

Healthcare professionals' perspectives on rehabilitating persons with cognitive impairment

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Abstract

Background and Objectives: Despite emerging evidence that persons with cognitive impairment (CI) (including dementia and/or delirium) can be rehabilitated post-hip fracture surgery, there still remains a paucity of research on best practice rehabilitation strategies that help healthcare providers effectively rehabilitate persons with CI. Therefore, this qualitative study explores healthcare professionals' (HCPs) perspectives who have been successfully providing rehabilitation for people with CI.

Research Design and Methods: Sixteen HCPs with a specialty in rehabilitating persons with CI from one inpatient rehabilitation facility with various professional backgrounds were purposively sampled using a maximum diversity sampling strategy. Three focus group discussions were conducted to explore their experiences of providing rehabilitation to persons with CI. A hybrid inductive–deductive approach was used to analyze the data.

Findings: HCPs acknowledged that older adults with CI deserved the opportunity for inpatient rehabilitation and that good outcomes were achievable; however, their knowledge, skills, and attitudes required reframing. The analysis identified three essential components to rehabilitation: (1) staff education and support, (2) tailored rehabilitation approaches, and (3) care partner involvement and support.

Discussion and Implications: Rehabilitation of persons with CI post-hip fracture surgery is achievable, and HCPs can learn to modify their practices to achieve positive patient outcomes. The attitudes of the healthcare team members had to be shifted to embrace the belief that persons with CI can be rehabilitated. However, it takes a steep learning curve, creativity, ingenuity, and tailored approaches to rehabilitate persons with CI successfully. This involves knowing the individual, maintaining routines, and learning the best ways to engage and motivate the person. As well, care partners' knowledge and understanding of the individual improved the chances of a successful rehabilitation stay and discharge. Essential to the success of rehabilitation of persons with CI includes a supportive management team to help create the processes to enable their staff to succeed.

Keywords

dementia, aged, cognitive impairment, hip fracture, rehabilitation, patient-centered care

Introduction

Recovery following a hip fracture for community-dwelling older adults may be complicated by cognitive impairment (CI) (Lundstrom et al., 2003) commonly presented as dementia and/or delirium (Resnick et al., 2016a, 2016b). It is estimated that 23.9–83.5% of older adults with a hip fracture have dementia (Seitz et al., 2014a, 2014b) and about 48% of older adults experience delirium (Zyweil et al., 2015). Older adults with CI are at a higher risk of experiencing more complex health care and social needs (Smith et al., 2015) and mortality than those without CI following a hip fracture (Seitz et al., 2014a, 2014b). Coupled with the reality that current healthcare services are fragmented (Seitz et al., 2014a, 2014b), persons with CI have limited access to inpatient rehabilitation which also influences their long-term recovery.

Some clinicians do not perceive that rehabilitation of persons with CI is relevant, which makes accessing rehabilitation unattainable. Researchers examining perspectives of clinicians concerning access (Cations et al., 2019; Isbel & Jamieson, 2017; McFarlane et al., 2017; Mitchell et al., 2019) suggest that some clinicians did not see rehabilitation as appropriate for persons with CI because of their lack of capacity to participate in rehabilitation for reasons including poor insight into their own

cognitive disabilities and inability to follow directions. Additional concerns have been discussed, such as uncertainty about the appropriate length of rehabilitation programs, the lack of resources to rehabilitate (McFarlane et al., 2017), and a lack of evidence on standard interventions that can guide therapists, when rehabilitating persons with dementia (Hall et al., 2017). Also, the necessary training and education for staff to rehabilitate persons with CI needs to be considered (Isbel & Jamieson, 2017).

However, some clinicians believe persons with CI can be rehabilitated and that cognitive status alone should not be used as a criterion for access to rehabilitation (Isbel & Jamieson, 2017). Older adults with CI who gain access can benefit from intensive rehabilitation programs (McGilton et al., 2013; Resnick et al., 2016a, 2016b) with positive impacts such as a lower risks of falls (Seitz et al., 2016), gains in physical function (McGilton et al., 2012), and decreased risk of long-term care placement (Seitz et al., 2016; Smith et al., 2015).

Studies are slowly surfacing which detail models being implemented to rehabilitate persons with dementia post-hip fracture surgery to improve their outcomes (Resnick et al., 2016a, 2016b). These models include similar characteristics: an interdisciplinary team to address psychosocial factors, use of assistive devices, prevention and treatment of delirium, and innovative approaches to engage individuals with CI. One such model which demonstrated positive outcomes is a patient-centered rehabilitation model targeting older persons with CI (PCRM-CI) involving an interdisciplinary team that was trialed in Canada (McGilton et al., 2009, 2013). Comparing those with and without CI, both groups improved with regard to motor function and there was no difference in discharge location noted between the two groups (McGilton et al., 2009). Therefore, it is imperative to learn from the experiences of staff who have rehabilitated persons with CI. Previous work has focused on physiotherapists' (PTs) experiences of successfully working with persons with dementia (Hall et al., 2017). However, research has not been conducted on representing interdisciplinary healthcare team members' perspectives on rehabilitating persons with CI. Hence, the purpose of the current study is to explore the perspectives of healthcare professionals (HCPs) on the strategies they use to rehabilitate persons with CI.

