Rehabilitation Research Review™

Making Education Easy

Issue 35 – 2015

In this issue:

Welcome to issue 35 of Rehabilitation Research Review.

Once again it was difficult to choose articles for this edition as the sheer volume of interesting articles is so impressive. A number of the included studies highlight for me the complexities in rehabilitation and care, in terms of the ingredients of our interventions and especially the way we work with clients. The notion of power and control comes up a few times. A helpful reminder that as rehabilitation professionals we need to look at the research evidence, which indicates that clinician- or organisation-held power or control are unhelpful in engaging people in their rehabilitation. I hope you find these papers useful to you and I look forward to your comments and feedback

Kind regards,

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Efficacy and safety of very early mobilisation within 24 h of stroke onset (AVERT): a randomised controlled trial

Authors: AVERT Trial Collaboration group

Summary: In this trial, 2104 patients aged ≥18 years with ischaemic or haemorrhagic stroke, first or recurrent, were randomised to receive usual stroke-unit care alone (n=1050) or very early mobilisation in addition to usual care (n=1054). Treatment with recombinant tissue plasminogen activator was allowed. The primary outcome was a favourable outcome 3 months after stroke, defined as a modified Rankin Scale score of 0–2. The 3-month follow-up assessment included 2083 (99%) patients. A greater number of the patients (n=965; 92%) in the very early mobilisation group were mobilised within 24 h compared with those in the usual care group (n=623; 59%). Fewer patients in the very early mobilisation group had a favourable outcome compared with those in the usual care group (n=480 [46%] vs n=525 [50%]; adjusted odds ratio [OR] 0.73; 95% CI, 0.59 to 0.90; p=0.004). Eighty-eight (8%) patients died in the very early mobilisation group compared with 72 (7%) patients in the usual care group (OR 1.34; 95% CI, 0.93 to 1.93; p=0.113). 201 (19%) patients in the very early mobilisation group and 208 (20%) of those in the usual care group had a non-fatal serious adverse event, with no reduction in immobility-related complications with very early mobilisation.

Comment: This large multicentre trial was carried out in 56 stroke units in five countries, including New Zealand. The study aimed to investigate if early mobilisation after stroke would lead to more favourable outcomes in terms of disability and death than usual care. Early mobilisation included at least 3 sessions of sitting, standing or walking in addition to usual care, within 24 hours of stroke. Intervention adherence was good, with the intervention group receiving mobilisation on average 4 hours earlier and 3.5 more sessions per day than the usual care group. But, the study found significantly less favourable outcomes in levels of disability in the early mobilisation group, in other words, those in the usual care group did better. It is important to note that many in the usual care group also mobilised within the 24-hour window (on average after 18 hours) but the frequency of mobilisation was significantly less (3.5 hours). The generalisability of the study is not strong; 92% of patients were excluded from taking part in the study. This means that the findings can only be applied to 8% of patients that you would ordinarily encounter on the wards. Because of this, together with the less than favourable outcomes, I would argue that on the basis of this study it is not safe to change current practice.

Reference: Lancet. 2015;386(9988):46-55
Abstract

Independent commentary by Professor Paula Kersten

Paula Kersten is Professor of Rehabilitation at the School of Clinical Sciences, AUT University in Auckland. She trained as a physiotherapist in the Netherlands and has been working in rehabilitation research since embarking on her MSc in 1992.

Her PhD, completed at the University of Southampton, explored the unmet needs of disabled people. Paula has been at AUT University since January 2011, where she is the co-director of the Centre for Person Centred Research, as well as Head of Research for the School of Clinical Sciences. Paula's research focuses on new rehabilitation approaches and measuring meaningful rehabilitation outcomes. Her research has been funded by the Accident Compensation Corporation, the Health Research Council, the UK-NHS, the Ministry of Health and a number of charitable organisations.

