Psychological determinants of outcome following rehabilitation from stroke

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ABSTRACT

Stroke is a major cause of death and severe disability. Approximately one third of stroke survivors make a complete recovery, another third become totally dependent, and the remaining third are left with some residual disability. Medical rehabilitation is a viable option for many stroke survivors. The ultimate goal of medical rehabilitation is to return the patient to the community with the maximum degree of independence attainable, given the patient's impairments. Many stroke survivors, despite making a significant physical recovery, exhibit a degree of disability beyond that which would be expected on the basis of their functional capacity. Much of this excess disability is psychological or social in nature, and cannot be accounted for by age or impairment. Moreover, there is evidence that psychological factors are themselves important determinants of quality of survival after stroke, although their role is not well understood. The effects of several psychological factors on long-term outcome were considered in two large studies of stroke rehabilitation patients.

In Study 1, the effects of psychological factors on long-term outcome were examined in a longitudinal study of 94 12-month stroke survivors. All participants underwent an extensive inpatient rehabilitation program. Study 1 had three broad aims. The first was to determine the normal course of recovery after stroke in terms of factors such as depression, abnormal illness behaviour (AIB), mood and neurotic symptoms. The second was to examine the possibility of identifying an AIB syndrome arising during stroke rehabilitation. The third was to examine the extent to which psychological factors are able to predict outcome in stroke survivors with comparable impairments. Psychological measurements comprised the Zung Self-Rating
Depression Scale, Illness Behaviour Questionnaire, General Health Questionnaire, and a visual analogue mood scale. Functional competence and performance were assessed with the Australian ADL Index, and lifestyle activities with the Frenchay Activities Index. Assessments were made on admission to and discharge from rehabilitation, and at 6 and 12 months after discharge.

Depression declined during rehabilitation, but over 20% of patients were depressed at 6 months. AIB developed in nearly 30% of patients during rehabilitation, and persisted for 12 months. AIB and mood were better predictors than stroke severity of functional ability at discharge and at 12 months, AIB predicted functional performance at 12 months, and an inactive lifestyle at 12 months was primarily a function of depression. It was concluded that while depression and AIB had different effects, they both acted to reduce rehabilitation gains.

Neither the impact of stroke on the family nor the effect of family functioning on long-term functional and social outcomes have previously been well delineated. Similarly, the effects on outcome of the family's interaction with the medical environment are not well understood. Study 2 sought to replicate the Study 1 findings concerning AIB and depression, and also considered the interaction between the psychological and behavioural characteristics of the patient with the medical and family context of rehabilitation. The participants were 60 12-month stroke survivors, their families, their treating RMOs, and a community comparison group of 103 people. All patients were admitted for inpatient rehabilitation. The measures used in Study 1 were supplemented by the McMaster Family Assessment Device (an assessment of family functioning), Stroke Care Information Test (a measure of knowledge of stroke), and structured interviews with patients, family members, and
RMOS. Interviews with patients and family members were concerned with their perceptions, understanding and satisfaction with the process of acute care and rehabilitation. The RMO interviews dealt with their attitudes to each patient’s treatment and likely outcome. Assessments were made during the acute hospital admission, on admission to and on discharge from rehabilitation, and 6 and 12 months after discharge.

The Study 1 results concerning AIB and depression were replicated, and suggested that AIB was a major cause of ultimate disability while depression was an important determinant of social and behavioural outcomes. The RMO’s attitude to the patient’s outcome had important short-term effects on the patient’s understanding of stroke, the clarity of expectations they took to rehabilitation, and their discharge functional status. The knowledge of stroke of all participants (particularly patients) was poor, but improved during the study. Knowledge gain in the early stages appeared to be responsive to a positive attitude to outcome from the RMO. Lower levels of stroke knowledge were associated with AIB and depression, and with poorer functional and family outcomes. Most respondents believed that the rehabilitation program had been adequate but, while their overall satisfaction with the patient’s progress improved over time, satisfaction with the specific area of mobility declined after discharge. The return to previous lifestyle activities was the key determinant of satisfaction with progress. Family functioning deteriorated during the study, particularly in the presence of depression, AIB, and dissatisfaction with the recovery, and was itself an important determinant of behavioural recovery. The family’s adaptation to the stress of the stroke was most strongly influenced by the extent of the recovery, their satisfaction with the recovery, knowledge of stroke, the initial health
burden imposed by the stroke, and premorbid family functioning. The results indicated that the double ABCX model of family crisis (McCubbin, Boss, Wilson & Lester, 1980) may provide a useful means of representing the adaptation that families must make in the period after a stroke.

These findings have practical implications for psychological intervention, treatment, education and counselling following stroke. Depression and AIB are major sources of psychological morbidity following rehabilitation from stroke, and detection and treatment should be systematically undertaken. This is necessary given their long-term impact on functional, social and behavioural outcomes, and the possibility that AIB may be preventable if predisposing factors can be identified at an early stage. It is also clear that structured educational sessions providing information about stroke, its treatment, and its consequences, are required for patients and their families.

Improved stroke knowledge will act not only to lessen stress but also to improve outcome. Finally, the degree of family dysfunction that emerged following discharge suggests the need for ongoing counselling and support for families to help them adjust to their changed life circumstances.