

Making Education Easy

Issue 69 - 2024

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Abbreviations used in this issue

LBP = low back pain
TBI = traumatic brain injury
WHO = World Health Organisation

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Welcome to issue 69 of Rehabilitation Research Review.

The authors of an Australian interview study argue that the enduring prevalence and wide-reaching impact of low back pain alongside discrepancies between guidelines and practice and inaction by governments calls for a systems thinking approach to inform improvements in low back pain care. Meanwhile, a New Zealand review highlights that low back pain profoundly affects many areas, with implications for peoples' personal, social and work lives, and that health professional empathy can reduce suffering. We conclude this issue with a look at the integrated Rehabilitation and EnAblement Program (iREAP), an interdisciplinary, early assessment and intervention programme that has the potential to reverse frailty and improve quality of life in complex older adults.

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

Kind regards,

Professor Nicola Kayes

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A consensus-based agreement on a definition of a process variable: Findings from a New Zealand nominal group technique study

Authors: Harvey D et al.

Summary: Musculoskeletal conditions and the associated costs of treating them are on the rise and these authors emphasise the importance of new research focusing on process variables and their influence on patients with such conditions. In this study, they aimed to establish a consensus-based definition of a process variable within a musculoskeletal care pathway, based on a New Zealand setting. The study, which took place in July 2023, involved eight participants (5 men and 3 women) and used a virtual nominal group technique using a Microsoft Teams platform. All participants had extensive experience with the New Zealand ACC insurance scheme and the design, implementation and administration of musculoskeletal care pathways, and completed pre-work before the 2-hour five-stage virtual meeting. The consensus definition agreed upon was: "A health process variable is any modifiable factor in a health process or pathway that can be quantified and measured and that if varied may achieve a different operational or patient outcome".

Comment: Process variables can have an important influence on rehabilitation outcome. As such, it is important to understand what process factors have the greatest impact on outcome and how they might be best operationalised within a care pathway. This research sought to reach a consensus definition for process variables within a musculoskeletal care pathway. Examples of process variables include referral criteria, time between referral and access, etc. It is interesting to consider some of the points discussed by participants in coming to a consensus including: a) the different perspectives offered by clinical (focused on operational processes) versus non-clinical (focused on design and implementation processes) contributors; b) how process variables might be distinguished from structural factors and quality indicators which also have an influence on outcome; and c) the extent to which process variables are patient-centric. The one thing I am still pondering about the consensus definition provided is that it limits process variables to those that "can be quantified and measured". This makes sense of course - after all, we need to be able to quantify and measure variables to be able to examine which (or which mix of) variables are associated with outcome to optimise care pathways. On the other hand, I can't help but wonder what might we inadvertently miss when we focus only on quantifiable process variables? Reading this paper stimulated my thinking and prompted me to scout for other research around key variables in care pathways – I stumbled across this great paper by Gartner et al., (BMC Health Serv Res. 2022) on the definition and conceptualisation of the patient-centred care pathway. While not specific to rehabilitation care pathways, I found it informative and worth sharing.

Reference: BMC Health Serv Res. 2024;24(1):1416

Abstrac

To read previous issues of Rehabilitation Research Review **CLICK HERE**



Authors: Costa N et al.

Summary: This interview-based study examined the most influential drivers of low back pain (LBP) care in the Australian healthcare system from the perspective of 27 stakeholders including clinical leaders, academics, hospital managers, policymakers, LBP advocates, health profession board members and private insurers. Challenges identified included variability in care, inconsistent messages, funding models not supportive of appropriate care, community understanding of LBP, commercial forces and vested interests, difficulty accessing timely and affordable conservative care, social determinants and health inequities, short consultations and siloed practices, gaps in evidence, lack of experience of having LBP, individual and contextual variation, an evidence-practice mismatch, the Australian healthcare system, LBP not being acknowledged as a public health issue, stigma, human aspects and the compensation system. Participants identified collaboration, funding changes, improved access and affordability of models of care and care pathways, public health campaigns, enhanced policy and governance, better workforce training, consideration of inequity, improved information sharing and reforming worker's compensation as factors that could improve LBP care.