Fall rates in hospital rehabilitation units after individualised patient and staff education programmes: a pragmatic, stepped-wedge, cluster-randomised controlled trial

Authors: Hill AM et al.

Summary: Outcomes are reported from a patient-education programme that was introduced into 8 rehabilitation units in general hospitals in Australia, involving 3606 cognitively intact older patients (average age 81 years) admitted to the unit during the study (between January 13 and 27 December 2013) with a Mini-Mental State Examination (MMSE) score of more than 23/30. Units were randomly assigned to intervention (n=1623) or control groups (n=1983). Patients assigned to the intervention received individualised education that was based on principles of changes in health behaviour from a trained health professional, in addition to usual care. The study researchers provided information about patients' goals, feedback about the ward environment, and perceived barriers to engagement in falls-prevention strategies to staff who were trained to support the uptake of strategies by patients. Compared with the control group, the intervention group experienced fewer falls (n=196, 7.80/1000 patient-days vs n=380, 13.78/1000 patient-days, adjusted rate ratio 0.60; 95% CI, 0.42 to 0.94; p=0.003), injurious falls (n=66, 2.63/1000 patient-days vs 131, 4.75/1000 patient-days; 0.65; 95% CI, 0.42 to 0.88; p=0.006), and fallers (n=136 [8.38%] vs n=248 [12.51%]; adjusted OR 0.55; 95% CI, 0.38 to 0.81; p=0.003).

Comment: The Safe Recovery Programme used in this Australian study included a multi-media education package for patients with individualised sessions with an educator in which patients set goals to reduce their risk of falling, as well as feedback about individual patients to clinicians. During the intervention period there were significantly fewer injurious falls in the hospital than during the control period. Notably, 56% of patients over 60 and who were staying at least 3 days in hospital and passed the cognitive screening test were included in the study. Roll-out of a programme like this may significantly reduce the large number of falls among older patients in our hospitals.

Reference: Lancet. 2015;385(9987):2592–9
Abstract

Compliance with Australian stroke guideline recommendations for outdoor mobility and transport training by post-inpatient rehabilitation services: An observational cohort study

Authors: McCluskey A et al.

Summary: Findings are presented from a retrospective audit of medical records for 311 stroke survivors in New South Wales, Australia, attending post-inpatient rehabilitation. The 24 rehabilitation service providers who were recruited into the study were categorised by type of provider: outpatient (n=8), day therapy (n=9), home-based rehabilitation (n=5) and transitional aged care services (TAC, n=2). Patients waited a median 13 days for post-hospital therapy, which consisted of 11 sessions per stroke survivor over a median duration of 68 days. Overall, a median of one session was conducted outdoors per participant. Outdoor-related therapy was similar across service providers, except that TAC delivered an average of 5.4 more outdoor-related sessions and 3.5 more outings into public streets per participant, compared with outpatient services.

Comment: A strength of this Australian-based study was its retrospective nature, since therapists' treatments and recording could not have been influenced by the knowledge of the focus of this audit. However, the reasons why adherence to stroke guidelines is poor cannot be explored in such a study. The literature suggests lack of time, staffing issues and financial factors can all influence adherence to guidelines as well as therapists' views on the suitability of the recommended approach for the patients they are working with. An interesting finding in this study was that those services which were delivered in the home more often included outdoor activities; thus the setting itself may have facilitated therapeutic goals more in line with the guidelines and patients' contexts. A good case for more community-based rehabilitation.

Reference: BMC Health Services Research. 2015;15:296
Abstract

The ROARI project – Road Accident Acute Rehabilitation Initiative: a randomised clinical trial of two targeted early interventions for road-related trauma

Authors: Faux S et al.

