

EDITOR'S
CHOICE

Ten years of evidence to guide physiotherapy interventions: Physiotherapy Evidence Database (PEDro)

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AN EVIDENCE-BASED APPROACH

Clinicians are increasingly using evidence from high-quality clinical research to guide clinical decision making. Recent articles in this journal have examined research evidence to assist in clinical decisions as diverse as the prescription of running shoes,¹ exercise therapy in the treatment of chronic disease² and the use of protective equipment to prevent concussion.³

THE PHYSIOTHERAPY EVIDENCE DATABASE

The most valid information about the effectiveness of healthcare interventions is provided by randomised controlled trials and systematic reviews of randomised controlled trials.⁴ The Physiotherapy Evidence Database (PEDro; <http://www.pedro.org.au>) provides easy access to randomised controlled trials and systematic reviews of physiotherapy interventions. PEDro also includes links to evidence-based clinical practice guidelines. October 2009 marked the 10th anniversary of the launch of PEDro.

PEDro is freely available on the internet. The database indexes citation details, author abstracts and, where available, links to full text for randomised controlled trials, systematic reviews and practice guidelines in physiotherapy. Although the PEDro database is designed primarily for health professionals, a subsite, called Physiotherapy Choices (<http://www.physiotherapychoices.org.au>), provides information in lay terms directly to consumers of physiotherapy services.

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As of August 2009, more than 15 000 records (12 408 trials, 2060 reviews and 603 guidelines) have been indexed on PEDro. Each record is coded according to the subdiscipline(s) of physiotherapy it addresses. PEDro now includes 615 randomised controlled trials and 102 systematic reviews coded as "sports physiotherapy." Many of the sports-coded records are also coded as being relevant to another physiotherapy subdiscipline. The most common of these were musculoskeletal (66% of sports-coded records) and orthopaedics (29%), and a small proportion were also relevant to cardiopulmonary, gerontology, continence, and women's health, paediatrics and neurology (fig 1).

PEDro is used in more than 80 countries. More than 2300 searches of PEDro are performed each day. This means that in the past year alone, PEDro provided answers to more than 800 000 clinical questions.

THE GROWTH OF PEDRO

The amount and quality of evidence to guide physiotherapy interventions have grown markedly in the past few decades.⁵ In fact, the number of randomised controlled trials and systematic reviews of physiotherapy interventions has doubled every 3½ years. As fig 2 shows, there has also been an exponential increase in the records coded as being relevant to sports physiotherapy.

THE PEDRO SCALE

The PEDro scale⁶ was developed to rate the methodological quality of trials. A quality score is generated for each trial report by counting the number of individual quality criteria from the PEDro scale that the trial report satisfies. The PEDro score aims to give users a quick indication of the study design features of different trials on PEDro. A recent independent Rasch analysis supports the use of the PEDro score.⁷ Trials with higher PEDro scores

are displayed first in PEDro search output. Figure 3 shows the distribution of PEDro scores for the trials coded as being of relevance to sports physiotherapy. The maximum PEDro score is 10. Two points are given for "blinding" of the people receiving interventions and therapists delivering interventions. Because such blinding is often not possible in many trials of sports interventions, such trials would only be able to receive a score out of 8. The median PEDro score for sports physiotherapy trials is currently 4 (interquartile range 3–5). This is slightly less than the median PEDro score for all 11 503 rated trials on PEDro (median 5, interquartile range 4–6). Figure 4 shows the proportion of sports trials meeting the criteria for each individual item on the PEDro scale.

PEDRO INDEXES MANY JOURNALS AND LANGUAGES

Seventy-six (11%) of the sports-related trials and reviews on PEDro have been published in the *British Journal of Sports Medicine*. High-quality sports-related trials (those with a PEDro score of 8 or more) have also been published in a range of other journals including *Rheumatology*, *Journal of the American Podiatric Medical Association*, *The American Journal of Sports Medicine*, *Archives of Physical Medicine and Rehabilitation*, *Isokinetics and Exercise Science*, *Physical Therapy*, *The Journal of Orthopaedic and Sports Physical Therapy*, *Physical Therapy in Sport*, *Scandinavian Journal of Medicine & Science in Sports*, *Annals of the Rheumatic Diseases*, *British Journal of Psychiatry*, *Medicine and Science in Sports and Exercise*, *Journal of Bone and Joint Surgery*, *Lancet*, *Clinical Rehabilitation*, *Ugeskrift for Laeger*, *Scandinavian Journal of Rehabilitation Medicine* and *Physiotherapy*.

PEDro indexes physiotherapy evidence in any language. The 15 071 records currently indexed were published in 34 languages. The most common languages were English (90%), Chinese (3%), German (2%), Dutch (1%) and French (1%). A smaller proportion (5%) of sports-related records indexed on PEDro have been published in languages other than English. This might reflect publication trends, or it could reflect methods used to identify studies indexed on PEDro.

INTEGRATING EVIDENCE WITH PATIENT VALUES AND CLINICAL EXPERTISE

Evidence-based practice has been criticised for being separate to, and potentially in conflict with, a "humanist" approach to care which seeks to understand the patient as a person and consider patient values, goals

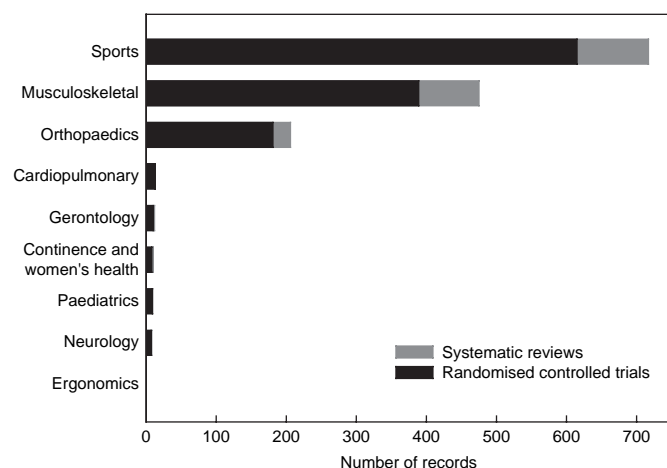


Figure 1 Additional subdiscipline codes for the 717 PEDro records coded as being of relevance to sports physiotherapy.