Design and methods

A qualitative approach was chosen to explore the experiences of HCPs involved in the rehabilitative practices for older adults with CI post-hip fractures. This approach allowed for an in-depth exploration of the subjective accounts of the multidisciplinary team involved in direct care (Denzin & Lincoln, 1994; Willis & Jost, 2007). A case study approach (Stake, 1995; Yin, 2013) was chosen to facilitate a robust examination of the processes involved in the rehabilitation of persons with CI. The study site was selected using an extreme case sampling strategy (Patton, 2002), examining a highly successful experience in the rehabilitation of older adults with CI. The site utilized the PCRM-CI on an inpatient musculoskeletal unit in a metropolitan location in Toronto, Ontario. The PCRM-CI integrated five components: rehabilitation management, dementia management, delirium management, staff education and support, and family/significant other education and support (McGilton et al., 2012). The PTs and occupational therapists (OTs) provide therapy once a day for 1 hour, 5 days a week, one physician is available during the week, and a geriatrician is available for consults. In addition, nursing staff encourage patients to regain their abilities which include walks to the bathroom and/or dining room several times a day and the involvement of other disciplines as required, for example, dietitians and social workers. The facility was selected because the majority of staff had 10 years of experience rehabilitating persons with CI and because of its positive outcomes, such as rehabilitation efficiency and rates of discharge back home (GTA Rehabilitative

Network, 2018/2019; McGilton et al., 2009). Specifically, this program admitted patients that averaged the lowest cognitive scores at admission as compared to all other inpatient rehabilitation programs in the province of Ontario, Canada, while nevertheless being ranked first or second among inpatient rehabilitation facilities in terms of discharging patients back home (90%) and regarding the average change in functional scores at discharge (GTA Rehabilitative Network, 2018/2019).

Purposeful sampling in qualitative research focuses on selecting information-rich cases to illuminate the questions under study (Patton, 2002). By choosing a successful case, we aimed at understanding their experiences to determine best practices in rehabilitation for this vulnerable population. Data were collected using focus group discussions (FGDs) ($n = 3$) with HCPs ($n = 16$).

Sample and recruitment

We employed a maximum diversity sampling strategy (Patton, 2002) to ensure the participation of all professional backgrounds. In total, 16 HCPs participated in the study: five OTs, four registered nurses (RNs), three registered practical nurses (RPNs), two PTs, one physiotherapy assistant (PTA), and one social worker (SW). Demographics of the sampled staff are summarized in Table 1. Of the 16 HCPs, only one man participated; however, only three worked on the unit. The sample was representative of the standard balance within the unit as there are more women working in these professions than men. In each focus group, specifically, we had the following interprofessional groups: Group 1: two OTs and two RPNs; Group 2: three OTs, one PT, and one SW; and Group 3: four RNs, one RPN, one PT, and one PTA.

Table 1. Participant demographics.

Variable	Result ($n = 16$)
Age	
Range	24–64
Mean (\pm SD)	43.06 (\pm 11.65)
Gender	n (%)
Male	1 (6.2)
Female	15 (93.8)
Job title	n (%)
Occupational therapist	5 (31.3)
Physiotherapist	2 (12.5)
Physiotherapist assistant	1 (6.2)
Social worker	1 (6.2)
Registered practical nurses	3 (18.8)
Registered nurse	4 (25.0)
Highest education	n (%)
College	3 (18.8)
University degree	8 (50.0)
Master	5 (31.2)
Previous years in rehabilitative care	
Range	2–23
Mean (\pm SD)	11.3 (\pm 6.43)
Years in current position	
Range	0.2–21
Mean (\pm SD)	9 (\pm 5.66)

Recruitment was a two-step process. Initially, the data collection team used a convenience sampling approach to recruit participants (Given, 2008). Management was contacted by the principal investigator and invited to participate in the study. After informed consent was granted, management introduced the research team and the study to staff, who were invited to participate via e-mail. An appraisal was completed after two FGDs to ensure that the sample included staff in all professional categories of the multidisciplinary team. Thus, recruitment for the remaining FGD was conducted purposefully (Given, 2008).

Data collection

In September 2018, three FGDs were conducted in a private room at the study site. The team of three female researchers collecting data included a PhD prepared RN and senior scientist with extensive research experience in nursing studies (KM), a nurse practitioner and a PhD candidate (blinded for review), and a second-entry BScN candidate (SV). Topics guiding the discussions included the training required to implement the PCRM-CI effectively, engaging patients and care partners in goal-setting and care-planning, individual and team challenges, both ongoing and in the past, patient eligibility for the PCRM, and key learnings from the process. Facilitators used follow-up questions to probe for greater depth in participants' responses.

The study required in-depth discussions; therefore, small group sizes were selected to offer an environment where participants could discuss actively within the group (Liamputtong, 2011). We followed Kitzinger's (1995) suggestion that the ideal size should be between four and eight participants. The average size of the FGDs was four participants, with an average length of 45 minutes. Data collectors debriefed after each FGD, discussing data saturation, emerging topics, and adapting the FGDs' guidelines. Data saturation was used as an indicator to guide the number of FGDs conducted (Liamputtong, 2011). Researchers involved in the data collection process regularly took field notes on group dynamics during and after the FGDs.

