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EDITORIAL

Enhancing therapeutic outcomes: The subgroup-specific physiotherapy strategies for mechanical low back pain

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Mechanical low back pain is one of the most common musculoskeletal disorders worldwide, generating both disability and economic burden. (1,2) Despite the development of numerous treatment options, treatment outcomes can vary significantly because mechanical low back pain have a complex, heterogeneous presentation. Emerging evidence supports, the application of stratified physiotherapy approaches, and subgroup-specific physiotherapy, to improve treatment accuracy and success through individualized care pathways.(3)

Conventional physiotherapy employs generalized therapeutic protocols that fail to appreciate the patient's individual circumstances, along with the various biomechanical, psychosocial, and neurophysiological presentations that the particular patient represents. This 'one-size-fits-all' method can under-treat or misclassify individuals, and therefore, limit treatment benefits. Subgroup-specific interventions can begin to address this issue by grouping patients into clinically meaningful classifications with a corresponding evidence-based treatment plan that is appended to each subtype.(4)

An example of symptoms based stratified care involves a tool called the STarT Back Screening Tool (SBST) which stratifies a patient into a group for their level of risk for chronicity based on clinical and psychosocial indicators. The SBST enables the correct intensity of intervention to be applied.(5) Recent meta-analytic studies investigated the cumulative evidence for the concept of stratified care using the SBST. Meta-analyses showed strategy-based care improves benefits to disability and that stratified care is more cost-effective than unstratified care.(6) In a similar manner, the treatment-based classification has capability to give targeted treatment options such as stabilization, manipulation, directional preference, and traction for specific patient groups.(7)

Emerging evidence has begun to define the role of psychological profiling in subgrouping approaches. An example might be to say that patients having characteristics or inclinations toward central sensitization or high pain catastrophizing would be in fact better impacted by interventions that include cognitive behavior therapies with physical rehab.(8) More concerning, in 2024, a meta-analysis showed evidence that cognitive behavior therapy does indeed reduce catastrophizing and kinesiophobia in patients with musculoskeletal symptoms.(9) Moreover, classification of movement system impairments would provide a basis for tailoring interventions according to the patterns of movement and the identification of deficits in motor control.(7)

The use of subgroup-based models in clinical practice has several benefits, such as increased patient outcomes, lower healthcare costs and increased clinician confidence in making decisions. Furthermore, these models directly relate to the concepts of precision rehabilitation and personalized care, transitioning from a one-size-fits-all to a more patient-centered focus.(10)

Despite the growing evidence base, many barriers exist for this intervention to be adopted on a widespread basis. Challenges include; the variability of the training clinicians have received, the variability in the use of classification systems, and the limited incorporation of electronic health records. More research is also needed to strengthen definitions of subgroups, confirm newer classification systems, and determine longer-term outcomes in diverse patient populations and health systems.

In conclusion, subgroup-specific physiotherapy signifies an evidence based, patient-centered approach to mechanical low back pain management. It is important to have continued multi-disciplinary research, education and policy support for subgroup-specific physiotherapy to bring it from research into

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clinical practice and fully realize its potential impact on global spinal health.

References:

1. Buchbinder R, van Tulder M, Öberg B, Costa LM, Woolf A, Schoene M, et al. Low back pain: a call for action. The Lancet. 2018;391(10137):2384-8.
2. Hartvigsen J, Hancock MJ, Kongsted A, Louw Q, Ferreira ML, Genevay S, et al. What low back pain is and why we need to pay attention. The Lancet. 2018;391(10137):2356-67.
3. Jurak I, Delaš K, Erjavec L, Stare J, Locatelli I. Effects of Multidisciplinary Biopsychosocial Rehabilitation on Short-Term Pain and Disability in Chronic Low Back Pain: A Systematic Review with Network Meta-Analysis. Journal of Clinical Medicine. 2023;12(23):7489.
4. O'Sullivan PB, Caneiro J, O'Keeffe M, Smith A, Dankaerts W, Fersum K, et al. Cognitive functional therapy: an integrated behavioral approach for the targeted management of disabling low back pain. Physical therapy. 2018;98(5):408-23.
5. Hill JC, Whitehurst DG, Lewis M, Bryan S, Dunn KM, Foster NE, et al. Comparison of stratified primary care management for low back pain with current best practice (STarT Back): a randomised controlled trial. The Lancet. 2011;378(9802):1560-71.
6. Ogbeivor C, Elsabbagh L. Management approach combining prognostic screening and targeted treatment for patients with low back pain compared with standard physiotherapy: a systematic review & meta-analysis. Musculoskeletal care. 2021;19(4):436-56.
7. Alrwaily M, Timko M, Schneider M, Stevans J, Bise C, Hariharan K, et al. Treatment-based classification system for low back pain: revision and update. Physical therapy. 2016;96(7):1057-66.
8. Deegan O, Fullen BM, Segurado R, Doody C. The effectiveness of a combined exercise and psychological treatment programme on measures of nervous system sensitisation in adults with chronic musculoskeletal pain - a systematic review and meta-analysis. BMC Musculoskeletal Disorders. 2024;25(1):140.
9. Patel DN, Pathapati R, Hand C, Varma A, Ramtin S, Ring D. Cognitive Behavioral Therapy Reduces Unhelpful Thinking Among People with Musculoskeletal Symptoms: A Meta-Analysis. Chronic Stress. 2024;8:24705470241304252.
10. French MA, Roemmich RT, Daley K, Beier M, Penttinen S, Raghavan P, et al. Precision rehabilitation: optimizing function, adding value to health care. Archives of physical medicine and rehabilitation. 2022;103(6):1233-9.