What education do stroke patients receive in Australian hospitals?

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Abstract

Objective: This study evaluated the educational practices of staff working in acute stroke wards in Australian hospitals, including the coordination and methods of patient education provision, post-discharge education and support services available, and the education and support services that health professionals would like to provide.

Methods: Health professionals who worked in acute stroke wards in Australian hospitals were surveyed about the stroke education practices of staff in their ward. Thirty-four hospitals returned a completed questionnaire via email or fax.

Results: Verbal communication and written materials were the most frequently used methods of information provision. Twenty-three (67.6%) wards developed their own written education materials, five (14.7%) offered group education programs, and 19 (55.9%) offered education or support after discharge. Fourteen (41.2%) wards had a particular staff member responsible for coordinating the provision of education to patients and one (2.9%) ward had a written policy on stroke education. The majority (70.6%) of participants would like to be able to provide more education/support services.

Conclusion: The educational practices of the Australian hospitals surveyed were variable, with improvements needed in the coordination and documentation of patient education and the available follow-up services.

Practice Implications: Health professionals need to be aware of the importance of education in the care of patients following stroke. Patients’ informational needs, while in hospital and after discharge, may be better met if staff in acute stroke wards had improved communication and coordination practices and ensured that stroke education was appropriately documented and supported by policy.
Keywords: patient education, stroke, written information
1. Introduction

Stroke is one of the leading causes of death and disability in developed countries [1]. Education should be a key component of the stroke care that patients receive [2]. Information provision can empower patients, enable them to gain an understanding of their condition, and utilise better coping strategies [3, 4]. Providing information to patients and their carers has also been reported to increase their satisfaction and improve the relationship between health professionals, patients and their carers [5]. Stroke education also plays a crucial role in secondary stroke prevention [3, 6, 7].

Despite the many potential benefits of providing education, previous research has highlighted deficiencies in the education of patients following stroke. Tooth and Hoffmann [8] found that 70% of the hospitalised participants interviewed felt that they had not received enough information and 87% reported that the information did not address all of their concerns. Another study that evaluated the provision of written education to patients after stroke found that only 41% of carers and 23% of patients received any written information about stroke while in hospital and that 40% of patients and 67% of carers had unanswered questions about stroke while in hospital [9].

Research outside of Australia has also echoed this lack of education. A study by Wellwood et al. [10] in the United Kingdom found that although most patients and carers thought they understood what a stroke was, 22% of patients and 15% of carers could not differentiate between stroke and heart attack and 37% of patients and 58% of carers wanted more information and discussion about their illness during their hospital stay. In a New Zealand study, Hanger et al. [3] found that patients and carers continued to ask
questions about stroke two years after the stroke occurred and that the nature of these questions changed over time.

Research by Hoffmann et al. [6] has highlighted a lack of coordination in the provision of information about stroke to patients in hospital. Results of a survey conducted on a small number of Australian stroke unit teams found that patients were not receiving adequate information, due to team members being uncertain about who was providing information to patients and who was responsible for providing it [6]. Studies by Tyson and Turner [7] which evaluated the discharge and follow-up services provided to stroke patients and Wachters-Kaufmann et al. [11] who looked at the actual and desired information of stroke patients have also found a need for a more coordinated approach to stroke education. There are various methods that can be used to provide education to patients and their carers, including written education materials, structured education programs such as group programs, one-on-one verbal education with health professionals, support groups, and video or audio recordings. Research about which is the most effective method of providing stroke education is inconclusive. To some extent, the choice about which educational method to use with a particular patient will be affected by the patient’s preferences and other personal characteristics [12].

In Australia, stroke patients may be initially cared for in a stroke unit (if one is available), or in a general medical ward by either general ward staff or by a roving team of stroke professionals that work throughout the hospital [13]. The average length of stay in Australian acute hospital care for stroke patients is 12.6 days [13]. Early rehabilitation begins while patients are in acute hospital and for some patients rehabilitation may continue as an outpatient or in an inpatient setting [13]. The aim of this study was to
examine the educational practices of Australian hospital acute stroke wards, including what methods are used to provide information, whether education provision is coordinated, if post-discharge support services are available, and what education and support services health professionals would like to provide.

