistant distributed introductory letters and questionnaires to the HCPs at the sessions and was available to answer any questions, thus minimizing the potential for misinterpreting questionnaire items. Completed questionnaires were collected at the end of the sessions to enhance response rates. The unit manager provided a questionnaire and a self-addressed, stamped envelope to HCPs who were unable to attend so that they could return the questionnaire directly to the research team. Of the 200 questionnaires distributed, 143 were returned, including 15 returned by mail. Ten questionnaires were not included in the analysis, as staff had inadvertently missed 1 to 4 pages of responses, resulting in 133 questionnaires that could be analyzed. This represented a response rate of 66.5%.

Analysis

To answer research question 1 about HCPs' perceptions of the frequency with which patients' behavioral symptoms interfered during rehabilitating care, the top 3 behavioral symptoms that interfered with care were determined for each staff category. As similarities in the responses were noted, it was decided to collapse the data into 2 groups, that is, allied HCPs (PTs, OTs, SLPs, SWs, RTs, and Ds) and nursing staff (RNs, RPNs, and NPs). For the purpose of the frequency analysis, symptoms that were reported as occurring "often" and "very often" were collapsed, as these responses implied that these symptoms affected the rehabilitation care delivery more severely than those categorized by the response "sometimes." Furthermore, the categories "rarely" and "never" were collapsed and were recategorized as "not interfering with care."

To answer research question 2 about the strategies staff used to avoid or minimize behavioral symptoms, a content analysis of the listed strategies was conducted.[27] It included thematic analysis and the development of a coding system for quantifying response variables.[28] On the basis of the content analysis, frequency counts were recorded to elucidate HCPs' strategy patterns. All analyses were conducted with the software package SPSS®, Version 11.0.

RESULTS

Sample characteristics

Characteristics of the HCPs are presented in Table 2. Most respondents were women (94%) and almost three-fourths were nursing staff (72%). Forty-four of these were RNs and 52 were RPNs. The sampling frame is typical of the proportions of nursing staff versus allied HCPs on GRUs. Respondents reported working in the rehabilitation field an average of 7 years, and the majority worked full-time. Approximately half of the HCPs had received previous education about dementia, mostly from in-services provided by the facility.

HCPs' perceptions of the behavioral symptoms interfering with care and the number of strategies reported

All respondents indicated that the following patient behavioral symptoms interfered with care: agitation, aggression, disinhibition, irritability, aberrant motor behavior, and anxiety (Table 3). However, their perceptions of how frequently the behaviors influenced rehabilitation care varied according to the behavior and the group reporting. For example, nursing staff more often perceived anxiety, irritability, agitation, aggression, and disinhibition to interfere with care, whereas 60% of them listed aberrant motor behavior as not influencing care. Allied HCPs found that only irritability and anxiety often interfered with care. Overall, nursing staff and allied HCPs both found anxiety, agitation, and irritability to be the behaviors that most interfered with the provision of rehabilitation care.

Between 70% and 88% of the nursing staff reported that the 3 most frequently occurring behavioral symptoms interfered with rehabilitation care (Table 4). However, only 37% to 76% of allied HCPs reported that these same symptoms influenced care. The largest discrepancy between these groups was noted for agitation, as nursing staff reported that

Table 2. Respondents' demographic characteristics*

	Nursing staff ($n = 96$)		
	RN ($n = 44$)	**RPN ($n = 52$)**	**Allied HCPs ($n = 37$)**
Average age	46.58	43.23	40.56
Gender			
Female	43	48	34
Male	1	4	3
Highest education			
Certificate program	2	38	0
Diploma program	29	13	3
Baccalaureate	12	1	17
Master's degree	1	0	17
Education about dementia/dementia care			
Yes	21	27	21
No	23	25	16
Average years on current GRU	7.40	6.94	6.74
Average years working in rehab	7.94	7.61	9.55
Status			
Full-time	22	28	25
Part-time	20	20	11
Casual	2	4	1

*HCP indicates healthcare professional; RN, registered nurse; RPN, registered practical nurse; and GRU, geriatric rehabilitation unit.

