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### **Prognostic factors or treatment effect modifiers in patellofemoral pain: a systematic review**

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**Background and Aim:** Patellofemoral pain (PFP) is a heterogeneous and often persistent knee condition. More than one third of patients with PFP still report symptoms despite receiving evidence-based treatments that are initially effective. To improve long-term success rates, a strategy is to identify which of clinically assessable patient factors are likely to be most important in predicting successful outcome for an individual patient. This systematic review aimed to comprehensively search of the literature to identify 1) investigate which baseline patient characteristics are associated with a successful or unsuccessful outcome, and 2) whether these patient characteristics are associated with outcomes in response to a specific treatment (treatment effect modifiers) or generically associated with outcomes regardless of treatment (prognostic factors).

**Method:** Six electronic databases were searched (to December 2015) for studies investigating non-surgical treatments for PFP. Studies were included if they had investigated or reported an association between patient characteristics and outcome. Two reviewers independently assessed papers for eligibility, quality and extracted results.

**Results:** Ten studies on prognosis and nine evaluating outcome to a specified treatment (including five clinical prediction rules) were included. Three prognostic studies determined that a longer duration of PFP was associated with greater risk of an unsuccessful outcome regardless of treatment. Nine studies identified 23 patient characteristics that were associated with successful outcomes after specific treatment with foot orthoses, lumbopelvic manipulation, or patellar taping. It is unclear whether these patient characteristics predicted response to a specific treatment, or the prognosis for improvement regardless of treatment selected, because the studies lacked comparator treatments.

**Conclusions:** Clinicians can use the current evidence to help identify patients who are at risk of an unsuccessful outcome regardless of treatment, but not to use it as evidence in support of their ability to predict the outcome to a treatment beyond other potential treatments.