Data analysis

A team of three researchers conducted data analysis; these researchers included a master's in rehabilitation sciences (DW), an RN candidate (NZ), and a PhD candidate and social scientist (SV & AE). FGDs were audio-recorded and transcribed professionally. All data were anonymized using participant identification numbers. NVIVO10 was used for data management and analysis.

The qualitative data analysis was a two-step process guided by a hybrid inductive–deductive approach (Fereday & Muir-Cochrane, 2006), starting with data-driven codes and followed by a theory-driven categorization. The FGD transcripts were first coded using a thematic, data-driven approach (Saldaña, 2015). Two data analysts coded each transcript independently and met weekly to review coding, reconcile discrepancies, and further define and refine the codes. The second-level analysis was guided by the results of the PCRM-CI (McGilton et al. 2009). Two analysts reorganized the first-level thematic codes into the five PCRM-CI components (i.e., rehabilitation management, dementia management, delirium management, staff education and support, and family/significant other education and support), meeting regularly to discuss doubts and discrepancies. The resulting second-level codebook was reviewed by the full analysis team, who reached an agreement on two adaptations of the model. First, the first three components were integrated into one, as it was not useful to separate rehabilitative strategies from those aiming at dementia or delirium management. Second, the components were to be reorganized, starting with staff education and support in order to

present findings in the most practical way for those interested in implementing the model in other settings. The findings below are presented using this second-level coding scheme.

Multiple steps were taken to ensure rigor at different stages of the research process. Trustworthiness and credibility were warranted by incorporating researcher triangulation, practicing reflexivity, establishing a detailed audit trail of documentation, peer debriefing, managing data systematically, and examining competing explanations (Lincoln & Guba, 1985; Patton, 2001).

Ethical considerations

The (Toronto Rehabilitation Institute-University Health Network) research ethics board approved the study. Participation was voluntary, with written informed consent obtained prior to participation and confidentiality assured.

Findings

Overall, participants agreed that older adults with CI deserved a chance at inpatient rehabilitation and were aware that rehabilitating persons with CI could lead to positive functional outcomes and being discharged back home. The analysis identified three essential components to rehabilitating persons with CI. These components were “*staff education and support*,” “*tailored rehabilitation approaches for persons with CI*,” and “*care partner involvement and support*.” “Staff education and support” reflected how the healthcare staff’s education, support, and effective teamwork facilitated positive outcomes for persons with CI. “Tailored rehabilitation approaches for persons with CI” illustrated how a good fit between the individual patient and customized rehabilitation approaches encouraged both participation in rehabilitation and a subsequent discharge back home. “Care partner involvement and support” demonstrated how healthcare staff relied on care partners such as family members, friends, and acquaintances to make contributions to rehabilitation care and how staff, in turn, assisted them to ensure a smooth transition back home. These components and their categories are summarized with illustrative quotes in [Table 2](#) (second-level codebook: components, categories, and illustrative quotations).

Staff education and support

This component speaks to the staff’s need for education, mentorship, and support in order to facilitate positive outcomes for persons with CI and their respective healthcare teams. It is split into three categories: (1.1) addressing the steep learning curve, (1.2) mentoring moments, and (1.3) being there for one another.

Addressing the steep learning curve. HCPs highlighted the importance of receiving specific training that provided them with the knowledge, skills, and attitudes required to rehabilitate persons with CI successfully. Staff were aware that their facility took in patients that are commonly denied access by other rehabilitation programs, and as such, knew that their work was unique. However, when the model of care was first introduced a decade ago, not all staff were enthusiastic about rehabilitating persons with CI. One OT reflected on the process and how the team collaborated to mitigate differences in initial knowledge and comfort levels among staff:

Each individual came in with their own set beliefs about working with this population group, but we were open enough to speak about it. And so, for those team members who were maybe not as comfortable, those that were [comfortable] would go and help out a little bit more. It just took time to build it up... there were lots of hiccups, lots of new learning. [Participant 1, OT]

Table 2. Second-level codebook: components, categories, and illustrative quotations.

Component	Category	Illustrative quotation
1. Staff education and support	1.1. Addressing the steep learning curve	<i>I found it also helpful when we did have the nurse consultant who was here for a period of time to assist, who's expertise, and field of work was in addressing this population when we first started out. And so that, and so she was there for a period of time and so I think that that helped immensely and just with the team in being uh, ..., and being eventually even more comfortable working with this population. [Participant 1, OT]</i>
	1.2. Mentoring moments	<i>I think sometimes after some very just specific patients, some situation with the behavioural issues or some serial cognitive challenges or any kind of other issues that they have, if we have, sometimes we have a debrief after that and it's very helpful to share the information, what happened, what we did and what was the solution. And this kind of debrief I think is very helpful for all team to have. [Participant 3, OT]</i>
	1.3. Being there for one another	<i>It was a process where each individual came in with their own set beliefs, in terms of working with this population group. But we were open enough to speak about it. And so for those team members whom we know were maybe not as comfortable, those that were then would go and help out a little bit more, and it just took time. [Participant 1, OT]</i>
2. Tailored rehabilitation approaches for persons with CI	2.1. Getting to know the person and setting goals	<i>So when we assess, when we assess patients when they first come to the unit, um we -, so with a patient with dementia, we may not address goals on day one but certainly within the first week, we are looking as we become more familiar with the patient's ability, capacity to recover and we're learning more about the home situation. We're talking-, we're thinking, you know, goals. So we can ask the patient but with patients with dementia, we involve the family as well. [Participant 15, PT]</i>
	2.2. Throwing away the cookie cutter	<i>It is taking it case by case and really understanding, you don't just apply it cookie-cutter, you can't with cognitive impairment. You could have two of the same moderately impaired, similar pictures, but the way they go about things is hugely different. One could be pleasantly confused and the other one's throwing their shoe at you. So you just got your gloves on and ready to catch [hand up like baseball], you know what I mean? It's just one of those things that you just can't cookie cut it. [Participant 5, OT]</i>