Table 3. Proportion of healthcare professionals (HCPs) reporting that specific patients' behavioral symptoms interfered with care*

Behavioral disturbances	**Nursing ($n = 96$)**	**Allied HCPs ($n = 37$)**
Agitation		
Does not interfere with care	28 (29.2)	22 (62.2)
Does interfere with care	67 (69.8)	14 (37.8)
Aggression		
Does not interfere with care	37 (38.6)	26 (70.3)
Does interfere with care	56 (58.4)	11 (29.7)
Irritability		
Does not interfere with care	20 (20.8)	17 (45.9)
Does interfere with care	73 (76.0)	19 (51.4)
Disinhibition		
Does not interfere with care	41 (42.7)	22 (59.5)
Does interfere with care	51 (53.1)	15 (40.5)
Aberrant motor behavior		
Does not interfere with care	58 (60.4)	31 (83.8)
Does interfere with care	28 (29.2)	6 (6.2)
Anxiety		
Does not interfere with care	11 (11.5)	7 (18.9)
Does interfere with care	84 (87.5)	28 (75.7)

*Values given are number (percentage).

Table 4. Proportion of healthcare professionals (HCPs) reporting that patients' behavioral symptoms interfered with care and that staff used strategies to affect those behaviors*

Behavioral disturbances	Nursing	Allied HCPs
Agitation		
Does interfere with care	67 (69.8)	14 (37.8)
Reported strategies	26 (38.8)	11 (78.6)
Irritability		
Does interfere with care	73 (76.0)	19 (51.4)
Reported strategies	24 (32.8)	17 (89.5)
Anxiety		
Does interfere with care	84 (87.5)	28 (75.7)
Reported strategies	48 (51.2)	27 (96.4)

*Values given are number (percentage).

this symptom interfered during care almost twice as often as allied HCPs did (70% vs 38%, respectively). Of these 3 behavioral symptoms, patients' anxiety was perceived by both groups as the one that interfered the most with care.

Although many HCPs indicated that patients frequently displayed behavioral symptoms during their care, a wide range of between 32% and 96% of the total sample reported strategies to minimize these behaviors. Only 32% to 51% of nursing staff who reported anxiety, agitation, or irritability as interfering with rehabilitation care listed a strategy to minimize these behaviors. Of the allied HCPs who reported these same symptoms as interfering with care, between 79% and 96% listed strategies. Therefore, nurses reported fewer strategies than allied HCPs. Also, the number of strategies reported varied by behavior, with the most being reported by both groups when patients exhibited anxiety. A subanalysis not featured in the table also revealed that RNs reported twice as many strategies as RPNs for all 3 symptoms.

Strategies HCPs reported to deal with patients' behavioral symptoms

Content analysis revealed 9 strategy patterns that staff used when caring for patients who exhibited anxiety, agitation, or irritability. The coding system included strategies focused on assessment and interventions. Assessment strategies included an individual approach, where the HCPs attempted to identify the cause of the patients' behaviors, or a team approach, which included seeking out the team for assistance with the assessment. Intervention strategies consisted of 2 categories: nonpharmacological and pharmacological strategies. Pharmacological interventions were presented as "give medications to reduce the symptom"; however, none of the respondents listed specific drug names or dose. Nonpharmacological interventions were presented in the following 6 groups: (1) use relational approaches (ie, using a calm approach, building a relationship with the patient, reassuring patients that they can do the therapy, explaining, providing positive feedback, and establishing close contact with the patient); (2) adjust daily routines to focus on the person, not the tasks (ie, not forcing the patient into prescribed HCPs' routines, allowing choices, learning how to avoid their triggers, and learning how to redirect patients when necessary); (3) adjust the environment (ie, using strategies to reduce their stress by simplifying their environment, enhancing patient safety in the environment, and removing the patient from one environment to try another); (4) use structured activities (ie, tasks that allow for release or offer a diversion or distraction, which may include recreational, conversational, or physical activities); (5) establish continuity (ie, use strategies such as a consistent routine or use care plans to ensure the same approach); and (6) invite family involvement (ie, involving family members in the development of the care plan).

