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# 🌐 Cross-cultural adaptation and validity of the Italian version of the Anterior Knee Pain Scale: a prospective multi-centre study

Jacopo E. Rocchi<sup>1</sup>, Pasquale Alessio Sauchelli<sup>2</sup>, Sebastiano Nutarelli<sup>3</sup>, Lorenzo Rum<sup>1</sup>, Riccardo Ciatti<sup>2</sup>

<sup>1</sup>University of Rome "Foro Italico"; <sup>2</sup>University of Rome "San Raffaele"; <sup>3</sup>University College Dublin

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Sauchelli Pasquale Alessio

Pasquale Alessio Sauchelli

## ABSTRACT

Purpose: validating and culturally adapting the Anterior Knee Pain Scale (AKPS) into Italian.

The AKPS is used for the clinical evaluation of patients with anterior knee pain. By using stricter methodological criteria, this study aims at reviewing the first validation attempt made by Cerciello et al., 2018.

The manuscript will be developed following the COSMIN checklist.

The optimization of the cultural adaptation and survey translation will be achieved through the independent translation of a healthcare professional and a member of the general public. Both translators hold an official English language certificate, level C1 or higher.

Possible difference between the translations will be resolved through discussion with a reunion between translators and authors (health professionals and an orthopedic surgeon with particular interest in knee rehabilitation).

This draft will be then sent to an English-speaking translator for a back translation.

The back-translation was performed by an Italian-English professional translator blinded to the original document.

The committee, composed of both the authors and the translators, will then meet to finalize the final version of the AKPS.

The study protocol was approved by the Institutional review board of the University of Rome "Foro Italico".

Patients aged between 18 and 60 years with patellofemoral pain syndrome, patellar dislocation or lateral subluxation will be recruited and evaluated through self-reported questionnaires.

Individuals with cognitive impairments and concomitant injuries to the affected limb, including anterior or posterior cruciate ligament injury and meniscal injury will be excluded.

Following the guidelines, the minimum sampling will be of 130 patients, or 10 subjects multiplied by the number of items in the questionnaire.

Before proceeding, a pilot study with a preliminary analysis of the data will be carried out with a sample of 25 subjects.

Data will be collected in digital format, extracted, and processed in a computerized manner.

Cronbach's alpha for internal consistency and intraclass correlation coefficient (ICC) for test-retest reliability will be used as statistical analysis to assess the reliability of the translation.

Concurrent and construct validity will be evaluated by comparing the AKPS results with well-established, Italian-validated scales.

The above-mentioned scales will be the Knee Injury and Osteoarthritis Outcome Score (KOOS), the International Knee Documentation Committee Subjective Knee Form (IKDC), the SF-36 Health Survey, the Victorian Institute of Sport Assessment-Patella (VISA-P), and the Visual Analog Scale (VAS).

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KEYWORDS

Pain, Knee, Anterior Knee Pain Scale, AKPS, validity

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GUIDELINES

- COSMIN Study Design checklist for Patient-reported outcome measurement instruments
- Mokkink LB, Terwee CB, Patrick DL, Alonso J, Stratford PW, Knol DL, et al. (2010) The COSMIN study reached international consensus on taxonomy, terminology, and definitions of measurement properties for health-related patient-reported outcomes. *Journal of clinical epidemiology*. 63:737-45
- Wild, 2005. Principles of Good Practice for the Translation and Cultural Adaptation Process for Patient-Reported Outcomes (PRO) Measures: Report of the ISPOR Task Force for Translation and Cultural Adaptation