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Stroke Research Questions: A Nursing Perspective.

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Stroke research questions: a nursing perspective

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Abstract

Background: stroke is a national research priority. However, in the literature there is still minimal systematic investigation of stroke nursing – especially practice. The aim of this study was to explore stroke nurses’ research priorities through a series of focus groups. Method: the study was qualitative and involved focus groups (n=7) with registered nurses working in stroke care settings and who were members of the Scottish Stroke Nurses Forum. Data were analysed to identify conceptual categories, which were found to relate to the categories defined by Kirkevold (1997) and Booth (2001). Results: five priority areas for stroke nursing were described: preventive/conserving; supporting/consoling; restorative; integrative; and service structure/systems. Conclusion: by consulting stroke nurses it can be ensured that future research truly reflects the nature of nursing care and is of particular relevance to stroke nursing practice. The development of research evidence-base in stroke nursing will lead to increased knowledge, a better quality of care and ultimately better outcomes for patients.

Key words: Neuroscience ■ Qualitative ■ Research ■ Stroke

Stroke is the second leading cause of death and the leading cause of severe adult disability in the UK (World Health Organization [WHO], 2003). Specialist stroke unit care, provided by a multidisciplinary team who are knowledgeable and interested in stroke, saves lives and reduces the need for long-term institutional care (Stroke Unit Trialists’ Collaboration, 2007).

Nurses, as members of the stroke multidisciplinary team, frequently spend the highest proportion of time with patients, and it is reasonable to assume that in some way, and to some extent, nursing interventions contribute to improving stroke patients’ outcomes. At present, however, the evidence base for stroke nursing is limited (Burton et al, 2009). Therefore, it is key to consult stroke nurses to determine their research priorities for stroke nursing practice (Department of Health [DH], 2007; Scottish Government, 2008). Through consultation with nurses it can be ensured that the research realistically reflects the nature of stroke nursing care and is of particular relevance to stroke nursing practice.

The role of the nurse is one of care and is undoubtedly broad, as nurses are responsible for patients 24 hours a day. The discipline of stroke nursing has been categorized in the literature in a number of different ways. Kirkevold (1997) described the therapeutic role of the stroke nurse by dividing it into four categories:

- Interpretative (helping patients understand stroke)
- Consoling (providing emotional support)
- Conserving (preventing complications, maintaining normal functions and meeting essential patient needs)
- Integrative (helping patients meet rehabilitation goals)

By reviewing the literature, Bisnaire (1998) divided stroke nursing into four categories by the type of research study conducted by nurses, which included studies about nurses, the experience of stroke, the caregiver of stroke survivors, and various interventions and their impact on outcome. A more recent qualitative study focusing on the nursing role within stroke rehabilitation found three role categories of the nurse, including the nurse as a caregiver, facilitator of personal recovery, and care manager (Burton, 2000). Stroke care, however, is no longer confined to rehabilitation and should include acute care which aims to prevent damage to the already vulnerable brain (Perry et al, 2004). Therefore, nurses need to address the confusion that surrounds the role within the stroke unit multidisciplinary team and one way of doing this is by engaging in nurse-focused and nurse-led research (Burton et al, 2009).

The Scottish Stroke Nurses Forum (SSNF) was officially launched in 2003. It aims to disseminate good practice, improve educational opportunity and support stroke nurses by facilitating knowledge and expertise (SSNF, 2008). The SSNF recognized that it would require a greater understanding of stroke nurses’ clinical practice and their priorities for increased knowledge and awareness. It was thought that, by engaging directly in group discussion, stroke nurses’ research priorities could be delineated; that nurses would be empowered by involvement in the research process and that some future stroke nursing research projects might be identified.

Methods

Study design

Focus groups were selected as the means of collecting data for this study as the format enables the exploration of experiences,
ideas and areas of concern among groups with shared interests (Barbour and Kitzinger, 1999). A semi-structured interview schedule was used to elicit discussion regarding the nurses’ experiences and perceptions of evidence-based practice. Participants were asked to describe and discuss the issues and topics that arose during the course of their daily practice and about which they were uncertain. The aim was to identify aspects of stroke nursing practice for which there was little or no evidence base – essential elements of stroke nursing practice that could be addressed in future research.

