Neurology and rehabilitation in the United Kingdom: a view

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Abstract

The relationship between neurology and rehabilitation medicine is discussed. The question "Does rehabilitation work?" is not useful. Rather, it should be asked when and how specific rehabilitation techniques should be applied? A satisfactory solution to these questions will not be found without informed neurological involvement. It is argued that the management of most neurological diseases would be improved if neurologists were more familiar with the principles of rehabilitation medicine. Two possible avenues for future development would be the appointment of neurologists with a specific commitment to rehabilitation, and the establishment of academic centres for restorative neurology.

During the last thirty years the clinical neurosciences have been confronted by a need to change the scope and character of clinical practice. This need has been created on the one hand by the application of new technologies to the diagnosis of neurological disease and the retrieval of seriously ill patients, and on the other by demographic changes and the ageing of the population. Fewer but sicker patients require admission, while outpatient diagnostic and therapeutic opportunities have expanded dramatically. At the same time the burden of chronic illness in older people as a result of Parkinson's disease, stroke and Alzheimer's disease has increased. These external pressures threaten the traditional role of neurologists, who may already feel that their time is unprofitably spent seeing large numbers of outpatients with headaches. At the same time, these changes create opportunities to deploy clinical neurological skills in new areas; one of these is Rehabilitation Medicine (RM).

The need to examine the question of whether neurologists in the United Kingdom should acquire an understanding of the rehabilitation process, some even acquiring skill in its practice, is marked at best by debate; at worst the question appears to be denied or ignored. This is illustrated by a recent report by a working group, containing ten neurologists, from the Research Unit of the Royal College of Physicians.¹ The report suggests "standards of care for patients with neurological disease", namely, multiple sclerosis, motor neuron disease, Parkinson's disease, and epilepsy.

It documents a consensus that neurologists in the UK should be involved in the management of chronic neurological illness, a process in which many would think rehabilitation was central. Paradoxically, the word "rehabilitation" does not appear among the six to seven thousand words of the report. It is worth considering what this omission means. The clue is contained in the use of the word "care" in the title of the report. This, I suggest, represents on the one hand the assumption that care justifies itself whilst rehabilitation requires justification, and on the other a failure to understand how rehabilitation differs from care and how it aims to provide the patient with broader opportunities. Not until the process of rehabilitation is understood can a decision be made to participate, or not, and if so, how?

THE PROCESS OF REHABILITATION

Rehabilitation facilitates adaptation to change: it is an active process which includes training. It seeks to substitute the legitimate helplessness of illness with, as far as possible, a move towards independence and an ability to initiate and attain realistic goals, frequently operating "within the limits of a disability".² It contrasts with care, which denies the opportunity for change offered by the educational model incorporated within rehabilitation. This model can be applied to improving, static or deteriorating functional status. It can even be applied to the care of the terminally ill to facilitate adaptation to the change of dying, which by contrast is denied by the care or "medical" model. Thus while impairment, for example, weakness of the hand or absence of speech, may not change, the goal of a rehabilitation service is to reduce the impact of the impairment, or the resulting handicap, on the life of the individual; achieving such change may well be a long term venture. Success or failure in rehabilitation may thus be measured in terms of the reduction of burden in a family, social, or vocational context. Clearly such successes may be achieved by some disabled people themselves; others will require help from a rehabilitation service.

It is important to use reliable measures of neurological impairment,³ but measures of disadvantage, burden or handicap are equally important. Such measures are currently unsatisfactory and require development. They potentially offer neurologists a new window on the effectiveness of their clinical activities.

REHABILITATION PROVISION

In the United Kingdom the need for the existence of a rehabilitation service as an entity in its own right has been emphasised by a long series of reports since Beveridge in 1942.⁴ Its distinction from curative services is often forgotten or blurred. Its development in a centrally controlled health care system such as the National Health Service is disadvantaged by the absence of the press of life and death that drives change in the acute sector, and by the fact that whilst rehabilitation may sometimes contain costs, for example enabling some patients, who would not otherwise have done so, to return to work,^{5 6} at other times it may generate costly burdens for the community at large. It may do this either by preventing death, largely through neglect or infection, of patients with very major physical disability, in for example, those in the vegetative state, or by modifying and training the behaviour of patients with major disorders of cognition or social conduct who might otherwise be policed pharmacologically. The best interests of even the most severely damaged patients, and their carers should take precedence over issues related to cost containment⁷—important though these are.⁸ However, it is not surprising that inversion of these principles may sometimes occur and contribute to the woefully inadequate, or absent, provision of rehabilitation services that exist in the UK.⁹ The absence of service provision is thus as likely to reflect political disadvantage as the effectiveness of that provision. It is crucial to define areas in which a rehabilitation service is effective if improvement in provision is to occur.

DOES REHABILITATION WORK?

