

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

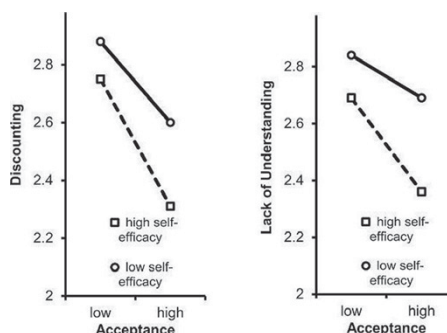
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Background: A substantial number of people with a rheumatic disease perceive invalidation consisting of "lack of understanding" and "discounting" (negative social responses) [1]. Our study was guided by the notion that high self-efficacy will make 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:

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

Geenen R. Lack of understanding in fibromyalgia and rheumatoid arthritis: the Illness Invalidation Inventory (3rd). *Ann Rheum Dis* 2010;69:1990–5.

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OP0143-HPR **DISABILITY IN THE FEET RELATED TO PARTICIPATION IN DAILY LIFE IN PATIENTS WITH EARLY RA – AN INTERVIEW STUDY IN THE SWEDISH TIRA PROJECT**

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Background: Pain, stiffness and deformity of the feet are related to reduced mobility and participation restrictions in daily activities in patients with established rheumatoid arthritis (RA). The new biological medications are effective and reduce disease activity, but not disability to the same extent. Foot problems are assumed to be related to participation restrictions also in patients with early RA, diagnosed after the introduction of biological medications, hindering for example physical activity. Hence, there is a need for more knowledge about foot problems in order to identify possible needs for rehabilitative interventions.

Objectives: To explore disability related to foot problems in women and men with early rheumatoid arthritis and its relation to participation in daily life.

Methods: 59 patients (58% women, 20–63 years) with early RA were interviewed about participation dilemmas in daily life related to RA, using Critical Incident Technique. The interviews were audio-recorded and transcribed. Data related to foot problems were extracted and analysed thematically. A research partner with RA validated the retrieved categories. The study was approved by the Regional Ethics Committee.

Results: More than 2/3 of the patients mentioned that they had participation restrictions related to foot problems. The analysis revealed 5 categories concerning foot problems and the relation to participation restrictions: 1) foot problems as an early indicator of the disease, 2) hindrance in managing the daily routine and house hold activities, 3) struggling to be mobile, 4) difficulties in doing a job at work and 5) difficulties in participating in recreation and leisure activities. Both women and men shared many experiences, as difficulties to be physically active. Several women expressed difficulties to use the shoes they wanted. Being able to move on uneven ground in, for example, the forest was something that many men expressed as difficult.

Conclusions: Patients with early RA with access to effective medications and multi professional interventions based on their individual needs still experience a wide range of foot related disability in major life arenas as work, in the household and during leisure time. This indicates a need to pay attention also in today's early RA patients to foot problems in the multi professional rehabilitation to prevent further disabilities and enable physical activity for men and women with RA.

Disclosure of Interest: None declared

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OP0144-HPR **"IT CAN'T BE ZERO": A QUALITATIVE STUDY OF PATIENTS' PERSPECTIVE ON PATIENT GLOBAL ASSESSMENT IN RHEUMATOID ARTHRITIS**

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Background: Patient Global Assessment (PGA) plays an important role in disease activity assessment and treatment decisions in rheumatoid arthritis (RA). However, the meaning of PGA is open to patient interpretation and this may affect the validity and reliability of clinical assessments.

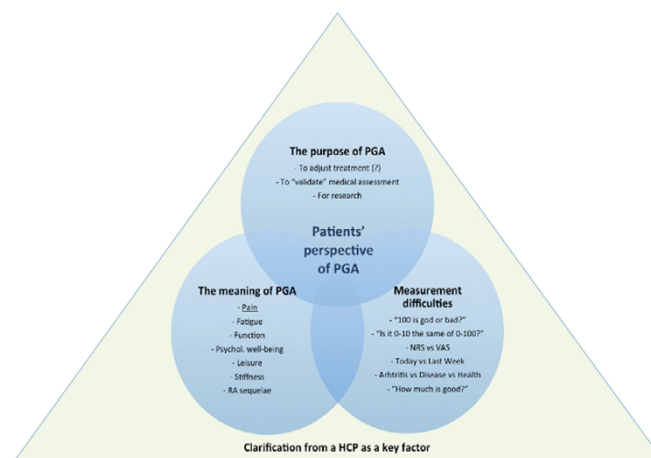
Objectives: We aimed to explore: (i) patients' perspective on PGA and its different formulations (ii) how patients' perspective may be improved by a brief explanation from a health care professional (HCP).