(continued)

Table 2. (continued)

Component	Category	Illustrative quotation
		<i>I remember there was one patient that wouldn't go to the gym and exercise, but she really liked dancing. So I remember the physiotherapist used to just go in the hallway outside of the patients' room and dance for 10 or 15 minutes, and that was her exercise for the day. But it worked, she exercised. [Participant 7, PT]</i>
	2.3. Planning for successful discharge	<i>If success is defined as returning the person to their previous living situation, then it is about discharging planning, not how physically able they are. We could have a patient who has a beautiful physical recovery but doesn't have the supports in the community to safely return or someone who has an absolutely terrible physical recovery but they're so well supported that they can still go home. So I wouldn't say one like physical function and social situation is more important than the other. [Participant 7, PT]</i>
3. Care partner involvement and support	3.1. Partnering in the rehabilitation experience	<i>During all of this, it sounds as if we're just doing this within the team but there's always somebody keeping family member abreast of everything. There are always follow-up updates and if there's a fall, there's always a phone call to the family member. [Participant 5, OT]</i>
	3.2. Supporting the care partner during the journey	<i>We can give some advice for using some tools like a walker properly. So, that's more the safety side and then if they need some more support from home then we have to ask the social worker to set something up and then inform the family member. Even the family member, sometimes they live alone separate from them. They don't know what they are doing or what they need. So, we find out the way we can help. [Participant 13, RPN]</i>

To assist with enhancing staff's beliefs, attitudes, and expertise, management organized a 1-day workshop focused on the care of persons with CI when the model was first introduced, where effective assessments and care approaches were shared, including a delirium protocol, so that staff could learn to recognize and treat reversible causes of delirium. This essential training, which included understanding remaining abilities of persons with CI, helped to bring all HCPs to a level of comfort on these topics, as not everyone had received this information in their professional education. In addition, an advanced practice nurse was hired for a year to teach staff how to work with persons with CI, including the provision of bedside mentoring, which they found hugely beneficial. An OT explained:

I found it helpful when we had the nurse consultant who was here, whose expertise was to address this population when we first started out... So I think that [the nurse] helped immensely with the team in being comfortable, and eventually even more comfortable working with this population. [Participant 1, OT]

However, for new staff joining later on, educational sessions were more intermittent, which some participants felt was problematic and proposed e-learning as a solution moving forward.

Mentoring moments. Staff discussed how mentors helped to improve their ability to properly rehabilitate persons living with CI. Mentoring sessions occurred in two ways in this facility: formally, during morning huddles, and informally, initiated by staff when needed to discuss a specific case and decompress. Because of the informal and formal mentorship, staff felt they were supported and that their work was valued. Debriefing sessions, which were also seen as mentoring moments, helped with educating and supporting staff as well. In the unit, team huddles occurred every morning and consisted of a ten-minute meeting with all available HCPs and management to meet and to discuss patients' issues and safety concerns. Also, when a referral or new patient arrived, the primary nurse would call a meeting to discuss care strategies. In addition, debriefing sessions occurred once the patient was discharged, which gave staff opportunities to discuss what was done well during the stay and what could have been improved.

A PT reflected on how group learning occurred using an interprofessional approach, as well as how collaborating with families was useful in getting to know individual patients better. She explained:

I find that I learn a lot from the people around me, especially those with more experience Not just as a physio from physio, but from something a nurse did or an OT did, or maybe the family. The family's a good resource as well. 'This is what we do with my mother when she has this tantrum,' or things like that. [Participant 15, PT]

Staff shared a willingness to adapt and try different care strategies and made suggestions to one another. There was also a realization that clinical skills, knowledge, and experiences accumulated over time.

Being there for one another. Healthy team relationships among coworkers were regarded as crucial in the success of rehabilitating persons with CI. There was a shared understanding of the importance of reliance among coworkers and managers in the rehabilitation of persons with CI. Participants highlighted the need for each team member to be nimble and ready to deal with whatever issues were presented on any given day. Regularly offering help to coworkers was seen as a strategy that helped in creating a supportive and collaborative work environment. When questions were raised, participants explained, a more experienced staff member would step in and guide the colleague who needed assistance.