**Population and sample**

The study sample was drawn from the population of registered nurses working in stroke care settings and who were members of the SSNF. The SSNF has a membership of approximately 200, the majority of whom are registered nurses specializing in stroke or neurological care. A purposive sample of 40 members of the SSNF was recruited to the study. The participants represented a range of contemporary clinical nursing grades (i.e. D to G), working in a variety of stroke care settings, from acute hospital-based to community-based rehabilitation and working in a variety of geographical locations, including cities, community hospitals, and geographically remote locations. In total, seven focus groups were conducted in various locations throughout Scotland (Table 1).

**Ethics**

The SSNF is an independent, self-governing group whose aims include the development and sharing of knowledge, expertise and best practice, the incorporation of research-based evidence into practice, and the promotion of research designed to improve outcomes (SSNF, 2008).

After seeking advice from the Central Office for Research Ethics Committee it was agreed that the only requirement for participants was that they should have SSNF membership and be recruited to the study in that capacity.

**Data collection**

Participants were invited to take part in a focus group by a SSNF representative (committee member). The committee members arranged suitable venues, dates and times for the focus groups. Between three and nine trained nurses participated in each group. All participants provided informed consent prior to participation. Due to the different geographical locations there were two different focus group facilitators and co-moderators who took field notes, which included observations of the interactions between participants.

All focus groups began with an introduction and explanation of the purpose of the research, ground rules for the conduct of the group, a reminder of the voluntary and the confidential nature of participation, and an explanation of the tape-recording and note-taking, and the analysis and dissemination of the findings. The focus groups interview schedule was semi-structured to allow flexibility and to ensure that data reflected participants’ perspectives. Nurses were asked to describe and discuss the issues and topics that arose during the course of their daily practice and about which they were uncertain. Each focus group lasted between 45 and 90 minutes, and, with the permission of the participants, was tape-recorded and transcribed verbatim. Data collection was carried out between June and November 2005.

**Analysis**

The tapes from the seven focus groups were transcribed verbatim, and with field notes, formed the data for analysis. Each transcript was read thoroughly three times by two researchers. The initial intention was to use grounded theory approach (Glaser and Strauss, 1967). However, the different focus group facilitators, while having the same agenda, did not have access to one another’s field notes and data analysis contemporaneously. Therefore, the analysis focused on exploring stroke nurses’ perspectives of key research themes within the nursing role/functions as described in the literature (e.g. Kirkevold, 1997; Booth, 2001).

In line with the constant comparative approach described in grounded theory, interview data were analysed to identify, name, categorize and describe the data line by line and to identify the more general categories and properties (Robson, 2002). Using this approach a list of research topics/themes (e.g. nutrition) were then identified from multiple readings of the interview transcripts. Embedded in the research topic/themes are the key questions raised by the focus groups (Table 2). The research topics/themes were then related to the conceptual categories defined by Kirkevold (1997) and Booth (2001).

**Findings**

Five categories were used to describe the research areas that are of importance to stroke nurses (Table 2):

- Preventive/conserving
- Supporting/consoling
- Restorative
- Integrative
- Service structure/systems.

The first four of these categories were derived from the work of Kirkevold (1997), which described the roles/functions of nurses in acute stroke rehabilitation as interpretive, consoling, conserving and integrative, and the more recent

<table>
<thead>
<tr>
<th>Date</th>
<th>Location</th>
<th>Number of participants</th>
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<tbody>
<tr>
<td>June 2005</td>
<td>Falkirk and District Royal Infirmary, Falkirk</td>
<td>3</td>
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<tr>
<td>June 2005</td>
<td>Victoria Hospital, Kirkcaldy, Fife</td>
<td>6</td>
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<tr>
<td>June 2005</td>
<td>Edinburgh Royal Infirmary, Edinburgh</td>
<td>9</td>
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<tr>
<td>June 2005</td>
<td>Borders General Hospital, Melrose</td>
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<tr>
<td>August 2005</td>
<td>Stobhill Hospital, Glasgow</td>
<td>4</td>
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<tr>
<td>November 2005</td>
<td>Argyll and Bute Hospital, Lochgilphead</td>
<td>5</td>
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<tr>
<td>November 2005</td>
<td>SSNF Conference, Stirling</td>
<td>8</td>
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</tbody>
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Table 1. Focus group timetable

