

Rehabilitation Research Review™

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Issue 23 - 2012

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Welcome to the twenty-third version of Rehabilitation Research Review.

This issue contains some papers that I was pointed to by two of our new research assistants, Karol Czuba and Kay Shannon. It's made me look to different journals and topics than I have done in the past so – many thanks to them for their input. The other 'new' direction is in response to being prompted to look at chiropractics in rehabilitation – so for this issue, I deliberately searched out this field and include reference to two recent papers here. I hope you enjoy the selection.

Kind regards,

Kath McPherson

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Time to surgery and rehabilitation resources affect outcomes in orthogeriatric units

Authors: Pioli G et al

Summary: This Italian study examined the effect of system factors on mortality and functional outcomes of 806 patients admitted for hip fracture in three orthogeriatric co-managed care centres. At 1 year post-fracture, 71.1% of patients remained alive. In one hospital, the risk of 1-year mortality was significantly higher even after adjusting for age, sex, comorbidity, pre-fracture functional status and cognitive impairment (OR, 1.56; $p=0.01$), primarily because of a longer time to surgery (mean 5.2 days vs 2.7 and 2.7; $p<0.001$). The hospitals also differed in the proportions of patients losing ≥ 1 functional abilities in activities of daily living at 6 months post-fracture (54.2%, 61%, 43.5%; $p=0.016$); recovery of independent ambulation did not differ significantly between hospitals. Multivariate analyses indicated that reduced access to post-acute rehabilitation could account for the poor functional outcomes.

Comment: A natural experiment showing a system that includes rehabilitation at both the acute and post-acute phase makes a difference to functional recovery and mortality. So, whilst early rehabilitation is often claimed to be the key ingredient (and it clearly is repeatedly shown to be important) this study is another highlighting how resources in the post-acute phase can also be important.

Reference: *Arch Gerontol Geriatr.* 2012;55(2):316-22.

[http://www.aggiournal.com/article/S0167-4943\(11\)00326-8/abstract](http://www.aggiournal.com/article/S0167-4943(11)00326-8/abstract)

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Yes, you can.

Poststroke balance improves with yoga: a pilot study

Authors: Schmid AA et al

Summary: This US pilot study investigated whether yoga-based rehabilitation improves balance, confidence in balance, fear of falling, and quality of life after stroke. Twice-weekly yoga sessions lasted for 8 weeks and included seated, standing, and floor postures with relaxation and meditation. Balance was assessed with the Berg Balance Scale, balance self-efficacy with the Activities-specific Balance Confidence Scale, fear of falling with a dichotomous yes/no question, and quality of life with the Stroke Specific Quality of Life scale. There were no significant differences between wait-list control (n=10) and yoga (n=37) groups in baseline or follow-up scores. However, within-group comparisons revealed significant improvements in the yoga group in balance (Berg Balance Scale, 41.3 vs 46.3; $p < 0.001$) and fear of falling (51% vs 46%; $p < 0.001$).

Comment: Whilst a small pilot study is not a driver to suggest immediate change in practice, this paper does highlight that it might be worth considering non-clinical interventions for clinical problems. I was also interested in this study because I wondered if yoga might be more acceptable to people than some of the things we currently ask them to do! However – although over 200 people were screened as being eligible to take part in the study, more than 100 refused. The reason for such a high refusal rate was not given but – it made me wonder if in part, it relates to people's expectations and desires for 'therapy' and 'health professional expertise' and whether we unwittingly perpetuate that expectation, at times to patients' disadvantage.

Reference: *Stroke*. 2012 Jul 26. [Epub ahead of print]

<http://stroke.ahajournals.org/content/43/9/2402.abstract>

Foot pressure optimization and preservation in newly prescribed custom-made footwear in diabetic patients with a history of plantar ulceration

Authors: Waaijman R et al

Summary: These researchers measured dynamic in-shoe plantar pressures of 85 neuropathic diabetic patients with prior plantar foot ulcers wearing new custom-made footwear. The previous ulcer location and the two highest pressure locations (>200 kPa) were targeted for pressure optimisation by modifying the footwear. After each of a maximum three rounds of modifications, the effects on pressure were measured. Thirty-two cases underwent pressure measurements and footwear was modified at 3-monthly visits for 1 year; pressure was reduced from 284 kPa at baseline to 215 kPa at 1 year (24%). In 201 highest pressure regions, peak pressure was significantly reduced by an average of 18%.