Broadly stated, this question is as meaningless as asking whether neurology works, or whether education works. It is more appropriate to rephrase the question and ask, for example, which aspects of the rehabilitation process effectively relieve impairment, disability, and handicap, or burden, in a cost effective way. There is now a considerable body of reliable data emerging from group and single case studies to show that the tools available to rehabilitation services are effective, if prescribed appropriately. For example, residential modification of maladaptive behaviours several years after brain damage enabled long term placement^{10 11} and return to work.¹⁰ After stroke, 46 patients made more gains with rehabilitation four days a week than 43 with rehabilitation three half days a week, both groups faring significantly better than a control group of 44 patients who received weekly visits from a health visitor.¹² Remarkable acquisition of new knowledge and work-related skills may occur with appropriate cognitive training despite the dense amnesic syndrome that follows herpes simplex encephalitis,¹³ whilst behavioural techniques can modify physical deficits as well as disorders of social conduct.¹⁴ More data documenting the effectiveness of rehabilitation techniques will no doubt continue to emerge.

The real problem is thus one of resource

allocation. It is not whether rehabilitation techniques work but when and how they should be prescribed. A satisfactory solution to these questions will not be found without informed neurological involvement.

INVOLVEMENT OF NEUROLOGISTS IN REHABILITATION

The place of the neurologist in the problem-orientated circumstances of RM is yet to be established. It is easy to point to the “uselessness” of neurologists in managing chronic disease;¹⁵ this may be remedied within traditional practice by an understanding of the rehabilitation process outlined above, facilitating more appropriate use of rehabilitation services in specific cases. Notwithstanding this necessary shift in attitude, appropriate deployment of neurological skills within RM will only be possible if the strengths of both neurologists and practitioners of RM are recognised, and recognised to be complementary.

The neurologist's strengths lie in reversing impairment by evaluating and diagnosing neurological pathology, predicting its natural history, and applying medical treatment. These skills should be contrasted with those particular to a practitioner of RM who relieves burden by assessing disability and handicap, managing service provision, and liaising with patients, carers and other professionals. This activity involves negotiating skills and a process of social and political brokerage far removed from the skills of the neurologist. It also recognises the fact that, whilst the extent of neurological disablement in the population is considerable,¹⁶ its management is frequently complicated by non-neurological factors related, for example, to ageing and educational or social difficulties. In these circumstances, the most effective use of resources may be represented by involvement of practitioners of RM, geriatricians or paediatricians, rather than neurologists. Neurological time is then more effectively used to define and reverse pathology and impairment.

Neurological involvement with RM is thus particularly appropriate in the context of a need for regular evaluation and/or medical treatment of changing neurological status in patients between the ages of 16 and 65. Patients requiring such help are some of those undergoing acute rehabilitation, and some with major disability requiring optimal maintenance of function, or assistance with the transition of leaving school or work. Effective relief of severe handicap in these circumstances frequently requires the efforts of a multidisciplinary team into which medical practice must be integrated. To do this it is necessary to relinquish the traditional neurological consultation, which is only occasionally useful in RM, in favour of a process in which the neurologist works with other professionals, the patient's problems remaining central.

Apart from the role of the neurologist within RM, that of other professionals relatively new to the arena, notably key workers and case managers, requires examination. For example, should the vacuum in which patients with

motor neuron disease find themselves¹⁷ be filled by neurologist, general practitioner, key worker or case manager? Even the effectiveness of case management after severe head injury, an established service in the United States, remains to be demonstrated.¹⁸ Case management may well be an attractive proposition for other professionals.¹⁹ However, Hunter,²⁰ and in the context of mental illness, Shepherd,²¹ have pointed out that a call for case management may result from other problems of service delivery, for example, shortage of resources, unresolvable disability, or professional incompetence, not least in coordinating and modulating services, for which case management is no substitute.

Exploration of the place of neurology, and of other activities, within RM is not simple. The design and evaluation of trials to test services require an intimate knowledge of both the service, with its advantages and shortcomings, and the condition being serviced, before valuable conclusions can be drawn. Additionally, the difficulties of demonstrating the effectiveness, or otherwise, of different aspects of a rehabilitation service may be far greater than those encountered in trials of a drug or operation, input which is simply prescribed, or not, and judged by simple end points. These questions will not be resolved by single trials, and results may often take second place to local logistic and political issues.

Conclusions

It is difficult to avoid the conclusion that the management of most neurological diseases in the UK would be improved if neurologists had a working knowledge of RM, and that certain patients between the ages of 16–65 would benefit from the active involvement of a neurologist in their rehabilitation. The appointment of neurologists with a special interest in RM at Regional centres would begin to satisfy the need for acute rehabilitation techniques and service systems. An academic unit in Restorative Neurology would ensure that contributions from the basic sciences and

the biology of recovery are also emphasised. These goals will not be achieved without training programmes, which are currently notable by their absence.

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