Comment: The authors of this paper argue that the enduring prevalence and wide-reaching impact of LBP alongside discrepancies between guidelines and practice and inaction by governments calls for a systems thinking approach to inform improvements in LBP care. They note that "collaboration between stakeholders across disciplines, sectors, government and organizations is a useful means to apply systems thinking to health challenges and transform policy and practice". They define stakeholders broadly as anyone who has an interest in LBP because they are affected by it or could influence relevant decision-making and implementation processes. It is important to note that this research was carried out in Australia and so the findings may be specific to the particularities of the Australian Health System. Nonetheless, I think there is resonance to our own experiences in Aotearoa New Zealand. It is hard to do justice to the findings within a brief commentary. The findings are complex and extensive, and I recommend taking the time to read the paper if this is an area of interest for you (it is an open access paper). The authors have included a lot of raw data, a lot more than one would routinely be able to include in a publication, and this enables the reader to engage with the data and consider relevance to one's own context. The findings are intimidating, addressing the range of competing and interacting factors identified is a significant undertaking and requires a system-level, cross-sector, collaborative, and integrated approach. Perhaps we all need to find the courage to step into this and collectively take on this challenge.

Reference: Health Res Policy Syst. 2024;22(1):151 Abstract





The intangible costs of living with low back pain from a patient perspective: A scoping review

Authors: Saywell NL et al.

Summary: This scoping review assessed the intangible, non-monetary costs of LBP from the perspective of the individual based on 46 studies. Six themes expressing experiences with LBP were identified; pain perception, healthcare experience, becoming defined by low back pain, life on hold, social self, and disrupted work life.

Comment: The authors set the context for this paper well, arguing that often the 'cost' of LBP tends to focus on costs that can be quantified. However, intangible costs, such as those related to one's lived experience are often excluded from cost-of-illness studies. This review therefore sought to undertake a scoping review to update evidence on the intangible costs of LBP. This review builds on existing qualitative reviews by identifying new papers and adding relevant quantitative data (i.e., where patient-reported outcomes were reported). I was interested to see how the team approached data synthesis of the quantitative data when reflecting on the aims and purpose of this review. For context, they coded the qualitative papers first, and then the quantitative studies were assigned to relevant categories to augment and support interpretation of the qualitative data. As expected, the findings reveal the intangible costs are widereaching, impacting almost every sphere of life. The findings are extensive, so I won't go into them in detail, but encourage those working in LBP to read the paper as a reminder of the context in which care and rehabilitation is taking place when you are working with people managing the enduring impact of LBP. In their discussion, the authors refer to a recent cohort study by Licciardone et al., (JAMA Netw Open 2024) which investigated the impact of physician empathy on a range of outcomes in people with chronic LBP. They found that empathy from a physician was found to be more effective than spinal surgery, opioid use and non-pharmacological treatment in reducing pain. The authors make the point that "healthcare practitioners have a range of surgical, medical, and non-pharmacological strategies but may undervalue the powerful management strategy of empathy", food for thought?

Reference: Disabil Rehabil. 2024;Nov 8 [Epub ahead of print]
Abstract

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INDEPENDENT COMMENTARY BY Professor Nicola Kayes

Professor Nicola Kayes is Associate Dean of Research in the Faculty of Health and Environmental Sciences and Co-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. She is interested in exploring the role of the rehabilitation practitioner and their way of working as an influencing factor in rehabilitation and whether shifting practice and the way we work with people can optimise rehabilitation outcomes. For full bio CLICK HERE.



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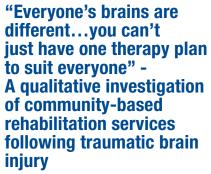
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Authors: Kelly C et al.

Summary: This qualitative descriptive study examined the lived experiences of 16 adults receiving community-based rehabilitation (CBR) services for cognitive-communication disorders after traumatic brain injury and 12 support people. Reflexive thematic analysis of interviews identified four themes indicating the core pillars of CBR models of care including the importance of: a) accessible and inclusive services; b) specialised clinical skills and treatment; c) acknowledgment that knowledge is power; and d) the significance of peer networks and support.

Comment: This research was carried out in Australia and focused on the specific experiences of people with cognitive-communication disorders following traumatic brain injury. However, the findings resonate with research in the New Zealand context and echo broader experiences of CBR. I was interested in the reports of significant delays in accessing CBR. Recent research carried out in Aotearoa New Zealand explored the lived experience of older adults waiting for community occupational therapy and highlighted the burden of waiting and its role in depleting one's ability to do. Delays in access to CBR are therefore likely to have substantive and enduring impacts, some of which we perhaps don't give enough space to when we view delayed access from a purely operational perspective. There is a short 15-minute presentation on this research available here. Other findings I have been reflecting on include: a) The 'knowledge is power' theme, timely and targeted information is normalising, provides reassurance, and helps to manage expectations regarding the process of recovery for both the injured person and support people; and b) The 'peer networks and support' theme, there is increasing recognition of the role of peer support. I feel like that message has come through in several papers reviewed in previous issues of Rehabilitation Research Review. However, this paper is one of few that has also explicitly called out the role of peer support for support people. This is somewhat intuitive of course. But what structures do we have in place to facilitate support people to engage in peer networks? How often do we explicitly attend to the needs of support people in our everyday rehabilitation work?

