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# “We don’t look too much into the communication disability”: clinicians’ views and experiences on the effect of communication disability on falls in hospital patients with stroke

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## ABSTRACT

**Purpose:** Difficulty with communicating basic needs and attracting the attention of health professionals may contribute to falls for patients with communication disability after stroke. The aim of this study was to explore the views of hospital-based health professionals on: (a) the effect of communication disability on falls in patients with stroke; (b) falls prevention strategies for patients with communication disability following stroke; and (c) the roles of speech pathologists in the assessment, management, and prevention of falls in this population.

**Materials and Methods:** Online focus groups were conducted and analysed using content thematic analysis.

**Results:** In total, 11 health professionals participated in four focus groups. Clinicians viewed that: (a) the effects of falls in patients with communication disability are far-reaching; (b) communication disability complicates falls risk assessment and falls management; (c) current falls prevention strategies do not meet the needs of patients with communication disability; and (d) strong relationships have a central role in decreasing falls in this population.

**Conclusions:** Health professionals articulate concerning gaps in falls prevention strategies for patients with communication disability. Further research should investigate strategies enabling falls prevention and management to be more inclusive of patients with communication disability following stroke and consider ways in which speech pathologists could contribute to this field.

## ARTICLE HISTORY

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## KEYWORDS

Communication disability; stroke; patient safety; falls; inpatient; falls research

## > IMPLICATIONS FOR REHABILITATION

- Hospital patients with communication disability after stroke have unique factors that contribute to falls
- Communication disability complicates falls assessment and prevention strategies
- Speech pathologists can assist with identifying contributing factors for falls related to communication disability
- Multidisciplinary teams should consider implementing explicit communication strategies for tasks that are typically associated with falls in patients with stroke

## Introduction

Communication disability, specifically aphasia, apraxia of speech, dysarthria, and cognitive-communication disability, affects an estimated 64% of people with stroke [1, 2]. Patients with communication disability are three times more likely to experience adverse events in hospital, including falls, when compared to patients without communication disability [3]. Falls are one of the most common adverse events in hospital, affecting up to 65% of patients with stroke during their hospital admission, with associated negative outcomes for both the patient and the health service; including injuries and increased costs of care [4, 5].

Effective communication between health professionals and patients is central to providing patient-centred, quality health care [6]. However, the presence of a communication disability can lead to breakdowns in communication between patients and hospital staff [7]. Patients with communication disability following stroke often

have difficulties producing and understanding speech and language [8]. These impairments impact communicative function, reducing their ability to (a) convey their healthcare needs (e.g., pain) [9], (b) follow safety instructions [10, 11], and (c) use the nurse call bell [12]. Such communication breakdowns between patients and hospital staff contributes to a three-fold increased risk of adverse events in hospital for patients with communication disability [3, 13, 14].

When considering hospital falls in patients with communication disability following stroke, this group have unique factors that not only contribute to falls but also act as a barrier to falls prevention strategies and the ability of hospital clinicians to provide care following a fall [15–17]. Difficulties following instructions, communicating basic needs, and gaining the attention of staff have been identified as contributing factors for falls in hospital patients with communication disability following stroke [16, 17]. These patients are reported to commonly experience unwitnessed

falls from the bed whilst attempting to address an unmet need (e.g., go to the toilet), take a risk (e.g., transferring from the bed to chair), or in unknown circumstances (e.g., due to the fall being unwitnessed and the patient being unable to describe the circumstances [16, 17]. Furthermore, documentation by health professionals reflected their view that patients who had difficulties communicating basic needs and following instructions were challenging to assess and examine for injury following a fall [16].

Considering the multiple impacts of falls upon patients with stroke in hospital, health professionals have a crucial role in providing multiple and complex falls prevention strategies. These strategies include providing rehabilitation, delivering patient education, making environmental modifications, and implementing falls systems and policies [18, 19]. However, there is little research focusing upon how health professionals manage falls in patients with stroke and associated communication disability, where there are potentially several barriers to effective communication that impact upon these strategies. The views of health professionals on management of falls in patients with communication disability following stroke might yield important additional barriers or facilitators for implementation that are as yet unexplored. For example, speech pathologists have a key role in working with patients with communication disability and in enhancing communication between patients and healthcare providers [8, 20, 21]. The contribution of speech pathologists in falls assessment and management for these patients needs further research [16, 22, 23].

Hospital responses to the COVID-19 pandemic (2020–2022) placed restrictions upon non-essential research that prevented access to interviewing patients or hospital staff in person. As such, similar research on the problem of falls in patients with communication disability following stroke had relied upon documentary data analysis of medical records and incident reports. There remains a need to understand the views and experiences of health professionals who work with patients with communication disability following stroke to add further context and insight. Such research is important to verify the findings of previous research and generate new knowledge regarding the impact of communication disability on falls risk and prevention strategies [24]. Therefore, the aim of this study was to explore the views and experiences of hospital-based health professionals on (a) the impact of communication disability on falls in patients with stroke; (b) falls prevention strategies for patients with communication disability following stroke; and (c) any potential role for speech pathologists in the assessment, management, and prevention of falls in this population.

