



Original Article

The awareness of healthcare staff towards post-stroke cognitive impairment: a cross sectional study

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Abstract. [Purpose] This study aimed to determine the awareness amongst healthcare staff of post-stroke cognitive impairment in a university teaching hospital and supporting stroke rehabilitation unit. [Subjects and Methods] A cross sectional study was employed to collect data from 20 healthcare staff about post-stroke cognitive impairment. This study was conducted in Ireland at two sites, the Acute Stroke unit in Cork University Hospital, and the Stroke Rehabilitation unit and Assessment and Treatment Centre in St. Finbarr's Hospital. [Results] Approximately 75% of participants felt that they had knowledge about post-stroke cognitive deficits, with around 50% of them having patients with persistent cognitive decline between 40% and 60%. Most participants (70%) agreed that cognitive function should be routinely assessed and the majority (85%) discussed the potential impact of post-stroke cognitive deficits with patients and their families. However, some participants need to be aware of post-stroke cognitive deterioration. [Conclusion] Although there was evidence of good practice, a small number of healthcare staff felt that they did not have sufficient knowledge about post-stroke cognitive deficits. Thus, further professional education should be provided to improve the knowledge of healthcare staff about potential cognitive impairments after stroke.

Key words: Cognition, Stroke, Healthcare staff

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INTRODUCTION

A stroke may impair any cognitive domain including executive function, language, memory, visuospatial ability as well as visuoconstructional ability. Indeed, the impairment can affect the overall or global cognitive function. Cognitive impairment frequently occurs after a stroke and can be a significant factor in delayed functional recovery and return to previously pursued activities¹⁾. It is a common result of a stroke, regardless of country, race, or diagnostic criteria²⁾. A UK study by Patel et al. reported a 39% prevalence of cognitive impairment three months after a stroke³⁾, while a similar study in India by Sundar et al. found cognitive impairment in 31.7% (52/164 patients) of patients three months after ischaemic stroke⁴⁾. Assessment six months after surviving an ischaemic stroke carried out in Dublin found cognitive impairment in 56.6% of those surveyed⁵⁾.

Post-stroke cognitive impairment is common in the acute stage and is an important predictor of long-term recovery⁶⁾. Most research into impairment of a cognitive domain has recorded the development of new-onset cognitive impairment or a worsening of cognition in up to 50% of those who have survived a stroke⁷⁻¹⁰⁾. Cognitive status pre-morbidity and a previous stroke history are also regarded as important in predicting the degree of recovery from cognitive impairment after a stroke¹¹⁾.

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It was suggested by Nys et al. that recovery of cognition is dependent on the stroke lesion's size and location¹²).

There is a great need to increase staff awareness of potential impairment of cognition to allow the identification of cognitive deficits and the implementation of appropriate strategies for treatment. The purpose of this research study was to investigate how aware healthcare staff are of the possibility of cognitive impairment after a stroke.

SUBJECTS AND METHODS

This study was carried out in Cork City and was designed to collect data from 20 healthcare workers in the Cork University Hospital Acute Stroke Unit and the combined Stroke Rehabilitation Unit and Assessment and Treatment Centre at St. Finbarr's Hospital. Data were collected using one single questionnaire. The study received approval from the Clinical Research Ethics Committee in Cork City in May 2017. All participants agreed to take part in the study and all signed the informed consent form.

Two locations were chosen for distribution of surveys to healthcare staff. The inclusion criteria were: (a) that the healthcare staff worked with a stroke patient; (b) that the healthcare staff worked in an acute stroke unit, stroke rehabilitation unit, or assessment and treatment centre; and (c) that the healthcare staff must be qualified to work with stroke patients. Exclusion criteria were (a) unqualified healthcare staff (for example, intern students); and (b) qualified healthcare staff working in other departments.

The survey comprised sixteen questions, of which seven were demographic and nine were designed to give a measure of the awareness of healthcare staff of cognitive deficits that can exist after a stroke. Those questions focused on the extent to which healthcare staff are aware of deficits in cognition that survivors of stroke may experience, how much they know about assessment tools, and their awareness of the reasons for cognitive deterioration post-stroke. Healthcare staff were also questioned about what proportion of patients show cognitive deterioration and what proportion of cognitive deterioration after a stroke is capable of being reversed. Data analysis was performed using SPSS v.23 software and Microsoft Excel, with the data being described by standard descriptive statistics.

