

Rehabilitation Research Review

Making Education Easy

Issue 11 – 2009

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Welcome to the eleventh issue of Rehabilitation Research Review.

Is it really feasible to believe that we can have a universal, generic outcome measure in rehabilitation (and health care)? This month's edition of Rehabilitation includes a thought-provoking editorial from *Clinical Rehabilitation*, which acknowledges that while rehabilitation needs to enact quality assurance and quality improvement, it is likely to be a waste of resources pursuing a single outcome measure for use in all circumstances.

Much of the research in this issue stresses how important it is to look beyond physical health and physical limitations and consider the wider ramifications of psychosocial and environmental factors, as these can greatly influence rehabilitation outcomes.

I hope the issue is of interest and I welcome your comments and feedback.

Kind regards,

Kath McPherson

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Generic or global outcome measures in rehabilitation: are they appropriate for measuring (and improving) service quality?

Authors: Wade D

Summary: This editorial suggests that the search for a generic outcome measure for use in all rehabilitation settings is a futile one, for both practical and philosophical reasons. It argues that generic measures are reasonable solutions in circumstances when wanting to undertake epidemiological studies of illness in the whole (unselected) population, and as a necessary if imperfect means for allocating global health care resources. The editorial asks whether researchers, clinicians and health care commissioners should ever use generic measures in research studies focused on selected populations (e.g. with a particular disease or clinical condition) or in clinical practice (e.g. audit, quality control, funding reimbursement, patient evaluation). The editorial analyses the consequences of measuring health status and outcome using a single patient-related set of data and discusses evidence showing why a single outcome measure is unlikely to be appropriate in different settings. As the goals of rehabilitation are unlikely to be the same in different institutions or in different patients, the appropriate data-sets are also unlikely to be similar. The editorial advocates drawing upon experience of quality improvement techniques in other areas both within and outside health care and advises against looking for a generic outcome measure that can be used in all rehabilitation settings.

Comment: This is an editorial so not original research but – it is well worth reading the full paper. It is political on two fronts 1) challenging the emphasis on global measures both internationally and here in NZ and 2) reminding rehabilitation to look outside itself to other fields that have something to teach us.

Reference: *Clin Rehabil.* 2009;23(10):867-72.

http://cre.sagepub.com/cgi/pdf_extract/23/10/867



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A prospective study of positive adjustment to lower limb amputation

Authors: Unwin J et al

Summary: This UK-based study examined how demographic, amputation and psychosocial variables influence positive psychological adjustment outcomes for lower limb amputees, in a cohort of 99 new lower limb amputees attending an outpatient specialist mobility and rehabilitation centre. A quantitative questionnaire administered at the beginning of rehabilitation incorporated the Hope Scale, Multidimensional Scale of Perceived Social Support (MSPSS), Trinity Amputation and Prosthetic Experiences Scale (TAPES) pain subscale; a second questionnaire at 6-month follow-up used the Positive and Negative Affect Scale (PANAS) and full TAPES. Hope at the beginning of rehabilitation was related to positive mood ($p < 0.001$) and hope and social support were related to general adjustment ($p < 0.01$, $p < 0.001$) at follow-up. Demographic and amputation factors had no effect upon psychological adjustment outcomes.

Comment: This paper peaked my interest because I've been thinking a lot around how maintaining 'hope' and managing 'disappointment' may be central to helping people engage in rehabilitation (and we have some postgraduate students exploring this very issue further stimulating my thoughts so thank you Felicity and Dave). The finding that hope might predict positive adjustment is perhaps no great surprise. But the back-story is way more interesting. I went on a rather long journey to find Snyder's Hope Scale (it seems to have multiple names making it tricky to be certain you have the right measure). But once found, I decided it didn't capture what I suspect is the essence of 'hope'. It looks at two key constructs: 'agency' (goal-directed determination) and 'pathways' (planning ways to meet goals). Maybe it's a good 'goal' measure (part of hope perhaps) but is that all hope is? To me it is more complex, involving a 'hoped for' sense of self and the future. If this is true, perhaps rehabilitation rhetoric emphasising the prevention of 'false hope' and the importance of 'realistic goals' is problematic.

