

Rehabilitation RESEARCH REVIEW™

Making Education Easy

Issue 49 – 2019

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Abbreviations used in this issue

TBI = traumatic brain injury

WHO = World Health Organisation



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Rehabilitation Research Review

Welcome to issue 49 of Rehabilitation Research Review.

Physiotherapists feel grossly under-prepared to navigate conversations around communicating a diagnosis of chronic nonspecific lower back pain to patients, according to the findings of a recent qualitative research investigation. Following on, we learn that among community-dwelling adults in New Zealand with spinal cord injury pain, cannabis use reduces pain and enables increased community participation. Other topics covered in this issue include Māori consumer experiences of health systems and programs, the implementation of a behavioural medicine approach in physiotherapy, functional outcomes after occupational and physical therapy for traumatic brain injury, and return to learning in concussed college students.

I hope that you find the research in this issue useful in your practice and I welcome your comments and feedback.

Wishing you a safe and relaxing holiday season,

Professor Nicola Kayes

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“Selling” chronic pain: physiotherapists’ lived experiences of communicating the diagnosis of chronic nonspecific lower back pain to their patients

Authors: Sullivan N et al.

Summary: This qualitative study used hermeneutic phenomenological methodology to explore data collected via semi-structured interviews from 5 physiotherapists on their experience in communicating a diagnosis of chronic nonspecific lower back pain (CNSLBP) to patients. Themes identified included: patient-centredness (understanding the patient and emotional awareness and adaptability); getting patients “on board” (the “selling” process and paternalism and the clinician’s perspective); and dealing with conflict and uncertainty (fear of interpersonal conflict and personal doubts and uncertainty).

Comment: I really enjoyed this paper. It is one of the first I have seen that really tries to unpack physiotherapists’ experiences of trying to communicate a diagnosis of CNSLBP. It presents an insightful reflection on the complexities of this process that I am sure will resonate with any musculoskeletal physiotherapist who has been in the position of navigating this topic with a client. The complexity is clear in the physiotherapist’s stories – they express a desire to maintain a person-centred approach, but recognise this sits in tension with a paternalistic need for clients to buy into their explanations, similar to the idea of *benevolent manipulation* colleagues and myself have discussed recently (Gibson BE et al., [Disabil Rehabil. 2019](#)). The authors highlight that physiotherapists feel grossly under-prepared to navigate these conversations in practice, despite them being potentially critical to engagement and outcome for people with CNSLBP. While this research was based in the UK, I would venture to suggest that the same is true for physiotherapists in New Zealand. It is an area of practice that is perhaps often taken for granted, but which warrants explicit skill development.

Reference: *Physiother Theory Pract.* 2019;Nov 20 [Epub ahead of print]

[Abstract](#)



Occupational therapy uses daily occupations to address health and well-being.

In this context, occupational therapists’ | kaiwhakaora ngangahau have a broad based understanding of the power of occupation in supporting health across the lifespan. With a focus on a holistic approach to care, one that addresses the whole person, including their physical, mental, and emotional health, taking social factors into consideration, occupational therapists are an invaluable resource in the provision of primary health care.

Occupational Therapy New Zealand-Whakaora Ngangahau Aotearoa, the member association for occupational therapists | kaiwhakaora ngangahau, is the first allied health profession in New Zealand to authentically and practically practise a commitment to the intentions and spirit of Te Tiriti o Waitangi/ The Treaty of Waitangi.

Using cannabis for pain management after spinal cord injury: a qualitative study

Authors: Bourke JA et al.

Summary: This study used semi-structured interviews to explore reasons and experiences with managing spinal cord injury (SCI) pain using cannabis among 8 community-dwelling adults in New Zealand. Six themes captured participant perspectives: traditional pain management strategies were ineffective; well-informed, knowledgeable cannabis consumers; cannabis reduced pain quickly; enabled engagement in activities of daily living and life roles without drowsiness from traditional pain medication; concern about irregularity of supply and inconsistent dosage.

Comment: This paper offers some useful insights into the experiences and perspectives of people with SCI who use cannabis for pain management. The use of cannabis for medicinal purposes is very topical in New Zealand at the current time. The authors argue that people with SCI (and others experiencing injury or illness) who use cannabis have an important perspective to contribute to the discussion. The narratives in this study talk to the complexities, tensions and benefits associated with cannabis use in the current context for people with SCI experiencing pain. Its illegal status, associated stigma, reliance on information from suppliers, and an unregulated market all appeared to add a layer of cognitive and emotional burden, and potentially risk, for users. However, it is clear the benefits of use went beyond pain management, enabling access to meaningful outcomes for people. Rehabilitation practitioners should be as informed as they can about cannabis use for medicinal purposes, including seeking to understand the perspectives of people with lived experience. This has the potential to create the context for more open and transparent conversations about cannabis use as clients navigate these decisions for themselves.

