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Research for Rehabilitation and Resilience

An exploration of the roles and perspectives of direct care neurorehabilitation nurses on the process and actions of visual observation and safety monitoring for high risk brain injury patients

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Bold ideas. Better solutions.



Metro South Health



A joint initiative of the
Division of Rehabilitation, Metro South Health, and
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Background

- 1 In 45 Australians were reported to have a brain Injury in 2003
- Over 6500 episodes of brain injury rehab in Australia (2013-2017)
- Between 2013-2017 609 episodes of care for BIRU of traumatic and non traumatic
- General rehab units now caring for patients with brain injury and facing unfamiliar behaviours

Problem

- Early access to rehab increasing
- Patients still in state of PTA (TBI) or have other behavioral challenges
- Changes to how we monitor, assess and make decisions
- Currently no clearly defined brain-injury decision-making tool or pathway

Aims

1. Identify and rank factors that nurses assess when determining if visual observations should be downgraded or ceased for patients in a rehab program in a brain injury setting.
2. Understand how nurses use assessments for making confident decisions to modify visual observations.
3. Explore direct care nurses' views regarding strategies to support decision-making process and clinical care.

Method: mixed methods design

	Stage	Purpose
1	Modified Nominal Group Technique: Consensus on factors to consider when downgrading/ceasing visual observations.	To identify, clarify and prioritise factors that influence decision to downgrade or cease visual observations.
2	Focus groups/interviews: Understanding nurses' decision-making process and the support they need.	To explore perspectives on the decision making process and strategies to support.

Method

- **Setting:** A specialist brain injury inpatient rehab unit (BIRU) at Princess Alexandra Hospital, Brisbane.
- **Sample:** RNs or CNs providing direct care to brain-injured patients.
- **Recruitment:** study synopsis + information/consent form.
- Institutional and ethical approvals, and participant consent.

Method: measures and analysis

	Stage 1	Stage 2
Measures	<p>Modified nominal group technique:</p> <ul style="list-style-type: none">- Face-to-face round robin to identify factors; clarification of factors; electronic round to independently rank refined factors by importance.- Demographics survey.	Focus groups, email
Analysis	<ul style="list-style-type: none">- Descriptive statistics to summarise scores and proportions re levels of agreement.- Summary statistics to describe participants.	Thematic analysis

Results: participants demographics

	N	%
Female	10	83%
AGE GROUP		
21-30 years	6	50%
31-50 years	4	33%
51-60 years	2	17%
LEVEL OF NURSING EDUCATION		
Bachelor of Nursing	12	100%
NURSING CLASSIFICATION		
Clinical Nurse	5	42%
Registered Nurse	7	58%
EXPERIENCE (YEARS)		
1-3 years	5	42%
4-9 years	4	33%
>10 years	3	25%
EMPLOYMENT STATUS		
Working only part time	7	58%
Working only full-time	3	33%

Stage one results: Levels of agreement

Factors	Important		Not very important		Neither		
	N	(%)	N	(%)	N	(%)	
COGNITION							
1	PTA Emergence (TBI only)/orientated to TPP	5	62.5	2	25	1	12.5
2	Showing increased insight/self-awareness into injury	6	75	1	12.5	1	12.5
3	Able to express basic wants and needs and obey commands	4	50	1	12.5	3	37.5
BEHAVIOUR							
4	↓ impulsive behaviour and inhibition	6	75	2	25	0	0
5	↓ Physical frustration (harm to self or others) per Pittsburgh Agitation Score	5	62.5	2	25	1	12.5
6	↓ Verbal frustration as shown on Pittsburgh Agitation Score	2	25	1	12.5	5	62.5
7	↓ Absconding risk (less than 3 documented episodes of attempted absconding	5	71.4	2	28.6	0	0
8	↓ Use of PRN medications for behaviour management/optimised medication use	3	37.5	0	0	5	62.5
PSYCHIATRIC							
9	Stabilisation of psychotic features (e.g. ↓ in episodes of hallucinations)	5	62.5	2	25	1	12.5
10	No documented acute suicidal or self-harm (with Mental Health Services)	6	75	2	25	0	0
PHYSICAL							
11	Improved mobility (able to mobilise safely without increased risk of falling)	5	62.5	3	37.5	0	0
12	Continence plan in place to improve physical impulsiveness due to toileting	5	62.5	2	25	1	12.5
13	Able to physically use buzzer to get assistance	4	50	2	25	2	25
14	Improved sleep wake cycle/sleep hygiene plan in place	3	37.5	2	25	3	37.5
15	Medically stable	5	62.5	2	25	1	12.5

