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Welcome to the PEDro Newsletter for September 2023

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PEDro celebrates World PT Day!

September 8 marks #WorldPTDay. The theme for this year is arthritis and the role of physiotherapists.

Physiotherapists play an important role in the prevention and management of people affected by arthritis. PEDro indexes the latest evidence in the physiotherapy prevention and management of a range of health conditions across the lifespan, including arthritis.

To keep up to date with the latest arthritis research, subscribe to the [Evidence in Your Inbox](#) feeds for musculoskeletal, orthopaedics and chronic pain.



Become a PEDro rater

PEDro is unique. All randomised controlled trials indexed on PEDro are independently quality-rated by trained PEDro raters.

All potential PEDro raters complete the PEDro training program on how to use the PEDro Scale. The program is an online course offered via a 3-month subscription and takes about 2 to 3 hours to complete. The training program is self-paced and includes video tutorials and examples. There is an accuracy test for using the PEDro Scale at the end of the training program. After successful completion of the accuracy test, people are invited to be a PEDro rater. More information about the program can be found at: <https://pedro.org.au/english/learn/pedro-scale-training-program/>

The cost of the training program is A\$50. You can contact sph.pedro@sydney.edu.au if you have a special circumstance that requires consideration of this cost.

[Watch this video about becoming a PEDro rater.](#)

[Read about the benefits of being a PEDro rater.](#)

Infographic: Systematic review found that home-based rehabilitation is not different from centre based rehabilitation for improving impairments and activity limitations in adults with stroke

Last month we summarised the systematic review by Nascimento et al 2022. The review

concluded that the location where exercises take place is less important than the amount and type of exercise. This may have implications for people with limited access to healthcare facilities such as those living in rural or remote locations.

Some findings are included in this infographic.

HOME-BASED IS AS EFFECTIVE AS CENTRE-BASED REHABILITATION FOR IMPROVING UPPER LIMB MOTOR RECOVERY AND ACTIVITY LIMITATIONS AFTER STROKE

Nascimento LR, et al. *Clinical Rehabilitation* 2022, 36(12): 1565–1577

WHAT DID THEY DO?

Study design: Systematic review of 8 RCTs.

Population: 488 participants with stroke at all phases (acute to chronic) with upper limb paresis.

Intervention: Home-based exercise ($\geq 2/3$ of the exercise was performed at home) with a minimum of 4 sessions over 2 weeks.

Comparator: Centre-based exercise (hospital, private practice or community centre).

Outcome: 6 outcomes were investigated, no primary outcome nominated.

Impairments:

- Dexterity (e.g., 9-hole peg test (pegs/s))
- Motor recovery (e.g., Fugl-Meyer - Upper limb assessment (0 worst - 66 best))
- Strength (e.g., dynamometry (kg))

Activity limitations:

- Upper-limb movement performance (e.g., box and block test (no. of blocks, higher is better))
- Upper-limb movement quality (e.g., motor activity log (0 worst - 5 best))

Participation:

- E.g., Stroke Impact Scale (0 worst - 100 best)

Included trials:

- Acute/sub-acute participants (n=1), chronic (n=2) and acute + chronic (n=5) following stroke.
- Home-based exercise participants trained for 40-120 min/session, 5x/week for 4-13 weeks.
- Trials were supervised or semi-supervised with in person or remote supervision.
- The control groups had similar dosages and were performed mainly in clinics.

FINDINGS

Home-based exercise was not different to centre-based exercises for:

Impairments

- Dexterity (MD -0.01 pegs/s, 95% CI -0.04 to 0.05; moderate certainty evidence)
- Motor recovery (MD 1.4 points, 95% CI -0.9 to 3.8; 5 trials; moderate certainty evidence)
- Strength (MD 0.30 kg, 95% CI -2.4 to 3.0; low certainty evidence)

Activity limitations

- Upper-limb movement performance (SMD -0.04, 95% CI -0.25 to 0.18; high certainty evidence)
- Upper-limb movement quality (MD 0.11 points, 95% CI -0.23 to 0.44; moderate certainty evidence).

For participation, no studies were identified that measured participation.

The study did not report measuring adverse events.



Note: No primary outcomes were specified and there were no studies comparing home-based with centre-based exercise for the participation outcome.