Reference: *Spinal Cord Ser Cases.* 2019;5:82
[Abstract](#)

Independent commentary by Professor Nicola Kayes



Professor Nicola Kayes is Director of the Centre for Person Centred Research at Auckland University of Technology. Nicola has a background in health psychology and as such her research predominantly explores the intersection between health psychology and rehabilitation.

For full bio [CLICK HERE](#).

Reported Māori consumer experiences of health systems and programs in qualitative research: a systematic review with metasynthesis

Authors: Palmer SC et al.

Summary: This systematic review used data from 54 qualitative studies to conceptualise factors associated with Māori consumer experiences of health programs and services and mapped these experiences to the WHO Commission of Social Determinants of Health conceptual framework on health inequities. Māori consumer experiences mapped to social determinants of health inequities including interactions with health services and programs, particularly patient-practitioner interactions (communication, relationships) and systemic and practitioner cultural competencies. Key recommendations identified at all levels of the political, social and health system included individual interactions, community change, and public and system-level strategies, and focused on reducing the risk of exposure to health-damaging factors through health literacy interventions, increased cultural competency resources and expansion of Māori capacity in health service development and workforce.

Comment: If you have not already made it your business to become familiar with WAI2575 – the Waitangi Tribunal's Health Services and Outcomes Inquiry then I suggest you do (see [here](#)). This inquiry highlights the cumulative and systemic inequities mana whenua have been and are exposed to. It is everyone's business to actively and explicitly address this, including rehabilitation practitioners and providers. This paper provides a timely synthesis of qualitative evidence mapping Māori consumer experiences of health services to the WHO Commission of Social Determinants of Health. Findings highlight numerous aspects of health delivery that contribute to experience and outcome, spanning from more micro interactions between patients and practitioners through to macro-level policy environments. The authors highlight that there are already strategies proposed within this existing empirical research that would be a great starting point if (when!) you are looking for ways in which you can begin to address this within your own practice or organisation. I can't do this topic the justice it deserves in a short commentary, so I encourage you to read this paper in full, it is open access! Then I encourage you to continue to actively look for opportunities to build on your knowledge, grow your capability and capacity to address this in your practice, and to advocate for change in your organisation.

Reference: *Int J Equity Health.* 2019 Oct 28;18(1):163
[Abstract](#)

Implementation of a behavioral medicine approach in physiotherapy: a process evaluation of facilitation methods

Authors: Fritz J et al.

Summary: This quasi-experimental study used an explorative mixed-methods design to study the implementation of a behavioural medicine approach in physiotherapy based mainly on social cognitive theory, with individually tailored, multifaceted facilitation including outreach visits, peer coaching, educational material, goal-setting, video feedback, diary self-monitoring, manager support and patient information leaflets. Among 24 physiotherapists the most frequent implementation methods were outreach visits, peer coaching, educational materials and individual goal-setting. These methods were considered to be the most important for implementation, supporting learning, practice, memory, emotions, self-management and time management. There was an absence of time management support from managers.

Comment: This paper reports the findings from a process evaluation which ran alongside an implementation trial aiming to embed a behavioural medicine approach to physiotherapy. Evidence shows that behavioural and person-centred techniques have the potential to optimise outcomes from physiotherapy through their impact on engagement and health-promoting behaviours. However, routine uptake of these techniques in practice has been limited, with research indicating physiotherapists lack confidence and feel ill-prepared to competently use these techniques in practice. The findings highlight facilitation strategies (or a combination of) perceived to be most helpful in supporting uptake of behavioural strategies in practice, including, for example, opportunities for critical reflection, support, and problem solving. However, while changes to practice were evident during the trial period, this was not sufficient to support long-term uptake of a behavioural medicine approach. So, the complexity of making changes to behaviour is not an issue specific to patients. It is equally relevant for clinicians. It is worth considering this the next time you go on a course or learn something new. What may help or hinder you integrating your new knowledge and skills into practice? What strategies can you put in place to increase the likelihood of taking up that new knowledge in practice?

Reference: *Implement Sci.* 2019;14(1):94
[Abstract](#)

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A scoping review of the working alliance in acquired brain injury rehabilitation

Authors: Stagg K et al.

Summary: This scoping review examined research into the working alliance (therapeutic relationship) in acquired brain injury rehabilitation based on 10 quantitative studies. The working alliance was associated with positive activity and participation outcomes, which included return to work, school and driving. Client and therapist perceptions of the working alliance were linked with client-related factors including age, level of education and approach to rehabilitation tasks.

