Rehabilitation Research Review

Making Education Easy

Issue 15 – 2010

In this issue:

Welcome to the fifteenth issue of Rehabilitation Research Review.

This issue covers some interesting concepts in rehabilitation including two papers on the concept of Independent Living. The 2010 paper on the topic explores an extension of the approach to include consideration of 'interdependence' in communities. Our Vintage paper is in fact one of the very early papers exploring how the Independent Living movement could inform rehabilitation by extending the focus from a purely individual one to a societal response. How well are we doing in responding to that philosophy?

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

Kind regards,

Kath McPherson
Professor of Rehabilitation (Laura Fergusson Chair),
The Health and Rehabilitation Research Centre, AUT University
kathmcpherson@researchreview.co.nz

Moving from independence to interdependence: a conceptual model for better understanding community participation of centers for independent living consumers

Authors: White GW et al

Summary: This article briefly describes independent living, its history and services, and presents a proposed framework to describe independent living and the participation of consumers with disabilities living in the community. The conceptual independent living model helps individuals meet basic needs and more fully participate in the community without the paternalistic involvement of well-meaning social agencies. The authors of this paper contend that when people with disabilities move from being dependent on communities to being independent and interdependent in communities, then they will no longer be mere occupants in *the* community – rather, they will be vital contributors to *their* communities.

Comment: There is not much in the abstract to give away the contribution of this paper but it provides a really nice historical look at the Independent Living movement and the services of Centers of Independent Living (CILs) in the USA. However, it also makes some interesting observations about the notion of 'interdependence' and its place in service design. Although some aspects of the paper are complex, that is because the topic itself is complex, but on the whole, I think it tackles some of these issues in a useful way. The good thing is that the whole paper is available for free – just plug the title into your search engine and hit enter.

Reference: J Disabil Policy Studies. 2010;20(4):233-40.

http://dps.sagepub.com/content/20/4/233.abstract

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A 7-year follow-up of multidisciplinary rehabilitation among chronic neck and back pain patients. Is sick leave outcome dependent on psychologically derived patient groups?

Authors: Bergström G et al

Summary: In this evaluation of the Swedish version of the Multidimensional Pain Inventory (MPI), the researchers assessed whether classifying patients into psychologically derived subgroups at treatment phase can predict long-term outcome on sick leave. A total of 146 patients with chronic neck and back pain were classified under the MPI categories of adaptive copers (n=61), dysfunctional patients (n=51), or interpersonally distressed patients (n=34). After vocational rehabilitation, patients were monitored over a 7-year follow-up period for their use of disability or sick days. The analyses revealed that the dysfunctional patients had a higher amount of sickness absence and disability pension expressed in days than adaptive copers during follow-up, even when adjusting for sickness absence prior to rehabilitation (355.8 days). Forty percent of those in the dysfunctional group and 26.7% of the adaptive copers received the disability pension during the follow-up period. However, this difference was not statistically significant. Further analyses showed that the difference between patient groups was most pronounced among patients with >60 days of sickness absence prior to rehabilitation. Cost-effectiveness calculations showed that costs due to production loss were highest for the dysfunctional patients and lowest for the interpersonally distressed patients.

Comment: Predicting people who are going to struggle returning to work *before* they struggle is an important part of targeting support. As some folk say – you can best predict the future by knowing the past and this paper highlights just that. . . I suspect there are a lot more factors to be identified to get a predictive model with good accuracy, but studies such as this are incrementally helping us understand yet another complex situation.

Reference: Eur J Pain. 2010;14(4):426-33.

http://www.europeanjournalpain.com/article/S1090-3801%2809%2900148-7/abstract

Validity and responsiveness of the care and needs scale for assessing support needs after traumatic brain injury

Authors: Soo C et al

Summary: These researchers sought to determine the validity and responsiveness of the Care and Needs Scale (CANS), which was designed to assess support needs of people with traumatic brain injury (TBI). The study cohort comprised 108 subjects aged 16–70 years admitted for rehabilitation after TBI. Two samples of community clients (n=38, n=30) were recruited to examine concurrent, convergent/divergent, and discriminant validity. The ability of the CANS to detect change over a 6-month period from the time of inpatient rehabilitation discharge (predictive validity and responsiveness) was investigated in a third sample of 40 rehabilitation inpatients. Evidence for concurrent validity was shown with fair to moderate correlation coefficients between the CANS and measures of supervision, functional independence, and psychosocial functioning (absolute value, r(s)=.43–.68; p<0.01). Support for convergent and divergent validity was provided by correlation coefficients that were higher for measures tapping similar constructs (absolute value, r(s)=46; p<0.01) but lower for measures of dissimilar constructs (absolute value, r(s)=.07–.26; not significant). In addition, the CANS discriminated between levels of injury severity, functional independence, and overall functioning (p<0.01). CANS scores at inpatient rehabilitation discharge predicted the participant's functioning 6 months later.