Interdisciplinary collaboration was competently practiced in the facility, as care strategies for patients often spread across several disciplines and required a wide range of expertise. An OT explained how the team's approach to care delivery was flexible and sometimes meant working outside their disciplinary silos, stating: "You're not just doing PT or OT duties. You're interchanging, so everybody on the team would do bits of everything for the patient." [Participant 5, OT]. Participants explained that the reasons for staff doing "a bit of everything" were twofold. First, patients with CI could present unpredictable needs, which may be immediate, and as such, the nearest staff members' assistance was required to minimize the risk of a negative consequence. Although there was an appointed primary care team for each patient, everyone in the facility helped one another and contributed to care. Second, the goals to care provision were so intertwined that the staff eventually developed a mindset to work together to reach the collective end goal of rehabilitation and safe discharge.

The development of effective teamwork was associated with the unit's leadership for setting the tone and enabling this type of collaboration. Participants explained that they never felt they had to manage a difficult case on their own, believing that the more the team and managers worked together to solve a problem, the more successful the team was. This approach yielded positive effects for the team and the patients. Additionally, staff felt a sense of pride seeing patients walk out of the facility with better mobility and, more often than not, better cognition than when they arrived. The improved cognition was often as a result of the delirium triggers having been addressed and treated.

Tailored Rehabilitation Approaches for Persons with CI

This second component illustrates the importance of knowing each patient, a process which enabled individualizing rehabilitation approaches and encouraged participation in rehabilitation, ultimately contributing to a more timely discharge back home. Overall, HCPs believed that most persons with CI required assistance to participate in rehabilitation and focused on motivating the individual to participate. To do this, they needed to learn about the individual. Three major categories built this component: (2.1) getting to know the person and setting goals, (2.2) throwing away the cookie cutter, and (2.3) planning for a successful discharge.

Getting to know the person and setting goals. Participants acknowledged the importance of learning about the patients and their lived experience and using this knowledge in their rehabilitation practice. Knowing the person contributed to setting realistic goals and also gave HCPs a sense of purpose in their work. All patients received a comprehensive geriatric assessment (CGA) upon admission, conducted by various team members, which involved acquiring knowledge about the patient from multiple sources, such as care partners and previously used community support services. A PT further explained: "If they are receiving any support from these services, we contact them, and find out how they presented before the fall, before the fracture." [Participant 15, PT]

The CGA helped to rule out possible reversible symptoms that needed to be dealt with immediately, as well as with devising a plan of care. Many HCPs attested to the challenges of conducting the CGA on persons with CI. Clinicians suggested that rushing these patients could elicit responsive behaviors (e.g., agitation or aggression); hence, additional time was allocated to conduct CGAs with this group. Some participants found that patients' cognitive abilities fluctuated more in the acute phases of their stay. Thus, assessments were ongoing to capture these varying levels of function and to be able to adjust goals for the provision of tailored rehabilitation continuously.

One of the components of the PCRM-CI model included delirium management. A nurse explained how they identified and treated delirium in the unit following the protocol and the joy she felt when patients recovered from it:

We've had quite a number of patients who have come in and most of the time, [delirium] might just be due to constipation or dehydration. So, after thorough assessment, we're able to identify these issues, we have guidelines to follow. And usually they start smiling, they start talking back, they're not as combative, they're not as aggressive, or as, you know, up and down pacing. And it's nice when they can actually sit and have a conversation with you. [Participant 14, RN]

Precautions were also taken to mitigate risks such as falls, which sometimes contributed to a delay in meeting the functional goals. For example, staff used bed and chair alarms and a color-coded risk tagging system, where the red code required patients with CI to ambulate in the presence of an HCP or care partner. Hence, patients with a red tag had fewer opportunities to walk than patients without

CI in similar circumstances. This issue surfaced as an ongoing challenge that HCPs kept working on to improve rehabilitation care provided for persons with CI.

To learn more about the person and to build the rapport and trust necessary for rehabilitation, patients were assigned a care team made up of a primary nurse, an OT, and a PT upon admission, which remained constant until discharge. Participants considered it essential to have staff consistency as they could observe patterns of what did work or did not work and then incorporate changes to the care plan accordingly. However, several HCPs acknowledged that continuity of staffing was sometimes challenging with patients with responsive behaviors. Participants were grateful to managers who were crucial in monitoring the pulse of the facility and made required modifications in staffing to avoid burnout, such as alternating care assignments.

Throwing away the cookie cutter. Staff recognized that patients were unique and that individualized rehabilitation approaches required knowledge of the person. The team recognized that patients with CI are not all identical, and thus, cookie-cutter type techniques would not work for persons with CI. The individualized approach that staff took was very important for persons with CI, as this nurse explained:

Even though they are cognitively challenged, and maybe all of them may have dementia, or all of them may have post-op delirium, each individual is different. The way you handle them is different; the way you do the care is very different. So that helps. [Participant 3, RPN]

Staff aimed at incorporating patients' preferences and unique circumstances into patient care plans as an acknowledgment that many patients have cognitive abilities that can be utilized while rehabilitating them. As an OT explained, working with patients with CI involves, "*taking it case by case, you just can't cookie-cut it.*" [Participant 5, OT]