2. Method

2.1 Participants

Participants were eligible for inclusion if they were a health professional who worked in an acute stroke ward in an Australian hospital.

2.2 Procedure

Ethical clearance to conduct this study was obtained from one of the ethics committees at the University of Queensland. A list of every Australian hospital (both private and public) was compiled from the websites of all state and territory government health departments and the National Stroke Foundation list of hospital stroke units. During the five month period of data collection, 187 hospitals were contacted by telephone and of these, 44 were not eligible to participate as they did not provide care to patients following stroke (for example, a psychiatric hospital). A nurse in charge, allied health professional, or health professional responsible for stroke education was contacted, the study explained and an invitation extended to them to complete the questionnaire. As the study aimed to obtain information about the educational practices of the ward in general, participants were encouraged to discuss the questionnaire with other health
professionals who work in the ward and obtain information from them prior to completing the questionnaire.

Of the 143 hospitals, which provided care to stroke patients, 4 declined to participate, leaving 139 hospitals which agreed to participate. A participant information sheet, consent form, and questionnaire were faxed or emailed to these participants. Of the 139 questionnaires sent, 34 were completed and returned. A follow-up telephone call or email was used for participants who did not return the questionnaire within four weeks.

2.3 The questionnaire

The questionnaire used in this study was based on a previous questionnaire used to explore the perspectives and practices of health professionals who use written education materials with stroke patients [6]. The questionnaire contained 7 sections:

1. Details of participant and the stroke ward (participant’s position, number of beds in ward, disciplines providing services to the ward);

2. Details of individual education opportunities to patients and/or carers;

3. Details of any group programs offered (content, disciplines involved, mode of delivery, intensity and duration of program, whether it was aimed at patients and/or carers);

4. Details of post-discharge education and support offered to patients and carers (type of support available and its mode of delivery);

5. Written education materials (types of written materials available; whether readability levels of the materials have been assessed; how the materials are distributed to patients/carers)
6. General information about stroke education provision in the ward (if there is a designated person responsible for it; if so, what their role involves; if there is a written policy about the education of stroke patients; if a record is kept of the information that each patient receives; what topics are provided to patients and on average, what proportion of patients receive information about each of the topics); and

7. Desired education and support services (details of services that the ward currently does not provide but would like to, reasons for why the services are not currently provided).

3. Results

3.1 Participant and service characteristics

Information was obtained about the educational practices of staff in 34 acute stroke wards throughout Australia. Information about the wards was provided by 29 (85.3%) nurses and five (14.7%) allied health professionals. Seven (20.6%) of the wards were dedicated stroke units, while the others were general medical wards. Of the 34 wards who participated in the study, eight (23.5%) were located in New South Wales, eight (23.5%) in Queensland, six (17.6%) in Victoria, five (14.7%) in Western Australia, three (8.8%) in South Australia, two (5.9%) in Tasmania, and one (2.9%) each in the Northern Territory and Australian Capital Territory. Information about the number of beds typically occupied by stroke patients in each ward was obtained for each ward: eight (23.5%) wards reported 1-5 beds, eight (23.5%) reported 6-10 beds, 10 (29.4%)
indicated 11-20 beds, and 3 (8.8%) wards indicated 20-30 beds. A response to this question was not available for four wards.

All participants reported that in addition to medical and nursing services, physiotherapy and speech therapy services were provided to patients in their ward. Occupational therapy, dietetics, and social work services were also available in the majority of participating wards (94.1%, 94.1%, and 85.3% respectively). Neuropsychology and psychology services were available in 13 (38.2%) and 11 (32.4%) of the participating wards respectively.

