

Research review

Welcome to this instalment of research reviews, which features papers on: the Elvie Trainer; CrossFit; the influence of antenatal exercise on labour; pelvic pain; and bladder and bowel training.

Czyrnyj *et al.* (2020) investigated the reliability and validity of the Elvie Trainer (Chiaro, London, UK) in a sample of 29 women. They evaluated it against an intravaginal dynamometer and ultrasound imaging. Women also underwent vaginal pelvic floor muscle (PFM) assessment. These authors concluded that the Elvie Trainer can detect the correct performance of PFM contractions, but is not sensitive to force changes over time; therefore, it will not necessarily reflect changes in strength accurately.

Two articles examined PFM symptoms related to CrossFit high-intensity interval training (Poli de Araújo *et al.* 2020; Forner *et al.* 2021). In a study of 551 Brazilian women who answered an online questionnaire, Poli de Araújo *et al.* (2020) found that almost 30% of respondents experienced urinary incontinence (UI) with CrossFit exercise. Double- and single-under skipping were the exercises most commonly linked to UI. Forner *et al.* (2021) compared pelvic floor symptoms in 1379 women worldwide. Their subjects either ran or participated in CrossFit. These authors found that runners, particularly ones who were parous, were more likely to report symptoms of pelvic organ prolapse and anal incontinence. Urinary incontinence was reported in approximately 50% of parous women in both groups, and also in a high number of nulliparous women.

Kowalik *et al.* (2020) examined the factors associated with UI in 964 young nulliparous women between 18 and 25 years of age. They found a monthly UI incidence of 30.6%, predominantly mixed incontinence. These authors concluded that the causes needed further investigation, but were associated with an intermittent urine stream and the delayed voiding toileting subscale.

Haakstad & Bø (2020) investigated whether regular exercise in pregnancy influences labour and delivery times in a small randomized controlled trial. They studied 105 nulliparous, inactive women, and found that women in the group who undertook the recommended amount

of exercise during pregnancy had a shorter labour and a higher rate of normal vaginal delivery.

In a retrospective study of 79 women, Govind *et al.* (2020) examined the prevalence of pain-related anxiety and depression in patients with vulval pain and elevated PFM tone. Statistically significant correlations were found, and the prevalence of psychological issues was higher in women who had already tried intervention for their pain (including physiotherapy and medication). These authors discuss a number of ways in which pain and pain-related anxiety could be linked, but do not attempt to draw cause-and-effect conclusions from their data.

Le Berre *et al.* (2020) reviewed the existing literature on caffeine and lower urinary tract symptoms in adults, and found that caffeine reduction decreased episodes of urgency and also may reduce nocturnal enuresis. As part of a subgroup of the International Continence Society Nursing Committee, Booth & Bliss (2020) published a consensus statement on bladder and bowel training. This is a particularly useful resource for colleagues who are new to pelvic health, and patients will be reassured to know that their treatment complies with international good practice.

Many thanks go to Anna Crowle for help with the reviews. If you would like to join our team of research reviewers, please contact me (e-mail: Alison.clarke4@nhs.scot).

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Research Reviews Editor

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