PEDro Newsletter 1 August 2022

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PEDro

Physiotherapy Evidence Database

A. PEDro update (1 August 2022)

PEDro contains 55,812 records. In the 1 August 2022 update you will find:

- 42,673 reports of randomised controlled trials (41,839 of these trials have confirmed ratings of methodological quality using the PEDro scale)
- 12,418 reports of systematic reviews, and
- 721 reports of evidence-based clinical practice guidelines.

For latest guidelines, reviews and trials in physiotherapy visit *Evidence in your inbox*.

B. DiTA update (1 August 2022)

DiTA was last updated on 4 July 2022. DiTA contains 2,366 records. In the 1 August 2022 update you will find:

- 2,117 reports of primary studies, and
- 249 reports of systematic reviews.

For the latest primary studies and systematic reviews evaluating diagnostic tests in physiotherapy visit *Evidence in your inbox*.

C. #PEDroTacklesBarriers to evidence-based physiotherapy: launch video now available in French

We are excited to announce that the #PEDroTacklesBarriers to evidence-based physiotherapy campaign launch video is now available in French. Thank you to Élodie Louvion from Société Française de Physiothérapie for translating and recording the video.

The #PEDroTacklesBarriers to evidence-based physiotherapy campaign aims to tackle the four biggest barriers to evidence-based physiotherapy: time, language, lack of access and lack of statistical skills. This month the campaign will be tackling the barrier of language.

You can view previous tips about tackling the barrier of time on the PEDro website.

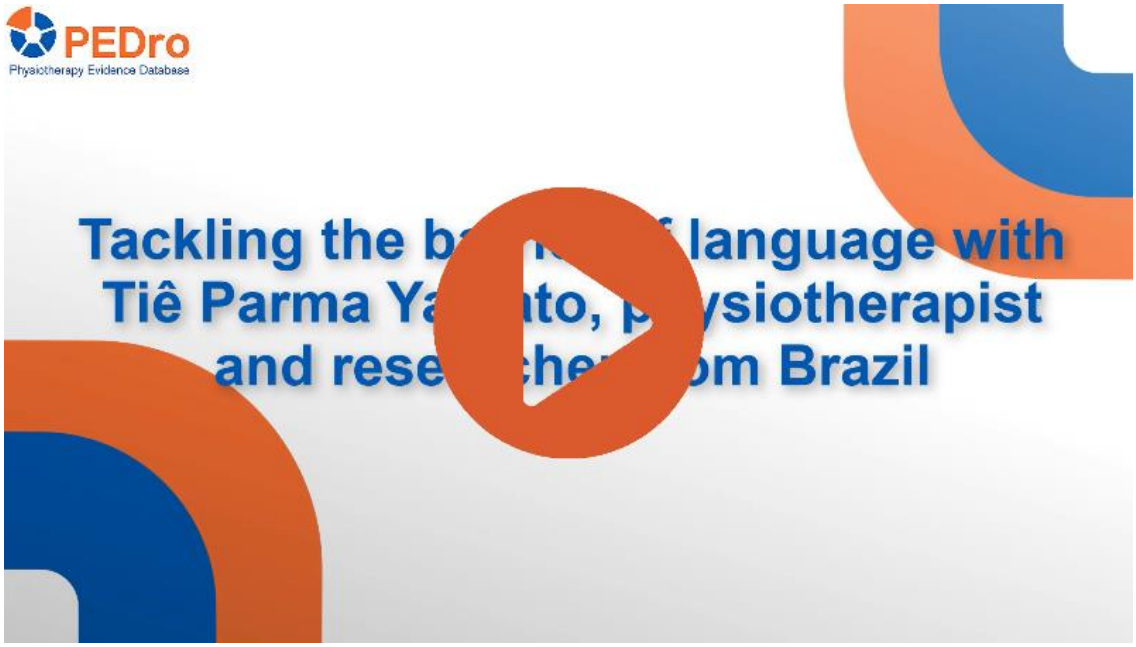
D. #PEDroTacklesBarriers to evidence-based physiotherapy: language

Language is an important barrier to accessing and implementing evidence-based physiotherapy in many countries, with English being the dominant language used to publish and disseminate evidence-based research and guidelines.