Summary: These researchers evaluated the effectiveness of an Early Rehabilitation Intervention (ERI) versus a Brief Education Intervention (BEI) following road trauma. 184 patients (92 in each arm) were recruited and followed for 12 weeks (for minor/moderate injury) and 24 weeks (for major injury) to determine how many had returned to work or usual activities. Patients completed screening questionnaires at 2–4 weeks and participated in follow-up interviews by telephone. Those patients in the ERI group with a positive screen for high risk of persistent symptoms were offered an early assessment and intervention by a Rehabilitation Physician. Those in the BEI group were sent written information and advised to see their GP. In the entire cohort, 89.4% of injuries were mild. At 12 weeks, 73.8% of patients in the ERI group and 69.1% of those in the BEI group had returned to work or usual activities. There were no significant differences between the two intervention groups with respect to any outcome measures, including reduction in pain, anxiety, depression, disability and incidence of Post-Traumatic Stress Disorder and improved quality of life.

Comment: This well-designed Australian study aimed to examine the effectiveness of targeted rehabilitation physician consultation and treatment (an Early Rehabilitation Intervention) for improving return to work or to usual activities among road trauma victims, screened to be at high risk of persistent symptoms. However, in order to identify those at high risk they had to include all those injured and screen their risk a few weeks later. Consequently, of all those enrolled in the study, only 11% had major trauma. Two weeks after injury, return to work rates were poorer in those patients with more severe injuries, higher pain levels and signs of depression. This suggests these are key variables we might want to look out for in our own road trauma victims when determining if more intensive rehabilitation support should be provided.

Reference: Clin Rehabil. 2015;29(7):639-52
Abstract

Resilience predicts functional outcomes in people aging with disability: a longitudinal investigation

Authors: Silverman AM et al.

Summary: This US study mailed surveys to a convenience sample of 1594 community-dwelling individuals ranging in age from 20 to 94 years with multiple sclerosis, muscular dystrophy, postpoliomyelitis syndrome, or spinal cord injury. The investigation aimed to examine the links between resilience and depressive symptoms, social functioning, and physical functioning in people ageing with disability and to investigate the effects of resilience on change in functional outcomes over time. The survey response rate was 91% at baseline and 86% at follow-up. Survey responses were analysed with the Patient Health Questionnaire-9 (to assess depressive symptoms) and Patient Reported Outcomes Measurement Information System (to assess social role satisfaction and physical functioning). At baseline, resilience was negatively correlated with depressive symptoms (r=–.55) and positively correlated with social and physical functioning (r=.49 and r=.17, respectively). After controlling for baseline outcomes, greater baseline resilience predicted a decrease in depressive symptoms (partial r=–.12) and an increase in social functioning (partial r=.12) 3 years later.

Comment: In this study, resilience was defined as an ability to flourish in the face of negative life events. This sizeable survey had relatively good follow-up rates (91% and 86%) of people who had been living with a disability on average for 15 years, although a limitation was the lack of cultural diversity in the sample, with 92% reporting as White. In the first survey, the researchers found that those with better resilience scores had lower depression scores and higher social role and physical functioning scores. These baseline resilience scores predicted levels of depression and social functioning three years later. The survey was unable to determine if resilience itself changed or not over time, as this was not measured at follow-up. Nevertheless, perhaps more attention should be paid to this potential protective factor in the rehabilitation setting.

Reference: Arch Phys Med Rehabil. 2015;96(7):1262-8
Abstract

Focus on participation for children and youth with disabilities: Supporting therapy practice through a guided knowledge translation process

Authors: Anaby D et al.

Summary: These researchers tested an intervention designed to increase clinicians' awareness and to bring about change in practice toward a focus on participation in community leisure occupations for children with disabilities. Fourteen clinicians participated in 6 learning sessions facilitated by a knowledge broker. All clinicians were individually interviewed at 3 months after the intervention. The Professional Evaluation and Reflection on Change Tool was used to help the clinicians explore change in clinical practice over the past 3 months. Thematic data analysis identified an impact upon practice in both the personal and professional levels (e.g. empowerment, validation of clinical wisdom, change in thinking and behaviour). Clinicians suggested strategies for integrating participation in their day-to-day practice, illustrating a substantial intention for change, while describing barriers and facilitators for implementation (e.g. organisational mandate). Two additional themes described the overall experience of the intervention: motivation to learn (e.g. desire to link research to practice) and elements of the learning environment (e.g. meeting informational needs).