3.2 Individual educational opportunities

The majority of wards used one-on-one verbal discussion with health professionals (32, 94.1%) and written education materials (31, 91.2%) as the main methods of providing education. Only a minority of wards reported using other educational resources such as computer-based educational programs (3, 8.8%), educational videotapes (13, 38.2%), and family meetings (2, 5.9%). Details about the use of written education materials with stroke patients are provided in Table 1.

[insert Table 1 about here]

3.3 Group education programs

A group education program for stroke patients and their families/carers was offered in five (14.7%) wards. In all five wards, it was reported that the group covered the topic of treatment, while in two, the topics of communication, type of stroke, ward routine, nutrition, and lifestyle changes were also covered. Other topics, which were covered by individual groups, included general information about stroke, memory
problems, emotional problems, mobility, activities of daily living, and information on support groups and associations. In all five group programs, carers were encouraged to attend and written education materials were used to support the content that was covered.

In all five group education programs, nursing staff were involved in the planning and delivery of the program, while in two, staff from occupational therapy, speech pathology, physiotherapy, and dietetics were also involved. Other services that were involved in the delivery of the program for at least one of the five group programs were neuropsychology, social work, hospital volunteers, previous stroke patients, National Stroke Foundation speakers, pharmacy, pathology, and a rehabilitation physician.

3.4 Education after discharge

Nineteen (55.9%) wards offered education or support to their patients and/or carers after discharge. The type of education/support varied and included: providing patients with contact details for community support organisations (n=16); providing patients with a telephone number that they could call if they had questions (n=13), routinely telephoning patients to check on their educational and support needs (n=8), evaluating patients’ support and education needs during routine medical follow-up appointments (n=7), conducting a home visit after discharge (n=2), and providing a written individualised discharge plan (n=1).

3.5 Coordination and documentation of stroke education

Fourteen (41.2%) of the wards had a particular staff member responsible for coordinating the provision of education to patients. The staff members responsible for
this were nursing staff (n=9), stroke case managers (n=4), and a social worker (n=1). Their reported responsibilities included: providing stroke education to patients and family, conducting home visits and follow-up phone calls post discharge, liaising with family, planning and delivering formal stroke education groups, providing support to patients and/or their families, coordinating patient care, and providing education to staff.

Only 1 (2.9%) of the wards had a written policy about the provision of education to patients and/or their carers. This policy outlined when education is to be provided, how it is to be documented and who is responsible for the provision of education to patients. Twenty-two (64.7%) wards kept a record in the patient’s chart of education which had been provided, six (17.6%) kept a checklist in the ward, and seven (20.6%) wards kept no record of the education that was provided to patients.

3.6 Desired education and support services

The majority (24, 70.6%) of participants reported that their ward would like to be able to provide more education/support services to patients and/or their carers than they currently do. Of these, eight (23.5%) would like to offer more educational resources, eight (23.5%) would like an educational coordinator, eight (23.5%) would like to provide a follow-up service after discharge, and four (16.7%) would like to run patient education/support groups. A lack of funding, which consequently resulted in a lack of time and staff, was the main reason given by 20 (58.8%) participants as to why these desired services were unable to be provided.
4. Discussion and conclusion

4.1. Discussion

This study aimed to explore the patient and carer educational practices of staff in acute stroke wards in Australian hospitals. The study revealed that the two main methods of presenting stroke information to patients and their carers were one-on-one verbal discussion with a health professional and written education materials. However, these two methods were not reported to be necessarily always provided in conjunction with each other, which stroke patients have reported as their preferred method [3, 5, 14]. Ideally written and verbal information should be provided in conjunction with each other [15, 16] as much verbally-provided information is typically forgotten [17] and the use of written information alone is typically not an effective means of patient education [18].

