How to Assess EBP Knowledge and Skills in Latin American countries?: Validation of Spanish Translation of the Berlin Questionnaire

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BACKGROUND:
➢ To evaluate the effectiveness of Evidence-Based Practice (EBP) education, validated and practical tools are needed. Only two validated tools assess a combination of EBP knowledge and skills: Fresno Test and Berlin Questionnaire.
➢ Of these tools, there is no validated Spanish version of the Berlin Questionnaire, let alone to be used in Latin American countries. The Berlin tool consists of two similar sets (A and B) of 15 multiple-choice questions with five-answer options.

METHODS:
➢ Before and after study: forward-backward translation and subsequent validation. Participants: medical students with no previous exposure to EBP formal training (novice group) and medicine professors with formal methodological training in EBP (expert group). Main outcome measures: construct validity (responsiveness), discriminant validity, internal consistency, item analysis, feasibility of administration, difficulty of questions and normal score distribution.

TRANSLATION
➢ Performed independently by two bilingual translators. 12 EBP experts, 02 bilingual physicians and the research team reviewed translations and obtained a first agreed version.
➢ Back-translation into English by 3rd translator. Then, the research team and translators compared back translation with the original one. A 2nd agreed version was obtained.
➢ Subsequently, 10 GPs were on-line surveyed to assess understanding. Finally, the research team evaluated results of surveys and obtained the final Spanish version.

VALIDATION
➢ EBP workshop: two intensive and interactive half-day sessions. The novice participants (4th and 5th year medical students from 5 schools of medicine) were on-line recruited through invitations sent from the course page on facebook.
➢ The expert participants were enrolled by personal invitation from study author. They did not attend the course but were used to assess discriminant validity.
➢ Participation was voluntary and both sets of Berlin were randomly administered to the novice (pre-test and post-test) and expert group. Participants who completed only the pre-test were excluded from responsiveness statistical analysis.

RESULTS:
➢ Study participants found that Spanish version of Berlin Questionnaire was clear, understandable and unambiguous.
➢ 65 participants were recruited: 59 medical students and 6 experts in EBP. Pre-test and post-test was completed by 33 students (55.9%), while 26 (44.1%) only took the pre-test.
➢ Responsiveness: mean total score increased from 6.0 +/- 1.6 (pre-test) to 9.3 +/- 2.2 (post-test), mean difference: 3.3 (95% CI: 2.7 - 3.9). Discriminant validity: 7.0 points (95% CI: 6.3 - 7.7) of difference between pre-test and expert scores. Internal consistency was moderate to high (with regard to accepted value of 0.70): Set A alpha coefficient = 0.54; Set B = 0.72. Item analysis: item-to-total correlation coefficients below 0.2 in five questions (set A: 2, 6, and 5; set B: 7 and 9).
➢ Feasibility: mean time to fill-in the test was 52.1 minutes (95% CI: 45.2 - 59). Difficulty of questions: ranges of correct answers per question were 18.8-75.0% (set A) and 11.8-76.5% (set B), with regard to acceptable result of 10-90%.

CONCLUSIONS:
➢ Until now, there was no previous validation study in Latin america of Spanish translation of a globally recommended EBP assessment tool (Berlin Questionnaire).
➢ Based on study findings, the Spanish version of Berlin Questionnaire is a very important contribution, as a suitable tool to measure (change in) EBP knowledge and skills.