This month the barrier of language is tackled. Five physiotherapists and groups share how they have tackled the language barrier for the #PEDroTacklesBarriers to evidence-based physiotherapy campaign.

Tiê Parma Yamato, Brazil

Tiê Parma Yamato is a researcher where English is her second language. Tiê prioritised learning English to overcome the language barrier as most research is disseminated in English. Initially, she relied heavily on translation services (i.e. Google translate), took English courses, and read a lot in English. She travelled to Australia to further immerse herself in the English language. As she became more familiar with the language, she engaged with more complex vocabulary and discussion, giving her more in-depth understanding of the literature and evidence-based practice.

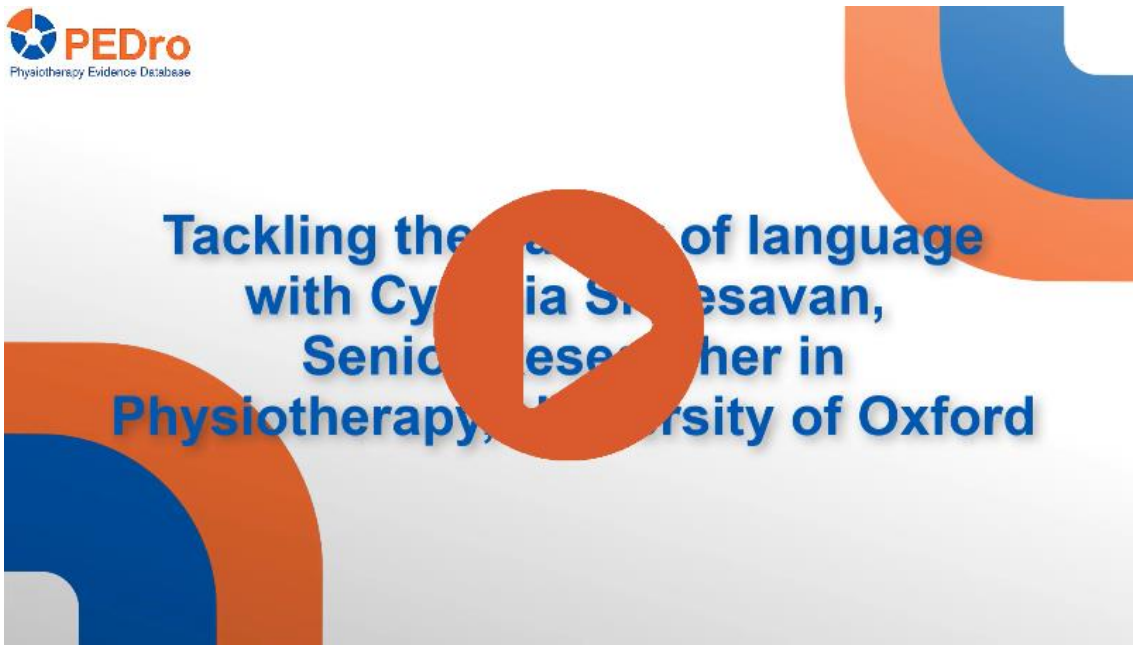


Zbyszek Wroński, Poland

PEDro was recently translated into Polish, which has led to a large increase in PEDro-related searches from Poland and increased the accessibility of evidence-based practice among Polish physiotherapists. The PEDro resource is now used in physiotherapy courses in Poland to teach and promote evidence-based practice. Accessibility to research has improved with this resource, however language continues to be a barrier since most research articles are published in English.

Cynthia Srikesavan, Tamil Nadu, India

A small group of Tamil speaking physiotherapists trained from Tamil Nadu in Southern India have been running a monthly virtual journal club since 2020. One strategy they use to overcome the language barrier is to use both English and Tamil during their journal clubs. For example, they introduce initial article structure and concepts in Tamil, have their more formal presentations in English, and end with broader group discussions back in Tamil. This, amongst other strategies, improves their English and understanding of evidence-based physiotherapy.