Reference: *Clin Rehabil.* 2009;23(11):1044-50.

<http://tinyurl.com/yd4qdg3>

Research Review publications are intended for New Zealand health professionals.

Volunteer work and psychological health following traumatic brain injury

Authors: Ouellet M-C et al

Summary: These researchers evaluated the potential benefits associated with volunteer work after traumatic brain injury (TBI) by comparing the long-term psychological functioning of 3 groups of adult survivors of traumatic brain injury (TBI): (1) individuals reporting being regularly active either by working or studying ($n=78$), (2) individuals not competitively employed but actively volunteering ($n=54$), and (3) individuals neither working, studying, nor volunteering ($n=76$). TBI survivors who reported being active through work, studies, or volunteering had a significantly higher level of psychological adjustment than those who reported no activity. Non-active participants had higher levels of psychological distress (particularly symptoms of depression, anxiety, and cognitive disturbance), fatigue (general, physical, and mental fatigue as well as reduced levels of activity), and sleep disturbance.

Comment: For all sorts of reasons, volunteering seems a really positive strategy for all sorts of people. I don't know about you but I certainly feel better about life when I know I have made a contribution to it. In research we're currently doing with people after TBI, the same is true with some of our participants enjoying reconnecting with 'contribution' as a volunteer. Maybe this links to the study on the left (Unwin and colleagues) on 'hope'?

Reference: *J Head Trauma Rehabil.* 2009;24(4):262-71.

<http://tinyurl.com/ydz7ef8>

Return-to-work experiences: Prior to receiving vocational services

Authors: Young AE

Summary: This research studied individuals' return-to-work experiences prior to receiving vocational services and explored what those 150 injured workers reported as being the reason for their not pursuing and/or leaving post-injury work opportunities. Environmental factors were most commonly cited by the participants when talking about the reasons why opportunities were not realised and why employment losses occurred. Other reasons cited for the loss of employment gains included physiological body function, the ability to perform work-related tasks and actions and personal factors. The researchers suggest that outcomes could be improved for such individuals if rehabilitation efforts consider how to assist the injured worker to return to their pre-injury employer and facilitate the maintenance of return-to-work gains.

Comment: As some of you know, our team has been exploring how best to assess someone's ability to return to work and have proposed a measurement approach that encompasses functional difficulties in relation to their work and contextual factors (at work and external to work). Amanda's paper (involving a very large sample for a qualitative study) emphasises that hoping assessment of impairment or functional limitation will tell you the main reasons for RTW problems is flawed. Let's stop doing that.

Reference: *Disabil Rehabil.* 2009;31(24):2013-22.

<http://informahealthcare.com/doi/abs/10.3109/09638280902887412>

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UK-based physical therapists' attitudes and beliefs regarding exercise and knee osteoarthritis: Findings from a mixed-methods study

Authors: Holden MA et al

Summary: This UK-based study sought to understand and explain the attitudes and beliefs of physical therapists in regard to their use of exercise for patients with knee osteoarthritis (OA) and recent exercise recommendations. A survey that was mailed to 2000 chartered physical therapists included 23 attitude statements derived from recently published recommendations; the response rate was 58% (n=1152). Semi-structured telephone interviews were conducted with a purposeful sample of questionnaire respondents (n=24), and were recorded and analysed thematically. A total of 538 respondents reported treating a patient with knee OA in the last 6 months. The survey highlighted uncertainty about potential benefits of exercise for knee OA: only 56% largely/totally agreed that knee problems are improved by local exercise. Exercise adherence was deemed important, but was seen as the patient's responsibility. The approach to treatment was paternalistic. A number of barriers to best practice existed within health care systems, including limited opportunity to provide follow-up.

Comment: I really like papers that shed light on why we continue to work in ways that go against best evidence guidelines and evidence. Maybe we can be confident that all NZ'ers are receiving best practice (not just in relation to physiotherapy but all rehabilitation interventions) and that the problem is only a UK situation. Hmm... something tells me this is unlikely.