The importance of providing written education to stroke patients has been well documented [5, 9, 19]. Written materials have been shown to be beneficial to patients as they provide a consistency of information, aid recall and can be referred to when required [5, 19, 20]. Most (31, 91.2%) wards provided written education to patients according to their needs. Although patients treated by the participating wards were not concurrently surveyed in this study, studies have found that patients would have liked to receive more written information than they were given [8, 9, 19]. Therefore, although health professionals may believe that they are providing information according to patients’ needs, the extent of the information provided may not be sufficient to comprehensively meet patients’ needs. The need for better communication about informational needs between health professionals, patients and their carers has been highlighted in previous studies [7-10, 21]. The use of a checklist of informational needs can be one simple
method that health professionals can use to ensure that no topics are overlooked [22]. The need to provide patients and their carers with individualised information after stroke has been highlighted [5, 8, 10, 14, 23].

Although the majority of wards reported using written education materials from their National (88.2%) or state/territory (55.9%) stroke association, more than two-thirds of participants reported that their ward had also developed their own written education materials. It is unclear why so many wards reported developing their own materials, particularly when there are many existing written stroke educational resources freely available. It may be that hospital staff are unsatisfied with the available resources and believe that they are not suitable for use with their patients and/or not meeting their patients’ needs. An analysis of the readability and suitability of the written education materials about stroke that were provided to patients and their carers in an Australian hospital found that the majority of materials had a readability level that was too high and some unsuitable design characteristics [22].

For written information to be useful, patients must be able to read and understand it [22]. Previous studies have found a mismatch between the reading level of the written materials provided and the reading ability of the stroke patients who received them [19, 22]. Despite this, it seems unlikely that poor readability of the materials is the reason for so many participants in the current study reported developing their own materials, as only seven of the 23 wards who developed their own written education materials had assessed the readability level of the materials. Assessment of the readability and suitability of written materials can be quickly and easily completed using tools such as the SMOG readability formula [24] and the Suitability Assessment of Materials checklist [25].
Health professionals should ensure that conducting a readability and suitability assessment is one of the steps that they undertake during the process of developing written patient education materials.

Only five of the participants reported that their ward offered an education group for patients and their carers and just over half of the wards provided education or support to patients and/or carers after discharge. Four participants desired to provide education programs and 24% wished to provide follow-up services but were unable to due to a lack of resources. Some of the hospitals surveyed only had a small number of stroke patients admitted at the one time and as it may not be feasible or necessary to run a group with a very small number of participants, this may also explain the small number of wards offering this service. There is emerging evidence that active interventions, such as group education programs, can be a more effective method of providing stroke education and support to stroke patients and their carers than providing information passively in the form of a leaflet or booklet [21, 26, 27]. Rodgers et al. [21] found that although patient and carer knowledge of stroke increased as a result of attending a stroke education program, there was no improvement in participants’ emotional or functional outcomes. A similar result was found by Louie et al. [26] who reported that patients’ knowledge about stroke increased after attending a stroke education program, but there was no improvement in perceived health status. It appears that while group education programs may be an effective method of increasing patients’ and carers’ knowledge about stroke, the optimal method for improving other patient and carer outcomes remains unclear and requires further research. Some support for active individualised interventions is provided by Kalra et al.’s study [28] in which carers of stroke patients received individualised
training in techniques to facilitate personal care techniques and this resulted in improved psychosocial outcomes in both the carers and the patients they were caring for.

It seems that the patients treated by the Australian hospitals which participated in this survey were at risk of not having access to an adequate level of post-discharge services, particularly services which are initiated and coordinated by the discharging hospital. This lack of follow-up education and support may have significant consequences for patients. Patients’ informational needs change over time [3, 5, 23] and their need for support and education continues after discharge from hospital [3, 5, 9]. Education also has an important role to play in the prevention of secondary strokes [3, 6, 7]. Patients who are not provided with sufficient information on how to prevent further strokes may not be aware of or adhere to strategies that can reduce the risk of secondary stroke. Additionally, as education aims to reduce anxiety and empower individuals [4, 29], patients and carers who have unmet informational needs may feel anxious and that they lack control in their lives. Considering the post-discharge educational and support needs of stroke patients and their carers, it is important for community health services and stroke support groups to work closely with hospitals to ensure that patients and carers receive support and education after discharge. In an example of how secondary stroke prevention can be facilitated through post-discharge education and support, Joubert et al. [30, 31] describe an Australian trial of an integrated model of care that promoted ongoing collaboration between specialist stroke services and patients’ general practitioners after hospital discharge. Compared to patients who received standard post-discharge care, patients who received the integrated care had significantly fewer depressive symptoms at
12 months post-stroke [30] and had successfully modified a number of vascular risk factors [31].

