Title: Unsupervised home-based exercise training can help improve symptoms of maternal physical discomfort during pregnancy.

Commentary on: Weng, M.-H., Chou, H.-C., & Liaw, J.-J. (2024). The effects of unsupervised home-based exercise training during pregnancy: A systematic review. *Worldviews on Evidence-Based Nursing*, 00, 1–7.

Implications for practice and research:

- Nurses and midwives working with pregnant women can safely recommend a home exercise plan, preferably a theoretical-based programme of exercise, to improve physical discomfort symptoms during pregnancy;
- This systematic review suggests that further research is needed to identify and more consistently evidence the benefits of these types of exercise to maternal mental health during pregnancy.

Context:

Symptoms of physical discomfort, such as sleep disturbance, prenatal back pain and postnatal urinary stress incontinence are commonly associated with pregnancy. Strategies to support women be relieved of, minimize or better manage these symptoms are a welcome approach to improving women's quality of life whilst pregnant. Exercise is one of many lifestyle factors that can positively impact on quality of life during pregnancy (1). In conjunction with other lifestyle measures, prescribed home exercise programmes, undertaken independently of a coach or trainer, can have an important role in empowering women to maintain or even improve their physical comfort during pregnancy.

Methods:

This systematic review (2) sought to evaluate the effectiveness of unsupervised homebased exercise during pregnancy. PubMed, MEDLINE, CINAHL, Cochrane Central, Web of Science, Embase, and Scopus databases were accessed. Though no research question is stated, search terms were used as follows: (pregnan* OR prenatal) AND (physical activit* OR exercise* OR walk* OR jog* OR stretch* OR run* OR yoga OR pilates OR danc* OR cycl* OR swim* OR aerobic) AND (home-based OR unsupervised OR DVD OR film OR YouTube OR self-monitor).

Searches identified seven Randomized Control Trails (RCTs) published between 1990 and August 2023. Using the revised Cochrane Risk-of-Bias Tool for Randomized Trials (ROB 2), two reviewers assessed the risk of bias of all eligible trials, with one study scoring low for risk of bias, five scoring some concern, and one study scoring high for bias

Findings:

All seven studies explored the physical and psychosocial health outcomes found when a prescribed home-based exercise programme is implemented as compared with mere verbal instruction or usual care. Two of the studies explored antenatal outcomes, two considered postnatal outcomes, and three studies evaluated both antental and postnatal outcomes.

From a physical and comfort perspective, this review of the literature suggests that positive outcomes are achieved in relation to pregnancy-related symptoms such as sleep disturbance, prenatal back pain and postnatal stress incontinence. The types of prescribed exercise ranged from stationary cycling, instructional DVD aerobic exercise, pelvic floor exercises as instructed via an app, to the use of a pedometer when undertaking brisk walking, alongside stretch and strength exercises. The exercises varied in frequency depending on the type of exercise prescribed, and most were of moderate intensity. Some programmes lasted just 3 weeks and others for longer right up to birth, and postnatal period.

Commentary:

The review (2) is methodologically sound, and followed the Preferred Reporting Items for Systematic Reviews and Meta-Analysis format. Limitations acknowledged by the authors are that most of the included studies demonstrated a risk of bias (for example, in the randomisation of participants) and that four of the seven studies demonstrated poor reporting of adherence (including self-reporting) to the prescribed exercise programmes.

This systematic literature review (2) of prescribed home-based exercise programmes offers a helpful overview of this area of research. By helping the reader gain an insight into several different programmes themselves, as well as the impact they have on maternal physical health, practitioners are better able to understand the types of pregnancy-related conditions (for example, sleep disturbance, prenatal back pain and urinary stress incontinence) that can be improved when pregnant women undertake these types of exercise.

National and international guidance is available to support HCPs in recommending exercise to pregnant women (1;3), however HCPs may lack time and confidence in recommending it, or may perceive risks with it (4). Reviews such as this (2) offer insight into the types of safe activity that can be undertaken by pregnant women, and how these realistic interventions can benefit them. Walking, and other physical exercises was shown to alleviate pelvic discomfort, and to have an associated positive impact on quality of life. Likewise, the impact of sustained duration of pelvic floor exercise reduced the incidence of postnatal urinary stress incontinence, again contributing to increasing postnatal quality of life. Interestingly, the review suggests that although prenatal exercise improves maternal aerobic fitness, it does not necessarily improve postnatal fatigue, with this being more likely influenced by the amount of rest and support a woman receives postnatally.

The systematic literature review by Weng and colleagues offers further useful rationale to support HCPs in recommending appropriate encouragement and support for women to undertake physical exercise during pregnancy. However, the authors conclude that exercise plans, like other health behavior interventions underpinned by health behavior change theory such as outlined by Michie and colleagues (5) may be more effective then stand-alone prescribed exercise programmes.

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