## Materials and methods

Online focus groups were conducted with healthcare providers in Victoria, Australia using established methods [25] which did not require modification for the online environment. Data from the focus groups were analysed using content thematic analysis [13, 26] to identify themes within and across the focus groups. This study was approved by the health service Human Research Ethics Committee and the Universities involved and this study is reported following the Consolidated criteria for reporting qualitative research (COREQ) guidelines [27]. Written informed consent was obtained from all participants.

### Recruitment of participants

Purposeful and snowballing sampling were used to recruit participants. The researchers distributed notices advertising the research by email through professional networks in local health

organisations and posted on social media. Participants were not reimbursed for their time.

Only medical, nursing, and allied health clinicians who had provided clinical services to hospital patients in Victoria, Australia with stroke and associated communication disability; and a fall or near miss fall during hospital admission were eligible to participate.

### Data collection

Four online focus groups were held between October and December 2022 *via* Zoom [28], with each focus group lasting between 40 and 50 min (average of 45 min). The Zoom link to the focus groups were accessible to participants and the moderator only and each participant attended only one focus group. No follow-up focus groups were offered. Each group was video and audio recorded in Zoom [28] to enable verbatim transcription later which was completed by the first author. Each participant informed the first author of their preferred date and time to attend a focus group. Composition of the focus groups was dependent on the availability of the participants (i.e., groups were formed by convenience, not by discipline group) to create a group based on what the participants shared in relation to the topic rather than demographics [29].

Each focus group was moderated by the first author. At the start of each group, each participant provided demographic information (first name, role, and number of years working in that role) for context to their discussions; and the moderator introduced herself as a speech pathologist and PhD candidate. To maintain confidentiality, participants did not share their full names or the employer or site of work with the group.

Following introductions, the first author provided participants a 5-min presentation about falls in hospital in this patient group to (a) ensure similar background levels of knowledge across the groups on the recent findings, and (b) provide context to the questions for the focus group discussion. The presentation included two PowerPoint slides providing an introduction to the research, and the published results of systematic reviews, policy analysis and two document data analysis studies (removed references for deidentification). A focus group topic guide was then used to guide discussions (see [Appendix 1](#)). The topic guide was informed by the prior research presented to the group [16, 17, 23, 30]. During each focus group, the moderator made field notes to expand on points made by the participants and support data analysis within and across groups [29, 31]. For example, participants in focus groups were asked to provide their views and experiences of a falls prevention strategy raised in a prior focus group. The moderator ensured that each participant had similar opportunities to speak with no single participant dominating discussions, and all participants reflected on their experience within the last two years.

### Data analysis

The focus groups were transcribed and de-identified by the first author, with each participant assigned a code reflecting their participant number (e.g., FG1P1 referred to focus group 1, participant 1). Transcripts were imported into MAXQDA Software [32] for storage, retrieval, and analysis of the data. The focus groups were analysed inductively by the researchers within and across groups. Focus group discussions can generate new ideas, and the interaction of participants can lead to them changing their views [33]. Analysis within each of the focus groups conducted in this

study did not reveal evidence of participants changing their views throughout the group discussion. A content thematic analysis was conducted by the first author, in discussion with the research team, using the following process: (a) reading and re-reading the extracted data; (b) applying codes to the data to generate categories of meaning; (c) combining categories of meaning to generate themes in a constant comparison manner between each focus group; (d) developing, refining and verifying the themes; and (e) identifying the relationships by connecting the themes to categories within and across the data [13, 26].

### Steps to increase reliability

This study was conducted within a social constructivism paradigm, whereby the researcher seeks the views of the participants in the research, in order to make sense of the meanings they have associated with the experience [34]. Within this, the researcher's own background shapes the interpretation of the data [34]. All authors of the research team have experience working in clinical settings with patients with stroke and had access to the deidentified transcripts as well as the first author's initial interpretations. The authors used the focus group transcripts to inform iterative discussions and ultimately agree and finalise the categories of meaning, themes, and relationships identified within and across the groups. This included consideration of alternative explanations from multidisciplinary viewpoints particularly in relation to the grouping of the content codes into sub-themes and themes, and exploring the relationships between themes.

Two of the 11 participants were known to the focus group moderator through prior working relationships. This potential for bias was managed through the data collection and analysis by: (a) researcher responsiveness during the focus groups (i.e., verifying the meaning of statements throughout the groups), (b) providing context to the discussion for all participants (i.e., the presentation at the beginning of each group), (c) the use of field notes during data collection and analysis, and (d) verification of researchers' interpretations of the data with study participants. A written synopsis of the focus group data was emailed to each participant, including a summary of the themes from the combined groups as well as a summary of the themes arising in their own focus group. In both cases, the themes were accompanied by supporting quotes. Participants were asked to confirm by reply email that the summary was an accurate representation of the discussion, or suggest additions, deletions or expansions on the topics included. Overall, only one participant responded to confirm that the interpretation reflected their group's (Group 4) discussion. Finally, quotes of the raw data are used in the reporting of the results to increase transparency, support the interpretations of the data made by the researchers, illustrate the findings, and increase the plausibility of the results [29].

