

behavioural therapy (CBT), which focuses on psychological flexibility and behavior change. ACT has been advocated for the treatment of Persistent Pain. A systematic review concluded that ACT is efficacious for enhancing physical functioning and decreasing distress amongst adults with chronic pain attending Pain Rehabilitation Programmes (Hann & McCracken 2014). A call was made for further studies to examine outcomes from more homogenous groups.

Objectives: To assess the effects of an eight-week group ACT, Rheumatology based programme, for people with persistent pain, on pain acceptance, activity engagement, psychological distress and self-efficacy.

Methods: Patients were referred to the programme by three Consultant Rheumatologists over a five-year period. Over one hundred patients' outcome measures were available for this retrospective study from a convenience sample. Consent had been sought routinely from patients who attended the ACT programme and ethical approval was granted from the Hospital Research Ethics Committee (REC) and Ulster University REC. Baseline measures were taken at assessment, on the final day of the programme and at the follow up six-month review. Data was analysed with One Way Repeated Measures ANOVA using SPSSv20. Effect sizes were calculated using Partial Eta Squared and interpreted using the guidelines proposed by Cohen (1998).

Results: For those with scores at all three time points, mean depression scores, anxiety scores and self-efficacy scores were statistically significantly different over time. In addition, for those with activity engagement and pain willingness scores at all three time points, scores were statistically significantly different over time.

Table 1. Change from assessment to the 6-month review

Measure (n)	Mean (SD) at assessment	Mean (SD) at 6-month review	Mean change ² (95% CI)	P-value	Cohen's d
Depression (n=91)	8.6 (3.62)	5.9 (3.62)	-2.7 (-3.47, -1.99)	<0.001	0.76
Anxiety (n=91)	11.0 (3.81)	8.1 (3.95)	-2.9 (-3.66, -2.14)	<0.001	0.79
Self-efficacy (n=89)	37.0 (12.72)	49.6 (13.20)	12.6 (9.48, 15.80)	<0.001	0.84
Activity engagement (n=78)	32.5 (12.27)	43.8 (10.26)	11.3 (8.59, 14.03)	<0.001	0.94
Pain willingness (n=78)	16.8 (7.46)	23.6 (8.52)	6.8 (4.84, 8.73)	<0.001	0.79

Conclusions: The ACT Pain Rehabilitation Programme at University Hospital Waterford in Ireland has provided significant outcomes for reducing depression and anxiety amongst its participants as measured by the Hospital Anxiety and Depression Scale (HADS). Increases in self-efficacy were also found to be statistically significant. Increases in activity engagement & pain acceptance, as measured by the Chronic Pain Acceptance Questionnaire (CPAQ) also showed statistically significant increases. A number of limitations should be noted i.e. this was a retrospective study and depended on self report measures only. However, positive outcomes suggest ACT is a helpful intervention for people with persistent pain.

References:

[1] Hann, K.E.J., McCracken, L.M. (2014). A systematic review of randomized controlled trials of Acceptance and Commitment Therapy for adults with chronic pain: Outcome domains, design quality, and efficacy. *Journal of Contextual Behavioural Science* 3, 217–222.

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OP0141-HPR AN INNOVATE MEASUREMENT INSTRUMENT TO ASSESS ACTIVITY LIMITATIONS IN HIP AND KNEE OSTEOARTHRITIS: THE COMPUTERIZED ANIMATED ACTIVITY QUESTIONNAIRE (AAQ) AND ITS PSYCHOMETRIC PROPERTIES

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Background: The Animated Activity Questionnaire (AAQ) measures activity limitations in hip and knee osteoarthritis (HKO), and was developed in close collaboration with patients¹. Previously we showed an adequate construct- and cross-cultural validity of the AAQ²

Objectives: To determine the reliability, responsiveness and interpretability of the AAQ.

Methods: In 6 European countries the AAQ was completed twice on a computer with a 7 days interval by 238 patients (DK (36), FR (37), IT (51), NL (39), SP (36), UK (39)). Reliability was assessed by calculating internal consistency (Cronbach's alpha), the intra-class correlation coefficient (ICC), the Standard Error of Measurement (SEM) and the Smallest Detectable Change (SDC). In the Netherlands, an additional group of 92 patients were followed for 6 months in order to assess responsiveness. Data from the AAQ, a PROM (the Hip disability or Knee injury Osteoarthritis Outcome Score, ADL subscore), and performance-based tests (the Timed Up and Go test, Stair Climbing Test and 30 seconds Chair Stands Test) were collected. To estimate the Minimal Important Change (MIC) of the

AAQ an anchor-based MIC distribution method was used with a Global Rating of Change (GRC) as anchor. The Receiver Operating Characteristic (ROC) method was used to find the AAQ change score that best discriminates between patients who improved in activity limitations and who are not. The MIC was compared to the SDC in order to facilitate the interpretation of change scores.