Comment: I was interested in this paper for a number of reasons. First, in line with other papers mentioned in this version of RRR, it focuses on a complex area of prediction – that of TBI outcome. Second, it uses another measure that may be of interest to you (the Sydney Psychosocial Reintegration Scale). Third – it looks at how to quantify care/support needs. All important topics and the paper provides some evidence that this measure may have a place not only for inpatient rehabilitation but also in the community.

Reference: Arch Phys Med Rehabil. 2010;91(6):905-12.

http://www.archives-pmr.org/article/S0003-9993%2810%2900125-5/abstract

Practical approaches to effective family intervention after brain injury

Authors: Kreutzer JS et al

Summary: This article is intended to help rehabilitation professionals and systems of care more effectively help families adjust and lead fulfilling lives after traumatic brain injury (TBI). The paper draws upon family therapy, cognitive behavioural therapy and individual psycho-therapy, to inform clinicians and help them effectively serve families. It discusses the importance of developing successful therapeutic alliances, describes common challenges and issues faced by families and presents corresponding therapeutic goals. The paper also discusses intervention principles and strategies that can help family members achieve therapeutic goals.

Comment: I find the work of Kreutzer and colleagues to be usually interesting and this paper fits that bill very well. It combines a good review of the key research in the field of working with families and then offers practical ways forward. Does it strike you as odd that whilst there is no shortage of research indicating the importance of family/whānau in relation to outcomes from rehabilitation, many of us have little or no training in working with families? It does me. Anyway - I think there is some useful information in here for all practitioners whether working with people who have TBI or not.

Reference: J Head Trauma Rehabil. 2010;25(2):113-20.

http://tinyurl.com/y5fbn44

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.

Research Review publications are intended for New Zealand health professionals.

Brief report: An online support intervention: Perceptions of adolescents with physical disabilities

Authors: Stewart M et al

Summary: These researchers describe the outcomes of a pilot online support intervention offering interactions between adolescents with cerebral palsy and spina bifida and their peers. Five mentors with cerebral palsy or spina bifida and 22 adolescents with the same disabilities met weekly online for 25 group sessions over 6 months. Participants completed quantitative measures of loneliness, sense of community, self-perceptions, coping, and social support prior to intervention, post-intervention, and delayed post-intervention. Semi-structured qualitative interviews elicited perceptions of the intervention's impacts. Participants reported more contact with teens with disabilities, decreased loneliness, and increased social acceptance and confidence. There was also a significant increase in sense of community, as reported from post-intervention to delayed post-intervention.

Comment: Sometimes we think of technology in rehabilitation as the 'all bells and whistles' kind, such as that recently launched by a NZ company Rex Bionics http://www.rexbionics.com/ with over 285,000 YouTube hits from the video released as part of that launch. Well, Rex is certainly impressive technology but – simple approaches are also starting to have their mark and social networking as a tool for support and information sharing is one we will hear more of I suspect.

Reference: J Adolesc. 2010 May 18. [Epub ahead of print]

http://tinyurl.com/2uswctd

Circuit class therapy for improving mobility after stroke

Authors: English C, Hillier SL

Summary: This Cochrane review assessed the effectiveness and safety of circuit class therapy (CCT) on mobility in adults with stroke, using data from 6 randomised or quasi-randomised controlled trials involving 292 participants aged >18 years diagnosed with stroke of any severity, at any stage, or in any setting, receiving CCT. All could walk 10 metres with or without assistance. Four studies measured walking capacity and three measured gait speed, demonstrating that CCT was superior to the comparison intervention (Six Minute Walk Test: mean difference [MD], fixed 76.57 metres, p<0.0001; gait speed: MD, fixed 0.12 m/s; p=0.004). Two studies measured balance, showing a superior effect in favour of CCT (Step Test: MD, fixed 3.00 steps; p=0.04; activities-specific balance and confidence: MD, fixed 7.76; p=0.03). Studies also measured other balance items showing no difference in effect. Length of stay (two studies) showed a significant effect in favour of CCT (MD, fixed –19.73 days; p=0.01). Of two studies that measured adverse events (falls during therapy), all were minor.

Comment: Little needs to be said by me here so I'll be brief! More work clearly needs to be done in terms of which outcomes are considered in this type of research and cost-benefit analyses of different strategies are also needed. However – this is a useful Cochrane review to guide practice and also further evidence that rehabilitation strategies can work even a long time after stroke.