The work of Kirkevold (1997), which described the roles/functions of nurses in acute stroke rehabilitation as interpretive, consoling, conserving and integrative, and the more recent...
<table>
<thead>
<tr>
<th>Research categories</th>
<th>Research topic/themes and key questions raised by focus group participants</th>
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</table>
| Preventive/conserving    | Modifiable risk factors:  
  • Are there any interventions for modifiable risk factors (such as smoking, blood pressure) that are best for my patient?  
  • Is it worth the cost and effort involved?  
  Secondary prevention:  
  • What are the effects of non-adherence of medications/therapy on clinical outcomes?  
  • What are the determinants of adherence of medications/therapies?  
  How can nurses prevent complications, such as:  
  • Shoulder pain  
  • Pain on affected side  
  • Post-stroke nausea  
  • Depression  
  • Fatigue  
  • Malnutrition  
  • Urinary incontinence  
  Nutrition:  
  • How do we provide stroke-specific training to pass of nasogastric (NG) tubes?  
  • What are the best methods for keeping feeding tubes in place?  
  • What are the perspectives of patients and carers about the acceptability of enteral feeding tubes?  
  • When should it be the nurses’ decision to pass NG tubes and how can nurses be best guided in their decision-making?  
  • What are the best strategies to prevent delays in passing enteral feeding tubes?  
  • What is the optimal time to commence percutaneous endoscopic gastrostomy feeding?  
  • How can nurses recognize problems of malnutrition post-discharge?  
  Meal-time care:  
  • What are the patient/carers’ opinions on modified diets?  
  • Would it benefit patients to sit away from their bedside (e.g. at a dining-room table) to eat their meals?  
  Oral hygiene:  
  • How can we improving training in oral hygiene, particularly for nursing students?  
  • What are the opinions of carers toward providing oral hygiene for their relatives?  
  • What factors are associated with altered saliva production?  
  Urinary continence:  
  • How effective is intermittent catheterization and catheter valves for post-stroke incontinence?  
  • Does catheter insertion help improve quantity and quality of rehabilitation over and above the risk of complications?  
  • How does long-term incontinence effect patients and carers post-discharge?  
  • How do nurses improve attitudes related to incontinence post-stroke?  
  The nature of stroke:  
  • When can we give patients/relatives an indication of the maximum amount of recovery after different types of stroke?  
  Advocate:  
  • When should volunteers/organizations be contacted to talk to patients, and what are the benefits?  
  Ethics:  
  • How can we improve team decision-making regarding feeding post-stroke?  
| Supporting/consoling     | Supporting:  
  • What are the effects of information provision on stroke patients and caregivers?  
  • When is the best time to provide information?  
  • What is the optimum amount of information for patient and carers?  
  • What are the benefits of an on-call service for information giving, and should it be available on the weekends?  
  • Are patients’ and caregivers’ needs being met?  
  • What are the overall attitudes of patients and carers to stroke unit care?  
  The nature of stroke:  
  • When can we give patients/relatives an indication of the maximum amount of recovery after different types of stroke?  
  Advocate:  
  • When should volunteers/organizations be contacted to talk to patients, and what are the benefits?  
  Ethics:  
  • How can we improve team decision-making regarding feeding post-stroke?  
| Restorative              | Young people:  
  • What are the specific needs of young people who have a stroke?  
  Sexual function:  
  • What factors are associated with sexual dysfunction following stroke?  
  • What is the impact of sexual dysfunction on people’s quality of life and relationship stability, regardless of age (e.g. it is not just about younger patients)?  
  • How can we provide better ways to communicate with patients/carers about sexual problems after stroke?  
  • What is the best time to discuss sexual problems after stroke?  
  • Is there any education/training for staff on how to talk to patients/carers about sexual health post-stroke?  
  Other therapies:  
  • What are the benefits of complementary therapies?  
  • When is the best timing to start counselling for post-stroke psychological problems?  
  • What treatment for fatigue is going produce the best results?  
  • What are the roles of different occupational groups in stroke rehabilitation?  

work of Booth (2001), which described preventive and restorative aspects of stroke nurse roles. However, some data, while substantively focused on nurses' roles, are to a degree determined by health- and social-care systems, and therefore a fifth category, service structure/systems, was used to describe these findings.