Most staff underscored the importance of flexibility and creativity in working with persons with CI. HCPs learned that therapy does not have to be done in a gym and that it could be done in many ways: standing and painting a picture, walking in a garden, kicking a soccer ball, or playing catch in a chair. Discovering what brought joy into the lives of their patients is what staff uncovered first to find strategies to interact successfully with each patient and to help motivate them. There was a realization that working with persons with CI required a different skill set and that there was no book to follow. One participant shared an example of how they incorporated the knowledge that they were getting about one patient into their rehabilitation approach:

I think she worked as an administrative assistant in a police department, and that she's from the UK. These are all pieces of her that we were learning about. She would often come and sit with us in our charting room or at the nursing desk, and that was part of how we would get her to come out of her room and walk a little bit. We would go for walks downstairs to get a cup of tea because she loved having her afternoon cup of tea. We went for a walk outside once because she wanted to get fish and chips, so we walked to a pub around the corner. [Participant 7, PT]

Through listening and creativity, HCPs identified new ways to motivate patients, tried new approaches, and changed their routines to accommodate patient preferences and mood. It was not the staff's schedules that determined when therapy would occur but the patient's schedule. Creating an individualized routine so that patients remained engaged while not in therapy was also seen as critical for their recovery. To keep patients active, one nurse explained, they were constantly thinking of, "*stuff ...to keep them busy, distracted, and not feeling lonely.*" [Participant 11, RN]. Schedules

were sometimes written down on the patient's whiteboard in order for staff to be aware of when therapists were scheduled and care partners were planning to visit. In this way, any gaps in the schedule would be noticed and dealt with creatively. Individualized approaches also meant that rehabilitation was offered on a continuous 7-day basis for most patients in the facility, including those with CI, to maintain their routine and rehabilitative gains.

Other approaches that were required to make rehabilitation successful were the staff's ability to relate well to persons with CI, including trying different communication strategies such as changing their body language and/or tone of voice. Participants also found that learning how to connect with patients and finding creative solutions to help them reach their goals were very rewarding.

Planning for a successful discharge. Participants recognized some dilemmas related to discharging patients, such as limited community resources. Most HCPs mentioned that one of the most significant issues while working with persons with CI was deciding if they were ready to go home safely. Participants stated that discussions with care partners about plans for safe discharge started early, as some care partners required significant guidance and time to carry out the recommendations in preparation for discharge. One participant underscored the importance of collaboration to ensure a safe transition upon discharge, stating, "*collaboration between our team with the community support, the family or caregivers, and then the client as well, was important for effective discharge.*" [Participant 8, PTA]

Staff discussed that they also needed time and guidance to consider patient safety versus patient autonomy and their right to live with risk once discharged home. As another participant explained, the patient's support system was carefully considered when planning for discharge:

We could have a patient who has a beautiful physical recovery but doesn't have the supports in the community to safely return home. Or someone who has an absolutely terrible physical recovery, but they're so well supported that they can still go home. [Participant 7, PT]

Many of these patients achieved their functional goals; however, the staff questioned if their CI may impact their ability to live alone. While each case was debated and available resources, including social support, were assessed, discharging patients safely was sometimes seen as precarious. Achieving some level of team comfort while working through "at-risk" discharges and recognizing the individual team members' discomforts were seen as important when rehabilitating persons with CI. Discharge planning meant considering each patient's abilities and outcomes as well as the services that would be available to them in their community. Staff perceived that there were limited resources available to persons with CI once at home and understood that both physical function and social support were important factors to consider.

Furthermore, a patient's circumstances before the hip fracture incident influenced staff's decision on the discharge destination. For example, the lack of adequate income, housing conditions, and community or social support could all make someone's life precarious. Sometimes patients were assessed and determined not to be independent enough to go home; however, care partners wanted them home regardless. For others, the patient appeared able to manage at home, and yet care partners could not take the patient in due to limited resources. Consequently, participants explained how some patients could remain in limbo for a while or transfer to a long-term care home.

On occasion, patients visited the facility after discharge, and staff commented on the positive transformations they had seen after the person was back in their own environment. Seeing patient improvement, either physically or cognitively, in addition to seeing them reintegrate back to their routine, and community was mentioned as one of the greatest rewards for HCPs.

Care partner involvement and support

This component identified ways in which the healthcare staff relied on care partners to make contributions to rehabilitation care that would assist in a smooth discharge back home. Two main topics were discussed on this issue: (3.1) partnering in the rehabilitation experience and (3.2) supporting the care partners to prepare for discharge. Participants agreed that people with CI required active care partners to achieve the best possible outcomes. Care partners, in turn, needed to be supported and informed on how to work with the person with CI upon discharge.