## Results

### Participants

In total, 22 expressions of interest from potential participants were received for the focus groups. The expression of interest did not collect demographic information, only contact details. Each person who expressed an interest was sent a copy of the participant information and consent form *via* email and asked to provide consent to be included in the research. Of the 22 expressions of interest received, only 11 consented to participate in the study. The remaining 11 potential participants were sent one follow-up

Table 1. Participant demographics.

Focus group number	Participant number	Profession	Number of years of experience in working with people with stroke
1	1	Nurse	10
1	2	Nurse	10
1	3	Nurse	10
2	4	Nurse	6
2	5	Assistant Nurse	4
2	6	Nurse	2
3	7	Speech Pathologist	19
3	8	Doctor	4
3	9	Doctor	5
4	10	Speech Pathologist	9
4	11	Speech Pathologist	2

email inviting participation but did not respond. Participants were six nurses (including one assistant in nursing), three speech pathologists, and two medical doctors ( $N=11$ ). Participants had an average of 7.4 (range 2 – 19) years of experience in working with people with stroke. Further information about participants is presented in Table 1. Although focus group four ( $n=2$ ) could be considered a small group interview due to the number of participants, it followed the same format and methods of the other groups and the discussion was similar in duration and format. Therefore, it is considered a focus group for the purpose of this study.

### Content themes

Following analysis, four main themes across focus groups were identified, each with subthemes (see Table 2). The four main content themes answer the aims of the study and the topic guide questions reflecting hospital staff views: (a) the multiple impacts of falls in patients with communication disability are far reaching; (b) communication disability complicates falls risk assessment and management of falls in many ways; (c) current falls prevention strategies do not meet the needs of patients with communication disability; and (d) stronger patient-provider and team relationships play a central role in reducing falls in patients with communication disability. In reporting these results, quotes and excerpts used to illustrate the findings and increase the verifiability and plausibility of the results are labelled according to the participant number assigned during transcription and de-identification (e.g., FG1P1 is focus group 1 participant 1).

### Theme one: the multiple impacts of falls in hospital are far reaching

#### Falls impact patients

Participants identified that falls have a wide range of impacts on patients. Participants discussed that despite falls with major harm, such as fractures, being uncommon, the impact of a fall on a patient is still significant, and "a total breakdown at times" (FG2P6). Participants viewed that these impacts could affect patients in terms of their confidence, pain, and mental health. Participants also viewed that a fall has negative impacts on the patient's rehabilitation journey.

#### Falls impact staff

Participants across all focus groups also viewed that when a patient with communication disability experiences a fall, the staff feel "upset" (FG4P11), and "distressed" (FG4P10). Participants

Table 2. Quotes supporting themes.