In people with stroke home-based exercise is not different to centre-based exercise for improving impairments and activity limitations following stroke. This may have implications for people with limited access to healthcare facilities such as those living in rural/remote locations.

Nascimento LR, Gaviorno LF, Brunelli M, Gonçalves JV, da Silva Arêas FZ. Home-based is as effective as centre-based rehabilitation for improving upper limb motor recovery and activity limitations after stroke: A systematic review with meta-analysis. *Clinical Rehabilitation* 2022, 36(12): 1565–1577. DOI: 10.1177/02692155221121015

[Read more on PEDro.](#)

[Access the full summary in the PEDro blog.](#)

Systematic review found that aerobic exercise during pregnancy may reduce the incidence of gestational diabetes mellitus and gestational hypertension. Interventions were varied and the certainty of the evidence was not assessed.

Commonly occurring pregnancy complications include gestational diabetes mellitus and gestational hypertension. Evidence to date regarding the effects of exercise on pregnancy complications and outcomes is inconsistent. This systematic review aimed to estimate the effects of aerobic exercise during pregnancy compared to usual care on gestational diabetes mellitus and gestational hypertension.

Six databases were searched for randomised controlled trials (RCTs). There were no language or date restrictions. Eligible studies included pregnant participants with no history of diabetes, hypertension, psychiatric disorders or underlying disease, including cardiac, kidney, liver or reproductive system diseases. The intervention was any type of aerobic exercise. Usual care participants received standard antenatal care and education. The incidence of gestational diabetes mellitus and gestational hypertension were the outcomes of interest. Data extraction and assessment of methodological quality, using the Cochrane Collaboration Risk of Bias tool, were performed by two authors. Study risk of bias was rated as low (if 4 or more criteria were rated as low), medium (if 2-3 criteria were rated as low) or high (if 0-1 criteria were rated as low). A meta-analysis pooled the trials, with forest plots used to summarise and compare trials. A random effects model was used if significant heterogeneity was found ($I^2 > 50\%$).

Eleven trials, involving 3,165 participants were included. Aerobic exercise predominantly included walking and stationary cycling. Yoga was included in three RCTs and a single trial included aquatic jogging and walking. Intervention frequency was commonly 3 days/week for 30-60 minutes duration and 6-40 weeks. Exercise intensity was poorly reported. The majority of trials (8/11) were rated as having a low risk of bias. Blinding of participants and assessors were the items most frequently associated with a higher risk of bias. A minority of trials (3/11) were also at risk of bias due to unclear randomisation and concealed

allocation processes.

The aerobic exercise intervention group showed significant reductions in the incidence of gestational diabetes mellitus compared to usual care (OR=0.39, 95% CI 0.30 to 0.50, I² 0%, p<0.00001, 10 trials). Similarly, the incidence of gestational hypertension was significantly reduced favouring the aerobic exercise group (OR=0.38, 95% CI 0.27 to 0.54, I² 0%, p<0.00001, 9 trials). The incidence of adverse events was not reported.

Aerobic exercise during pregnancy reduces the incidence of gestational diabetes mellitus and gestational hypertension. Further research that allows subgroup analysis of the effects of differing exercise modalities and assessment of evidence certainty is required.

Zhang J, Wang H-P, Wang X-X. Effects of aerobic exercise performed during pregnancy on hypertension and gestational diabetes: a systematic review and meta-analysis. *J Sports Med Phys Fitness*. 2023 Jul;63(7):852-863. doi: 10.23736/S0022-4707.23.14578-6

[Read more on PEDro.](#)

PEDro update (4 September 2023)

PEDro contains 59,914 records. In the 4 September 2023 update you will find:

- 45,879 Reports of randomised controlled trials (44,424 of these trials have confirmed ratings of methodological quality using the PEDro scale)
- 13,270 reports of systematic reviews, and
- 765 reports of evidence-based clinical practice guidelines.

For latest guidelines, reviews and trials in physiotherapy visit [Evidence in your inbox](#).

DiTA update (4 September 2023)

DiTA contains 2,430 records. In the 4 September 2023 update you will find:

- 2,161 reports of primary studies, and
- 269 reports of systematic reviews.

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

Next PEDro and DiTA updates (October 2023)

The next PEDro and DiTA updates are on 9 October 2023.

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