RESULTS

Table 1 illustrates the demographics of the study participants. A total of 20 participants were recruited for the study (four men and sixteen women), of which, almost half were qualified for more than ten years. Practitioners from seven different disciplines participated (two doctors, seven physiotherapists, three occupational therapists, one speech and language therapist, one dietitian, five nurses, and one discharge coordinator). Nearly 60% of the participants had worked with stroke patients for less than five years. In terms of stroke rehabilitation courses, only 40% of the participants had enrolled on courses.

Approximately 75% of participants felt that they had knowledge about post-stroke cognitive deficits. The Montreal Cognitive Assessment (MoCA) and Mini-Mental State Examination (MMSE) were the most common tools used by the participants. The majority of participants (75%) agreed that the location of the stroke was the main cause for cognitive deterioration, followed by delirium (50%). Nearly 40% of participants in the team in the acute stroke unit mentioned that up to 60% of the patients, who were under their care, had cognitive decline, whereas 50% of the stroke rehabilitation team reported that up to 40% of their might deteriorate in cognition after stroke. Generally, the responses of healthcare staff in the acute stroke unit and stroke rehabilitation unit stated that up to 60% of cognitive decline could be reversed. Most participants (70%) agreed that cognitive function should be routinely assessed, with 85% of them discussing the potential impact of post-stroke cognitive deficits with patients and their families (Table 2).

DISCUSSION

This study aimed to investigate the awareness and perceptions of healthcare staff towards post-stroke cognitive impairment. The findings suggest that the majority of participants were knowledgeable about cognitive deficits following stroke, but some participants lacked awareness of post-stroke cognitive impairment. It has been reported that cognitive impairment is one of the most common deficits during the first three months following stroke³). In this study, there were differences between the staff in both sites in terms of knowledge about cognition. A possible explanation could be that the participants who were chosen from stroke rehabilitation were not specialised in cognitive rehabilitation. In addition, physiotherapists were more than occupational therapists, which may have accounted for the difference in knowledge about post-stroke cognitive deficits between the two sites.

Stroke rehabilitation staff practice various assessment tools to assess cognitive after stroke, some of which specifically assess particular domains, such as the MoCA. It may be that stroke patients stay longer in rehabilitation than in an acute stroke unit, allowing the staff to use more assessment tools to identify specific cognitive deficits. This is supported by the findings of this study, which indicated that an average length of stay in an acute stroke unit is nine days, whereas twenty-five days is the average in a stroke rehabilitation unit. Regarding the reasons for post-stroke deterioration, the results confirmed that the location of stroke and delirium were common causes for cognitive deterioration. However, delirium was more common

Table 1. Demographics of the study participants

		Gender				
		Male		Female		
		N=4	(20%)	N=16	(80%)	
Being qualified	< 1 year	0	(0%)	1	(5%)	
	1–5 years	3	(15%)	3	(15%)	
	6–10 years	1	(5%)	3	(15%)	
	11–15 years	0	(0%)	2	(10%)	
	>15 years	0	(0%)	7	(35%)	
Job title	Doctor	2	(10%)	0	(0%)	
	Physiotherapist	1	(5%)	6	(30%)	
	Occupational Therapist	0	(0%)	3	(15%)	
	Speech and Language Therapist	0	(0%)	1	(5%)	
	Dietitian	0	(0%)	1	(5%)	
	Nurse	1	(5%)	4	(20%)	
	Discharge Collaborating	0	(0%)	1	(5%)	
	Current place of employment	Cork University Hospital (Acute Stroke Unit)	2	(10%)	8	(40%)
	St. Finbarr's Hospital (Stroke Rehabilitation Unit)	2	(10%)	7	(35%)	
St. Finbarr's Hospital (Assessment and Treatment Centre)	0	(0%)	1	(5%)		
Working with post-stroke patients	<1 year	0	(0%)	4	(20%)	
	1–5 years	4	(20%)	4	(20%)	
	6–10 years	0	(0%)	3	(15%)	
	>10 years	0	(0%)	5	(25%)	
Completed courses in stroke rehabilitation	Yes	1	(5%)	7	(35%)	
	No	3	(15%)	9	(45%)	
Number of stroke patients under your care	1–5 patients	1	(5%)	7	(35%)	
	6–10 patients	3	(15%)	9	(45%)	
	>10 patients	0	(0%)	0	(0%)	

in an acute stroke unit than in a stroke rehabilitation unit, which may be due to delirium being more common among stroke survivors in the acute phase of stroke. This is in agreement with findings presented by Dostović et al. showing that “delirium develops in approximately one quarter of patients in the acute phase of stroke”¹³.

