PEDro Newsletter 4 May 2020

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PEDro

Physiotherapy Evidence Database

A. PEDro update (4 May 2020)

PEDro contains 46,900 records. In the 4 May 2020 update you will find:

- 36,500 reports of randomised controlled trials (35,655 of these trials have confirmed ratings of methodological quality using the PEDro scale)
- 9,722 reports of systematic reviews, and
- 678 reports of evidence-based clinical practice guidelines.

PEDro was updated on 4 May 2020. For latest guidelines, reviews and trials in physiotherapy visit *Evidence in your inbox*.

B. DiTA update (4 May 2020)

DiTA contains 1,768 records. In the 4 May 2020 update you will find:

- 1,602 reports of primary studies, and
- 166 reports of systematic reviews.

DiTA was updated on 4 May 2020. For the latest primary studies and systematic reviews evaluating diagnostic tests in physiotherapy visit *Evidence in your inbox*.

C. PEDro celebrates Cystic Fibrosis Awareness Month in May 2020

May 2020 is Cystic Fibrosis Awareness Month, a time for those affected by cystic fibrosis,

their families, healthcare team and supporters to raise awareness of the condition. Cystic fibrosis is a progressive, genetic disease that primarily affects the lungs and pancreas, contributing to persistent lung infections and malnutrition. Approximately 70,000 to 100,000 people are currently living with cystic fibrosis worldwide.

Physiotherapists play a significant role in the management of those with cystic fibrosis, including optimising airway clearance techniques and training parents and carers to perform daily prophylactic treatment. Physiotherapists prescribe structured individualised exercise programs to assist with airway clearance, improve strength and fitness, and help manage cystic fibrosis-related diabetes. Participation in these physiotherapy programs can improve the quality of life of those with cystic fibrosis.

There is a significant amount of high-quality clinical research to guide the physiotherapy management of people with cystic fibrosis. PEDro currently indexes over 240 clinical practice guidelines, systematic reviews and randomised controlled trials evaluating physiotherapy treatment for people with cystic fibrosis.

You may like to review the following practice guidelines, which provide useful summaries for physiotherapists working in this clinical area:

- National Institute for Health and Care Excellence. Cystic fibrosis: diagnosis and management (NG78), 2017
- Flume PA, et al [Cystic Fibrosis Foundation]. Cystic fibrosis pulmonary guidelines: airway clearance therapies. *Respir Care* 2009;54(4):522-37
- Button BM, et al [The Thoracic Society of Australia and New Zealand Leaders in Lung Health]. Physiotherapy for cystic fibrosis in Australia and New Zealand, 2016

The Cochrane Library includes many systematic reviews specific to cystic fibrosis, links to recent reviews are listed below:

- Elkins M, Dentice R. Timing of hypertonic saline inhalation for cystic fibrosis. *Cochrane Database Syst Rev* 2020;Issue 2
- Oliveira VHB, et al. Physical therapies for postural abnormalities in people with cystic fibrosis. Cochrane Database Syst Rev 2020;Issue 3
- McIlwaine M, et al. Positive expiratory pressure physiotherapy for airway clearance in people with cystic fibrosis. *Cochrane Database Syst Rev* 2019;Issue 11
- Irons JY, et al. Singing as an adjunct therapy for children and adults with cystic fibrosis. *Cochrane Database Syst Rev* 2019;Issue 7
- Wilson LM, et al. Airway clearance techniques for cystic fibrosis: an overview of Cochrane systematic reviews. *Cochrane Database Syst Rev* 2019;Issue 1

To keep up-to-date with the latest trials, reviews and guidelines evaluating physiotherapy interventions for people with cystic fibrosis, subscribe to the ‘cardiothoracic’ or ‘chronic respiratory disease’ feed of PEDro’s *Evidence in your inbox*. Subscription is free.

D. Response to the COVID-19 pandemic from Italian physiotherapists

Since late February 2020 the world has witnessed the impact of the Coronavirus Disease 2019 (COVID-19) pandemic in Italy. Physiotherapists have contributed to frontline care during this time. With the number of cases slowing, three physiotherapists (Paolo Pedersini, Camilo Corbellini, Jorge Hugo Villafañe) have had the energy to share their experiences in a ‘point of view’ article that has been accepted for publication in the journal Physical Therapy.

Italy has one of the highest global burdens of COVID-19, with more than 77,635 cases and 12,428 deaths by the end of March 2020. In addition to sharing some epidemiology data, this article describes how physiotherapists responded to the pandemic with support from the Associazione Italiana Fisioterapisti.