The most commonly identified strategies and the number of HCPs who reported using them for the top 3 behavioral symptoms (ie, anxiety, agitation, and irritability) are listed in Table 5. Nursing staff relied more frequently on assessing the reason for the patients' behaviors (10%–33%) than allied health staff (8%–15%), depending on the behavioral symptom. Most often, all staff relied on their

Table 5. Frequency of strategies reported by healthcare professionals (HCPs) to minimize behavioral disturbances

Strategies	Nursing	Allied HCPs
Anxiety	$n = 116$ strategies	$n = 96$ strategies
Assessment	Total = 12 (10.3%)	Total = 8 (8.3%)
Individual	7	7
Team	5	1
Nonpharmacological	Total = 98 (84.5%)	Total = 86 (89.6%)
Relational approaches	72	59
Adjust routines	13	4
Adjust environment	5	9
Structured activities	0	6
Continuity	3	4
Family involvement	5	4
Pharmacological	Total = 11 (15.9%)	Total = 2 (2.1%)
Agitation	$n = 69$ strategies	$n = 36$ strategies
Assessment	Total = 20 (29.0%)	Total = 5 (13.9%)
Individual	19	3
Team	1	2
Nonpharmacological	Total = 38 (55.1%)	Total = 31 (86.1%)
Relational approaches	15	13
Adjust routines	9	12
Adjust environment	12	1
Structured activities	1	4
Continuity	1	0
Family involvement	0	1
Pharmacological	Total = 11 (15.9%)	Total = 0 (0%)
Irritability	$n = 57$ strategies	$n = 47$ strategies
Assessment	Total = 19 (33.3%)	Total = 7 (14.9%)
Individual	15	3
Team	4	4
Nonpharmacological	Total = 38 (66.7%)	Total = 40 (85.1%)
Relational approaches	25	24
Adjust routines	9	12
Adjust environment	2	1
Structured activities	0	1
Continuity	1	1
Family involvement	1	2
Pharmacological	Total = 0 (0%)	Total = 0 (0%)

own assessment skills to understand the cause of the behavioral symptom, but at times they sought their team members' advice.

When the strategies that HCPs used were analyzed, it became evident that they were very similar for the 3 different behaviors and for the 2 healthcare groups. Nonpharmacological approaches were the strategies that all HCPs reported using most often to minimize behavioral disturbances (between 55% and 90% of responses). The main strategy to minimize all behaviors regardless of whether the patient was agitated, anxious, or irritable was to use relational approaches, examples of which included reassuring the patients, using gentle touch and a soft soothing voice, and encouraging the patients. Relational approaches also included building a relationship with the

patients, getting to know them, and determining their likes and dislikes.

Adjusting routines was the next most frequently listed strategy. Examples included leaving and coming back later, redirecting the patients (ie, providing them with tasks that allowed for release of their irritability or agitation), giving the patients control, picking an optimum time for therapy based on the patients' wishes, and providing one-on-one treatment. The strategy of adjusting the environment was less defined, and, for many staff, included simplifying the environment. Additional strategies based on adjusting the environment included removing patients from an area where they were upset or changing the environment.

The greatest discrepancy between the strategies allied HCPs and nursing staff suggested to manage behaviors arose over the use of pharmacological approaches to treat agitation. Nursing staff mentioned giving medication as a strategy 16% of the time, whereas allied HCPs did not list this as a strategy. However, allied health staff more frequently mentioned using structured activities when patients were agitated or anxious. This approach involved using diversional activities or giving tasks that allowed for release of agitation.

DISCUSSION

This study identified specific patient behavioral symptoms that GRU staff find challenging when providing rehabilitation care to persons with dementia who have had a hip fracture, measured HCPs' perception of the relative frequency of these symptoms, as well as the frequency with which they reported using strategies to counteract these behavioral symptoms, and described the strategies they used to manage the symptoms.

Agitation, irritability, disinhibition, aberrant motor behavior, aggression, and anxiety were identified as interfering with rehabilitation care. All HCPs identified these top 3 behavioral symptoms as anxiety, irritability, and agitation. The patient behavioral symptoms that were identified on GRUs in this study are similar to those displayed by persons in long-term care (LTC) facilities[17] and are also found to be a challenge to LTC staff.[18]

Nursing staff reported higher frequencies of agitation, anxiety, and irritability interfering with their care than allied HCPs did. The higher frequency of disruptive behaviors is to be expected, because nurses provide care for longer intervals than most other allied HCPs. Furthermore, nursing staff provide care at all times of the day. For patients with cognitive impairment, bathing is often unpleasant and can constitute a threat to the physical and mental health of the patient and provider.[29] Bathing is particularly likely to trigger behavioral symptoms such as agitation, aggression, and anxiety.[30] Nursing staff behaviors, such as letting the patient know when care begins, allowing flexibility in scheduling, using favorite bath products, using facilitative communication technique, and using verbal prompting, have been demonstrated to reduce resident agitation during the bathing process.[31] Although nursing staff reported more often than allied HCPs that behavioral symptoms interfered with care, they reported fewer strategies to manage them. When patients were agitated, anxious, or irritable, between 32% and 51% of nursing staff reported using strategies to deal with them, whereas between 76% and 96% of allied HCPs reported using strategies to manage these same symptoms. These results may signify the nursing staff's unfamiliarity with strategies to use to provide care to patients with behavioral symptoms. Of further interest is that while nursing staff less frequently reported using strategies to manage behavioral symptoms, RPNs reported using even fewer strategies than RNs. A careful consideration of staffing mix and knowledge required to work in these increasingly complex environments is warranted.