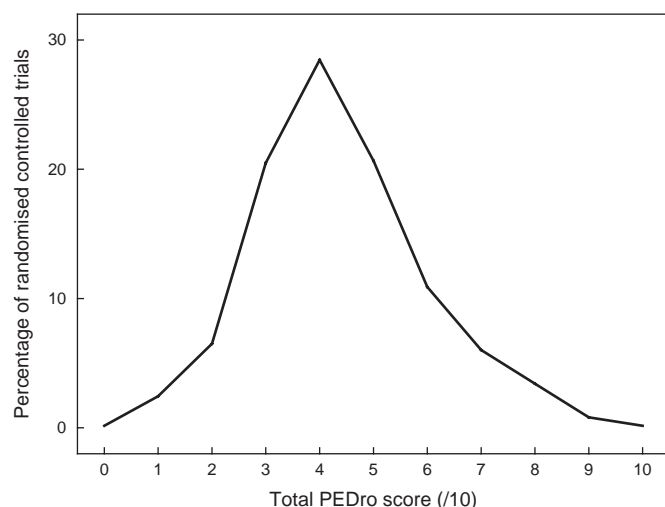


Figure 3 PEDro score for randomised controlled trials on PEDro coded as being of relevance to sports physiotherapy (n=615).

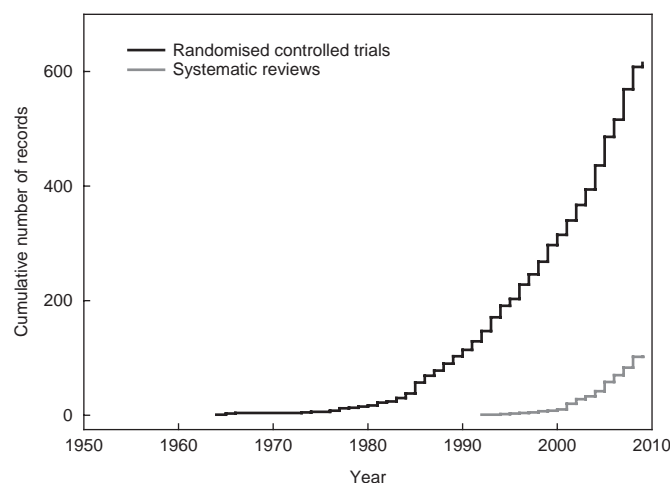


Figure 2 Growth in PEDro records coded as being of relevance to sports physiotherapy.

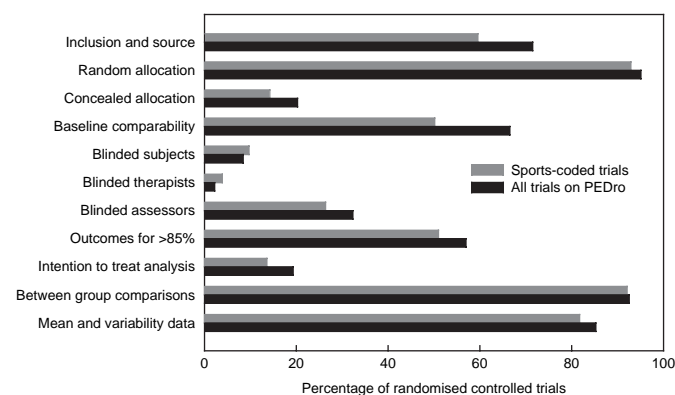


Figure 4 The proportion of trials meeting the criteria for each individual item on the PEDro scale (n=615 for sports-coded trials; n=2,408 for all randomised controlled trials [RCTs]).

and preferences.⁸ However, most models of evidence-based health practice^{9–10} call for the integration of best research evidence with patient values and clinician expertise. Research evidence should complement and need not be at odds with a humanist approach to care.

Ideally, clinicians integrate research evidence with their clinical expertise to estimate the likely effects of different intervention options for individual patients. Patients can then be informed of these likely effects and the costs and risks associated with particular interventions. Such information enables patients to make informed choices about intervention.¹¹ PEDro provides easy access to research evidence, which is a vital component of evidence-based practice.

Funding PEDro is funded by the Motor Accidents Authority of New South Wales, the Motor Accidents Insurance Commission (Queensland), the Victorian Transport Accidents Commission (Australia), the Physiotherapy Registration Board in five Australian

states (Queensland, New South Wales, Australian Capital Territory, Tasmania and Western Australia), and the physiotherapy associations in Australia, Austria, Canada, Denmark, Finland, Germany, The Netherlands, New Zealand, Singapore, Switzerland and the USA. Chris Maher, Cathie Sherrington and Rob Herbert's research fellowships are funded by the National Health and Medical Research Council of Australia.

Competing interests The authors are the developers of the Physiotherapy Evidence Database (PEDro).

Provenance and peer review Commissioned; not externally peer reviewed.

Accepted 3 September 2009
Published Online First 20 October 2010
Br J Sports Med 2010;**44**:836–837.
doi:10.1136/bjsm.2009.066357

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