One of the authors, Dr Camilo Corbellini, has talked to the PEDro team about his experiences. Camilo was born in Brazil and moved to Italy to undertake masters and doctoral studies in respiratory physiotherapy and physiology at Milan University. Since 2010 he has worked in a post-acute rehabilitation clinic (Casa di Cura Villa Serena) in Piossasco, which is about 150 km from Milan. Before the pandemic Camilo provided exercise training, respiratory physiotherapy, non-invasive ventilation, and lung function testing for people with respiratory disorders.

Working in post-acute care, Camilo and his colleagues did not have to respond to the initial impact of the emergency. They used this time to prepare clinical routines to treat potentially infected patients and to prevent the spread of the virus between patients and between staff and patients. Education in hand washing and social distancing was critical. With some staff in quarantine, Camilo worked flexibly in new roles to support the clinic (for example, doing temperature screening).

As the pandemic progressed, patients were restricted to their rooms and visitors were excluded. While patients are separated into positive and negative cases, everyone is treated as a potential positive case. Physiotherapists use personal protective equipment whenever they provide treatment. The work schedule is planned on a day-to-day basis, taking into account the number of patients requiring treatment and the availability of staff – many staff are at home in quarantine.

Despite taking these protective measures, Camilo was quarantined in early April. He

experienced mild symptoms, but was not tested (this was based on screening guidelines in place at that time). During this quarantine phase Camilo received daily telephone calls to monitor his condition (temperature, oxygen saturation, respiratory rate, and even a 6-minute walk test). He has returned to work and all staff are now being tested. Camilo is waiting for his swab results.

Camillo concluded by saying: “extreme situations also present an opportunity to grow. As a physiotherapist, the emergency was the opportunity to do what I, my wife (also a physiotherapist), and my colleagues do best: helping people. I can guarantee that not one of us feels like a hero, asking ourselves ‘can I could do more?’. My colleagues and I are trying to describe and publish everything possible to share what we are learning, we know that it is just a brick in this enormous knowledge castle, but we are sure that our efforts will help make it stronger, for the best of everyone. Remember solidarity? Sharing is all about that.”

Pedersini P, Corbellini C, Villafañe JH. Italian physical therapists’ response to the novel COVID-19 emergency. *Phys Ther* 2020 Apr 13: Epub ahead of print

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E. PEDro thanks physiotherapy organisations for their leadership during the COVID-19 pandemic

The PEDro team expresses its thanks and appreciation to physiotherapy organisations for their leadership during the COVID-19 pandemic. As the pandemic continues to impact worldwide, the World Confederation for Physical Therapy (WCPT) and its Member Organisations (including the Australian Physiotherapy Association and the Chartered Society of Physiotherapy) have provided guidance, support and direction for the global physiotherapy community. We pay tribute to your expertise, governance, and humility.

Physiotherapists and physiotherapy organisations have been providing frontline care, implementing telehealth services, and contributing to public health campaigns during the pandemic. We will highlight some key initiatives and resources in this post.

The first version of the consensus guideline for physiotherapy management of COVID-19 in the acute hospital setting has been shared over 42,000 times. This guideline is now available in 23 languages. The English version is published in the *Journal of Physiotherapy*. The Simplified Chinese, Traditional Chinese, Croatian/Bosnian, Dutch, French, Finnish, German, Greek, Hungarian, Indonesian, Italian, Japanese, Persian, Polish, Brazilian Portuguese, European Portuguese, Romanian, Slovak, Spanish, Thai, Turkish, and Vietnamese versions are available on the WCPT web-site. As we highlighted in our April blog, this guideline covers workforce planning and preparation plus the delivery of physiotherapy interventions. There are 17 recommendations for workforce planning, 7

recommendations for screening to determine indications for physiotherapy, 16 for respiratory physiotherapy interventions, 11 for physiotherapy mobilisation, exercise and rehabilitation interventions, and 15 for the use of personal protective equipment.

WCPT has produced a COVID-19 hub. Indexing campaigns, resources and educational materials from reputable sources, this hub provides physiotherapists with a wealth of information about working during the pandemic. Importantly, WCPT have launched the #PPE4PT advocacy campaign. This campaign calls on governments around the world to provide the correct personal protective equipment for all physiotherapists.

More guidance is now available for physiotherapists switching to telehealth. WCPT and the International Network of Physiotherapy Regulatory Authorities collaborated to produce a white paper on physiotherapy practice in the digital age that is available in both English and Spanish. Produced by BMJ and a number of medical organisations, the Telehealth Toolbox is a collection of guidelines and practical tools that aims to accelerate the adoption of telehealth practices during the COVID-19 pandemic. Physiotherapy-specific guidance is available from the Australian Physiotherapy Association. The Centre for Health, Exercise and Sports Medicine at the University of Melbourne is offering is offering free on-line training in their Physiotherapy Exercise and physical Activity for Knee osteoarthritis (PEAK) program.