Reference: *Arthritis Rheum.* 2009;61(11):1511-21.

<http://www3.interscience.wiley.com/journal/122666514/abstract>

The efficacy of a scheduled telephone intervention for ameliorating depressive symptoms during the first year after traumatic brain injury

Authors: Bombardier CH et al

Summary: Data were analysed from 126 persons with traumatic brain injury (TBI) discharged from an inpatient rehabilitation unit and were randomised to receive up to 7 scheduled telephone sessions over 9 months designed to elicit current concerns, provide information, and facilitate problem solving in domains relevant to TBI recovery (treatment group) or usual care (controls). The aim was to determine whether this intervention ameliorated depressive symptoms. At 1 year, significantly better outcomes on all depression symptom measures were observed for the intervention group than for the control group. According to scores on the Brief Symptom Inventory-Depression (BSI-D) subscale, severity of depressive symptoms increased slightly for the intervention group during the first year after injury, whereas symptoms in the control group worsened significantly.

Comment: A whole lot of things get in the way of providing good follow-up for people in the community: cost (or resources we are prepared to allocate), capacity (i.e. numbers of qualified and experienced people) and geographic isolation (there is huge variability in what is available depending on where you live). Telephone support to reduce the risk of depression (so common post-TBI) would get round some of these issues and it would be great to see if such an intervention was acceptable to NZ'ers.

Reference: *J Head Trauma Rehabil.* 2009;24(4):230-8.

<http://tinyurl.com/ya86sda>



Independent commentary by Professor Kath McPherson, Professor of Rehabilitation (Laura Fergusson Chair) at the Health and Rehabilitation Research Centre, AUT University in Auckland.

Kath has been at AUT since 2004 and has been building a research, teaching and consultancy programme focused on improving interventions and outcomes for people experiencing disability.

Difficult to measure constructs: conceptual and methodological issues concerning participation and environmental factors

Authors: Whiteneck G, Dijkers MP

Summary: These researchers take issue with the fact that although the constructs of participation and environment have been highlighted the International Classification of Functioning, Disability and Health (ICF) as being crucial for rehabilitation and disability research, neither construct is adequately conceptualised by the ICF, and both are difficult to measure. This article defines the problems encountered when measuring participation from objective and subjective perspectives. The researchers recommend that the combined ICF categories for activity and participation be divided into distinct categories, so that research into rehabilitation and disability can more effectively address these aspects and thereby better assist people with disability.

Comment: Gale Whiteneck is a name that many people in rehabilitation will recognise. He wrote a paper many years ago highlighting how Quality of Life didn't get considered in the ICIDH (the precursor for the ICF) and how it might be incorporated. Here, he tackles a couple of key issues in the ICF and rightly so. The ICF is not perfect and nor is it a 'complete' concept. There is more work to do on modelling outcomes of importance. Funnily, I was talking recently with a colleague about writing a paper very much along the lines of this one – I guess I don't need to now!

Reference: *Arch Phys Med Rehabil.* 2009;90(11, Suppl 1):S22-35.

<http://tinyurl.com/yktd265>


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Efficacy of Time Pressure Management in stroke patients with slowed information processing: a randomized controlled trial

Authors: Winkens I et al

Summary: This study compared the effects of usual care with those of a Time Pressure Management (TPM) strategy for stroke patients with mental slowness. Thirty-seven stroke patients in rehabilitation programmes who had a mean baseline Barthel score of 19.6 were randomised to 10 hours of learning a TPM strategy to compensate for mental slowness in real life tasks (n=20) or to care as usual (n=17). At the end of treatment (at 5–10 weeks), both groups showed an improvement in the mean number of strategies used on the Mental Slowness Observation Test as well as a considerable decline in complaints on the Mental Slowness Questionnaire. At 3 months' follow-up, although both groups continued to show fewer complaints, the TPM group needed significantly less time to complete the Mental Slowness Observation Test, compared with the care-as-usual group. TPM patients were more efficient in completing everyday tasks such as following a route description or making a telephone call; they needed less time without becoming less accurate.