Comment: Anyone who knows me will know that therapeutic relationship (commonly referred to as working alliance) in rehabilitation is one of my passions. A previous systematic review has reported therapeutic relationship in rehabilitation to be associated with a range of outcomes including pain, quality of life, and satisfaction with treatment, in a range of populations including musculoskeletal, brain injury and so on (Hall AM et al., [Phys Ther. 2010](#)). This scoping review provides an overview of evidence that has explored working alliance in acquired brain injury rehabilitation more specifically. The findings are consistent with prior work. Of note, 5 of 6 papers looking at employment outcomes found that working alliance is associated with employment status and/or a more positive outlook on employment prospects. As I often say to my students, therapeutic relationship is more than a nice thing to have, but rather is something that may be critical to outcome. Given this, we need to more explicitly attend to it in practice as one mechanism via which we can optimise the impact of rehabilitation. However, if we are to do this, we need to better understand what underpins therapeutic relationship in rehabilitation in ways that can be formative to practice. This is something we are trying to unpack further at the Centre for Person Centred Research (see [here](#)).

Reference: *Disabil Rehabil.* 2019;41(4):489-97

[Abstract](#)

Volunteering and its association with participation and life satisfaction following traumatic brain injury

Authors: Philippus A et al.

Summary: Retrospective analysis of data from 725 individuals after moderate-severe TBI from a single site in the TBI Model Systems National Database, were analysed to assess the relationship between volunteering and participation and life satisfaction after TBI. Volunteers were more likely to be non-Hispanic white, have more education, be employed or students, be further post-injury and with better current functioning. After controlling for covariates, volunteering was associated with higher life satisfaction, and greater community engagement and social relations.

Comment: Re-establishing a sense of self as a productive, contributing member of society helps to give people a renewed sense of purpose and meaning following significant injury or illness. In this study, volunteering is argued to be one mechanism of achieving this for people with moderate-to-severe brain injury. Indeed, the findings of this research support this hypothesis, finding a positive relationship between volunteering and life satisfaction, as well as with some aspects of participation. It is important to note, however, that the measure of participation used in this research was based on the assumption that more is better, which is not necessarily the case. It may be more meaningful to account for the quality of participation or the extent to which a person is participating in ways they want to be, regardless of frequency. A finding of note is that those who were already in paid employment or studying, and those who were able to drive independently, were more likely to be volunteering. It is important that we explore ways in which we can support those who are not already participating to engage in meaningful occupations. The impact of volunteering for lower functioning sub-groups has the potential to be even more important for well-being.

Reference: *Brain Inj.* 2019;Oct 16 [Epub ahead of print]

[Abstract](#)

Feasibility of increasing the dosage of inpatient occupational therapy and physiotherapy rehabilitation via independent tasks and exercises: 'My Therapy'

Authors: Brusco NK et al.

Summary: This two-group, quasi-experimental, pre-post-design study assessed the feasibility of increasing inpatient occupational therapy dosage and physiotherapy rehabilitation outside supervised sessions using booklet-based independent tasks and exercises ('My Therapy'; n = 116) versus usual care (n = 89). Overall, 72% of 'My Therapy' participants took part in the programme with an average 14 minutes/day practice outside of supervised sessions. Mean total daily rehabilitation was 177 minutes for 'My Therapy' versus 148 min for usual care participants (difference 30 minutes; p = 0.00). More 'My Therapy' (22%) than usual care (10%; p = 0.02) participants achieved a minimal clinically important difference in Functional Independence Measures.

Comment: This is an interesting paper. There is increasing evidence that time spent in active therapy in the inpatient rehabilitation setting is not sufficient to optimise potential gains following stroke. So, it is not surprising that the same may be true in other populations. However, it is hard to increase dosage with limited resources, especially in the context of growing demand. As such, there is a growing body of research looking at ways in which we can increase dosage without additional resources through, for example, group-based rehabilitation, rehabilitation technologies, and enriched environments. In this case, the 'My Therapy' intervention being tested resulted in an average of 14 minutes daily self-directed therapy. This does not seem like much on the grand scheme of things, but it is a start. It is also important to consider the possibility that self-directed activity in the inpatient setting might have benefits that extend beyond discharge in terms of building self-regulatory capacity and confidence in one's ability to safely undertake self-directed activity. These are both things which may be critical for long-term health and well-being in the community.

Reference: *Aust Occup Ther J.* 2019;Oct 11 [Epub ahead of print]

[Abstract](#)



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FROM THE TEAM AT

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Occupational and physical therapy activities and level of effort in patients with traumatic brain injury: association with functional outcomes

Authors: Zarshenas S et al.

Summary: This Canadian secondary analysis of a TBI-Practice Based Evidence dataset used data from 149 patients with TBI to investigate the effect of inpatient rehabilitation and the association of time spent in occupational and physical therapy and level of effort on cognitive and motor function at discharge. Overall, there were improvements in cognitive and motor function from admission to discharge ($p < 0.0001$), but after controlling for confounders, there was no association of discharge FIM-Rasch cognitive and motor scores with level of effort or time spent in physical therapy. Motor, but not cognitive, function at discharge was associated with more time spent in complex ($\beta = 0.20$; 95% CI 0.005-0.05) and less time in simple occupational therapy activities ($\beta = -0.13$, 95% CI -0.13 to -0.01).