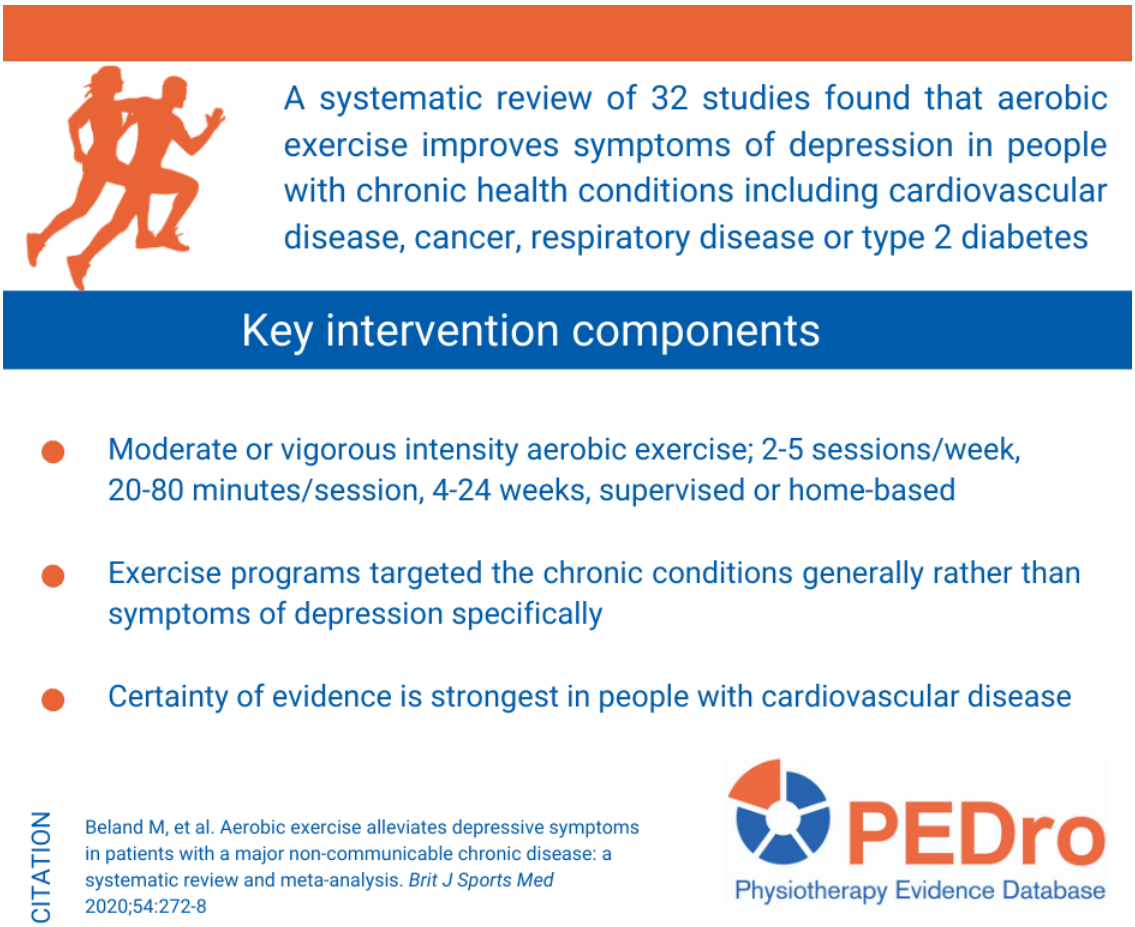
This month we highlight resources designed to encourage three patient groups to stay active and exercise: older people, patients recovering from COVID-19, and children and adults with intellectual impairments. A group of Australian physiotherapists are just about to launch a web-site to support older people to exercise at home. This resource includes sections for older people and the health professionals supporting them. Multi-disciplinary health professionals at Lancashire Teaching Hospitals have developed a resource to assist patients with COVID-19 and their families starting their rehabilitation journey. The site includes exercise videos for the initial recovery phase. Special Olympics Asia Pacific have developed an inclusive fitness app geared specifically to individuals with intellectual disabilities. The SPROUT app aims to empower individuals with intellectual disabilities to live a healthy lifestyle through the gamification of simple exercise.

Staying positive will help us all navigate the pandemic. Two videos from the United Kingdom provide some inspiration. The first was produced by the BBC and illustrates simple strategies to stay positive. The second, called #WeRemember, was produced by The Social Co social media marketing company to highlight positivity and togetherness. The Australian children's music group The Wiggles, who are well known to many physiotherapists in Australia and the USA, have released a song to show that social distancing doesn't have to be a scary conversation.

F. Infographic for systematic review that found that exercise improves symptoms of depression in people with chronic health conditions

Last month we summarised the Beland et al systematic review. The review concluded that exercise improves symptoms of depression in people with chronic health conditions.

Some suggestions for providing exercise programs are in this infographic.