Partnering in the rehabilitation experience. Staff discussed the importance of creating a partnership with care partners to ensure successful outcomes when rehabilitating persons with CI. It was described as vital to involve care partners in patient care from the beginning of hospitalization to enable a smooth transition back home, so care partners were welcomed to the facility and were asked to review care strategies. A participant argued that care partner involvement was beneficial for patient care and successful transitions back into the community, recounting, “*Family members are welcome in the room... We engage the family to assist, that way when the patient is going home, it is not so frightening for them.*” [Participant 2, RPN]. Care partners were also encouraged to participate in rehabilitation by spending time with the patient, for instance, by having them take their relative for a walk. Staff kept care partners informed on what was occurring during the stay so that they remained aware of their progress and of any issues arising. An OT explained:

It sounds as if we’re just doing this within the team, but there’s always somebody keeping family members abreast of everything. There are always follow-up updates, and if there’s a fall, there’s always a phone call to the family member. [Participant 5, OT]

Staff explained that they kept care partners updated regarding patients’ progress, both formally and informally. Formal meetings with care partners were scheduled when staff could not informally connect to provide updates. These meetings were used to welcome care partners to the facility, observe how HCPs provided care, review care strategies with care partners, and discuss patient goals to plan for a smooth transition back home. It was also essential to follow up on any questions raised by care partners in order to create a working partnership.

By creating this partnership, care partners who were either in denial or unaware of the patient’s cognitive status before rehabilitation had an opportunity to become aware and be educated on CI by staff members. While care partners were informed that a hip fracture heals over time, the team also had initial conversations about the patient’s cognition and its long-term impact on recovery. This initial conversation was not taken lightly as it set the tone for team patient–care partner relationships, which helped to develop reasonable goals and devise a sustainable discharge plan. Participants explained how these initial conversations were useful to assess and discuss how the individual and their care partners accepted, coped, and dealt with a diagnosis of dementia and/or delirium.

Supporting care partners to prepare for discharge. Staff aimed at providing the necessary education and resources for the patients’ care partners to ensure a smooth transition home and at collaborating with community supports to attain additional services if necessary. To support a successful transition home, relatives were taught how to administer medication, transfer patients, understand delirium, and communicate and interact with patients. Participants believed that providing education using adult learning principles in various formats (e.g., audio and visual) was very important. One nurse reflected on this process and on the importance of learning about each patient’s situation, stating:

We can advise on using tools like a walker properly. If they need more support, then we have to ask the social worker to set something up and inform the family member. The family member sometimes lives separately, and they don't know what [the patient] is doing or what they need. So we find out how we can help there. [Participant 13, RPN]

For HCPs, explaining and exploring the risks of going home to care partners was also important, as each care partner may have a different level of comfort with varying levels of risk. Trial weekends (i.e., when patients go home with care partners for the weekend) were instituted at the facility to help care partners understand the levels of risk and comfort. These weekends helped determine if anything else needed to be done prior to discharge.

Staff found it challenging when no care partners were present in the patient's life or when there were difficulties attempting to contact care partners. A patient's CI was not the only factor to affect the patient's outcome; participants observed that a strong and supportive network of care partners allowed patients to continue to improve once at home.

Discussion

This study aimed to explore the views of HCPs who rehabilitated persons with CI to make tangible the factors that need to be considered when successfully rehabilitating this group of older adults. The exploration was framed to capture the knowledge, skills, attitudes, and supports required to rehabilitate persons with CI following a hip fracture. Unlike earlier work (Cations et al., 2019; Mitchell et al., 2019), clinicians felt fulfilled working with this vulnerable population and took great pride in seeing patients return home. They were satisfied with their professional lives, as they were able to achieve profound improvements in functioning for persons with CI, despite how they first appeared on admission. The main findings identified in the data are discussed below.

One of the key findings from this study was that HCPs had to learn how to rehabilitate persons with CI for them to achieve desired outcomes. Clinicians were aware that they needed support and welcomed learning opportunities to improve their knowledge and skills. Research exploring HCPs' work with this group of older adults in rehabilitation (McGilton et al., 2009) has provided similar evidence that educational opportunities during training are limited in terms of care for older adults in general and persons with CI in particular. This finding is consistent with work by Isbel and Jamieson (2017), who found that HCPs needed education on ways to interact productively with this cohort of patients. Rehabilitation for this group of patients requires multiple resources, including skilled practitioners, integrated clinical systems, and staff education regarding the capabilities of people with CI. As such, the education of staff is essential for successful rehabilitation outcomes. Mentoring and providing teaching at the bedside was critical when newly working with persons with CI. Clinicians commented on the necessity of being explicitly shown and allowed to observe one another in the administration of assessments and in approaches to rehabilitation. The importance of facilitation for knowledge translation at bedside is well-documented (Berta et al., 2015).

What was striking to the research team was the need for staff to shift and embrace an attitude that this group of individuals could be rehabilitated. Some clinicians spoke about the steep learning curve that was required to rehabilitate persons with CI and the need to adjust their attitudes and perceptions; however, this journey was not comfortable for all clinicians. A collaborative work environment where staff shared approaches on best practices for specific patients with CI helped to positively influence staff's attitudes and practices. This is in direct contrast to work by other clinicians who felt skeptical about the capacity of people with CI to participate in rehabilitation programs (Cations et al., 2019; Mitchell et al., 2019). However, it takes creativity, ingenuity, and

passion for rehabilitating persons with CI, as well as a supportive care partner to make the transition home a smooth one. Ingenuity has been reported in another study (Hall et al., 2017) where PTs reported they needed to think outside the box when rehabilitating persons with dementia (Hall et al., 2017). Adapting techniques to fit with the distinct attributes of the person was highlighted by all team members in this study, not just the PTs. Similar to the work by Bamford et al. (2019), staff in our study also found that including meaningful activities into the routines of rehabilitative care was a useful strategy and that being equipped with skills and knowledge on how to be person-centered was essential for success.