Preventive/conserving
Prevention of another stroke is a priority, and central to its success is patients' adherence to prescribed medication and reduction/cessation of lifestyle risks, such as smoking. Successful strategies should be identified to enhance patients' concordance, support optimum outcomes and also to prevent post-stroke complications, such as shoulder pain, depression, fatigue, nausea and malnutrition. Maintaining normal functions and meeting essential needs, such as patient nutrition, meal-time care, oral hygiene and urinary continence, were also discussed.

Supporting/consoling
Patients and informal carers receive information in a variety of formats. An evidence base is needed to identify the optimum times and communication strategies that may support discussion of patients' prognosis. Stroke nurses consider some measure of depression to be a normal response to the trauma of stroke, but how best to support patients and alleviate their psychological distress is unclear.

Restorative
Absence of one universally-accepted definition of rehabilitation is problematic and specific roles of multidisciplinary team members are sometimes unclear. For example, physiotherapists and occupational therapists are not available at weekends so nurses have to ensure that patients continue rehabilitation in their absence; participants identified the need to research roles, responsibilities and the impact of these on patient care.

Stroke nurses consider that young people post-stroke have specific needs related to disability, rehabilitation, employment and housing, and that research should explore these needs to maximize rehabilitation. Sexual needs of all ages of patients and their partners are seldom acknowledged and nurses find it difficult to provide advice.

Integrative
The data in this category overlap with those in the restorative category, in that the overall aim is rehabilitation, but integrative care ensures that patients are able to function to the best of their abilities in the long-term, post-discharge. This involves evaluation of multidisciplinary teams, both in hospital and community settings, to identify strategies by which continuing rehabilitation may best be facilitated.

Systems and structures
The structures, both physical and hierarchical, within which individuals live and work, may facilitate and/or constrain the actions that they are able or willing to take. Giddens (1984) uses the term ‘structuration’ to suggest an interplay between individual ‘agency’ (i.e. ability to initiate and take action) and ‘structures’.

The present data analysis found that nurses seek evidence evaluating the extent to which NHS and social services

<table>
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<th>Table 2 Framework for stroke nursing research questions (continued)</th>
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<td><strong>Research categories</strong></td>
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<td>Integrative</td>
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<th>Table 3. Priority areas for research identified by stroke nurses</th>
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<tr>
<td>• Integrated care pathways</td>
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<tr>
<td>• Nursing roles and structures/culture</td>
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<td>• Rehabilitation goal-setting</td>
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<tr>
<td>• Nutrition and meal-time care</td>
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<td>• Bladder incontinence</td>
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<td>• Sexual health</td>
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<td>• Complications of stroke</td>
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<td>• Complementary therapies</td>
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<td>• Information provision</td>
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<td>• Secondary prevention</td>
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structures and systems facilitate and inhibit nurses’ ability to deliver care and the impact that this has on patients’ hospital care and long-term rehabilitation. One example is that 12-hour shifts are said to impact negatively on time available for teaching and learning. The impact of Agenda for Change (DH, 2004) on patient care needs to be researched as it entails increased annual leave for some staff, the consequent need to employ agency and bank staff, and potential disruption to continuity of stroke-specific care.

Some stroke nurses’ remit includes working in areas geographically remote from central services. They identified the need to evaluate the expense of travelling (in time as well as fuel) against the cost of potentially valuable technology, such as teleconferencing, and to research the psychological and social impact of adopting ‘distant’ contact between nurses and patients.