Reference: Int J Speech Lang Pathol. 2024:1-13
Abstract

Feasibility of Concussion Essentials: A multimodal intervention for persisting post-concussion symptoms among children and adolescents

Authors: Rausa VC et al.

Summary: This study examined the feasibility of an individualised, multimodal intervention (Concussion Essentials; CE) for persistent post-concussion symptoms (pPCS) in 13 children and adolescents (aged 6-18 years) with pPCS 1 month after concussion (Post Concussion Symptom Inventory - Parent Report; PCSI-P) matched to a longitudinal observational cohort receiving usual care (n = 13). After 3 months, symptoms had improved in all CE participants, with symptomatic items on the PCSI-P reducing from a median of 14.0 at 4 weeks to 1.0 at 3 months. Symptoms improved for only half of the matched usual care participants. Eight CE participants and 11 parents completed acceptability questionnaires, where 10 (91%) parents agreed that CE was acceptable for children with concussion. All eight participants agreed CE was appropriate, while seven (88%) enjoyed the intervention and would recommend it to others.

Comment: While there is a plethora of research focused on interventions for pPCS in adults, I have come across far less evidence seeking to address the same in children and young people. The authors of this paper broadly critique the existing evidence-base as being primarily focused on testing unimodal interventions, including children in the chronic phase of recovery, and interventions which are not tailored to specific symptoms and are limited in their biopsychosocial orientation. To address this gap, they sought to pilot CE, an individualised, symptom-targeted, multimodal intervention incorporating education, physiotherapy and psychology, in a sample of 6- to 18-year-olds with persistent symptoms at 4 weeks post-injury. The intervention consisted of 1-hour individualised sessions, delivered by a physiotherapist or psychologist, weekly for up to 8 weeks or until symptom resolution. The authors were interested in feasibility and acceptability and pre-determined criteria to assess these e.g., ≥70% of patients identified as symptomatic on screening enrol into the study. They report meeting this feasibility criteria. However, they based their calculations on the 30 participants that returned screening questionnaires and were identified as symptomatic. Almost 40% (n = 37) of those that were sent a screening questionnaire did not return it which makes me wonder about those people. How many were symptomatic, but non-responsive? How might those people be engaged in future? Findings regarding acceptability were positive with both parents and children and young people endorsing most items. Outcomes suggest this intervention shows promise with 54% of participants meeting the criteria for full recovery at the post-programme assessment (compared to 31% of participants in a matched cohort). A more definitive trial is needed to investigate efficacy.

Reference: Neuropsychol Rehabil. 2024;Sep 21 [Epub ahead of print] Abstract

Characterizing post-traumatic growth in individuals with traumatic brain injury according to social participation, self-awareness, and self-identity

Authors: Mamman R et al.

Summary: This semi-structured interview study characterised social participation, self-awareness, and self-identity in 15 patients (66% male, mean age 49.7 years) with traumatic brain injury (TBI) displaying positive life changes after their injury (post-traumatic growth). Participants with higher levels of post-traumatic growth had increased social participation, greater self-awareness, and fewer negative discrepancies between pre- and post-injury self-identities when compared to those displaying lower post-traumatic growth.

Comment: I was a little betwixt and between about this paper. I enjoyed it and I found both the methods and findings interesting. On the other hand, the idea of dichotomising people into those who do and those who don't display high levels of post-traumatic growth and then trying to characterise each group feels risky to me. Why risky? Because it invites us to focus on individual characteristics, which buys into a narrative of individual responsibility. Of course, this is not the narrative of this paper and indeed the authors do highlight how the findings might guide clinical practice and create interventions which could facilitate post-traumatic growth. Nonetheless, it is important to be mindful of our tendency to focus on individual characteristics. It is highly likely that care and rehabilitation processes, the social and relational context in which recovery is taking place, socio-economic factors, and many other factors external to the person play an important role in post-traumatic growth (for better or for worse). In the current study there are a number of clues embedded in the narratives of those who have higher levels of traumatic growth. For example, having a supportive social environment, the means to pursue new occupations, access to peer networks, experiencing good quality care, and having a sense of purpose outside of oneself are all evident in their narratives. These are all things that we could legitimately support through our care and rehabilitation processes. As such, it is worth considering how we might create the context for post-traumatic growth in our rehabilitation services.

