Exercises supervised by physiotherapists improve pain and function in patients with patellofemoral pain

Synopsis


Question: Does supervised exercise therapy improve pain, function, and recovery more than usual care for patients with patellofemoral pain syndrome? Design: Randomised controlled trial with concealed allocation. Setting: General and sports medicine practices in The Netherlands. Patients: Patients aged 14 to 40 with patellofemoral pain for between 2 months and 2 years were recruited as they consulted a general practitioner or sports physician for the pain. Knee osteoarthritis, patellar tendinopathy, and Osgood-Schlatter disease were exclusion criteria. 131 patients were randomised into exercise therapy (n = 65) and control (n = 66) groups with stratification by age and recruiting physician.

Interventions: The intervention group received a 6-week progressive exercise program that was individually tailored. This group was instructed to exercise 25 minutes daily for 3 months and was supervised by a physiotherapist for 9 sessions over 6 weeks. The control group was advised to rest during periods of pain and to refrain from pain-provoking activities. Both groups received written information and advice about their condition, appropriate analgesia, and activity guidelines and daily isometric quadriceps exercises.

Outcomes: Primary outcomes measured at 3 and 12 months were perceived recovery (7-point Likert scale), function (0–100 point Kujala patellofemoral score), and pain at rest and with activity (0–10 point numerical rating scale). Results: After 3 months, the exercise group had less pain at rest (−1.1, 95% CI −1.9 to −0.2), less pain on activity (−1.0, 95% CI −1.9 to −0.1), and improved function (4.9, 95% CI 0.1 to 9.7), compared with usual care. At 12 months the exercise group had less pain at rest (−1.3, 95% CI −2.2 to −0.4), less pain on activity (−1.2, 95% CI −2.2 to −0.2), and improved function (4.5, 95% CI −0.7 to 9.8). A higher proportion of patients in the exercise group than in the control group reported recovery (42% v 35% at 3 months and 62% v 51% at 12 months), although the differences were not statistically significant. Conclusion: Exercise therapy, supervised by a physiotherapist, results in both short- and long-term benefits in pain and function for patients with patellofemoral pain syndrome, compared with usual care.

Commentary

Despite considerable international research effort devoted to understanding the causes of and optimum treatments for patellofemoral pain (PFP), a full understanding of the condition has remained elusive. Grelsamer and Moss (2009) recently referred to patellofemoral pain syndrome as ‘the Loch Ness Monster of the knee.’ Set against this background the paper by van Linschoten and colleagues is most welcome. It is one of the largest randomised controlled trials performed on this group of patients to date. It is also one of the most methodologically robust, scoring 7/10 on the PEDro scale (de Morton 2009), and as such helps to inform clinical practice.

The outcome measures used have previously been validated and are focused on patients’ self report rather than clinician observation. The study was carried out using a representative PFP population in a primary care setting with no specialist diagnostic or treatment tools and therefore the results should be replicable by physiotherapists in a wide variety of clinical practice locations and health care systems.

As is the case in a number of musculoskeletal studies, positive effects in the intervention and control groups were recorded at 3 months with further improvements at 12 months. Differences between the physiotherapy exercise and control group were more marked at 3 months than at 12 months. Foster et al (2009) highlight this issue with reference to back pain where high quality trials have shown a similar pattern of improvement, with only small differences between interventions at follow up. One of the explanations for this is inadequate identification of clinically important sub-groups of patients which may mask responses to treatment. This sub-grouping issue is also relevant in PFP.

The key clinical message is that this paper demonstrates clear patient benefit at 3 and 12 months following a schedule of 9 supervised physiotherapy exercise sessions delivered over a 6-week period.

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References