Comment: I chose this paper for a few reasons – including the very personal one that I am currently experiencing of plantar fasciitis and so I have a new-found understanding of the importance of feet! The focus of this paper is on foot health, and in particular footwear as part of that, in diabetes. However – I suspect good foot care and guidance on appropriate footwear is something many non-diabetic patients could benefit from (and this is not a podiatric advertisement – just a realisation). The other reason I included this paper is that it's from a conference and although conference abstracts are sometimes glossed over, they often give a really good indicator of work 'in progress' and point to particularly novel ideas and findings. So – I would suggest keeping an eye out for conference abstracts as well as full papers when you are browsing journals.

Reference: *Waaijman R, Arts ML, Haspels R, Busch-Westbroek TE, Nollet F, Bus SA. Diabet Med*. 2012 Apr 30.

<http://www.ncbi.nlm.nih.gov/pubmed/22540919>

Inter-physician agreement on the readiness of sick-listed employees to return to work

Authors: Schreuder JA et al

Summary: This study, conducted in The Netherlands, reports a wide variability in inter-occupational physician (OP) ratings of the readiness of sick-listed employees to return to work (RRTW). Five OPs reviewed anonymised written vignettes of 132 employees, sick-listed for at least 3 weeks. The OPs intuitively rated RRTW as the ability (knowledge and skills) and willingness (motivation and confidence) of sick-listed employees to resume work. The percentage of agreement between OPs was 57% (range 39–89%) on the ability and 63% (range 48–87%) on the willingness of sick-listed employees to resume work. The mean κ was 0.14 (range from -0.21 to 0.79) for ability and 0.25 (range from -0.11 to 0.74) for willingness. OP ratings did not differ according to whether the sick-listing was for mental or musculoskeletal disorders.

Comment: We shouldn't really be surprised to read that non-standardised methods of assessment frequently yield different interpretations of key factors influencing outcome. The surprising factor is perhaps that so many factors of importance (either as predictors of outcome or outcome itself) remain in the too-hard basket when it comes to measurement development or – when measures do exist – in their application.

Reference: *Disabil Rehabil*. 2012;34(21):1814-9.

<http://tinyurl.com/8fqvd3p>

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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Rehabilitation Research Review

Independent commentary by Professor Kath McPherson, Professor of Rehabilitation (Laura Fergusson Chair) at the Health and Rehabilitation Institute, 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.



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Pain coping in injured workers with chronic pain: what's unique about workers?

Authors: Phillips LA et al

Summary: These Canadian researchers measured coping strategies of 479 injured workers in a work rehabilitation programme. The coping strategy with the highest mean score was "coping self-statements" (mean=19.4), followed by "praying/hoping" (mean=18.2), and "catastrophising" (mean=17.5). Coping strategies differed significantly according to gender, marital status, depression levels, self-perceived disability levels, and pain ($p<0.01$ for all).

Comment: The link between catastrophisation (by both patients and professionals) and outcome is well established and this paper nicely expands on this relationship. It also usefully highlights factors that relate to the strategies people use to try to cope. The link between little sense of control, depression (very common in this group) and relatively passive strategies (like hoping and praying, catastrophising) indicates the complexity of this field and the need to consider the inter-relationship between multiple variables when people experience ongoing pain. Helping people gain or maintain a sense of control is a theme emerging in other rehab literature including Matire Harwood et al.'s recent paper on 'taking charge' after stroke (www.ncbi.nlm.nih.gov/pubmed/22087047).

Reference: *Disabil Rehabil.* 2012;34(21):1774-82.