Comment: Although published in an occupational journal, this study also included other rehabilitation professionals. Great to see a study which builds on the knowledge that health professionals need explicit support to implement research evidence. Rather than simply teaching the rehabilitation professionals what evidence might work to enhance participation of children, the team used a participatory approach in which learners in two learning groups helped identify the content and format of the educational sessions. The intervention led to intended changes in practice with children and their families. Whether or not this leads to application into practice is the next piece of the puzzle that needs investigating.

Reference: Br J Occup Ther. 2015;78(7):440-9
Abstract

Does self-efficacy mediate functional change in older adults participating in an exercise program after hip fracture? A randomized controlled trial

Authors: Chang FH et al.

Summary: This analysis explored the possibility that self-efficacy may mediate the effect of the Home-based Post-Hip Fracture Rehabilitation programme on activity limitations in older adults after hip fracture. It also sought to determine whether there is any difference in mediating effect according to sex and age. A total of 232 people with hip fracture (mean age 79 years) were randomly assigned to intervention (n=120) or attention control (n=112) groups. Data were collected at baseline, at the end of the 6-month intervention and again at follow-up at 9 months. At 9 months, there was a significant mediating effect associated with the intervention on Basic Mobility function through self-efficacy for exercise ($\beta_{indirect}$=.21) and also on Daily Activity function through self-efficacy for exercise ($\beta_{indirect}$=.49). In subgroup analyses, the mediating effect was significant at 9 months in the younger group (age ≤79 years) in comparison to the older group and was significant in women versus men.

Comment: Findings from this RCT were first reported in 2014 and showed that those in the home-based exercise programme had better outcomes in terms of physical functioning after 6 months than those in the attention control group. The present study provides a secondary analysis, in which the researchers examined the mediating effect of self-efficacy on these outcomes. It should be noted that only 15% of people with hip fracture were included in the study, hampering our ability to translate the findings to the wider population of people with hip fracture we see out in the community. Interestingly, self-efficacy partially mediated the effectiveness of this programme, in women and in the younger group (i.e. <80 years) in the study. A good reminder that simply asking people to exercise is not sufficient and that explicit attention should be given to factors that affect self-management such as self-efficacy.

Reference: Arch Phys Med Rehabil. 2015;96(6):1014-20
Abstract

Work-related rehabilitation aftercare for patients with musculoskeletal disorders: results of a randomized-controlled multicenter trial

Authors: Knapp S et al.

Summary: This article describes outcomes for 307 patients with musculoskeletal disorders from 11 rehabilitation centres throughout Germany who were randomly assigned to an aftercare programme with work-related functional capacity training, work-related psychosocial groups, social counselling, relaxation training and exercise therapy (intervention group), or the usual aftercare programme consisting of only exercise therapy (control group).

Comment: This German study examined the effectiveness of a novel Intensified Work-Related Rehabilitation After Care (IWORAC) programme with the Standard Intensified Rehabilitation After Care (IRAC) programme. The intensity of IWORAC and IRAC were the same, i.e. 24 sessions over 3 months. Those in the IRAC group took part in exercise therapy; those in the IWORAC group were intended to have 20–30% of the exercise therapy sessions replaced with work-related rehabilitation modules (functional capacity training, work-related psychosocial groups, social counselling, relaxation training). Both programmes were provided after patients were discharged from work-related medical rehabilitation. However, most study participants had not yet returned to work at the start of the after care programmes (78% still on sick leave with an average of 9.4 weeks of sick leave in the previous 3 months). This suggests that the German work-related medical programme ends at set times rather than when rehabilitation is no longer deemed necessary. It also suggests that models of rehabilitation in Germany are different from the services available in New Zealand, with ACC programmes focusing as much as possible on Stay at Work Programmes. The study showed no significant differences between the two groups on work ability or other variables. However, there was lots of variation between intensity of the rehabilitation module provision between centres, with some providing 17 hours, others only 2. Thus, treatment adherence could have impacted on non-significant differences between groups.