Theme	Sub theme	Quote	
The Multiple Impact of Falls in Hospital are Far Reaching	Falls impact patients	<p>“a person can change psychologically” (FG2P6)</p> <p>“...if my patient fell then they would need to be transported back to the main hospital, have a scan, ... so that takes out of their therapy time the next day, they might not feel 100%, they don't want to do any therapy. I feel like in terms of actually interrupting their rehab journey, it definitely does.” (FG4P11).</p>	
	Falls impact staff	<p>“when you find your patient in that situation [a fall], you need to unite with some other care giver to know ... how you go about situations like this. From there you be able to know what to do and to develop your own skill on how to manage situations like that” (FG2P4)</p> <p>“I have a negative experience working with them [patients with communication disability] most times... I feel coz when they [the patient's] don't respond very well to me and they don't respond to treatment as well” (FG3P9)</p> <p>“And the fact that you know, you've [staff] got to call a loved one to tell them that they've [the patient] had another fall... it's just that disappointing phone call that you have to make” (FG4P10)</p>	
Communication Disability Complicates Falls Risk Assessment, and Management in Many Ways	Communication disability contributes to falls	<p>“We see it a lot [patients that experience falls] and you know [they] can't communicate their needs and wants... are they actually wanting something and they're trying to reach for it, but unable to use their words to communicate and tell people you know what it is they want? So yeah I definitely think it [communication disability] plays a massive role” (FG4P10)</p> <p>“[it is] actually not working because [the] patient they actually challenged when it comes to communicating and they find it hard to talk, they find it hard to understand certain things” (FG1P1)</p> <p>“I think it does, maybe the patient could be trying to communicate something, maybe going to the restroom... but there's nobody around to care for him, to direct him to the restroom and then [the] patient is trying to do it on his own. And during that process falls actually happen” (FG1P1)</p> <p>“patients get upset because they are having to wait a long time and they're having trouble communicating that they need help so they're more likely to just go and do something themselves” (FG3P7).</p>	
		Clinicians do not often consider communication disability in relation to falls	<p>“We talked a lot about like cognition and delirium and toileting but we didn't really talk much about communication disability. We did talk about call bell usage” (FG1P2)</p> <p>“I saw an email about a meeting that staff were to attend on a falls review ... it was clear that it was physios' and OT [occupational therapists] that were the target” (FG3P7)</p> <p>“If that person has a communication disability than a speech pathologist needs to be involved in the falls review... but it hasn't been routinely considered” (FG3P7)</p>
		It is challenging to understand the circumstances of some falls	<p>“when you approach [the patient who has fallen] you have to look around to see if there's anything maybe there they might have done that could lead to such situations.” (FG2P6)</p> <p>“I know this is a really tough one because the person, the nurse is not there and I'm trying to take a guess of what really happened” (FG3P9)</p>
	It is difficult to assess and treat patients following a fall.	<p>“I have had an instance where I have used like an AAC just like a picture of a person with different dots all over the body and we've gone through each area... looking at each point saying do you feel pain here?” (FG4P11)</p>	
	Current Falls Prevention Strategies Do Not Meet the Needs of Patients with Communication Disability Following Stroke	Patients with communication disability following stroke require tailored falls prevention strategies	<p>“no, I don't think I've ever been involved in education with staff or in the discussion involving a patient.” (FG4P11)</p> <p>“It might happen occasionally on a case by case basis but it's probably going to be very clinician dependent” (FG3P7)</p> <p>“when the patients are getting out of bed maybe to go use the toilet or do anything else they should first be educated and what to do in the process... you can't just get up like that.” (FG1P1)</p> <p>“you make them understand that they need to walk with you so that everything would go smooth.” (FG2P4)</p> <p>“[the speech pathologist] are giving orientation on how to go about their day to day activities while they still in the hospital. Let's say they need attention, they've been given this orientation, and how to communicate with a nurse or someone attending to them” (FG1P1)</p>
Strong Patient-Provider and Team Relationships Play a Central Role to Decreasing Falls in Patients with Communication Disability Following Stroke	Relationships between the multidisciplinary team	<p>“you need to unite with some other care giver to know ok what happened?” (FG2P4)</p> <p>“making sure that if we have specific communication strategies for patients, are they [other staff] actually comfortable using them and can they use them effectively” (FG4P10)</p> <p>“doing more collaborative functional assessment, you know when the physio is helping the patient get out of bed, look going and actually looking at their communication in that assessment, looking at you know, how the patient moves, what they're asking for, their communication style... how are they able to communicate so that can inform the strategies we're providing to staff... In summary I think, trying to be more specific with our strategies based on some more specific assessments we're doing collaboratively with our colleagues” (FG4P10)</p>	
	Relationships between the patient, family, and care team matter	<p>“You need to be very close to your patients, you can understand their body language when you're close to them. And maybe when they trying to talk to you, and you cannot figure out what they're trying to say but most times the body language can tell you a whole lot about what they're trying to relate to you.” (FG2P4)</p> <p>“As a nurse or a doctor, or a health practitioner, you should be able to have this relationship with your patient. By so doing, they actually feel they are loved... it strengthens them, and they would try their possible best to tell you what the issues are irrespective of their communication disability.” (FG2P5)</p> <p>“Where things get complicated ... it is at times very advisable that you bring a family member that the person is really close to... to help ease the stress of falls or the staff” (FG2P6)</p> <p>“Most of the time we don't know the patient 100%. The family knows the patient well. So if a particular strategies doesn't work, I think you should use the family strategy to get at it” (FG3P8)</p>	

reported that when a patient experiences a fall, they often question their management or treatment plans for the patient and consider if any other preventative measures could have been taken to prevent a fall. For example, “you always think, oh my

gosh... was that because I didn't speak to the physio about a risk minimisation strategy, or you know I didn't give enough education” (FG4P10). Further, participants reported impacts to their confidence in their roles as health care workers; as described by



FG2P5, who said: “this is complicated... kind of like make you feel like you don’t really know what to do or not really good at your job.” One participant described the process of reflecting on patient falls as being a learning experience (see Table 2, quote FG2P4), and participants in focus group 1 spoke of the impact of patient falls on the health service in relation to the additional requirements of health services after a patient fall impacting staff workloads. The additional workload was described by FG1P2:

it’s extra work for them [staff] to do, to you know do the assessments, to do the VHIMS [incident report] which takes time off the floor, and you know staff are already short staffed as it is and have time constraints.

### **Theme two: Communication disability complicates falls risk assessment, and management in many ways**

#### **Communication disability contributes to falls**

Across the groups, participants viewed a patient’s communication disability as a contributing factor to a fall. FG4P10 said: “I definitely think it (communication disability) plays a massive role.” Participants discussed several challenges that are faced in implementing effective falls prevention strategies when patients have difficulty either in expressing their needs to health care workers, or using the call bell to attract attention. Participants expanded upon this using specific examples, such as FG4P10 “they’re trying to reach for it, but unable to use their words to communicate and tell people ... what it is that they want.” FG1P2 further stated “with communication difficulties it’s hard to get that message across to the patients that you need to use a call bell if they don’t know how to use a call bell.” Participants also viewed that the time it takes to communicate with a patient with a communication disability may be a contributing factor to a fall, with FG3P7 explaining: “when someone does have a communication disability it takes so much longer to work out what they need, and hospital wards are really busy environments and staff often don’t feel like they have the time to spend” (FG3P7). Speech pathologists in the groups highlighted the role they may have in identifying the communication-related risk factors associated with falls, and FG4P10 specifically outlined how the communication disability impacts on particular hospital tasks:

... if they [the patient] can’t express their wants and needs, how does that ... have a functional impact on what they’re doing in their day-to-day environment in the hospital? ... Having a look at that risk, and then breaking it down a little bit more to sort of understand how that plays out in a day-to-day situation. (FG4P10)

#### **Clinicians do not often consider communication disability in relation to falls**

Participants across the groups acknowledged that a patient’s communication disability is “not often considered” (FG3P7) in relation to falls risk assessment or management, even though it “might be a factor” (FG3P7). Participants discussed considering a patient’s cognitive impairments (e.g., impulsiveness) and physical function more than communication disability in relation to falls risk assessment and management strategies, with FG1P2 stating that “we talk more about the cognitive impairment and don’t look too much into the communication disability.” Speech pathologists in the groups suggested that the role of a speech pathologist within the falls prevention and management team needed to include raising awareness of the risks of communication disability in relation to falls and building the skills of other healthcare providers

to communicate with patients with communication disability. Also, that “a lot of education and work in this space would actually make a really big impact on the patients” (FG4P11). FG1P2, a nurse, outlined the benefits of a speech pathologist being part of the fall prevention team, explaining:

The speech pathologist is quite actively involved and contributes really well... that’s why I feel like I do a lot of communication strategies is because of their input...I absolutely think there is a place for speech [pathologists] to be involved in falls prevention and really helping to individualise the communication strategies that we should be using. (FG1P2)

#### **It is challenging to understand the circumstances of some falls**

Participants who were nurses highlighted the challenges associated with understanding what might have led to a patient with communication disability having an unwitnessed fall in hospital, particularly when the patient is unable to communicate the circumstances. They discussed trying to figure out what had happened by investigating the environment where the patient was found after a fall, the patients’ known falls risk factors, how the patient was positioned when found, and knowledge of the patient’s daily routine (e.g., knowing when the patient usually needs the toilet) to help piece together the potential contributing factors to the fall. Participant FG1P2 described this process as “If it’s an unwitnessed fall, we’re speculating... but at the same time, I’m assessing the other risk factors as well... I’m looking at all of those other intrinsic risk factors... I’m looking at external... what was the environment around them?”

#### **It is difficult to assess and treat patients following a fall**

After a fall, participants, (in particular the medical doctors) reported it was difficult to assess patients with communication disability for injuries following a fall, and described that these difficulties may lead to a delay in commencing treatment. As FG3P8 explained:

If a patient cannot actually tell what he or she is going through, if he or she can’t explain the level of the particular ailment he or she is going through to a doctor, how do you expect the doctor to commence the treatment? ... I think the process is not going to go well... the treatment process is also affected.

FG4P11, a speech pathologist described delays to the recognition of a patient who was suffering from an evolving haemorrhage following a fall due to communication disability. Participants variously described their experiences assessing and treating patients with communication disability following a fall as being “complicated” (FG2P5), “frustrating” (FG2P6) and “it can be very daunting task to you know to be able to decipher what this person is trying to relate to you” (FG2P5). However, despite these challenges, participants also described attempting to help patients with a communication disability to describe any injuries; as FG3P8 noted: “we try our possible best... so we can help them improve their health.”

Participants also outlined and agreed there is a potential role for speech pathologists following a fall, as described by FG4P7 “I think it’s really important that speech pathologists are involved in these falls reviews... because communication [disability] is really pervasive in its effects.” Some participants provided examples of what the role of a speech pathologist may include, as described by FG4P10 “... using AAC [augmentative and alternative communication] and not only getting the patient to express if there’s any pain or injury after a fall but trying to work out why they

may have fallen.” One speech pathologist described using communication strategies and visual aids to support a patient communicate the location and severity of their pain following a fall.

**Theme three: Current falls prevention strategies do not meet the needs of patients with communication disability following stroke**

**Patients with communication disability following stroke require tailored falls prevention strategies**

Participants across all groups agreed that falls prevention for hospital patients with communication disability requires multiple, specific strategies as stated by FG3P7: “[falls are] often multifactorial, so there’s not going to be one strategy and that we need multiple, multiple strategies” and should take into account any co-occurring cognitive impairments. Participants described standard falls prevention strategies (e.g., low beds, crash mats, and bed/chair alarms) and also individualised, patient specific strategies that considered the patient’s communication disability. These strategies included individualised communication strategies such as using hearing amplifiers, augmentative and alternative communication, and ensuring the environment is personalised and reduces risk of falls; as described by FG4P10: “What are the things they want nearby? What are the things they are constantly asking for, making sure they are in reach.”

Participants across the groups explained that the falls prevention education tools available are not usually modified for patients with a communication disability to enable them to comprehend the information. Further, participants discussed the potential for cognitive impairments to be a further barrier to patients being able to participate in falls prevention education. Participant FG3P7 highlighted such barriers to providing falls prevention education in patients with communication disability, particularly aphasia, saying: “We have written information for patients sometimes on strategies that they should be doing, but we never really consider whether it’s accessible for the patient. Like can they actually understand what they are supposed to be doing?” FG3P7 also stated that they were unaware of any standard processes to deliver accessible falls prevention education. However, other participants reported individual cases where falls prevention education had been modified to suit a patient with a communication impairment; and recognised that this practice may be occurring on an individual basis using communication strategies suggested by a speech pathologist. FG4P11 said: “I think, (in) most instances, nurses have probably just tried to use them, use those strategies themselves” (FG4P11). Participants viewed that providing patients with falls prevention education specific to their current functional physical ability and adapted with the assistance of a speech pathologist may prevent falls in this population.