Anne-Kathrin Rausch, Physioscience, Germany

Physioscience is a platform that publishes research in the German language and is the Official publication of Germany's Society for Physiotherapy Science. To make research more accessible, Physioscience publishes work in both German and English. In every issue, Physioscience publishes three 'Gelesen & Kommentiert' articles. These articles are in German and include a summary (abstract) of the published work, followed by a critical appraisal and comment to discuss the topic within the context of physiotherapy in Germany, Austria and Switzerland.

Nynke Swart, KNGF, the Netherlands

Nynke Swart says KNGF (Royal Dutch Society for Physical Therapy) have developed 16 clinical guidelines that are relevant for physiotherapy practice in the Netherlands. When developing guidelines, they mainly focus on Dutch and English studies. The evidence together with other considerations is translated into easy-to-use recommendations for physiotherapists by a group of experts. KNGF disseminate their guidelines in both Dutch and English to increase accessibility.

Please join us in the 'PEDroTacklesBarriers to evidence-based physiotherapy' campaign to help tackle the biggest barriers to evidence-based physiotherapy. You can follow the campaign on the PEDro webpage, blog, Twitter (@PEDro_database) or Facebook (@PhysiotherapyEvidenceDatabase.PEDro).

E. PEDro's World-Wide Journal Club on the effect of exercise-based programs for preventing non-contact musculoskeletal injuries in football (soccer) is now available

Welcome to the PEDro World-Wide Journal Club. The purpose of the PEDro World-Wide Journal Club is to encourage the global physiotherapy community to read trials, reviews and guidelines that have important implications for clinical practice. We hope that facilitating discussion of this research will help physiotherapists to implement the results into their clinical practice.

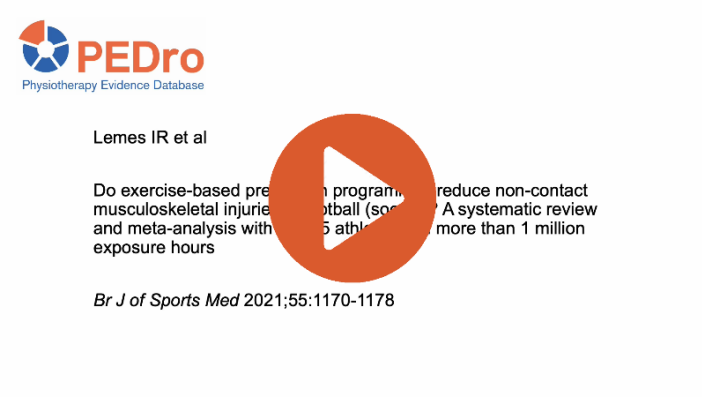
Journal clubs are a great way to translate research into practice. In March 2020 PEDro published a blog that outlined some key features of running a successful journal club. Since then, PEDro has run five journal clubs which have been well received. The idea is for physiotherapists to use resources provided by PEDro as the basis for running a local journal club with their peers.

This is the first PEDro World-Wide Journal Club conducted in Portuguese and is about exercise-based programs to prevent non-contact musculoskeletal injuries in football (soccer). We will be discussing the randomised controlled trial by Lemes et al. We encourage physiotherapists with an interest in musculoskeletal and sports physiotherapy

to participate in a five-step process:

1. invite your colleagues to be involved
2. read the article

3. watch (or listen to) the video summarising the exercise-based programs for preventing non-contact musculoskeletal injuries in football (soccer) review.



4. watch (or listen to) the video of the panel discussing the exercise-based programs for preventing non-contact musculoskeletal injuries in football (soccer) review.