As discussed by some participants, the approach that was required to rehabilitate a person with CI involved starting rehabilitation as soon as possible, maintaining routines, knowing the individual, tailoring approaches based on this familiarity, closely supervising them to maintain safety, and employing patience. Tailoring rehabilitation included understanding what motivates the individual and knowing what approaches would lend themselves to success for the individual, for example, dancing in the hall or exercises by the bedside versus in a group setting. Learning how to engage person with CI in rehabilitation has been described as vital (Isbel & Jamieson et al., 2017). Additional strategies used by Resnick et al. (2016a, 2016b) included developing tailored rehabilitation approaches that address behavioral and psychological symptoms associated with CI which include: focusing on the successful performance of the activity, providing verbal encouragement, seeing other patients perform the activity as a potential way to cue the patient, and elimination of unpleasant physiological and affective states associated with the activity. Understanding the underlying causes for delirium and trying to mitigate those factors were also essential as was differentiating between delirium and dementia. These approaches and strategies in caring for persons with CI have been widely published in other care settings (Fazio et al., 2018; Isbel & Jamieson, 2017; Milisen et al., 2001).

This study also highlighted HCPs' need to appreciate the care partners' knowledge about their family members, which was essential, especially for persons with CI who were not able to communicate verbally. Similar to research by Cations et al. (2019), HCPs found the involvement of a care partner to be crucial and beneficial in the tailoring of the rehabilitation pathway as they often know the patient best. Tailoring rehabilitation approaches were more successful if staff were informed by care partners of the older persons' preferences and particularities. Partnering early during the rehabilitation stay with care partners improved the chances of a successful rehabilitation stay and an effective discharge as they were able to prepare families for the risks involved with going home and find ways to proactively combat them.

In addition, staff commented on the ability of team members to work outside of their silos and adopt a practice that was patient-centered and responsive to the needs of patients, which was pivotal to their success. There was also a recognition that each individual, team, and organizational perspective on the rehabilitation of persons with CI (whether consciously or subconsciously) had an influence on program planning, along with clinical decisions for care and discharge planning for this group. For example, the perspective of an individual who was being listened to on given days may have tipped the scale in favor of one side over another, that is, in terms of patient safety versus patient autonomy. The team had to recalibrate many times when they felt a sway in one direction or another, acknowledging their own perspectives while keeping in mind the patient and family preferences. These discussions were only made possible as the management team encouraged a blameless environment where risk was allowed, so staff were not afraid to speak up. Our study findings align with work by Hall et al. (2017). We also found, like Hall et al. (2017), that risk-taking was part of the experience for staff and that negative consequences could occur if risks were not taken; for instance, mobilizing these patients versus leaving them in their beds.

Implications

The results of this study are an attempt to conceptualize how rehabilitation programs can and should be delivered for persons with CI, which is a fundamental human right (World Health Organization, 2017). Yet, there remains a considerable amount of unmet needs in accessing rehabilitation professionals and services globally, leading to unmet individual needs (Kamenov et al., 2019). Our study demonstrates that rehabilitation is relevant for persons with CI, and to address their unmet rehabilitation needs, practice by rehabilitation clinicians must be modified so that recovery of function for older adults can be achieved. Models of rehabilitation care similar to this one are essential. Providing rehabilitation for persons with dementia has demonstrated that they have a 50% less chance of being admitted into a nursing home, which leads to cost savings, and they also experience 50% less morbidity 1-year post-hip fracture (Seitz et al., 2016). The onus thus falls on the HCPs to motivate and individualize the rehabilitative treatment that each patient receives, leading to high participation rates. As highlighted in this study, future training programs for staff are required to learn best practices and continue the uptake of those practices. Future research is needed to understand the correct staffing levels to provide rehabilitative care for persons with CI. Furthermore, the process of motivating new groups of clinicians to rehabilitate persons with CI requires more involvement from administrators and policymakers, and barriers to this patient population accessing rehabilitation should be removed.

Limitations

Findings from this study pertain to the practices of staff from one facility and included only one man, which may limit the transferability of the findings to other settings. However, this in-depth examination of a successful case, with its rich description of context and findings, makes an important contribution to the body of knowledge aimed at improving rehabilitative care for older adults with CI.

Conclusion

Shifting attitudes of clinicians to rehabilitate persons with CI is an urgent priority, given the demographic changes which are occurring globally. Rehabilitation of persons with CI post-hip fracture surgery is achievable with support. Models of care that focus on providing rehabilitation care for persons with CI post-hip fracture surgery require widespread adaptation.

Author Contributions

All authors (KM, SV, NZ, DW, LY, AE) have been involved in the design of the study, acquisition analysis and interpretation of data, drafting the manuscript, critically revising the manuscript for important intellectual content, and approval of the final version. Authors (KM, SV, NZ, DW, LY, AE) also agreed to be accountable for all aspects of the work and were involved in the conception of the study.

Declaration of Conflicting Interests

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Ethics Approval and Consent to Participate

(Toronto Rehabilitation Institute-University Health Network) research ethics board approved the study; participants provided written consent.

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