Anterior Knee Pain Scale

Description

General description: The Anterior Knee Pain Scale (AKPS) – sometimes called the Kujala Scale (Kujala et al 1993) is a 13-item knee-specific self-report questionnaire. It documents response to six activities thought to be associated specifically with anterior knee pain syndrome (walking, running, jumping, climbing stairs, squatting, and sitting for prolonged periods with knees bent), as well as symptoms such as limp, inability to weight bear through the affected limb, swelling, abnormal patellar movement, muscle atrophy and limitation of knee flexion. The AKPS asks about duration of symptoms and limb(s) affected. The maximum score is 100 and lower scores indicate greater pain/disability. Scoring is hierarchical using various types of categorisation including ‘no difficulty – unable’ and ‘no pain – severe pain.’ Some sections incorporate grading of the distance able to be walked or run without pain. The section on stair climbing distinguishes those with pain only on descending stairs from those who experience pain both ascending and descending.

The AKPS has been shown to be easy to understand and takes only a few minutes to complete (Bennell et al 2000). One limitation is that it does not include a question on kneeling – an activity which differs in nature from squatting (which is included) and is frequently cited as a pain inducing trigger in patients with anterior knee pain syndrome (Harrison et al 1996).

Reliability, validity and sensitivity to change: The AKPS has good test-retest reliability. Validity has been demonstrated by the scale authors (Kujala et al 1993) and by Timm (1998). The scale does not distinguish those with once only patella dislocation from those suffering recurrent dislocation (Paxton et al 2003), nor does it correlate highly with visual analogue scale measures of usual or worst pain (Crossley et al 2004). The sensitivity of the scale has been investigated by a number of authors (Bennell et al 2000, Crossley et al 2004, Watson et al 2005). The minimal detectable change for the AKPS has been variously reported as 7 points (Crossley et al 2004), 10 points (Bennell et al 2000), and 14 points (Watson et al 2005).

Comparison with other scales: Self report tools may reduce bias; however no one questionnaire is likely to be suitable for all patients presenting with anterior knee pain. A number of alternatives are available including the Fulkerson scale (Fulkerson & Shea 1990) and the Lysholm Scale (Lysholm & Gillquist 1982). These scales vary in the time frame of reporting (current status or recent past), level of pain reported (average, minimal or maximum), and type of recording (analogue scale versus discrete categories).

Commentary

Anterior knee pain is a very prevalent condition (Bacquie & Brukner 1997) and results in significant symptoms and activity limitation. The nature of the questions in the AKPS may lead patients to focus on symptoms (including pain) rather than on activity limitation; whereas treatment interventions, especially in chronic cases, may be focussed on improving function and participation. Individuals with anterior knee pain are frequently very active, but self restrict activities that are pain provoking. Scores of 70 are considered to represent moderate disability (Crossley et al 2004). However patients may score as high as 80 and still be unable to walk 2 km, descend stairs, squat, jump, or run without reporting pain.

Although intended to be completed without instruction, in our experience, and that of other authors, the language used in several of the questions is not easily understood by some patients. In particular questions on muscle atrophy, abnormal patellar movements, and knee flexion deficiency may require additional explanation or risk not being answered (Watson et al 2005).

References


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Örebro Musculoskeletal Pain Screening Questionnaire

Description

General description: Also known as the Acute Low Back Pain Screening Questionnaire, the Örebro Musculoskeletal Pain Screening Questionnaire (ÖMPSQ) is a 25-item self-administered tool designed to identify people at risk of developing chronic pain associated with psychosocial factors (yellow flags) (Hockings et al 2008, Linton & Boersma 2003, Linton & Hallden 1998). It assesses five categories of risk factors for prolonged disability: pain, perceived function, psychological variables, fear-avoidance beliefs, and patient demographics and background.

Instruction to the client and scoring: The ÖMPSQ takes 5–10 minutes to complete and score. Each item is scored on a 0–10 Likert scale with the exception of questions pertaining to background, previous sick leave, pain sites, and pain duration which are category scales. The score on 8 items is reversed. A total score is calculated from individual scores and ranges from 0 to 210 points. A higher score indicates a greater level of risk with each item weighted equally. Linton (2002) has used the following values as a ‘rough estimate’ of the level of risk for persistent pain problems but the cut-off score does seem to vary with the population under investigation: < 90 (low risk); 91–105 (medium risk); > 105 (high risk).

A cut-off score of 105 correctly identified future sick leave of nearly 80% of patients with back, neck, or shoulder pain (Linton & Hallden 1998) while Hurley et al (2000) found a cut-off point of 112 correctly classified 74% of patients with low back pain who received more than six physiotherapy treatments, and 80% who failed to return to work at the end of treatment. Marginson and French (2007) found a score of 147 correctly predicted discharge status (fit to return to work) in workers with a compensable sub-acute musculoskeletal injury (in any body region) after a 6-week physical therapy work-conditioning program. Grotle et al (2006) found a cut-off score of 90 points predicted number of days restricted from usual activity in patients with low back pain.

Reliability, validity, and predictive ability: The instrument has satisfactory test-retest reliability (0.83) and validity in a study of 142 patients where the outcome was absenteeism due to sickness (Linton & Boersma 2003, Linton & Hallden 1998). It has good specificity (classifying a healthy person as healthy, 75%) and sensitivity (correctly classifying those on longer duration of sick leave: 77% for those with 1–30 days sick leave and 61% for those with > 30 days sick leave). The overall predictive power of the instrument based on discriminant analyses (73%) is better than chance level of 33% (Linton & Hallden 1998). A Norwegian version of the ÖMPSQ reported similarly high test-retest reliability and internal consistency (0.95) (Grotle et al 2006). It has a moderate correlation with the Roland Morris Disability Questionnaire (r = 0.36 to 0.46) and Fear-avoidance Beliefs Questionnaire (r = 0.33 to 0.64) for patients with acute and chronic low back pain (Grotle et al 2006).

Commentary

The ÖMPSQ is useful in the primary care setting as an adjunct to the usual examination to screen patients for potential psychosocial barriers to progress in the acute and sub-acute phase. The importance of these factors is well known in the transition from acute pain to chronic disability, thus it is imperative these be identified early in the rehabilitation process. It enables the clinician to identify patients at risk of poorer outcomes in terms of function and work status (Grotle et al 2007, Hurley et al 2001, Hurley et al 2000) and to demonstrate the benefits of an intervention (Linton 2002). Although most studies have used the ÖMPSQ in patients with non-specific or work-related musculoskeletal spinal pain, its predictive utility in patients with musculoskeletal pain in any body region has been demonstrated by one study (Margison & French 2007).

Clinicians need to be aware of some limitations in the use of the ÖMPSQ. The cut-off point needs to be adjusted for the patient population and does not correctly predict 100 percent of cases. Thus the clinician cannot rely on the absolute cumulative value but needs to be vigilant to the risk factors for chronicity which is possible by reviewing responses on the sub-scales to determine if further investigation is warranted. However, the predictive ability of individual items of the ÖMPSQ in determining pain, disability or sickness absence have not been established yet (Hockings et al 2008).

In summary, the ÖMPSQ has sound predictive utility for future absenteeism due to musculoskeletal pain, and return to work in a compensable population and patients at risk of persisting pain and disability (Hockings et al 2008). It is a clinically reliable and valid instrument which the clinician may use to identify risk factors for long-term problems and to evaluate the effectiveness of an intervention. Its simplicity and ease of administering makes it a useful inclusion in the physiotherapist’s ‘tool bag.’

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References