Some studies have discussed the importance of awareness of healthcare professional towards patients with cognitive deficits^{14, 15}. Three reasons have been suggested to explain the importance of evaluating patient cognitive capacity: (1) cognition level is one of the primary cornerstones of coping, (2) mild cognitive impairments may lead to further cognitive decompensation or behavioural difficulties without preventive treatments, and (3) it is considered the first step in identifying those patients who may need further assistance in coping with an acute hospitalisation¹⁴. Hartman-Maier et al. stated that “lack of awareness is considered an impeding factor in the rehabilitation process”¹⁵. In addition, Nilsson et al. reported that the quality and content of care are associated with attitudes of healthcare staff towards patients¹⁶. Therefore, awareness and attitudes of healthcare professionals towards specific conditions, such as cognitive impairment, are important to provide better care.

The present study has a few limitations. The small sample size may not have allowed the collection of sufficient information about the participants' knowledge concerning post-stroke cognitive deficits. In addition, the study only involved healthcare staff, mostly physiotherapists, which may not be accurate to identify the knowledge of participants as each specialty has their own role in managing stroke survivors.

In conclusion, most participants showed a good level of knowledge regarding cognitive deficits after stroke, but some participants reported that they lacked sufficient knowledge. Therefore, it is recommended that awareness of post-stroke cognitive deficits be improved by encouraging healthcare staff to enroll for post-stroke cognitive courses and review previous guidelines.

Conflict of interest

The author declares that he has no competing interests.

Table 2. Awareness and perception of participants towards post-stroke cognitive deficits

Questions	Unit/Department	Options					
		Yes	No	I am not sure			
1 Do you consider yourself knowledgeable regarding cognitive deficits after stroke?	Acute stroke unit	9	0	1			
	Stoke rehabilitation unit	6	2	2			
2 What validated tools do you use to assess cognition in patients with stroke?	Acute stroke unit	MMSE	MoCA	SIS	ACA	RBA	BIT
	Stoke rehabilitation unit	5	8	0	0	3	2
3 In your opinion, what are the reasons for post-stroke cognitive deterioration?	Acute stroke unit	Location of the stroke	Delirium	History of cognitive decline	Age related cognitive decline	Not answered	
	Stoke rehabilitation unit	8	8	3	0	0	
4 In your experience, approximately what proportion of patients under your care have cognitive decline post-stroke?	Acute stroke unit	Up to 20%	Up to 40%	Up to 60%	Up to 80%	>80%	
	Stoke rehabilitation unit	1	2	4	2	0	
5 What proportion of post-stroke cognitive decline is reversible?	Acute stroke unit	Up to 20%	Up to 40%	Up to 60%	Up to 80%	>80%	Not answered
	Stoke rehabilitation unit	0	5	3	2	0	
6 When do you think cognition should be assessed after discharge?	Acute stroke unit	6 weeks	12 weeks	24 weeks	Not necessary	I don't know	
	Stoke rehabilitation unit	4	2	2	0	2	
7 Do you think cognitive function should be routinely assessed annually thereafter?	Acute stroke unit	Yes	No	I don't know			
	Stoke rehabilitation unit	7	1	2			
8 Do you routinely discuss the potential impact of post-stroke cognitive deficits with patients and their families?	Acute stroke unit	Yes	No				
	Stoke rehabilitation unit	7	0	3			
9 In your opinion, which discipline is best placed to assess cognition after stroke?	Acute stroke unit	Doctor	PT	OT	SLT	Nurse	
	Stoke rehabilitation unit	3	1	10	5	3	

MMSE: Mini-Mental State Examination; MoCA: Montreal Cognitive Assessment; SIS: Stroke Impact Scale; ACA: Addenbrookes Cognitive Assessment; RBA: Rivermead Battery Assessment; BIT: Behavioural Inattention Test.

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