76

Thomas L[1], Watkins C[1], French B[1], Forshaw D[1], Sutton C[1], Cheater F[2], Roe B[3], Booth J[2], Leathley M[1], Burton C[4], Carter B[1], Brittain K[5]

1. *University of Central Lancashire,* ***2.*** *Glasgow Caledonian University,* ***3.*** *Edge Hill University,* ***4.*** *Bangor University,* ***5.*** *Newcastle University*

ICONS: Identifying Continence OptioNs after Stroke: findings from the case study phase

Hypothesis / aims of study

Urinary incontinence following acute stroke is common, affecting between 40%-60% of people admitted to hospital [1]. It is related to poor outcome and is poorly managed in many cases.

Our NIHR funded research programme aims to develop, implement and explore the potential effectiveness and cost-effectiveness of a systematic voiding programme for the in-patient management of urinary incontinence after stroke. The systematic voiding programme includes bladder training and pelvic floor muscle training for patients who are cognitively able and prompted voiding for patients with cognitive impairments.

The study design is based on the UK Medical Research Council (MRC) framework for the evaluation of complex interventions. This paper will present findings from the development phase. We conducted a case study of the introduction of a systematic voiding programme in one stroke service in the North West of England to inform the Phase II randomised controlled trial (MRC feasibility and piloting phase).

Objectives were to:

- Measure presence/absence of urinary incontinence and frequency of urinary incontinence episodes at baseline and six weeks post-stroke;
- Investigate factors affecting discharge urinary incontinence;
- Explore health professionals' views about the acceptability of the systematic voiding programme;
- Identify the system requirements for the systematic voiding programme to be embedded in mainstream stroke clinical care.

Study design, materials and methods

Patient outcome and factors affecting discharge urinary incontinence

Urinary incontinence was measured as (i) number of urinary incontinence episodes in the 5 days prior to discharge (ii) Barthel Index urinary incontinence item. Urinary incontinence at discharge was explored using descriptive statistics; factors affecting discharge incontinence were investigated using multiple logistic regression.

Health professionals' views on implementing the systematic voiding programme

We conducted six taped focus group interviews with a sample of health professionals delivering the programme (n=21 staff in total) at monthly intervals throughout the case study.

Whole systems analysis

A soft systems approach [2], comprising four group interviews with clinical leaders and managers (n=17), was used to identify system requirements for the trial algorithm to be embedded in mainstream stroke care.

Results

Patient outcome and factors affecting discharge urinary incontinence: Forty-three patients were recruited between January and October 2010: median (IQR) age 76 (70-85); 16 (37%) male. Eleven patients were catheterised throughout their inpatient stay and did not receive the intervention. At baseline, the mean (SD) number of incontinence episodes over 5 days was 7.5 (5.2) [n=30]. At discharge, the mean (SD) number of incontinence episodes was 6.8 (6.8) [n=19], a mean (SD) reduction of 3.2 (7.0) [n=18] from baseline. Thirteen patients (40.6%) were continent at discharge. Males (p=0.037) and those with higher baseline Barthel Index ADL score (p=0.026) were more likely to recover continence, although recovery was not related to age (p=0.76).

Health professionals' views on implementing the systematic voiding programme:

Key themes from interviews with health professionals included 'starting out' with introducing the systematic voiding programme, and 'embedding and moving on'. Issues associated with beginning programme delivery included a lack of willingness of qualified staff to engage with the programme, and the perception that taking people to the toilet was the sole responsibility of health care assistants. Factors affecting whether the programme was embedded into routine practice included: perceived level of 'busyness', staff and time available to deliver the programme, the number of patients on the programme (and their level of dependency) and the presence of competing priorities.

Whole systems analysis: The whole systems analysis highlighted that responsibility for decision-making was diffuse, with considerable distances between aspects of practice, assessment, care planning and organisational aspects of continence care. Staff highlighted the importance of synthesising information from assessment which came from multiple sources both within and external to the stroke unit. Barriers and enablers of implementation were identified at both an individual practitioner level (where knowledge for practice was mostly experiential) and at organisational levels.

Interpretation of results

Approximately 40% of patients recovered continence by discharge. Male patients and those functionally more able at baseline were more likely to recover continence. Overall, there appeared to be a reduction of approximately 30% in the number of incontinence episodes, although this varied considerably between patients and the number of incontinent episodes was missing for 40% of patients.

Both the health professional and whole systems interviews revealed that while incontinence was viewed as a significant problem, this was not reflected in the organisation and delivery of continence care. Findings from both data sources reveal the overarching aim of continence care was viewed as keeping patients '*clean, dry and comfortable*'; continence was rarely discussed in terms of rehabilitation or recovery goals.

Concluding message

Findings will be used to inform implementation of the systematic voiding programme in the trial phase of the ICONS research programme, a cluster randomised controlled pilot trial designed to provide preliminary evidence of the effectiveness and cost-effectiveness of a systematic voiding programme for the management of continence after stroke.

References

1. 1 Barrett JA. Bladder and bowel problems after a stroke. Reviews in Clinical Gerontology. 2002; 12: 253-267.
2. 2 Checkland P. & Scholes J. (1999) Soft Systems Methodology in Action. John Wiley & Sons., Chichester.

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Was the Declaration of Helsinki followed?	**Yes**
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