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Evaluation of a treatment-based classification algorithm for low back pain

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Theme: How can we better translate evidence into clinical practice?

Abstract:

Background. Several studies have investigated criteria for classifying patients with low back pain into treatment-based subgroups. A comprehensive algorithm was recently created to translate these criteria into a clinical decision-making guide. This study investigated the translation of the individual subgroup criteria into a comprehensive algorithm by studying the prevalence of patients meeting each treatment subgroup, more than one treatment subgroup, and none of the treatment subgroups. The reliability of the classification decision was also investigated.

Methods. A cross-sectional, observational study of 250 acute/subacute low back pain patients recruited from USA and Australia was performed. Patients were recruited from physical therapy clinics and outpatient departments from hospitals (Sydney only) creating a representative sample of patients seeking care for their low back pain. Trained physical therapists performed standardized assessments on all patients. The researchers used these findings to classify patients into subgroups. A sub-set of 31 patients were re-assessed to determine inter-rater reliability of the algorithm decision.

Results. Of all patients, 25.2% (95% CI: 19.8 to 30.6%) did not meet any subgroup, 49.6% (95% CI: 43.4 to 55.8%) met only one subgroup, and 25.2% (95% CI: 19.8 to 30.6%) met more than one subgroup. The most common combination of subgroups met was manipulation + specific exercise (68.4% of patients meeting two subgroups). Reliability of the algorithm decision was moderate (kappa= 0.52, 95% CI: 0.27 to 0.77; percentage agreement = 67%).

Conclusions. These findings provide important clinical data to guide future research and revisions to the algorithm. The finding that 25% of patients met more than one subgroup has important implications for the sequencing of treatments in the algorithm. Likewise, the finding that 25% of patients did not meet any subgroups provides important information for potential expansion of the algorithm to include other treatments. Reliability of the algorithm is sufficient for clinical use. As this classification algorithm is being used in parts of the world to guide management of low back pain, it is imperative that these findings are further assessed.