



Development of a biopsychosocial questionnaire for musculoskeletal pain: Innovation-based Process

 Mena-Iturriaga MJ¹, Mancilla-Lobos F¹, Torreblanca-Vargas S^{1,2}, Durcudoy-Perez L¹, Grez-Crovati I¹, Munizaga-Rodríguez B¹, Lombardi-Robertson A¹, Leppe J¹, Besomi M^{1,3}, Araya-Castro P¹.

¹Universidad del Desarrollo, Facultad de Medicina Clínica Alemana, School of Physical Therapy, Santiago, Chile.; ²Hospital Provincia Cordillera, Santiago, Chile.; ³The University of Queensland, Brisbane, Australia.



BACKGROUND

Biopsychosocial management aims to address physical, psychological, and social factors of musculoskeletal pain, being currently accepted as the most appropriate therapeutic approach and with better prognosis. Specific questionnaires evaluate biopsychosocial factors, but those are unidimensional, lengthy and impractical for clinicians. Valid and reliable screening questions tool would facilitate systematic detection of these factors in the clinical settings.. The participatory design involving stakeholders from the clinical setting is crucial in the development of assessment tools.

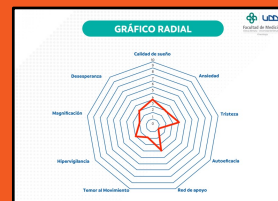
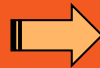
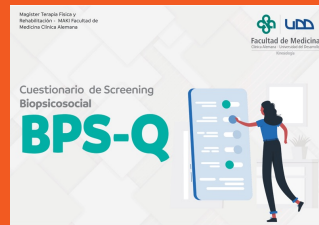
AIM: to develop and evaluate the content and face validity, and test-retest reliability of the biopsychosocial screening self-report questionnaire (Biopsychosocial Questionnaires; "BPS-Q"), in adults with musculoskeletal pain.

METHODS

Three-step approach was followed.

- Stage 1: User (physiotherapist) problem: "physiotherapist who treats patients with musculoskeletal pain needs to incorporate a biopsychosocial evaluation of their patients; rapid, not overload the care system, enhancing treatment outcomes". Design Thinking methodology allows to develop and assess BPS-Q content validity (with end-users and key stakeholders input)
- Stage 2: Face validity tested with six health care experts, and with eight people with acute, sub-acute and chronic musculoskeletal pain). Consensus based Standards for the selection of health Measurement Instruments (COSMIN) was followed.
- Stage 3: test-retest reliability (48 hours) in 49 participants with a shoulder pain. The average time in its application was 8 min.

**8 min to screen
biopsychosocial dimensions is
possible:
Valid and reliable
Spanish-language tool for
clinicians' orientation.**



Radial graph 1:
Example of patient with
low biopsychosocial
disturbance



Radial graph 2:
Example of patient with
high biopsychosocial
disturbance



Scan to download
the abstract

RESULTS

Stage 1: BPS-Q developed based on the "Design Thinking" methodology, determined that an efficient self-reported biopsychosocial screening tool assess: sleep quality, depression (sadness), anxiety, catastrophizing, kinesiophobia, hypervigilance, self-efficacy, family and friends' social support, measured using an eleven-point Likert scale. It also includes questions on traumatic events and treatment goals.
Stage 2: Minor modifications were made to Likert questions, open-ended questions, and to the radial chart. Interviewed expert recommendations; including the 'self-efficacy' domain, and changes to Likert questions were made.
Stage 3: all domains of BPS-Q obtained a 'excellent reliability' (ICC between 0.76 and 0.93) (p-value <0.05).

CONCLUSION

BPS-Q – demonstrated content and appearance validity, and test-retest reliability in musculoskeletal disorders subject. Is as an effective Spanish screening tool for identifying biopsychosocial domains.
Translating and culturally adapting it into English would broad its accessibility to clinicians worldwide.

COI Disclosure: Author and co-authors have no relevant financial relationship to disclosure.

CONTACT

María Jesús Mena-Iturriaga; mimena@udd.cl

Acknowledgements

Study approved by the scientific ethics committee CAS-UDD and of the Southeast Metropolitan Health Service (SSMSO), Santiago, Chile (2019-45)

Presented at the IASP Congress 2024, Amsterdam, Netherlands