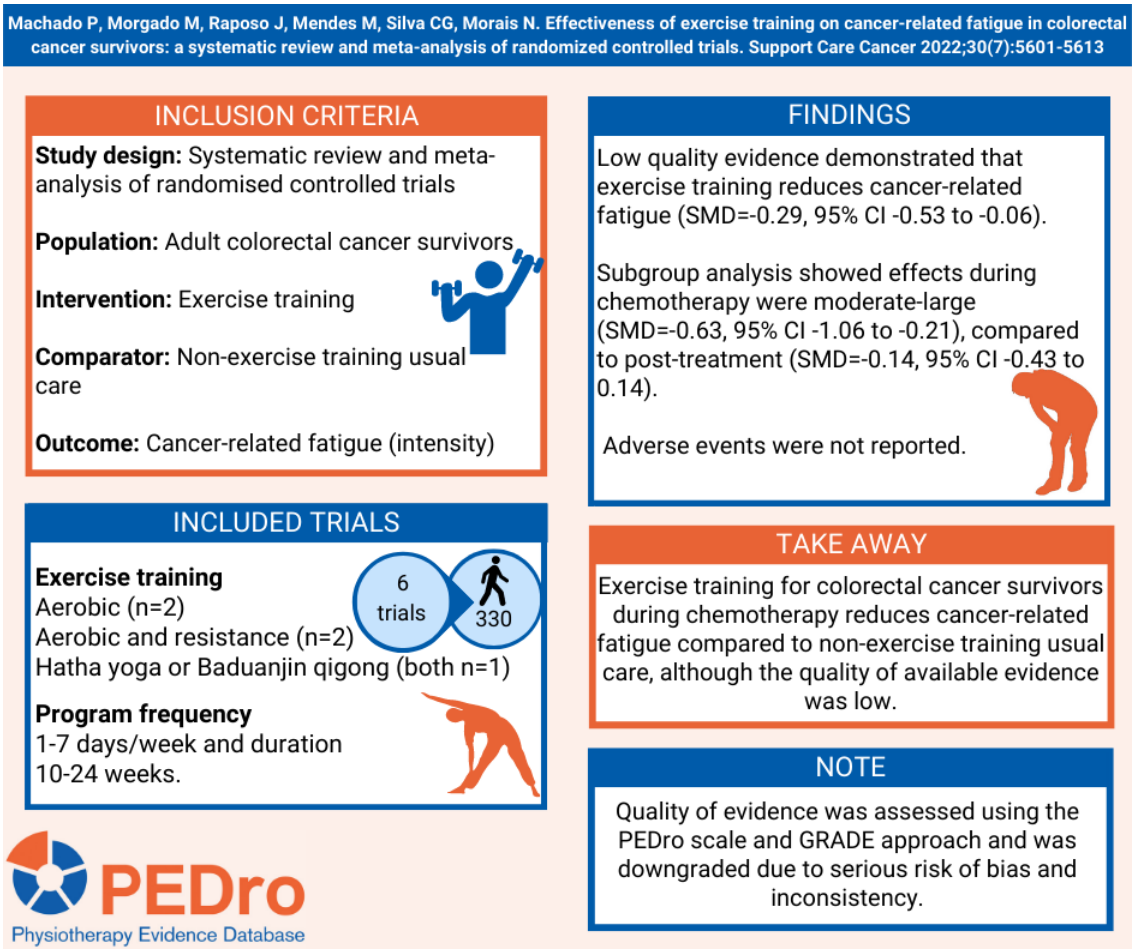
5. meet with your colleagues to have your own discussion about the exercise-based programs for preventing non-contact musculoskeletal injuries in football (soccer) review.

If you are interested in being involved, please visit the PEDro web-site for more information.

F. Infographic for systematic review found that exercise training for colorectal cancer survivors during chemotherapy reduces cancer-related fatigue

Last month we summarised the systematic review by Machado P et al. The review concluded that exercise training for colorectal cancer survivors during chemotherapy reduces cancer-related fatigue compared to non-exercise training usual care, although the quality of available evidence was low.

Some findings are included in this infographic.



Machado P, Morgado M, Raposo J, Mendes M, Silva CG, Morais N. Effectiveness of exercise training on cancer-related fatigue in colorectal cancer survivors: a systematic review and meta-analysis of randomized controlled trials. *Support Care Cancer*. 2022 Jul;30(7):5601-5613. https://doi.org/10.1007/s00520-022-06856-3

Read more on PEDro.

