Anterior Cruciate Ligament Quality of Life Questionnaire: Turkish Translation with Reliability, Validity, and Responsiveness Evaluation

Gizem Irem Kinikli[1], Derya Celik[3], Ozgur Ahmet Atay[2], Inci Yuksel[1]

[1]Hacettepe University, Faculty of Health Sciences, Department of Physiotherapy and Rehabilitation, Ankara, TURKEY, [2]Hacettepe University, Faculty of Medicine, Department of Orthopaedics and Traumatology, Ankara, TURKEY, [3]İstanbul University, Faculty of Health Sciences, Department of Physiotherapy and Rehabilitation, İstanbul, TURKEY

Objectives: Despite a number of questionnaires in the area of ACL injuries there is a need for cross-cultural adaptation for patients with ACL reconstruction (ACL-R). To test the measurement properties of the Turkish version of the Anterior Cruciate Ligament Quality of Life Questionnaire (ACL-QOL).
Methods: One-hundred nineteen patients with ACL-R completed internal consistency, agreement, construct validity, floor and ceiling effect analyses. Eighty out of 119 patients with ACL-R completed the Turkish adapted version of the ACL-QOL questionnaire twice for the test-retest reliability. A subgroup of thirty-nine patients undergoing physiotherapy were also asked to answer the ACL-QOL questionnaire, the Lysholm knee scale (LKS), Knee Outcome Survey – Activities of Daily Living Scale (KOS-ADLS) and the Short Form-36 (SF-36) at preoperative, 16th week and 2 years post-operatively to assess responsiveness.
Results: The questionnaire had high internal consistency (Cronbach α=.95). The paired t-test showed no significant difference between the test-retest means. The intraclass correlation was excellent for reliability and agreement in five domains and overall score (ICC: 0.95, 0.95, 0.97, 0.95, 0.96, and 0.95; $p<0.001$). The standard error of measurement (SEM) and the minumum detectable change (MDC95) were found to be 3.14 points and 8.70 points, respectively. The questionnaire showed a fair correlation (r=0.23) with (LKS) and a poor correlation (r=0.14) with (KOS-ADLS); good and very good construct validity (r=0.51, r=0.62) with SF-36 physical component score and mental component score, respectively. We observed no ceiling and floor effects overall on the ACL-QOL questionnaire except the subdomain of “work-related concerns” (22.9%). The responsiveness demonstrated a dramatic effect size of 2.12 at the 16th week and large effect size of 0.97 at 2 years follow-up.
Conclusion: The Turkish version of the ACL-QOL questionnaire is a reproducible and responsive instrument that can be used in clinical studies.

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