<http://www.ncbi.nlm.nih.gov/pubmed/22424583>



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Talk of frustration in the narratives of people with chronic pain

Authors: Dow CM et al

Summary: These UK-based researchers conducted qualitative in-depth interviews with a widely diverse sample of 46 participants with chronic pain, 30 of whom talked about frustration. Analysis paid close attention to *how* people talked about their frustration as well as what they said. The exploration specifically focused on the frustrations associated with the invisibility of chronic pain and the perceived limitations of diagnosis and pain management (both related to the perceived legitimacy of the condition). Several of the participants who had lived with chronic pain for many years described overcoming, or managing, their frustrations.

Comment: This paper links in many ways to others in this issue (particularly Phillips et al., adjacent) and resonates with me, given our current studies exploring people's stories after TBI and stroke where a sense of 'not being believed' is reported as incredibly frustrating (and depressing). It shouldn't surprise us, I guess, that this is important but it is perhaps food for thought with regard to how such an attitude might be conveyed. Bright et al.'s exploration of person-centred practice (www.ncbi.nlm.nih.gov/pubmed/22085028) indicated that a number of things get in the way of 'listening' well to patients – maybe considering what gets in the way is a good place to start.

Reference: *Chronic Illn.* 2012;8(3):176-91.

<http://chi.sagepub.com/content/8/3/176.abstract>

Integrating health literacy into occupational therapy: findings from a scoping review

Authors: Levasseur M, Carrier A

Summary: These researchers systematically reviewed the literature on health and, specifically, occupational therapy and health promotion, from 1980 to May 2010. The aim of this review was to report ways in which health literacy is integrated into occupational therapy practice. Health literacy is defined as the ability to access, understand, evaluate, and communicate information as a way to promote, maintain, and improve health in various settings over the life-course. Forty-four documents met the review eligibility criteria. The review notes that the health literacy literature could be improved in both quantity and quality. Nevertheless, 6 ways of integrating health literacy into occupational therapy practice were identified: occupational therapists should (i) be informed about and recognise health literacy (n=27; 61.4%), (ii) standardise their practice (n=10; 22.7%), (iii) make information accessible (n=37; 84.1%), (iv) interact optimally with clients (n=26; 59.1%), (v) intervene (n=29; 65.9%) and (vi) collaborate to increase health literacy (n=21; 47.7%).

Comment: I've become really interested in health literacy, having been involved in a project where one of the team is an expert in the field. I've always been interested in how providing information simply does not work in so many instances and latterly have focused much in my own research on addressing the mismatch between information/education and behaviour change. However – given rehabilitation is (by many definitions) an educational and problem-solving process – it's a bit of a surprise we don't talk health literacy more often. If it's new to you – or perhaps you have not taken it seriously as a factor getting in the way of good outcomes for your patients – you will find a wealth of information at <http://www.healthliteracy.org.nz/>.

Reference: *Scand J Occup Ther.* 2012;19(4):305-14.

<http://informahealthcare.com/doi/abs/10.3109/11038128.2011.588724>

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Reporting of adverse effects in randomised clinical trials of chiropractic manipulations: a systematic review

Authors: Ernst E, Posadzki P.

Summary: This study examined the reporting of adverse effects of chiropractic manipulations, using data from 60 randomised controlled trials performed from 2000 to July 2011. Twenty-nine trials failed to mention any adverse effects of the treatment and, of the 31 trials that reported adverse effects, 16 reported that none had occurred during the study. Only one trial included complete information on incidence, severity, duration, frequency and method of reporting of adverse effects. The majority of authors failed to mention conflicts of interests.

Comment: This paper highlights how many clinical trials have been done investigating chiropractic manipulation (more than I thought existed). But it also indicates how much better that research could be (in that so few addressed adverse events). With any treatment, we should know if unforeseen problems result – every intervention (even just talking to people) can result in adverse events! I also thought I recognised the name (Ernst) and that's because he co-authored a book with Simon Singh (Trick or Treatment) that resulted in quite a major news story see <http://www.guardian.co.uk/science/blog/2012/feb/22/simon-singh-british-chiropractic-association>. Corrian Poelsma, President of the New Zealand Chiropractors' Association (NZCA), wrote in reply disagreeing with Ernst's conclusions and that is in the May 25th issue of the journal.