Results: Cronbach's alpha was 0.94. ICC for test-retest reliability was 0.93 (95% CI: 0.91–0.95). SEM and SDC were 4.9% and 13.5%, respectively. With regard to responsiveness the change scores of the AAQ after 6 months correlated 0.58 with the PROM, 0.42–0.55 with the performance based tests, and 0.46 with GRC. The ROC curve showed an area under the curve of 0.72 with a sensitivity of 63% and a specificity of 81% for the optimal MIC of 9.1 for discrimination. The MIC was smaller than the SDC meaning that the change is important but cannot be distinguished from measurement error in individual patients.

Conclusions: The AAQ, measuring a new construct in the domain physical functioning in addition to a PROM and performance-based tests, showed good construct validity, cross-cultural validity, internal consistency and test-retest reliability. A change in AAQ score over 13.5% indicates a real improvement in activity limitations in HKOA patients. The AAQ seems to have great potential for international use in research but the application in clinical practice needs caution.

References:

[1] Peter WF et al. *Arthritis Care Res (Hoboken)*. 2015 Jan;67(1):32–9.

[2] Peter WF et al. *Arthritis Care Res (Hoboken)*. 2016 Oct 16.

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OP0142-HPR THE POTENTIAL BUFFERING ROLE OF SELF-EFFICACY AND PAIN ACCEPTANCE AGAINST INVALIDATION IN RHEUMATIC DISEASES

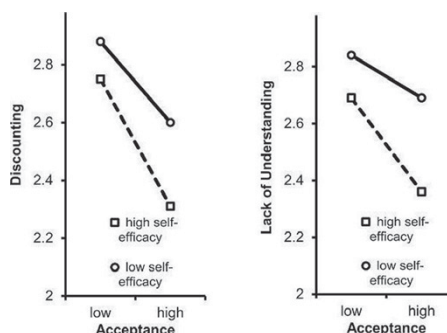
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Background: A substantial number of people with a rheumatic disease perceive invalidation consisting of "lack of understanding" and "discounting" (negative social responses) [1]. Our study was guided by the notion that high self-efficacy will make people feel competent to deal with situations in which control of invalidation is possible and likely to be successful. In other situations, high acceptance will help people to actively and in full awareness experience even adverse situations such as invalidation without unnecessary attempts to change their frequency or form, which is considered a core aspect of acceptance.

Objectives: To get insight into the potential buffering role of self-efficacy and pain acceptance against invalidation, we examined the association of self-efficacy and pain acceptance with invalidation in people with diverse rheumatic diseases.

Methods: The design was cross-sectional. Spanish speaking people (N=1153, 91% female, mean age 45±11 years) with one or multiple rheumatic diseases completed online versions of the Illness Invalidation Inventory [2], the Chronic Pain Acceptance Questionnaire, and the Chronic Disease Self-Efficacy Scale.

Results: Before and after adjustment for age, gender, education, and fibromyalgia diagnosis, higher self-efficacy and higher pain acceptance were independently associated with discounting and lower lack of understanding ($P<0.001$, see Figure). The combined occurrence of high self-efficacy and high acceptance was associated most clearly with lower lack of understanding (interaction: $P=0.03$) and with discounting (interaction: $P=0.07$, not reaching statistical significance): see Figure.



Conclusions: The present study convincingly shows that self-efficacy and pain acceptance are associated with less invalidation. This suggests the usefulness of examining in prospective studies whether interventions aimed at increasing self-efficacy and pain acceptance can help people with rheumatic diseases for whom invalidation is a considerable burden. A cognitive-behavioral model including self-efficacy and acceptance to deal with invalidation is proposed.

References:

[1] Kool MB, van Middendorp H, Boeije HR, Geenen R. Understanding the lack of understanding: invalidation from the perspective of the patient with fibromyalgia. *Arthritis Rheum-Arthritis Care Res* 2009;61:1650–6.

[2] Kool MB, van Middendorp H, Lumley MA, Schenk Y, Jacobs JW, Bijlsma JW,