With regard to the strategies used to minimize behaviors, all staff emphasized assessing the patients' behavior. Current evidence suggests that the behavior of patients with cognitive impairment may be an expression of an

unmet need.[32] Therefore, careful assessment of the potential causes of challenging behaviors is essential to determine whether some underlying cause such as adverse medication effects, infection, dehydration, pain, delirium, fecal impaction, or injury is behind such behaviors.[32] When assessment provides insight into a cause for behavioral issues, the identified cause should be addressed before staff move on to other methods of treating behavioral symptoms. Although patients' behaviors may be disruptive, they represent the most meaningful mechanism the individual has for communicating unmet needs.[23] If the patient's behavior is misinterpreted, needs are left unmet, which can contribute to worsening behavior, new disruptive behaviors, and additional needs. Identifying unmet needs speaks to the necessity for increased physical, emotional, and social assessments and critical thinking when the behavioral symptoms of persons with dementia are addressed.[23]

The main strategy that all staff listed as using when patients exhibited behavioral symptoms was effective relational approaches. Relating well, which included using a calm approach, a soft voice, slow movements, and a gentle touch, have traditionally been successful for managing agitation in LTC facilities.[33] Staff also related well by reassuring the patient, providing the patient with explanations, giving the patient control, and waiting until the patient was no longer agitated before continuing care. These strategies, which are based on adapting care to the patients' responses, focus on the patient, not the task. This approach has been shown to decrease agitation and anxiety for patients with dementia.[34]

One of the main relational strategies that HCPs stated that they used in their practice when patients exhibited behavioral symptoms was an attempt to get to "know the person."[35] Staff tried to gain experiential and personal knowledge about the subtleties of the person's personality and behavior. Knowledge of each person with dementia is primordial to foster relationships with patients, rather than to emphasize task completion.[36] HCPs in this study spoke about their focus on relationship development with the patient, which would further aid them in understanding the triggers for disturbing behavioral symptoms. Individually tailored interventions based on knowing the patients and their preferences can help HCPs reduce unpleasant behaviors for persons with dementia.[37]

Best practices for the care of patients with dementia who exhibit behavioral symptoms also include being aware of the environment's influence on the persons' cognition and behavior. Twenty-three percent of staff in the questionnaire reported the need to adjust the social and physical environment to manage patients' behavioral symptoms. Using distractions and simplifying the environment were among the most frequently suggested strategies to support patients who exhibited anxiety, agitation, or irritability during care. Simplifying the social environment (ie, the number of interactions or activities) is consistent with the principles underlying the Model of Imbalance in Sensoristasis.[38] This model suggests that agitated behavior may be exacerbated in persons with dementia when there is an imbalance between sensory-stimulating and sensory-calming activities.[38] This model requires HCPs to choose from a variety of sensory-stimulating and sensory-calming activities that have been effective in managing agitation and that are consistent with the individual's preferences. An example of how this theory could apply to rehabilitation practice is creating schedules of activities so that patients do not receive rehabilitation for periods longer than they can tolerate. Likewise, when patients are in environments that reduce disruptive stimulation such as excessive noise, their agitation may be reduced.[37]

In this study, staff used the strategy of adjusting their routines to meet the patients' needs. Staff mentioned not forcing patients into set routines that were convenient for staff, but instead leaving and coming back later when patients were less agitated or redirecting patients when they were with them. Providing rehabilitation at the bedside instead

of in a gym is also an adjustment in routines that allied health professionals had to make for the benefit of the patient. An additional advantage may develop because of this adjustment, namely, integration of care and information across disciplines. For example, if nursing staff are able to observe rehabilitation staff transfer and mobilize the patient and complete exercises in the patient's room, nurses may be able to integrate these practices into their own care, and they can learn from one another. Rehabilitation care at the bedside may also assist in ensuring that care received from different providers is connected in a coherent way.

