Systematic Review: Understanding Stroke Rehabilitation Nursing

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Professor Anne Forster

Acknowledgements: Deirdre Andre, Mary Godfrey, Dr Michelle Briggs, Professor Caroline Watkins, The Stroke Association.
Why this systematic review?

• Significant change in stroke services worldwide in last 5-10 years.

• Nurses contribute to care throughout the patient pathway.

• Recent focus on pre-hospital and acute interventional care; rehabilitation overlooked.

• No existing systematic review of nursing practice related to rehabilitation in stroke units.

• National nursing/national clinical guidelines identify the research evidence base for stroke care but can be vague re nurses’ role in stroke rehabilitation.

• Phase 1 of a larger (3 phase) programme.
Review aim:
To identify, interpret and synthesise the published evidence in order to generate a framework explaining nursing practice in in-patient stroke rehabilitation.

Primary review question:
How are nursing roles and nursing practice in in-patient stroke rehabilitation described and defined in the research literature?

Two stage review process:
1) Systematic identification and mapping of existing research.
2) Focused systematic review and synthesis of (selected qualitative) research evidence- a meta-ethnography.
Rehabilitation

‘Rehabilitation begins with immediate preventative care in the beginning stages of accident or illness, [and] is continued through the restorative stage of care’ (Spasser & Weismantel, 2006: 138).

**Stroke Rehabilitation**

‘The goal of rehabilitation is to enable an individual who has experienced a stroke to reach the highest possible level of independence and be as productive as possible. Because stroke survivors often have complex rehabilitation needs, progress and recovery are unique for each person. Although a majority of functional abilities may be restored soon after a stroke, recovery is an on-going process’. (NINDS, 2012).

**Stroke Rehabilitation nursing:**

Using knowledge gained from teaching or working with therapists to routinely carry over [integrate] therapy into activities of daily living and into nurse-patient communication (Pound & Ebrahim, 2000).
### Search terms:

**Stroke and rehabilitation terms:**
- Adapted from the Cochrane Stroke Group strategy in Cochrane Library 2009, Issue 3 (and 4).

**Nursing terms** (text words):
- nurses, nurse or nursing

**Terms were combined as follows:**
- Nursing AND rehabilitation
- Nursing AND stroke
- Stroke AND Nursing AND Rehabilitation

### Databases searched

<table>
<thead>
<tr>
<th>January 1990- December 2010</th>
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<tbody>
<tr>
<td>Medline</td>
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<td>Cinahl</td>
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<tr>
<td>British Nursing Index</td>
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<td>AMED</td>
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<td>Psych Info</td>
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<td>Embase</td>
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<td>OpenSIGLE</td>
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</table>

Also searched: Conference proceedings, publication reference lists, dissertations and theses. ZETOC alert system used since December 2010 (20 journals).
## Search Results

<table>
<thead>
<tr>
<th>Database</th>
<th>Results</th>
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<tr>
<td><strong>Total</strong></td>
<td><strong>14,655</strong></td>
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</tbody>
</table>

**Total after manual de-duplication:** 14,655

**Total screened for inclusion:** 14,655
## Inclusion criteria

- Published in English, 1990 onwards
- Research on nursing in in-patient stroke rehabilitation settings
- Quantitative or qualitative research on:
  - Nursing roles and practice;  
  - Or views of nurses, MDT members, stroke survivors, family or carers on nursing roles and practice
- Systematic reviews or literature reviews on nursing roles and practice in in-patient stroke rehabilitation settings

## Exclusion criteria

- Pre 1990, not published in English
- Research reporting on the roles or practice of nurses working with stroke survivors in pre-hospital care, accident and emergency settings, nursing homes, primary care, community rehabilitation facilities or stroke survivors’ own homes
- Systematic reviews or literature reviews on nursing roles and practice - as above.
Stage 1: 14,655 references

Initial (inclusive) screening: 
Removed 57 duplicates  
Excluded 13,820  
= 778 remaining

Stage 2: 778 references

Secondary screening (titles and abstracts) against inclusion and exclusion criteria. 
Excluded 641  
= 137 remaining

Stage 3
137 full papers obtained  
83 excluded  
54 Retained for mapping

Stage 4: Retained for review

Review 1  
Meta-ethnography  
18 Studies  
[observation/Interview]  
Focus on nursing roles and practice.

Review 2  
6 Views studies  
(stroke survivors, carers).

Review 3  
10 Intervention and 4 related views studies: focus on education of nurses-mainly in relation to positioning.