Reference: Disabil Rehabil. 2024;Sep 28 [Epub ahead of print]
Abstract

Co-creation in healthcare and research to improve service delivery for young people with chronic pain

Authors: Berryman C et al.

Summary: This Australian co-creation initiative sought to work with young people with chronic pain, their families and other stakeholders to generate novel approaches to the management of chronic paediatric pain. The process identified six themes around challenges to service delivery and what is currently working that showed stakeholders valued many of the existing strengths of service delivery, but areas such as pain education were undervalued. A process of lateral thinking without restrictions on time, resources or systems generated solutions ranging from high-level ideas to day-to-day management strategies. Finally, six stakeholder groups generated unique solutions to challenges identified. This process of collaborative knowledge generation provided a variety of novel, scalable solution across the healthcare continuum.

Comment: Co-creating services with communities and other stakeholders is increasingly considered best practice. The challenge is how to do that meaningfully. The co-creation workshop described in the current study included three young people and three parents as part of a larger group of stakeholders (n = 34 in total). While the aim of this process is to amplify their voice, the power imbalances inherent in a group like this has potential to have the opposite effect if not well managed. The authors highlighted a few key steps they took to mitigate this risk including: pre-allocating people to groups; hiring an experienced facilitator; embedding values such as respect, inclusiveness, and equality; having a buddy at each table where a young person-parent dyad was present; meeting with young people and their parents in advance to provide information about what they can expect; and carefully curating the workshop activities. It is not clear from the findings the extent to which the young people and parents were ultimately able to meaningfully participate. However, it is clear the workshop has had multiple impacts including: a) the co-creation of novel solutions which build on existing strengths and address service challenges; b) raising awareness among stakeholders regarding the complexities of paediatric chronic pain care; c) the implementation of a range of changes generated through the workshop, including increased staffing levels; and d) leaving contributors energised to remain actively engaged in service developments.

Reference: Front Med (Lausanne) 2024;11:1431155 Abstract

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Motor imagery priming improves activity and impairment outcomes in people after stroke but the effects of other types of priming are unclear: A systematic review

Authors: Dorsch S et al.

Summary: This systematic review and meta-analysis examined the effect on activity and motor impairment outcomes of adding non-stimulation-based priming prior to task-specific practice versus task-specific practice alone in patients receiving stroke rehabilitation based on 24 trials including 803 participants. In four trials that examined motor imagery priming prior to task-specific practice on activity outcomes, the standardised mean difference (SMD) was 0.48 (95% CI 0.13-0.82), while in three trials that assessed motor impairment outcomes the SMD was 0.51 (95% CI 0.12-0.89). The effect of action observation priming prior to task-specific practice on activity outcomes was assessed in nine trials and had an SMD of 0.18 (95% CI -0.06 to 0.41). Two trials assessed the effect of movement-based priming prior to task-specific practice on activity outcomes and had an SMD of -0.11 (95% CI -0.64 to 0.42). The effect of aerobic exercise priming prior to task-specific practice was examined in three trials and produced an SMD for activity outcomes of 0.30 (95% CI -0.19 to 0.80). Overall quality of evidence was low to moderate.

Comment: This review focuses on non-stimulation-based priming. This is because stimulation-based priming requires access to specialised devices that may not be available in low-resource environments. A range of nonstimulation-based priming methods were included in the search, including motor imagery, action observation, mirror therapy, movement-based priming, and aerobic exercise. Papers were included if one of these priming methods was used prior to task-specific practice and was compared against taskspecific practice alone. Action observation was the most common method used (10/24 trials). It is worth noting that the quality of included evidence was low to moderate and there was high variability in design across the included papers. For example, there was variability in dose for both priming (range 2.5 to 45 minutes) and task-specific practice (6 to 65 minutes), the time interval between the two, frequency of sessions, total intervention length and outcome measures. This makes pooling data for the purpose of meta-analysis difficult. Motor imagery was the only priming method that had an effect for both activity and impairment. The majority of included studies targeted the lower limb and so it is not clear if the same effects would be observed in the upper limb. Drawing on the review findings, the authors recommend motor imagery priming immediately before task-specific practice, with a training volume equivalent to 15 minutes of priming, three times per week, for four weeks at a minimum. It is also noted that it can be carried out unsupervised and that a stroke survivor could perform priming while waiting for their therapy session.