Comment: As already indicated in my commentary on the Brusco et al., paper, time spent in active therapy during inpatient rehabilitation is increasingly of interest. This paper found that FIM motor scores were associated with more time doing occupational therapy activities (but not physiotherapy activities interestingly). However, they take it one step further, finding that more time doing complex activities (determined by demand and skills required to perform the activity) was associated with outcome. In other words, it is not just *how much time* you spend in therapy, but also *how you spend that time* that matters.

Reference: *PM R. 2019;Oct 10 [Epub ahead of print]*
[Abstract](#)

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RESEARCH REVIEW

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Preliminary evidence-based recommendations for return to learn: a novel pilot study tracking concussed college students

Authors: Bevilacqua ZW et al.

Summary: This study examined the return-to-learn aspect of concussion recovery in 9 college-aged, full-time students diagnosed with concussion and monitored throughout recovery using 5 symptoms (headache, dizziness, difficulty concentrating, fatigue, anxiety) recorded 6 times/day via text messages and daily behavioural traits assessed by telephone. Five behavioural variables were associated with symptom resolution (music, sleep, physical activity, water, time; $p = 0.0004$ to 0.036). Participants reported math (33%) and computer (44%) courses as the most difficult.

Comment: Sports-related concussion (or any concussion actually!) is very topical at the moment. While data varies across studies, as many as half of those who have a concussion experience persistent symptoms, often argued to be disproportionate to the extent and nature of injury. To add to the complexity, there remains inconsistent advice over when and under what circumstances return-to-play, -learn or -work is recommended. In the current study, the focus is on return-to-learn for university students. The sample is very small, so findings should be interpreted with caution. Further, they can only draw conclusions with respect to the variables that were measured (all of which were through self-report). However, it is useful to prompt thinking regarding the things that students self-report to make a difference to symptoms following concussion. The findings regarding the role of physical activity in recovery are consistent with recent research conducted by Dr John Leddy and colleagues ([Curr Sports Med Rep. 2018](#)) who was recently in New Zealand as headline speaker at the BrainStorm Concussion Conference hosted by Geneva Healthcare. If you want to get another perspective on this, physiotherapist, Paul Lagerman, recently shared his reflections on the conference and Dr Leddy's presentation on his blog (see [here](#)).

Reference: *Concussion 2019;4(2):CNC63*
[Abstract](#)

Mild traumatic brain injury in New Zealand: factors influencing post-concussion symptom recovery time in a specialised concussion service

Authors: Forrest RHJ et al.

Summary: This New Zealand retrospective medical record review of Rivermead Post-Concussion Questionnaire (RPQ) data with follow-up over 6 months in 2014 ($n = 107$) was conducted to assess whether the time between sustaining a mild TBI and initial assessment at a specialised concussion service affected recovery time, and the influence of post-concussion symptoms reported at assessment. Time-to-initial assessment was correlated with greater psychological symptoms at initial assessments ($r = 0.22$; $p = 0.024$); specifically feeling depressed or tearful ($r = 0.29$; $p = 0.003$). Time to discharge was correlated with total RPQ score ($r = 0.43$; $p < 0.001$) and RPQ symptom scores at initial assessment, including headache ($r = -0.24$; $p = 0.015$), noise sensitivity ($r = 0.22$; $p = 0.026$), feeling frustrated or impatient ($r = 0.25$; $p = 0.003$), and the psychological cluster proportion ($r = 0.24$; $p = 0.017$).

Comment: This New Zealand-based study sought to explore whether the duration between injury and initial assessment by a specialised concussion service is a factor in recovery following concussion (conceptualised in the current study as length of stay in that service). While this might seem to be a narrow focus (given the number of factors which have the potential to contribute to recovery following concussion), it is an important issue given reported delays in diagnosing and/or reporting concussion. As such, it is a modifiable risk factor which we can potentially address at a system level. They found time between injury and initial assessment was associated with psychological symptoms, in particular feeling depressed or tearful. However, it is difficult to draw any causal inferences given the presence of psychological symptoms may simply be a normal response to the ongoing impact of concussion on daily life. The same symptoms were also associated with longer time to discharge, consistent with other research that highlights psychosocial factors are a risk factor for ongoing difficulties following concussion. It is tricky, on one hand, many concussions can be well managed in primary care without referral to specialist concussion services. On the other hand, it is possible that delays in referral to specialist concussion services may be detrimental to recovery for others. Getting the balance right between these two trajectories may be critical to optimise outcome, and manage the economic burden, following concussion.

Reference: *J Prim Health Care. 2018;10(2):159-166*
[Abstract](#)



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