**Theme four: Strong patient-provider and team relationships play a Central role to decreasing falls in patients with communication disability following stroke**

**Relationships between the multidisciplinary team**

Participants considered that working as a team of health care workers may help develop effective individualised falls prevention strategies. As FG3P7 explained: “what are the risks of this and what are the situations and how can we apply these strategies, but I guess that requires the team to work more collaboratively rather than in silos.” The groups’ discussions reflected that (a) working as a team may go some way towards understanding the circumstances of falls when they are unwitnessed; and (b) a

speech pathologist may be consulted to integrate the risk management specifically associated with communication disability into the fall prevention plans through collaborative assessments and goal setting. For example, FG3P7 outlined:

I think even having speech pathologists working with the rest of the team in continence management plans. So, for instance knowing what sort or retraining is happening... and how might communication fit into this. How is a person going to, for instance, request that they need to go to the toilet.

**Relationships between the patient, family, and care team matter**

Participants viewed that through developing a relationship with their patient, a level of trust is established which is important to help prevent falls. They described that through a strong relationship with the patient, they are able to anticipate the needs of the patient and this knowledge may potentially prevent falls “knowing what they need at a particular time is very important. So, I think it will go a long way in helping” (FG2P6). Participants explained that a strong relationship demonstrates care and compassion which may help overcome communication breakdowns as described by FG3P9: “you show them care. By so doing you connect with them...they would try their possible best to tell you what the issues are irrespective of their communication disability.” Further, clinicians agreed that through relationships, they understood the patient as a person which will help clinicians implement effective falls prevention strategies. Participant FG2P4 described the patient relationship as:

Everything for me, boils down to a good relationship with your patient... to build trust with them, they trust you in everything they want to do... Relationship matters. Gets you more used to them. Knowing what they need at a particular time is very important...You need to study them to understand why certain prevention[s] works.

Participants’ discussions reflected that relationships with the patient’s family or friends can assist the team to understand the patient with communication disability to enable them to develop a strong patient-provider relationship as in: “maybe use a particular strategy... and that strategy doesn’t work... you should... make enquiries with the family... to know those things your patient like, those things your patient hate and through this I think you can know when to ... go a particular different way” (FG3P8). Additionally, participants described family and friends as being able to support falls prevention strategies and communication interactions, by sitting with the patient. They suggested that family and friends would provide comfort and reassurance by talking with the patient, and assist with reorientation to the hospital and any safety instructions by watching them. FG2P6 described the role of family and friends as “very important, both in falls and in communication” further adding “most times you might not always be there to attend to them, so I think sometimes you have to have someone who can keep an eye on them.”

Participants agreed that it was the role of the speech pathologist to discuss specific communication strategies with the patients’ family and friends, so they were well supported. As FG3P5 said: “the role of the speech pathologist to discuss with the family, ways to help improve the communication.” FG3P7 provided a specific example of family members supporting both communication and falls prevention:

The aphasia was quite a significant factor in her being able to follow information and understand the strategies and safety... it was a matter of having a roster with someone there to also help with really orientating her to the ward and keeping her safe.

## Discussion

The findings of this study support and extend previous research regarding falls in patients with stroke and falls in patients with communication disability following stroke [16, 17]. The study's four main themes contribute new knowledge on hospital-based health professionals' views on falls for patients with communication disability that can be used to inform development of strategies for falls prevention and falls risk management strategies.

The finding that hospital-based health professionals considered falls prevention strategies were difficult to implement supports prior research on the specific aspects of a patients' communication disability that may contribute to a fall in hospital [17, 22]. In particular, the aspects of communication disability described by hospital-health professionals that made falls prevention challenging, were when the patient has difficulties following instructions, using the call bell to gain attention, and communicating needs. That healthcare professionals in this study acknowledged rarely considering these aspects of communication disability in falls prevention management, despite understanding they contribute to falls, indicates a knowledge to practice gap. This gap is not surprising given the recently identified lack of focus on communication disability in hospital falls policy documents [23]. Furthermore, while there is extensive research investigating falls risk screening tools and checklists for patients with stroke in hospital, and these tools are commonly used in conjunction clinical judgement [35–37], communication disability is rarely considered in these tools [23]. The results of this study reflect a similar lack of attention to communication disability, and suggest that communication disability is often not considered during clinical judgement of a patient's falls risk. The results of this study suggest that staff making a note during their falls risk assessment or on the falls risk assessment tool of a patient's ability to follow instructions, use the call bell to gain attention, and communicate basic needs may prompt clinicians to consider these contributing factors to a fall and put in place measures to mitigate the risks. Such consideration could help to then provide a targeted, patient specific falls prevention plan.

