Pain Behaviors for Osteoarthritis Instrument for Cognitively Impaired Elders (PBOICIE) Brief

PBOICIE is a 6 item observational assessment tool which was developed to assess osteoarthritis (OA) pain in the knee or hip for severely cognitively impaired elders. The tool observes for restricted movement, facial and vocal expressions of pain and changes in daily routine. It is based on the assumptions that osteoarthritic pain is worsened with movement, is not caused by other conditions, can be observed and rated by caregivers and presents the same in both cognitively intact and impaired older patients.

Development of the PBOICIE was a series of staged evaluations based primarily on expert consensus and statistical evaluation in small sample populations of community-dwelling non-cognitively impaired elders. The initial 49 items were reduced to 6 items, two of which are consistent with AGS guidelines: body movement and facial expressions.

The administration procedure of the PBOICIE is described for initial use by research assistants for a research protocol. However, at this time no further information for clinical utility, administration or feasibility within the practice setting is provided. A user manual is not available.

Reliability

Cronbach's α for internal consistency of the 6 item tool was .57 measured before analgesics and .68 measured 30 minutes after analgesics. Based on comparison of 4 patients, research assistants had perfect agreement for interrater reliability. Cohen's κ was .76 with the primary investigator and .77 over a month of rating 5 participants. These high ratings may not translate into the clinical practice setting with providers of various educational backgrounds.

Validity

Results showed that elders had fewer pain behaviors 30 minutes after analgesic administration than before (1.97 ± 1.98 vs. 2.9 ± 1.89, $p < 0.001$), which provides preliminary evidence that the 6-item PBOICIE has the ability to discriminate pain behaviors before and after analgesic administration. PBOICIE was not associated with the verbal self-reports of pain having a Pearson's coefficient of only .11 when measured 30 minutes before analgesic and .05 when measured 30 minutes after analgesics.

Summary

The development of the PBOICIE was based on a thorough review of the literature and expert opinion. Since the tool was developed to identify pain in a specific population with a specific diagnosis of OA there are limitations to its use in the practice setting. The sample size used for the preliminary evaluation and reduction of the indicators raises concern. Further study regarding administration, clinical utility and feasibility in the practice setting is needed. Preliminary reliability is strong for the final tool, but there are some issues related to the establishment of validity. A major concern is that the PBOICIE was not associated with verbal self-report of pain, even though it was associated with Keefe's observational method.

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Sources of evidence

Tsai, P., Beck, C., Richards, K., Phillips, L., Roberson, P., Evans, J. (2008). The pain behaviors of osteoarthritis instrument for cognitively impaired elders (PBOICIE). *Research in Gerontological Nursing*

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