Comment: Time Pressure Management seems incredibly simple and incredibly complex at the same time. It has three phases: a) helping people become aware that being slower at processing things cognitively is a critical problem related to many things we do every day (and resulting in emotional responses or worsening of existing memory difficulties); b) helping people learn strategies associated with giving themselves enough time; and c) helping people anticipate new problems where they can use this strategy. Positive results have been shown in TBI (but that was a very small study) and now a second in stroke. I really like the part of the intervention that emphasises the expertise resting with the patient/client and not the health professional (i.e. for generalising the strategy).

Reference: *Arch Phys Med Rehabil.* 2009;90(10):1672-9.

<http://tinyurl.com/yb67rf9>

Development and initial validation of the Northwick Park Therapy Dependency Assessment

Authors: Turner-Stokes L et al

Summary: These researchers describe the development and initial validation of the Northwick Park Therapy Dependency Assessment (NPTDA), a measure of therapy interventions in neurorehabilitation. A total of 37 patients with complex neurological disability were enrolled in two cross-sectional cohorts. Activity analysis was used to test the NPTDA criterion validity. NPTDA-estimated therapy hours/week correlated strongly with those identified from activity analysis, for total scores ($p < 0.0001$), and also for all five subdomains for direct (hands-on) intervention ($p < 0.0001$). The initial test algorithm overestimated therapy hours ($p < 0.001$). After revision of the algorithm, this bias disappeared ($p = 0.15$). Strong correlations were observed between prospective and retrospectively applied total NPTDA scores ($p < 0.0001$). While the intended levels of intervention were higher than those actually delivered ($p < 0.001$), the differences corresponded to real deviations from intended practice.

Comment: The team from Northwick Park is known for their work developing practical rehabilitation measures. This is one of two (the other focusing on nursing dependency). The idea is to be able to quantify the level of input any one client (or population) requires so you can accurately 'cost' a service. Perhaps even better – it may enable more accurate description of dose response in clinical service delivery. There is a bit more work to be done regarding measurement properties but I'll try and keep you updated as that data becomes available.

Reference: *Clin Rehab.* 2009;23(10):922-37.

<http://cre.sagepub.com/cgi/reprint/23/10/922>

Disclaimer: This publication is not intended as a replacement for regular medical education but to assist in the process. The reviews are a summarised interpretation of the published study and reflect the opinion of the writer rather than those of the research group or scientific journal. It is suggested readers review the full trial data before forming a final conclusion on its merits.

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VINTAGE PAPER

A treatise of the scurvy. In three parts. Containing an inquiry into the nature, causes and cure, of that disease. Together with a critical and chronological view of what has been published on the subject

Authors: Lind J

Summary: James Lind was serving as surgeon during a 10-week absence from shore on HMS Salisbury in 1747, when 80 out of 350 sailors were struck down by scurvy. He began a prospective controlled experiment on board on 20 May 1747, in which he compared the relative merits of six treatments then in use for treating the disease. Lind selected 12 men from the ship, all suffering from scurvy, and divided them into six pairs, each of which received the following different additions to their basic diet: cider; seawater; a mixture of garlic; mustard and horseradish; spoonfuls of vinegar; oranges and lemons. The men given citrus fruits experienced a remarkable recovery; one returned to work on the ship within 6 days and the other took up a role helping the other patients with scurvy.

Comment: A colleague from the University of Melbourne visited us at AUT recently (Graeme Hawthorne). One of the many things we discussed was that the person usually credited for doing the first clinical trial was James Lind and I thought it fascinating he focused on return to work as the key outcome. A little extra reading around this topic taught me a number of things, most of which I haven't got the space here to describe. But one factor of interest was that despite a number of captains introducing oranges and/or lemons for their crew, it was apparently nearly 50 years before the Navy made citrus fruit a compulsory part of the seafarer's diet. Hmm... I wonder what the lag time for 'evidence-based policy' is now?

Reference: *Edinburgh: Printed by Sands, Murray and Cochran for A Kincaid and A Donaldson.* 1753.

<http://tinyurl.com/bk9yyo>

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