Additionally, the finding that speech pathologists have an important role in falls management teams is significant, appearing in most of the themes, in that these professionals may be well suited to fill some of this knowledge-to-practice gap and provide interprofessional education on tailoring falls risk strategies and falls prevention education to patients with communication disability. Considering these findings, it may now be beneficial for hospital falls teams to include speech pathologists alongside occupational therapists and physiotherapists in the assessment and management of falls risk for patients with communication disability following stroke; in that it may assist with (a) identifying contributing factors related to communication disability, and (b) establishing mitigating strategies across a range of activities undertaken in hospital that are typically associated with falls in this population (e.g., toileting and transferring) [17, 30]. This study also holds implications for the practices of speech pathologists working in hospital settings with patients with communication disability following stroke. Previous research has found that the documentation of speech pathologists typically includes diagnostic terms to describe communication disability and information relating to specific functional communication was not always documented [10]. Further, speech pathology documentation rarely contained information specific to falls risk or management [17]. To expedite the input of these professionals into falls risk and management strategies, speech pathologists could apply the findings of their assessments to consider the functional implications

of a communication disability on hospital safety (e.g., how does a patient attract attention and communicate to clinicians the need for the toilet?) and provide explicit communication strategies to healthcare providers to inform the safer care of the patient (e.g., providing simple transfer instructions for mobility).

Clinicians in this study considered a patient's communication disability had impacts on the management of the patient following a fall, including identifying any injuries, commencing treatment, and investigating the causes of falls. Communicating with a patient with a communication disability, particularly aphasia, often takes more time than for other patients [38], and breakdowns in communication can lead to delays or impede diagnosis and treatment [9, 39, 40]. The findings from this study support this notion, and suggest that these challenges are amplified in the falls management of patients with communication disability following stroke. The delays in assessment and management of injuries in patients with communication disability following stroke potentially has catastrophic impacts to the patient including delays in diagnosis of fractures and new brain trauma [41]. Training hospital healthcare providers in supporting communication (e.g., through communication partner training) could improve communication between clinicians and patients with communication disability [9, 39, 40, 42]. In particular, providing training for hospital staff communication strategies for patients with aphasia following stroke may enable more effective clinical assessments (e.g., on admission to hospital, or after a fall), improved patient-centred falls prevention plans and more timely investigations and treatment of any injuries following a fall.

The finding that relationships between healthcare providers and the family members of patients with communication disability are a critical part of falls prevention and management is an important one, as it is feasible to achieve as a central pillar of quality healthcare [43, 44]. Clinicians in this study perceived that family and friends might also help hospital staff to understand the likes and dislikes of the patient to develop their relationship, which in turn helped them anticipate the patient's needs, is also important. Particularly as clinicians perceive this relationship as one that may prevent falls. The role of family and friends in hospital falls prevention programs is outlined in many hospital policies [23] and considered part of a comprehensive falls prevention plan [45]. However, reliance on family members and visitors to either communicate on behalf of a patient (e.g., if the patient is unable to speak) or to implement protective strategies against falls [12] is problematic, as they cannot always be available. Additionally, family members find it extremely stressful to be in such a protective position, with vigilance associated with fear when they are not present for the patient at increased risk leading them to exhaustion [12].

Health professionals in this study, also explored the patient-provider relationship as being one that may prevent falls. Relationships between staff and patients provide the foundations for rehabilitation and [8] and when nursing staff attempt to make meaningful connections with their patients, they gain knowledge of individual patients and their personalities [46]. Sundin et al. [47] discussed patient provider relationships developing trust and that when the relationship was strong "the caring became almost obvious" (p315). Health professionals in this study suggested that these meaningful connections and relationships with patients with communication disability may help to prevent falls by establishing trust and knowledge of the patients' needs in advance. While this study's findings reflect the challenging process of communicating with patients with communication disability in relation to falls management, health professionals in this study also reported wanting to know how to help [39, 48]. In Hur and Kang [48] nursing staff reported feeling



guilty when not being able to provide adequate care to patients with aphasia, a finding that is reflected in this study where health professionals experience feelings of guilt surrounding a fall, concerned that they have not provided adequate care to prevent this adverse event. These negative experiences of health professionals and feelings of guilt that surround an adverse event reflect the strength of their relationship with patients. This finding extends the research into the impacts of falls in that these impacts [49] extends beyond the patient and health service to the clinicians themselves.

In the context of a multidisciplinary approach to falls prevention, a consistent gap identified by participants was the provision of falls prevention education in a format that is accessible to patients with communication disability, something speech pathologists have the skills and knowledge to facilitate [6]. Falls prevention education is an intervention known to be effective in patients undergoing rehabilitation [50] and patients with stroke should be provided with information regarding stroke and recovery that meets their needs, given patients may not understand their physical limitations potentially leading to falls [51, 52]. Speech pathologists have specialist skills in adapting communication to suit the needs of patients with communication disability and providing adapted education to patients with a communication disability may empower patients, and potentially prevent falls. However, there are known barriers to delivering education that has been adapted to suit the needs of patients with communication disability, one of which is interdisciplinary practice to develop the resources required [53–55]. Briffa et al. [53] suggested there was a need for greater collaboration between speech pathologists and other disciplines in order to provide accessible information on a range of topics relevant to stroke and recovery. Given falls prevention is a high priority for hospitals, and the significant number of patients in hospital with communication disability following stroke [2], it would be reasonable to consider this as an urgent gap in practice for speech pathologists to address. An important consideration to this approach would be the limitations of delivering education to patients with cognitive impairment, given that falls prevention education offers limited benefits to patients with cognitive impairments [50, 56]. Research on making information accessible for patients with cognitive impairments is also required.