Reference: Int J Rehabil Res. 2015;38(3):226-32
Abstract

Who is in control? Clinicians' view on their role in self-management approaches: a qualitative metasynthesis

Authors: Mudge S et al.

Summary: This research explored clinician perceptions of involvement in delivery of self-management approaches, in all healthcare settings. A search of the EBSCO, Scopus and AMED databases in July 2013 identified 1930 peer-reviewed studies in English reporting original qualitative data concerning perceptions of clinicians regarding their involvement in or integration of a self-management approach. Fourteen papers met eligibility criteria and were included for metasynthesis. Delivering self-management in practice appeared to be a complex process for many clinicians. The issue of 'control' was a consistent, key feature throughout all studies, both in the qualitative data and authors' interpretations. The first theme: *Who is in control?* represented how clinicians talked about ways they exercised control over patients and the control they expected patients to have over their condition. The second theme: *Changing clinician views* reflected a necessary transformation of practice experienced by a number of clinicians in the process of integrating self-management approaches into their practice. A range of challenges associated with shifting towards a self-management approach were reflected in the third theme, *Overcoming challenges to change*. Tensions appeared to exist around forming partnerships with patients. Clinicians found certain strategies helpful for facilitating a change in their practice over time: dedicating time to practice reciprocity in communication style, peer support and self-reflection.

Comment: Successful self-management of consequences of chronic disease or disability is essential. This metasynthesis showed that clinicians struggle with the delivery of effective self-management practices, as it takes away some of the control they have over patients, requires different clinicians' views and skills as well as strategies that help them work in a more patient-centred way. Those clinicians who managed to work in this way described a range of strategies that had helped them, such as training, case reflections and peer support. More work needs to be done to examine if new ways of training and supporting clinicians make a difference to the way they work and ultimately patient outcomes. In the meantime, this paper provides some great examples of ways of working teams could try out.

Reference: BMJ Open. 2015;5:e007413
Abstract

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Elucidating a goal-setting continuum in brain injury rehabilitation

Authors: Hunt AW et al.

Summary: This Canadian group of researchers used grounded theory methods to explore the ways in which clinicians from occupational therapy facilitate client engagement and manage challenges inherent in goal setting with this population. Constant comparative analysis revealed a goal-setting continuum. At one end of the continuum, therapists embrace client-determined goals and enable clients to decide their own goals. At the other, therapists accept preset organisation-determined goals (e.g. "the goal is discharge") and pay little attention to client input. Although all participants aspired to embrace client-determined goal setting, most felt powerless to do so within perceived organisational constraints.

Comment: Once again, we read a study that outlines how incredibly difficult and complex goal setting is in rehabilitation. Interestingly, the notion that patients' deficits, such as cognitive impairment or brain injury severity affect clients' participation in goal setting was not reported as the main issue in this study of occupational therapists. Instead, the researchers found that some therapists concede to organisation-determined goals, resulting in marginalisation of client engagement and therapists' perceptions of lack of power. This impacted upon therapists who described stress, frustration, demotivation and burnout. Those therapists who embraced client-determined goals reported therapist and client empowerment and emphasised the importance of meaningful occupation or activities of importance to their clients. In this paradigm, therapists described the SMART goal-setting approach as unhelpful, taking away clients' hope and narrowing their options. On reading this paper, I reflected on the excellent book edited by our NZ colleagues Richard Siegert and William Levack (*Rehabilitation Goal Setting, Theory, Practice and Evidence*), in which some of the issues raised in the paper are also discussed by contributing authors.

Reference: Qual Health Res. 2015;25(8):1044-55
Abstract