Stage 2: Qualitative findings

Theme	Sub-themes
1. Dimensions of the decision-making process	<ul style="list-style-type: none">➤ Collaborative decision-making➤ Individual decision-making➤ Challenges in decision-making
2. Strategies to streamline decision-making	<ul style="list-style-type: none">➤ Structure of a decision-making guide➤ Process of using a decision-making guide

Theme 1: Dimensions of the decision-making process

1.1 Collaborative Decision Making

Communicated effectively amongst each other (1:P1).

When I find a discrepancy between what I see in the documentation....I go and discuss with somebody else (1: P4).

1.2 Individual Decision Making

[With a tool], we wouldn't have to go around to multiple people...we could just go to the team leader (1:P1).

It [still] depends on the [individual] patient (1:P5).

Theme 1: Dimensions of the decision-making process

1.3 Challenges in Decision Making

There's no procedure...no clear timeline of when to talk about it (1:P3).

[A structured tool] would alleviate a lot of stress (1:P1).

[But] patient safety comes first...if in doubt you do the sight checks (1:P4).

Theme 2: Strategies to streamline decision making

2.1 Structure of a decision-making guide

Definitely [I'd like] an assessment tool, but...it's just a guide more so than "You shall do this" (1:P3).

It needs to be comprehensive, but also able to be quickly read and boxes to be ticked, kind of thing (1:P3).

It would be nice to have something on the computer...just click on it and it's got "visual obs assessment" (1:P1).

Theme 2: Strategies to streamline decision making

2.2 Process and Implementation

Regardless of what we develop, I think it will need to be a team [effort] (1:P1).

I think it should be reviewed periodically... because the patients, they're in rehab. They do get better with time (1:P2).

Something definitely needs to be created. I think not too comprehensive, but comprehensive enough (1:P3).

This is the beginning of probably a very long change, but I think just getting the first step will be good.

Discussion

- A first step in developing a guide for nurses' decision-making in a complex practice setting in Australia.
- 1 USA study (Moessner et al. 2016) pilot-tested a tool: high false positive results, recommended using it only in conjunction with other strategies.
- This is consistent with our findings that nurses like to make these complex decisions collaboratively.
- Others (Nibbelinks et al. 2018, 2019) suggests complex decisions are structured + intuitive.
- Also concur that change is needed, though difficult.

Limitations

- A pilot-study.
- Single-site study.
- A work begun, rather than completed

Implications

- How to navigate forward?

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References

Australian Bureau of statistics 2004, *Disability, ageing and carers: summary of findings*, no. 4430, viewed 12th April 2018,

<<https://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4430.0Main+Features12003?OpenDocument>>

Crewson, PE 2005, "Fundamentals of clinical research for radiologists - reader agreement studies", *American Journal of Roentgenology*, vol. 184, no. 5, pp. 1391-1397.

Landis, JR & Koch, GG 1977, "The measurement of observer agreement for categorical data", *Biometrics*, vol.1, pp. 159-174.

Moessner, A, Malec, J, Beveridge, S, Reddy,C, Huffman, T, Marton, J & Scherzler, A 2016, 'Preliminary evaluation of a measure for reliable assessment of need for constant visual observation in adults with traumatic brain injury, *Brain Injury*, vol. 30, no. 11, pp.1343-1349, DOI: 10.1080/02699052.2016.1193629

Nibbelink, CW & Brewer, BB 2018, "decision-making in nursing practice: an integrative literature review", *Journal of Clinical Nursing*, vol. 27, no.5-6, pp. 917-928.

Nibbelink, CW & Reed, P 2019, 'Deriving the Practice-Primed Decision Model from a naturalistic decision-making perspective for acute care nursing research' *Applied Nursing Research*, vol. 46, pp. 20-23, DOI: 10.1016/j.apnr.2019.01.003.

Princess Alexandra Hospital (BIRU) AROC Impairment Specific Report on Brain Dysfunction (Inpatient - Pathway 3), January 2017 – December 2017. Australasian Rehabilitation Outcomes Centre (2018).