The challenges associated with understanding the circumstances of unwitnessed falls in hospital in patients who are unable to communicate the circumstances may explain findings from other studies that report patients with severe communication disability often experience multiple falls with unknown circumstances [16, 17]. Clinicians in this study discussed using multiple strategies to assist in identifying the causes and contributing factors for falls in these patients, however, despite these strategies the circumstances of some falls remain unclear. Identification of the missing factors in the causes and contributing factors enables effective root causes analysis of falls [57] leading to more patient-centred prevention strategies [50, 58, 59]. Further, the perceptions and experiences of the patient about their falls appears to be a key detail in the falls analysis that is missing for patients with communication disability following stroke. The difficulties establishing the causes and contributing factors for falls in patients with communication disability following stroke potentially leads to the reliance on generic strategies which focus on what clinicians are speculating as the most pertinent factors [58].

#### **Limitations and directions for future research**

The results of this relatively small study should be interpreted with caution and cannot be taken to reflect the views of all

healthcare providers in all hospital settings. This study was conducted with participants from one state in Australia, and there may be variations in the falls assessment and management of patients with communication disability in other health services. Further, the participants were primarily from the nursing profession and the participation of a wider range of health professionals, particularly physiotherapists and occupational therapists, may have provided additional insights into the impacts of falls on health professionals. The inclusion of these professions to a greater degree might have yielded new insights into how communication disability contributes to falls prevention and management; and their roles within the multidisciplinary team supporting these patients and there is a need to explore their views further. However, the patient population discussed is common across hospitals, therefore the findings are likely to apply to other health services. While rigorous techniques were used to form the researchers' interpretations and the findings, this was only verified by one participant confirming the interpretation of the discussion for their focus group.

While important, the views of healthcare professionals are not sufficient to understand the ways that the patient-provider relationship might impact upon falls or fall-prevention strategies. Further research should be undertaken to obtain the views of patients with communication disability following stroke, who have fallen in hospital, and their family members who have witnessed a fall specifically exploring the content themes within the findings of this study. Observational research (i.e., observing patients in hospital) is also indicated so as to identify what might be occurring for those patients with communication disability who have unwitnessed falls, or who are unable to explain what has happened in a fall; as hospital staff in this study outlined 'speculating' about what factors had led to the fall. Future research should: (1) investigate ways to include the specific aspects of communication disability identified as contributing factors to falls into falls risk screening and assessment tools; and (2) evaluate the potential benefits of falls prevention education materials that are tailored for patients with communication disability and empower patients to be a part of their fall's prevention plan. These areas of research may lead to improvements in the falls incidence rate and management plans for patients with communication disability following stroke through mitigation of these risks.

#### **Conclusion**

Healthcare providers working with hospital patients with communication disability following stroke identify that communication disability complicates both falls assessment and prevention strategies. However, they also perceived that communication disability was not often considered in falls risk assessment or post fall reviews. Patients with communication disability following stroke require a team approach to implement multiple, patient specific falls prevention strategies to integrate the risk management specifically associated with communication disability and strong patient provider and family relationships. Indeed, strengthening care relationships could be an important factor in preventing falls for this patient group. Further, healthcare providers working with hospital patients with communication disability following stroke perceive that falls in this population are complex and management of these falls is personally and professionally challenging. However, this study also suggests that there are gaps in hospital falls prevention and management strategies for patients with communication disability. Further research should investigate strategies that may contribute to enhanced falls prevention and

management for patients with communication disability following stroke, and consider the potential contribution for communication specialists (i.e., speech pathologists) in this field.

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## Appendix 1

### **Questions about falls in this group**

1. When a patient with communication disability falls, what's the impact of that fall on them and on you as staff?
2. In your view, does the patient's communication disability play any role in the fall, or not, can you explain your views on this?

### **Questions about falls prevention**

3. What strategies help to prevent falls in patients with communication disability?
4. Is falls prevention education delivered to patients with communication disability? Can you describe how this happens and its impact?
5. What about when strategies don't work. What gets in the way of falls prevention strategies working for this group?

### **Question about role of speech pathology**

Speech pathologists are not typically involved in falls prevent programs. In the medical notes, they rarely wrote about the person's everyday communication with nurses, they tend to write about impairments and diagnosis.

6. What are your views on the role of speech pathology expanding to help prevent falls of these patients? Do you have any examples of this already happening?

### **Question about incident reporting**

7. Patients with communication disability can have trouble explaining what happened when they fall. Can you give me an example of a time that you needed to write an incident report for patient with communication disability who fell, and how you worked out what happened?

Is there anything else you would like to add?