Structured activities were less frequently mentioned as a strategy by HCPs, but evidence exists that these activities may also reduce agitation for patients with dementia. According to Hellen,[39] a well-chosen activity that is selected on the basis of knowing the individual can distract the patient. Structured activities that have been found to be successful in reducing agitation for persons with dementia include recreational activities such as listening to music, or physical ones such as walking, movement, or exercise programs.[7] Knowing the person would help staff understand which structured activity would work best. For example, rehabilitating a patient may be more successful first thing in the morning for someone who has always risen early. The added benefit for patients when staff use these strategies is the additional rehabilitation they will receive.

Continuity of care, such as using a consistent routine, was listed as a strategy that staff relied on when caring for patients with dementia. For patients, continuity of care is the experience of care as connected and coherent over time. For providers, it is the experience of having sufficient information and knowledge about a patient to best apply their professional competence and of having the confidence that their care is recognized and pursued by other providers. The importance of good coordination and continuity of care from different providers needs to be better understood in rehabilitation environments.

Family participation in rehabilitation care may also be an effective strategy to minimize patients' anxiety, agitation, or irritability. Most family caregivers possess information about the person's history, routines, and preferences that staff may find useful when guiding their care.[40] When their relative is in rehabilitation, the particular expertise of family members should be used to the best advantage. For those patients returning home, families also need to learn how to best care for their relatives following discharge.

Pharmacological interventions were mentioned in this study as being used by nursing staff to reduce agitation. In LTC, a substantial proportion of residents with dementia are given psychotropic medication to reduce problematic behaviors.[41] In LTC environments, the treatment of such behaviors has traditionally been focused on a combination of mechanical or chemical restraints, practices that are currently being challenged.[18] Only limited research evidence supports the effectiveness of drug therapy for treating behavioral symptoms of dementia,[20,42] and some research even suggests that psychotropic medications can be harmful.[43] Recent guidelines released by the Canadian Coalition for Seniors' Mental Health[44] stress the importance of attempting nonpharmacological interventions prior to considering pharmacological treatment of behavioral symptoms for dementia. If nonpharmacological options fail, then medications should be considered if there is the potential that patients would harm themselves or others, or if a patient's condition has not improved within 30 days. Medications should be used as a last resort and must be used judiciously to avoid severe side effects, such as oversedation and parkinsonism.

Limitations of the study

The self-reporting format of the questionnaire may not accurately reflect the actual care that staff provide in the respective institutions. In addition, there is no information on the nonrespondents, so we are unaware of the

reasons for their lack of participation. Because of the relatively small numbers, the responses from allied HCPs have been combined, which may mask any difference in experiences, attitudes, and strategies between the professional groups.

Implications of the study

The main clinical implication of this study is that GRU staff require knowledge about strategies they can use to assess and intervene when patients exhibit behavioral symptoms during care. The current variability in knowledge of strategies used by GRU staff highlights an immediate need to establish standardized education for staff that focuses on assessment and nonpharmacological interventions. The importance of identifying patients' unmet needs, which may result in irritability, anxiety, or agitation, speaks to the need to increase physical assessments and critical thinking when addressing behavioral symptoms for persons with dementia.[23] When patients can no longer verbally communicate their needs, staffs' skills must be more advanced. Finally, despite the increasing number of persons with cognitive impairment in our rehabilitation environments,[8] our educational system is not preparing future HCPs in how to adequately care for persons with dementia. All entry-level HCP programs should include specialized content about the older adult, including assessment and appropriate interventions for patients with dementia.

CONCLUSIONS

Persons with cognitive impairment should have the opportunity for geriatric rehabilitation after hip fracture surgery and the chance to return to community living. This study demonstrates that staff report that patients with cognitive impairment frequently exhibit disruptive behavioral symptoms during rehabilitative care. However, only a moderate proportion of staff were able to suggest strategies to deal with the symptoms. A growing body of research has demonstrated that patients' challenging behaviors are not an inevitable consequence of dementia, but are often the result of external factors that can and should be manipulated.[45]

The results of this study point to an immediate need for all rehabilitation staff to have the knowledge and skills to manage patients' behavioral symptoms. Furthermore, most of the research on patients with dementia has been conducted in LTC facilities. Priorities for future research should include interventions targeted for patients with dementia within rehabilitation settings. As evidence exists that patients with dementia who have had surgery for a hip fracture do benefit from rehabilitation, we need to develop and promote best practices for these patients.

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