The current study found that less than half of the wards had a particular staff member who was responsible for the coordination of education to patients. There is a need for a coordinated approach to education to ensure that all patients receive appropriate information. Having an education coordinator was one of the most frequently desired services that was reported by participants, but again, was unable to be provided due to a lack of resources. Although no research has specifically examined the effects of having a designated education coordinator in stroke units, a small number of studies have trialed the implementation of a case management model for the care of patients in hospital after stroke. In Evans et al.’s [32] study, a stroke case manager was employed at an Australian metropolitan hospital to improve the efficiency of patient care. The study reported better functional outcomes for stroke patients and improved coordination of inpatient stroke care as a result. Baker et al. [33] compared the case management of patients with stroke with standard care in an American hospital and found that case management facilitated more interdisciplinary communication, a higher incidence of communication with the next site of care, and a greater level of collaboration between case managers, nursing staff and social workers to meet patients’ and families’ emotional, mental and spiritual needs.

Crawley [34] also evaluated a case management model in an American hospital and found that that 71% of the case-managed patients with stroke were compliant with follow-up appointments, compared to 5% of the patients who had not received case management. As these appointments are a particularly important opportunity to provide
stroke patients with information on secondary stroke prevention [34], this model of care may also be a useful method of providing patients with some of the information and support that they need post-discharge. Further research into the effects of an education coordinator/case manager for patients in hospital after stroke on the educational practices of stroke wards and the outcomes of patients is needed.

Only one hospital had a written policy on the education of patients and seven wards reported not documenting the education that patients receive. Accurate documentation of patient care is a statutory and medico-legal, requirement, therefore it is important to accurately document the information provision that patients receive [35]. In a survey of stroke unit team members, Hoffmann et al. [6] found that team members were uncertain about who was providing information to patients and who was responsible for providing it. The result of this uncertainty was that patients were not provided with adequate education because team members assumed that other members of the team were providing patients with the necessary education.

When education interventions are not documented or reported, it is most likely that team members will assume that other team members already have or will provide the education [36]. To prevent this from occurring and to facilitate patients’ informational needs being met, all hospital acute stroke wards should have an appropriate policy regarding stroke education and comply with the documentation practices that are outlined in the policy.

There are several limitations to this study. The low response rate and consequent small sample size limits the extent to which the results can be generalised. Generalisability is further limited because this study focused on acute inpatient settings in
within Australian hospitals and it is likely that different results would be obtained in rehabilitation units or outpatient settings. Selection bias may have also affected the results as only participants/wards who were satisfied with the education services that they provide to patients may have completed the survey. Alternatively, only participants/ward who were dissatisfied with the education services that they currently provided may have completed the survey. Some survey items required staff to provide estimates and these may have been inaccurate.

4.2. Conclusion

The educational practices of the hospitals surveyed were variable. Improvements are needed in a number of aspects of education provision such as the coordination and documentation of patient education, and the education and support services that are available to patients upon discharge.

4.3 Practice implications

Health professionals who work in acute stroke wards need to be aware of the important role that stroke education has in providing quality care to patients. Assessment of the quality, readability, and suitability of any written materials that are developed should be standard practice. Ensuring that patients’ informational and support needs are met, while in hospital and after discharge, are important elements of practice. Patients’ informational needs may be better met if acute stroke wards had improved communication and coordination practices and ensured that stroke education practices were appropriately documented and supported by policy.
References


**Declaration**

We confirm all patient/personal identifiers have been removed or disguised so the patient/person(s) described are not identifiable and cannot be identified through the details of the story.