Reference: Cochrane Database Syst Rev. 2010 Jul 7;7:CD007513.

http://www2.cochrane.org/reviews/en/ab007513.html

Inpatient rehabilitation specifically designed for geriatric patients: systematic review and meta-analysis of randomised controlled trials

Authors: Bachmann S et al

Summary: These researchers systematically reviewed data from 17 RCTs (including 4780 patients) comparing the effects of general or orthopaedic geriatric rehabilitation programmes with usual care. Meta-analyses of effects indicated an overall benefit in outcomes at discharge (OR 1.75 for function, RR 0.64 for nursing home admission, RR 0.72 for mortality) and at end of follow-up (1.36, 0.84, 0.87, respectively). Limited data were available regarding impact on health care or cost. Compared with those in control groups, weighted mean length of hospital stay after randomisation was longer in patients allocated to general geriatric rehabilitation (24.5 days vs 15.1 days) and shorter in patients allocated to orthopaedic rehabilitation (24.6 days vs 28.9 days).

Comment: Another brief comment needed and in fact – it pretty much echoes the comments regarding the paper by English and Hillier. This sort of rehabilitation works, we just need better studies in regard to comparing just which approaches are most effective and which are most cost effective. I have to say – if you are interested in a new career as a health economist, you could be in great demand.

Reference: BMJ. 2010;340:c1718.

http://tinyurl.com/343weqw

Cost-effectiveness of a participatory return-to-work intervention for temporary agency workers and unemployed workers sick-listed due to musculoskeletal disorders: design of a randomised controlled trial

Authors: Vermeulen SJ et al

Summary: This research group from The Netherlands focuses on a vulnerable group within the working population: temporary agency workers and unemployed workers, sick-listed due to musculoskeletal disorders. For this group of workers a new participatory return-to-work (RTW) programme has been developed, based on a successful return-to-work intervention for workers sick-listed due to low back pain. This paper describes the design of a RCT with one year of follow-up to investigate the effectiveness, cost-benefit and feasibility of this new RTW programme. Results of this study will become available in 2010.

Comment: Having read a number of reviews commenting on the lack of cost-benefit analyses in rehabilitation research – here is some. I mentioned earlier that I usually find papers by Kreutzer and Marwitz interesting in relation to TBI rehabilitation. Likewise, I find the work by this particular team really interesting in relation to Return to Work research. Not only are these results interesting, but I guess I am saying that keeping up to date with research can be really helped by knowing some key names.

Reference: BMC Musculoskelet Disord. 2010;11:60.

http://www.biomedcentral.com/1471-2474/11/60/abstract

Achieving teamwork in stroke units: the contribution of opportunistic dialogue

Authors: Clarke DJ

Summary: This paper reports the outcomes of a grounded theory study that explored how health professionals in two UK-based stroke units co-ordinate their work. Study participants were observed for 220 hours and they underwent 34 semi-structured interviews during and following participant observations. A basic social process common to teamworking in both units was identified and termed "opportunistic dialogue". The division of labour in respect of rehabilitation activities was negotiated through this interactional process. Co-location of most team members led to repeated engagement in sharing patient information and in exploring different perspectives. Opportunistic dialoguing contributed to mutual learning and explained the shift in thinking and team culture as team members moved from concern with discrete disciplinary actions to dialogue and negotiations focused on meeting patients' needs.

Comment: I confess I was a bit surprised to see a single author paper on a topic such as teamwork and, given the methodology it does seem odd that no-one else was involved. Anyway . . . I digress from the key point! This paper points to the importance of informal communication for good working but also to the opportunity to capture what happens in those informal exchanges in our meetings . . . less of 'reporting' and more 'discussion about reasoning'.

Reference: J Interprof Care. 2010;24(3):285-97.

http://informahealthcare.com/doi/abs/10.3109/13561820903163645

VINTAGE PAPER

Independent living: from social movement to analytic paradigm

Authors: DeJong G

Summary: This paper, published in 1979, named a new paradigm showing the point of view of the disabled and possible steps to solve the problems involved. This Independent Living (IL) paradigm is described as an analytic paradigm that views the problem of disability not primarily in the disabled individual, but in the help structures which society offers in order to solve the problem. This paradigm is contrasted with the rehabilitation paradigm that dominated disability policy, practice, and research up to the time of this paper, which goes on to analyse how the shift from the rehabilitation to the IL paradigm is likely to affect the future of disability research.

Comment: This month's searching produced many other papers I wanted to have in RRR (a good thing really, that there is much interesting research out there). But it's time for the Vintage paper and because I referred to a recent paper looking at proposed developments to the Independent Living Movement (White et al.), I thought it an excellent opportunity to refer you to Gerben DeJong's early paper on that movement and its potential to influence rehabilitation for the better. Gerben is also a good friend to New Zealand and will be speaking at various locations here in September/October, so perhaps you will get to hear what he thinks some 30 years later.

Reference: Arch Phys Med Rehabil. 1979;60(10):435-46.

http://tinyurl.com/2utmhex