Mapping
18 Studies: focus on nursing roles and practice
6 Studies: focus on views of stroke survivors, carers
10 Studies report on interventions and 4 report related views studies: Both sets focus on education of nurses-mainly in relation to positioning
5 Systematic reviews, 4 literature reviews
7 Theoretical papers

In stage 2 and 3, 10% of titles/abstracts/full papers were independently reviewed. Stage 4, independent quality assessment of 33% of papers.
# Understanding Stroke Rehabilitation Nursing: Studies included

<table>
<thead>
<tr>
<th>Authors</th>
<th>Date</th>
<th>Methodology/Methods</th>
<th>Location</th>
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<tbody>
<tr>
<td>Kirkevold</td>
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<tr>
<td>Kirkevold</td>
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<td>Norway</td>
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<td>Jones et al</td>
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<td>2000</td>
<td>Descriptive-reflective enquiry</td>
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<td>O’Connor</td>
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<td>Sundin et al</td>
<td>2000</td>
<td>Phenomenology</td>
<td>Sweden</td>
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<tr>
<td>Long et al</td>
<td>2002</td>
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<td>UK</td>
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<td>Sundin et al</td>
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<td>Hedberg et al</td>
<td>2007</td>
<td>Conversational Analysis</td>
<td>Sweden</td>
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<tr>
<td>Barreca &amp; Wilkins</td>
<td>2008</td>
<td>Qualitative interviews</td>
<td>Canada</td>
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<td>Booth et al</td>
<td>2009</td>
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<td>Gordon et al</td>
<td>2009</td>
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<td>Seneviratne et al</td>
<td>2009</td>
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<td>Burton et al</td>
<td>2009</td>
<td>Case Study</td>
<td>Canada</td>
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</table>
• Data extraction supported by EPPI Reviewer

• Quality appraisal - adapted CASP Qualitative Research appraisal tool (NICE, 2009)

• **Meta-ethnography** developed by Noblit and Hare (1988).

• **Aims:** novel synthesis which develops new theory to explain findings from a set of studies.

• **Synthesis:** 3 stages elements:
  
  • Reciprocal translational analysis—looking for similarities across studies, developing overarching concepts

  • Refutational synthesis – looking for differences and challenges to emerging concepts

  • Lines of argument synthesis—synthesising the whole, accounting for similarities and differences

Feels like…………

So, work with others..
Single researcher:

- Identified 134 ‘findings’ (themes/concepts).
- Undertook the initial synthesis
- Identified 38 overarching concepts.

Then, 4 researchers independently:

- Reviewed the 38 overarching concepts
- Suggested 11, 11, 9 and 7 categories.

A consensus meeting resulted in:

- Agreement on 6 categories.

Single researcher:

- Revisited the synthesis and the lines of argument synthesis and developed the explanatory framework

Understanding Stroke Rehabilitation Nursing: Meta-ethnography-methods
<table>
<thead>
<tr>
<th>Second order interpretation</th>
<th>Third order interpretation</th>
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<tbody>
<tr>
<td>Stroke survivors can be very dependent, this increases nurses’ workloads; the work is heavy but potential for recovery means it can also be exciting (Kirkevold, 1990).</td>
<td>Nursing practice in stroke care: balancing tasks and needs.</td>
</tr>
<tr>
<td>Nurses who want to train and facilitate patients to help themselves experience conflict when workloads and (low) staffing means they cannot regularly engage in rehabilitation focused activity but just ‘do for’ to get the work done (Kirkevold, 1992). (cf O’Connor, 2000, Long et al, 2002; Kvigne et al, 2005; Barreca &amp; Wilkins, 2008).</td>
<td>Nursing practice in stroke care: balancing tasks and needs.</td>
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<td>Nurses’ role in stroke rehabilitation may be devalued by their managers, by other team members and by nurses themselves (Barreca &amp; Wilkins, 2008).</td>
<td>Working across professions: need for clarity in stroke team working.</td>
</tr>
<tr>
<td>Nurses [have to] prepare stroke survivors for therapy rather than using rehabilitation techniques in their care (Seneviratne et al, 2009).</td>
<td>Working across professions: need for clarity in stroke team working.</td>
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</tbody>
</table>
Understanding nursing practice in stroke rehabilitation: An explanatory framework

Nursing practice in stroke rehabilitation: balancing tasks and needs

Using stroke rehabilitation skills in nursing practice

Working with individual stroke survivors and families

Working across professions—need for clarity in stroke team working

RCN International Research Conference London 25th April 2012
Understanding nursing practice in stroke rehabilitation: An explanatory framework

Nursing practice in stroke rehabilitation: balancing tasks and needs

Stroke survivors often have a high level of dependency.
Providing routine/technical care prevents harm, prevents deterioration, and maintains safety.
This has higher priority than rehabilitation nursing.

Doing tasks to or for stroke survivors is necessary.
Because nurses have to meet the needs of many stroke survivors they cannot ring fence time to work with individuals.

But, contributing to rehabilitation can be exciting and rewarding.

So, many nurses experience conflict when pressure to complete tasks and meet physical needs means facilitating independence is replaced by doing to or for stroke survivors.
Understanding nursing practice in stroke rehabilitation: An explanatory framework

- Rehabilitation work requires nursing to be understood and practiced in a different way.

- Facilitation and enabling requires more nursing time.