Discussion
The role of stroke nurse is diffuse and complex (Burton, 2000; Booth et al, 2005). Overall, nurses identified research categories that were found to relate to the interpretive, consoling, conserving and integrative roles of the stroke nurse (Kirkvold, 1997). The present study also identified research categories described by Booth (2001), including preventive, supporting, and restorative roles of the stroke nurse; and service structure/systems. It was not possible to identify one essential category/basic social process within this small scale study although an over-arching theme in the data is that development of stroke-specific assessment tools for all activities of daily living post-stroke are a necessity.

Several priority areas for research were identified by stroke nurses, including the use of integrated care pathways, discussing sexual health, rehabilitation goal-setting, appropriate information provision, managing bladder incontinence and meal-time care after stroke (Table 3). However, some research areas identified by nurses already had an evidence base, for example ‘when is the optimum time to use percutaneous endoscopic gastrostomy tubes’ (Dennis et al, 2005).

Although some participants identified the Scottish Intercollegiate Guidelines Network (SIGN) guidelines 64 and 78, relating to management of patients with stroke (SIGN, 2002; 2004) and/or the National Clinical Guidelines for Stroke (Royal College of Physicians, 2008), in some areas there was an obvious lack of knowledge of research findings and best practice guidelines. Nurses described issues associated with the dissemination of research findings and/or the ability and motivation of individuals to locate these with a view to incorporating them in practice. Pressures of work and inability to attend education events and sources of information such as libraries were identified by some groups as barriers to accessing research-based evidence. In addition, many of the stroke nurses who participated in this study considered that they lacked the infrastructure, the research culture and the incentive to undertake research.

Limitations
This study sought to elicit the clinical information needs of members of the SSNF. However, those who seek out membership of SSNF are likely to differ from the general stroke nurse population and, as opinions were gathered from only 20% of SSNF members, these may not be representative of all SSNF members and therefore the results may not be applicable to the larger group. In addition, focus groups were a mixture of nursing grades; therefore, it is likely that focus group members’ willingness to express their views or opinions may have been influenced by others in the group.

Arguably, the fact that two different facilitators conducted the focus groups may represent a limitation of the application of the method. However, the use of a semi-structured focus group schedule may have promoted the homogeneity of the approach, while having different facilitators may have prevented unidirectional bias in the data collection process. Ideally focus groups would have been held in all NHS boards but this was not possible due to resource limitations.

Conclusions
SSNF members’ information needs range from specific issues relating to the practical management of stroke patients’ management to the general management of stroke patients and carers, and self-development.

Nurses are under increasing pressure to keep up to date with, and base their clinical nursing skills on, current best evidence. However, few nurses have the necessary skills or time to do this. It is key that SSNF members and other nurses working in stroke know that any uncertainty with regard to their practice often results from difficulties associated with accessing the evidence-based literature and other resources, such as clinical guidelines, best practice statements and the internet. It is therefore recommended that a systematic search of the literature (for example, using Cochrane methodology), before formulating research questions, is undertaken (Greenhalgh, 1997; Clarke et al, 2007).

It is also important to listen to the perspectives of service users in research (Goodare and Lockwood, 1999; Elrick et al, 2003). By consulting individuals who have had experience of stroke we can ensure that future stroke research is of particular relevance to stroke patients and their relatives in order to improve quality of life and healthcare for other stroke patients.

This study was funded by Chest, Heart and Stroke, Scotland, and Boehringer Ingelheim. We would like to thank all the Scottish Stroke Nurses Forum (SSNF) nurses who agreed to participate in the focus groups. We thank Dr Mari Brandy (Nursing, Midwifery and Allied Health Professions Research Unit, Glasgow Caledonian University) for her contribution during the early stages of the project. There were no competing interests.

KEY POINTS

- Stroke research that reflects the nature of nursing care and is of particular relevance to stroke nursing practice is a national priority.
- Priorities for research identified by stroke nurses could be aligned with preventive/conserving; supporting/consoling; restorative; integrative; and service structure/systems.
- It is necessary to develop stroke-specific assessment tools for all activities of daily living post-stroke.
- Nurse involvement in the research process identified future stroke nursing research projects.