Methods: This was a qualitative study including consecutive patients with RA attending a day hospital and an outpatient department of a university hospital in Portugal. Data collection included 4 focus-groups (FGD) and 3 individual interviews to determine patients' perspectives. To help the discussions, patients completed 3 different PGA formulations consecutively and then a HCP explained what information was expected to inform their PGA. The 3 PGA formulations and their implications were then discussed between the patient and the HCP. Data from the FGDs and the interviews were transcribed verbatim and inductive content analysis was undertaken by two independent researchers. Data were coded and categorised in themes, which were agreed upon with patients, HCP and patient research partners.

Results: Fourteen patients (12 women) with RA participated. Their age ranged from 49 to 72 years, disease duration 4 to 30 years and 11 were on biologic DMARDs. Four main themes emerged (Figure 1): (1) The purpose of PGA. Some

patients did not know whether PGA affects their treatment decisions in the same way as the objective measures do: "if the answer is not in somehow according to the exams we make (...) obviously they might ignore me". Some believed that PGA was only used for research purposes. (2) The meaning of PGA. Pain was by far the main meaning of PGA, but also fatigue, function and other dimensions including RA sequelae; (3) Measurement difficulties. Many of these difficulties arose from the presentation of the three different PGA formulations, anchor points and their presentations: "I always think that 100 is great: you feel 100%", "Usually the scale is 0 to 10, here I can see 0 to 100"; "Usually it has the numbers, I answer 2, it's not like a straight line like this one"; "Today is different (...) when they ask the last week, we have to go back in time and the pain isn't the same anymore". Also cultural issues and the subjectivity of the concept were expressed: "We, the patients, can't really assess the intensity of the pain, what could be a 9 for her, for me it might be a 5"; "I can never answer 0, because I always have something that affects me". (4) Clarification from a HCP as a key factor for global understanding: ["Sometimes I just give a random number. (...) now maybe I will think more carefully and try to be as accurate as possible".

Figure 1. Main themes of Patients' perspective of PGA



Conclusions: Our results suggest that patients' interpretation of PGA is diverse and may reflect different symptoms such as pain or psychological well-being and comorbidities. Standardization of PGA is warranted and dedicated patient debriefing is likely to improve the reliability of this assessment.

Disclosure of Interest: None declared

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OP0145-HPR **RHEUMATOID ARTHRITIS PATIENTS' SUPPORT NEEDS REGARDING MEDICATION USE AND THEIR PERSPECTIVES ON THE APPLICABILITY OF EHEALTH INTERVENTIONS TO ADDRESS THOSE NEEDS: A FOCUS GROUP STUDY**

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Background: Patients with rheumatoid arthritis (RA) encounter various problems with their medication use, including poor knowledge about disease-modifying antirheumatic drugs (DMARDs)¹, concerns about potential adverse consequences of their medication use² and struggles with opening the medication's packaging³. Additional support might decrease those problems by targeting RA patients with (eHealth) interventions that address their needs. To date, no studies have explored RA patients' support needs regarding medication use from their own perspectives, and it remains largely unknown if, and to what extent, they perceive a need for eHealth interventions.

Objectives: The objective of this study was twofold: 1) to explore RA patients' support needs regarding medication use; and 2) to gain insight into their perspectives on the applicability of eHealth interventions to address those needs.

Methods: Three focus groups with 28 RA patients (mean age: 65 years, mean disease duration: 19 years) were conducted. All focus groups were audio-recorded and subsequently transcribed verbatim. Two researchers independently conducted an inductive, thematic analysis on the transcripts.

Results: Three themes that described RA patients' support needs regarding medication use were identified: 1) Informational support; 2) Practical support; and 3) Emotional and behavioral support. Informational support refers to the provision of knowledge and facts, including advice, suggestions and feedback from healthcare providers. Practical support includes the strengthening of technical skills (e.g. administering subcutaneous injections), as well as the provision of goods and services. Emotional and behavioral support refers to the interventions enabling RA patients to better cope with their medication use. Their perspectives on the applicability of eHealth interventions to address those needs were also identified. RA patients recognized potential advantages of eHealth interventions, such as being less time consuming and easily accessible. However, concerns