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EDITORIAL

Clinical prediction rules

A trend in manual therapy has been the development of Clinical Prediction Rules (CPR). CPRs are derived statistically – literally “translated” from research evidence – with the aim of identifying the combinations of clinical examination findings that can predict a condition or outcome. (Fritz et al., 2003; Fritz, 2009; Cook, 2008)

Falk and Fahey (2009) summarise the key element of CPR as follows: “Clinical prediction rules quantify the contribution of symptoms, clinical signs, and available diagnostic tests, and stratify patients according to the probability of having a target disorder. The outcome of interest can be diverse and be anywhere along the diagnostic, prognostic, and therapeutic spectrum”.

In manual and movement therapies, this might translate into a focus on particular problems, such as nonspecific low-back pain (LBP), as well as those patients enduring this condition. This would allow a degree of categorization – so predicting which forms of treatment would be most likely to be of benefit to LBP in general, and/or which specific subgroups of patients with LBP should be targeted with particular therapeutic approaches.

What though is the reliability of such prediction?

And what is the reliability of the tests involved in producing categorization?

Paatelma et al. (2009) examined Inter-tester reliability in classifying sub-acute low-back-pain patients, comparing specialist and non-specialist examiners. They observed that: “Although a number of LBP classification systems have been proposed, such as a pathoanatomical/pathophysiological classification system, the McKenzie classification, treatment-based classification, and the movement-impairment classification, what is still unclear is which clinical tests between two assessing clinicians are sufficiently reliable to allow subgroup categorization. The reliability and validity of the overall classification systems has been tested and has been reported as moderate or good”.

Not surprisingly, the better trained the individual practitioners, the more accurate the findings.

As to the reliability of tests used for placing types of low-back pain, into separate groupings, the evidence is variable. Paatelma et al. (2009) summarise the current situation as follows:

- Discogenic and sacroiliac joint pain: fair to good
- Segmental dysfunction/facet pain: poor
- Clinical lumbar instability: poor to good
- Clinical central or lateral stenosis: no reliable clinical tests, however a self-reported history questionnaire has been shown to be a useful diagnostic tool for lumbar spinal stenosis

A further obvious question is whether or not classification of different types of low-back pain actually improves clinical outcomes?

In a study involving over 2000 patients with ‘mechanical low-back pain’, in which there was no direct reference to anatomic site, or pathological process, Hall et al. (2009) observed that: “The identification of clinical syndromes directed treatment; there was no reference to specific pathology. This approach had a strong positive effect on outcomes for pain relief, reduced medication use, improved function, and shortened length of treatment”.

Lee and Lee (in press), caution that while useful as part of decision making CPRs should not replace clinical judgement – and should be seen as complementary to that process – which needs to involve experience, clinical opinion, intuition as well as research evidence.

It is important to acknowledge that while statistical evidence tells us about the *average response of a group*, defined by the characteristics used in design of the study, in practice, individual symptoms and circumstances may be identified to a greater or lesser degree than such averages suggest would be the case – or might even present quite differently.

Most experienced clinicians are well aware of patients they have seen who display symptoms and characteristics that are not the same as those suggested by data from clinical trials – and that these individual cases may indeed offer insights that can lead to research questions being generated.

It is also useful to acknowledge that information deriving from research may at times be subject to bias during the process of interpretation as conclusions are drawn. It is a truism to state that a *lack of* evidence does not invalidate a technique, or an approach that has been shown by

experience to have clinical value, even if it does not quite fit with clinical prediction rules.

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