- But it’s not just carry over of therapy....

- Rehabilitation work involves learning how to integrate therapy techniques into ADLs, information provision and into nurse-patient interaction.

- Nurses’ routine practices and their interactions with stroke survivors were often task focused.

- Routine practices and task focused interactions did not facilitate stroke survivor communications or participation.

Using stroke rehabilitation skills in nursing practice

RCN International Research Conference London 25th April 2012
Understanding nursing practice in stroke rehabilitation: An explanatory framework

Differences in the educational and practice preparation of nurses and therapists impact on their capacity to work collaboratively in stroke rehabilitation.

Stroke rehabilitation nursing requires:
- Stroke specific knowledge of normal movement and neuroplasticity;
- Skills in assessment, positioning, moving and handling, transfers;
- Skills in supervision and facilitation and specialist communication skills.

But, there is significant variability in provision of stroke specific education and training at unit/organisational level.
Understanding nursing practice in stroke rehabilitation: An explanatory framework

**Working with individual stroke survivors and families**

- Nurses stated that getting to know stroke survivors as individuals was a prerequisite for and contributed to rehabilitation.

They argued that

**However,**

- Nurses should work in partnership with stroke survivors to facilitate personal recovery, but..
- Most observed nursing interactions in stroke care were not patient-centred or individualised.

**However,**

- Stroke survivors and their carers will also require education to understand the nurses’ role in stroke rehabilitation.

**Rehabilitation can be incorporated across the day and in most ADLs**

RCN International Research Conference
London 25th April 2012
Nurses’ assessment data informs the actions and interventions of other team members.

But nurses’ role in stroke rehabilitation can be devalued by nurses themselves, by their managers and other team members.

Nurses often prepare stroke survivors for therapy rather than using rehabilitation techniques in their care.

Nurses believe they have a central role in coordinating and managing care.

[But] nurses often had limited participation in MDT and care planning meetings.

[But] nurses and therapists could work together drawing on core rehabilitation competencies.

Working across professions—need for clarity in stroke team working.
Understanding nursing practice in stroke rehabilitation: An explanatory framework

• Locating therapy away from nursing work reduces opportunity for communication and skill sharing with other team members.

Co-location of team members and therapy facilitates stroke rehabilitation nursing

Strong clinical leadership, commitment to evidence based practice and coordinated education and training facilitates stroke rehabilitation nursing

• But, therapy integration by nurses is partly dependent on creating and sustaining a rehabilitation environment in stroke units.
• Rehabilitation nursing work is contingent on having sufficient time and sufficient staff

Hierarchical relations, based on therapists telling nurses what to do with patients, are not conducive to developing nurses' rehabilitation roles

Interdisciplinary working is valued by nurses and MDT members but not commonly practised in stroke units

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Understanding nursing practice in stroke rehabilitation: An explanatory framework

Nursing practice in stroke rehabilitation: balancing tasks and needs

Using stroke rehabilitation skills in nursing practice

Using stroke specific education and training is not consistent

Stroke survivors require education to understand nurses’ role in rehabilitation and be partners in their care

Doing for stroke survivors is necessary at times but rehabilitation techniques can be incorporated in most ADLs

Nurses and therapists can work together drawing on core rehabilitation competencies

Nurses’ assessment data informs the actions and interventions of other MDT members.

Co-location of team members and therapy facilitates rehabilitation nursing

Nurses typically have limited participation in MDT meetings

Routine practice and interactions are typically task not rehabilitation focused

Using rehabilitation techniques takes more time.

Physical and technical care prevent deterioration and are prioritised

Working with individual stroke survivors and families

Stroke specific education and training is not consistent

Working across professions-need for clarity in stroke team working

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Conclusions

• In the studies reviewed nurses’ declared and observed involvement in rehabilitation specific activity was very limited. Physical [direct] care and monitoring was prioritised.

• Contextual factors clearly impact on nurses’ perceptions and practice – integration of rehabilitation skills by nurses is contingent on addressing nurse staffing levels, managing demands on nurses’ time, use of the built environment and reshaping stroke team working practices. Stroke specific education and training has been not been consistent in content or approach.

• Stroke survivors and families/caregivers need help to understand nurses’ contribution to stroke rehabilitation.

• Advanced technical skills, direct care, co-ordination and managerial skills are an important part of high quality stroke care but without integration of stroke specific rehabilitation skills nurses’ contribution to improving outcomes for stroke survivors is diminished.
• The evidence base is clear for many areas of practice related to nursing work including physiological monitoring, swallow screening, promoting urinary continence, assessment and management of mood and anxiety. But...

• We need agreement on minimum knowledge and understanding for the required rehabilitation skill set.

• Development of stroke specific competencies for health professionals (Canada, England, Scotland) offer a way forward for standardising education and training but more specific rehabilitation related competencies are required, together with mandatory work-based training and assessment of competence.
Thanks for listening and for your questions and comments.

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