Reference: *N Z Med J.* 2012;125(1353):87-140.

<http://journal.nzma.org.nz/journal/abstract.php?id=5143>

A randomized clinical trial of chiropractic treatment and self-management in patients with acute musculoskeletal chest pain: 1-year follow-up

Authors: Stochkendahl MJ et al

Summary: This paper reports outcomes from a 1-year follow-up of a randomised controlled trial that compared the effects of 4 weeks of either chiropractic treatment or self-management in 115 patients with acute musculoskeletal chest pain (Stochkendahl et al. *J Manipulative Physiol Ther.* 2012;35(1):7-17). Both groups experienced decreases in pain, positive global, self-perceived treatment effect, and increases in the 36-Item Short Form Health Survey scores. At 4 and 12 weeks, a positive effect was observed in favour of the chiropractic treatment. However, at the 1-year follow-up, no statistically significant between-group differences were observed in relation to pain intensity and self-perceived change in pain.

Comment: With reference to Ernst's paper (above), this trial of chiropractic treatment did check for adverse events at 4 weeks, although not at later follow-up. It also disclosed its funding source (the Danish Foundation of Chiropractic Research and Postgraduate Education). So – full points on that score. It also gets full points for measuring outcome at 12 months. The problem of research with only short-term outcomes measured is that of course you don't know if any benefit is maintained and – arguably a short-term benefit is of limited value (although people with pain may well disagree). The authors acknowledge some limits to the study and I won't detail those here – but for me the key problem is in the 'self-management' control intervention. This was information, reassurance and advice on exercise and stretching. Many things tell me this is not self-management (remember the health literacy paper?).

Reference: *J Manipulative Physiol Ther.* 2012;35(4):254-62.

<http://www.ncbi.nlm.nih.gov/pubmed/22632585>

A sociological perspective on “the unmotivated client”: public accountability and professional work methods in vocational rehabilitation

Authors: van Hal L et al

Summary: Sociological underpinnings of the concept of (un)motivation were explored in this analysis of text from in-depth interviews conducted with 14 vocational rehabilitation (VR) professionals in The Netherlands. Based on the stories professionals told about their professional practices, the study authors analysed the ways in which VR professionals guide their clients during their VR path within the institutional context of the Dutch welfare state. The construction of “the unmotivated client” arises in the interaction between professional and client if the institutional goals of VR are not achieved. The analysis distinguished two work methods that enable this judgment to take shape in various ways, namely “Professional as a Signpost” and “Professional as a Personal Guide”.

Comment: I was literally typing up comments on the papers I'd selected for this issue when Dr Suzie Mudge referred me to this paper. She knows the topic is a key interest of mine – particularly my aversion to phrases such as ‘this patient is not motivated’! My own view is that motivation is often considered to be a personality trait but in fact is a skill that can be impacted on by many things including brain injury, depression, medications and so on. Whilst the authors agree with me that the phrase ‘unmotivated’ is ill-used, they suggest additional reasons. They argue that rather than being a personal factor – it is a relational one (concerning both the professional and the client) and social (contextual, in this case the context being voc rehab). Their concluding paragraph is fascinating: *‘This sociological analysis of motivation in vocational rehabilitation paths has illustrated that professional work methods, as well as the institutional frameworks in which that takes place, and the public accountability style of vocational rehabilitation, are caught in a paradox: by emphasizing labour participation, abilities of citizens and professionals are made invisible.’* Interesting to think of the unintended consequences of some of the things we do...

Reference: *Disabil Rehabil.* 2012 Aug 20. [Epub ahead of print]

<http://informahealthcare.com/doi/abs/10.3109/09638288.2012.709303>



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