G. Systematic review found that every 30 min/week of moderate to vigorous supervised aerobic exercise training in people with type 2 diabetes significantly reduced HbA1c, with the greatest reduction seen with 100 min/week.

Type 2 diabetes is a global public health concern, with increasing incidence and financial burden. Improving glycaemic control (measured by glycated haemoglobin, HbA1c) reduces risks of microvascular complications and cardiovascular disease events. Previous systematic reviews indicated aerobic exercise improves glycaemic control, but the optimum dose of exercise was unknown. This systematic review aimed to estimate the dose-dependent effects of supervised aerobic exercise training of 12 weeks or longer

compared to no intervention or usual activity (control group) on levels of HbA1c in people with type 2 diabetes.

Guided by a prospectively registered protocol, sensitive searches of three databases (including PubMed, Scopus and Web of Science) and citation tracking were performed to identify randomised controlled trials evaluating supervised aerobic training. The participants were people with type 2 diabetes aged 18 years and older. The intervention was supervised aerobic exercise training of any intensity, modality, frequency and session duration in a program for 12 weeks or longer. Trials were excluded that implemented combined aerobic and resistance exercise training or had an active control group (e.g. resistance training). The primary outcome was change in HbA1c (%). In addition to reporting HbA1c, included trials needed to report the duration and intensity of the aerobic training for the intervention group. Two reviewers independently selected trials, extracted data and evaluated trial quality. Disagreements were resolved through discussion or arbitration by a third reviewer. Trial quality was assessed using the Cochrane risk of bias tool. Certainty of the evidence was evaluated using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach. Dose-response meta-analysis was used to calculate the mean between-group difference and 95% confidence interval (CI) to illustrate the dose-dependent effect of duration (min/week) of supervised aerobic exercise on HbA1c. Pre-defined subgroup analyses were based on baseline weight and health status, exercise modality and intensity, intervention duration, presence of dietary co-intervention, and risk of bias assessment.

Twenty-six trials (1,253 participants) published between 1994 and 2020 were included in this review. The trials were conducted in North and South America, Europe, Africa, Asia and Oceania. Nineteen trials included men and women, five included women only and two included men only. Participants were a mix of weight ranges (normal weight, overweight and obese) and varied incidence of comorbidities or diabetic complications. Intervention duration ranged from 12 to 52 weeks. Frequency of supervised aerobic exercise training was 1-4 sessions/week. Twelve trials implemented a moderate intensity aerobic exercise training program, 10 trials a moderate-to-vigorous intensity program, and four trials a vigorous intensity program. All trials implemented continuous aerobic exercise, except for one study which implemented high-intensity interval training. Fourteen trials implemented a non-progressive aerobic exercise program and the other 12 trials progressed training in terms of frequency, intensity or duration.

Each 30 min/week supervised aerobic exercise reduced HbA1c by -0.22 percentage point (95% CI -0.29 to -0.15; 26 trials; 1253 participants; strong certainty). The subgroup analyses produced similar results for the baseline participant characteristics, program design and risk of bias. Levels of HbA1c decreased proportionally with an increase in the duration of supervised aerobic exercise training up to 140 min/week (MD: -0.88 percentage point, 95% CI -1.22 to -0.53), though the continued improvements after 100 min/week were trivial.

Every 30 min/week supervised moderate-to-vigorous intensity aerobic exercise training reduced HbA1c by 0.22 percentage point. The greatest reduction was seen at 140 min/week, however durations above 100 min/week do not further decrease HbA1c. The certainty of the evidence was rated strong based on the GRADE approach.

Jayedi A, Emadi A, Shab-Bidar S. Dose-dependent effect of supervised aerobic exercise on hba1c in patients with type 2 diabetes: a meta-analysis of randomized controlled trials. *Sports Medicine* 2022 Apr 1:Epub ahead of print.

Read more on PEDro.

H. Next PEDro and DiTA updates (September 2022)

The next PEDro and DiTA updates are on 5 September 2022.

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