Reference: J Physiother. 2024;70(4):275-287 Abstract

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The right to rehabilitation for people with dementia: A codesign approach to barriers and solutions

Authors: Layton N et al.

Summary: This Australian study explored barriers to accessing dementia rehabilitation and identified solutions that improve access to rehabilitation in people living with dementia (n=5), care partners (n=8) and health professionals (n=13). Barriers were identified at a user (lack of knowledge, transport, cost, difficulty navigating the health, aged care and disability sectors) and health service (low dementia knowledge and negative attitudes among health professionals, inequitable funding, non-existent or fragmented services) level. Solutions proposed included dementia education and training, ensuring that people with dementia and care partners know about rehabilitation therapies, and that health professionals, aged care and disability co-ordinators can refer to and deliver rehabilitation. It was also recommended that changes be made to Australia's public funding models, that dementia care navigators be provided, and that development of specific dementia rehabilitation programmes be undertaken.

Comment: This paper does an excellent job of exploring access to rehabilitation for people with dementia in Australia, positioning it as a human rights issue. A range of barriers are identified including both user and health service dimensions, highlighting a spectrum of access needs such as perceived need, and being able to seek, reach, utilise and benefit from rehabilitation. A range of solutions to address each of these dimensions are proposed. This paper left me pondering what access to rehabilitation is like for people with dementia in Aotearoa New Zealand. I suspect it is limited. I would like to think I am wrong, but a speedy google search doesn't lead to solid information about what is available beyond Cognitive Stimulation Therapy an offering which has arisen out of research led by University of Auckland researchers. Why might access to rehabilitation be limited for people with dementia? Perhaps it is due to the limitations in access to rehabilitation that already exist as an artefact of our two-tiered health system. Or maybe it has something to do with what conditions, or people, are legitimised as having "rehab potential" in the context of limited resources. Or could it be due to embedded assumptions around the capacity of people with dementia to engage in rehabilitation. I think this is something we should interrogate further in our New Zealand context.

Reference: Health Expect. 2024;27(5):e70036

<u>Abstract</u>

Reimagining day rehabilitation for frailty and neurodegenerative conditions through the integrated Rehabilitation and EnAblement Program (iREAP)

Authors: Maiden G et al.

Summary: This observational study examines the effectiveness of the 8-week integrated Rehabilitation and EnAblement Program (iREAP) on frailty, patient activation, quality of life and physical outcome measures in 99 older people at risk of falls and frailty or with neurodegenerative conditions. Participants had improved Rockwood Clinical Frailty Scores (from mildly frail to vulnerable), better 'patient activation' (increased from 55.08 to 60.61), improved quality of life (Parkinson's Disease Questionnaire-39 increased from 49.93 to 47.16; WHO Quality of Life -BREF physical domain score increased from 21 to 22.7) and improved physical measures including balance (increased from 44 to 49/56 on the Berg Balance Scale) and better mobility (increased from 294 m to 336 m on the 6-minute walk test). However, overall, falls were not reduced 12 months after completion of the programme (3.40 to 2.01).

Comment: The integrated Rehabilitation and EnAblement Program (iREAP) is proposed as a means of achieving integrated care for older people (consistent with ICOPE guidelines published by the WHO). The authors argue that evidence for traditional day hospitals or day interdisciplinary rehabilitation programmes is poor and that different models are needed – iREAP seeks to address this gap. Key features of iREAP include: a) targeted at community-dwelling older people who are increasingly frail, experiencing falls, or with a neurodegenerative disorder; b) delivered over three half days/week for 8 weeks; c) delivered by a multidisciplinary team; and d) incorporating individualised care planning and goal setting, exercise, education, health coaching, peer groups, and linkage to community programmes on discharge. The findings of this research need to be interpreted with caution as it is an observational study, with no control group and assessors were not blinded. Nonetheless, the findings are super positive with statistically significant improvements observed in almost every measure. So, I would say it is definitely worth pursuing future research to determine effectiveness. It is also worth considering how a model like this could be integrated into routine service provision, as well as considering the longer-term cost-benefits of a programme like this.

Reference: Int J Integr Care 2024;24(3):21

Abstract

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