Beland M, et al. Aerobic exercise alleviates depressive symptoms in patients with a major non-communicable chronic disease: a systematic review and meta-analysis. *Brit J Sports Med* 2020;54:272-8

Read more on PEDro.

G. Systematic review found that early rehabilitation interventions reduce the likelihood of developing intensive care unit-acquired weakness in critically ill patients

Intensive care unit-acquired weakness is associated with significant impairments in body

structure and function, activity limitation, and participation restriction. The aim of this review was to estimate the average effect of early rehabilitation interventions compared to usual care on the incidence of intensive care unit-acquired weakness in critically ill patients.

Sensitive searches were performed in five databases (including Medline, Cochrane CENTRAL, and PEDro). Randomised controlled trials of early rehabilitation intervention (early mobilisation and/or neuromuscular electrical stimulation) in critically ill adults who had not already been diagnosed with intensive care unit-acquired weakness that measured muscle strength were included. The primary outcome was the incidence of intensive care unit-acquired weakness. Secondary outcomes included length of time on mechanical ventilation, discharge location, length of stay (both in intensive care and in hospital), and acute mortality (death in intensive care or hospital). Two reviewers independently identified trials for inclusion, extracted data, and assessed trial quality. Discrepancies were resolved through discussion or by arbitration from a third reviewer. The Cochrane risk of bias tool was used to evaluate trial quality. Meta-analysis was used to calculate the odds ratio and 95% confidence interval (CI) for the incidence of intensive care unit-acquired weakness. Four subgroup analyses were performed: (1) <= 7 vs. > 7 day length of stay in intensive care; (2) intervention starting <= 72 hours vs. > 72 hours of admission to intensive care; (3) the type of intervention (early mobilisation vs. neuromuscular electrical stimulation vs. early mobilisation and neuromuscular electrical stimulation); and, (4) time point for assessing intensive care unit-acquired weakness (awakening, 7th day post-awakening, intensive care discharge, hospital discharge).

Nine trials (841 participants) were included in the analyses. Most participants had received mechanical ventilation. The intervention was progressive early mobilisation exercise in five trials, neuromuscular electrical stimulation in three trials, and a combination of early mobilisation and neuromuscular electrical stimulation in one trial. The control group received early mobilisation interventions as part of usual care in six trials.

Early rehabilitation decreased the likelihood of developing intensive care unit-acquired weakness, with an odds ratio of 0.71 (95% CI 0.53 to 0.95, 9 trials). The effect size was larger for > 7 day length of stay in intensive care (odds ratio 0.51, 95% CI 0.32 to 0.81, 7 trials) compared to shorter stays (odds ratio 0.96, 95% CI 0.50 to 1.85, 2 trials), and when intervention commenced in <=72 hours of admission (odds ratio 0.57, 95% CI 0.37 to 0.88, 7 trials) compared to > 72 hours (odds ratio 0.70, 95% CI 0.17 to 2.84, 2 trials). The type of intervention had an impact on the effect size, with an odds ratio of 0.71 (95% CI 0.45 to 1.12, 5 trials) for progressive early mobilisation exercises, 0.26 (95% CI 0.09 to 0.80, 3 trials) for neuromuscular electrical stimulation, and 0.58 (95% CI 0.17 to 1.98, 1 trial) for a combination of early mobilisation and neuromuscular electrical stimulation. The effect size was largest at hospital discharge (odds ratio 0.37, 95% CI 0.15 to 0.94, 3 trials) compared to awakening (odds ratio 0.92, 95% CI 0.05 to 15.68, 2 trials), 7th day post-awakening (odds ratio 1.08, 95% CI 0.46 to 2.55, 1 trial), and intensive care discharge (odds ratio 0.78, 95% CI 0.49 to 1.24, 6 trials).

Early rehabilitation decreased the likelihood of developing intensive care unit-acquired weakness.

Anekwe DE, et al. Early rehabilitation reduces the likelihood of developing intensive care unit-acquired weakness: a systematic review and meta-analysis. *Physiotherapy* 2020;107:1-10.

Read more on PEDro.

H. Support for PEDro comes from the Deutscher Verband für Physiotherapie, Physioswiss, Associação Espanola de Fisioterapeutas, Taiwan Physical Therapy Association, Félag Sjúkraþjálfara, Macau Physical Therapists Association, and Cambodian Physical Therapy Association

We thank Deutscher Verband für Physiotherapie, Physioswiss, Associação Espanola de Fisioterapeutas, Taiwan Physical Therapy Association, Félag Sjúkraþjálfara, Macau Physical Therapists Association, and Cambodian Physical Therapy Association who have just renewed their partnership with PEDro for another year.

I. Next PEDro and DiTA updates (June 2020)

The next PEDro and DiTA updates are on Monday 1 June 2020.

Proudly supported by

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