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Translation and Validation of the Spanish Version of the Banff Patellofemoral Instability Instrument 2.0 (BPII)

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Faculty Disclosure Information

- Juan Pablo Martinez-Cano:
 - Editorial or Governing board of Arthroscopy, Video Journal of sports medicine
 - Board of Directors member for Sociedad Colombiana de Ortopedia y Traumatología



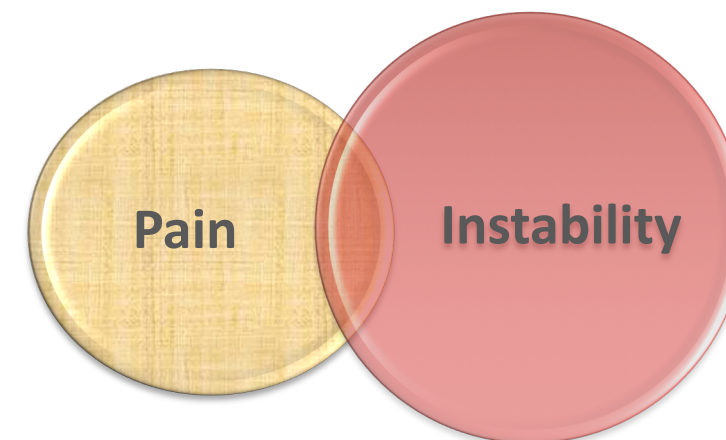
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Introduction

- Kujala score has been traditionally used in patellar instability studies
 - Only 1/13 questions related to instability
 - It is a patellofemoral pain score (8/13 pain)
- It is important to have a patellar instability functional score
 - **Disease-specific** score
 - Banff Patellofemoral Instability Instrument 2.0
 - English language




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Methods

- Authorization from the original development team of BPII 2.0 (Laurie Hiemstra ) to translate and validate the score
- Approved by IRB
- Translation process
 - Forward translations to Spanish
 - Conciliation
 - Backward translations to English
 - Conciliation
 - Pilot study: 5 patients
 - Final version ready

Eligibility criteria:
9-18 years old
Fundación Valle del Lili, Cali,
Colombia
First-time or recurrent patellar
dislocation
July 2020-June 2023



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Methods

- **Banff Patellofemoral Instability Instrument BPII 2.0**
- 23 questions. Five domains:
 - Symptoms/physical complaints
 - Work/school
 - Recreation/sport
 - Lifestyle
 - Social/emotional
- Mark a line: 0-100 mm. Final score (mean): 0-100 points
- 0 is the worst scenario and 100 is the best one, example:

1. How troubled are you by “popping-out” or instability of your kneecap?

0 ————— 100
Extremely troubled Not troubled at all

1. ¿Qué tan preocupado/a lo tiene que su patela “salga de pronto” o sea inestable?

0 ————— 100
Extremadamente preocupado/a No le preocupa en absoluto

Methods

- Baseline measurements:
 - Spanish Banff score (BPll 2.0)
 - Spanish Norwich score (NPI) – simultaneous study
 - Spanish Kujala score – previously validated*
- Test-retest reliability
 - Spanish Banff score (BPll 2.0)
 - 1 week after the initial test



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Results

- 46 patients included, 67% females, mean age: 15.1 years
- **Internal consistency** was excellent: ICC = 0.94, CI: 0.92-0.96
- **Test-retest reliability** was excellent: with an ICC of 0.98, CI: 0.97-0.99
- **Floor effect** ($\geq 15\%$ with minimum value: 0)
 - Item 1: extremely troubled about their kneecap (15%)
 - Item 23: extremely fearful of a re-injury (22%)
- **Ceiling effect** ($\geq 15\%$ with maximum value: 100)
 - Item 4: no loss of knee motion (17%)
 - Item 7: no difficulty with squatting (16%)
 - Item 9: no financial hardship due to their knee injury (22%)



Results

- Correlation with Kujala score
- Concurrent validity of the Spanish BPII 2.0 with the Spanish Kujala score was good to strong ($r = 0.74$; 95% CI, 0.57-0.85)



Conclusions

- The **Spanish version** of the BPII 2.0 demonstrates **high internal consistency** and **test-retest reliability**
- It may be used in Spanish-speaking countries to evaluate patient-reported outcome measures related to patellofemoral instability
- Properly translated and validated **disease-specific** PROMs should be used when evaluating and reporting results for patellar instability patients



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