AB0849 CORRELATION BETWEEN RAPID3 AND PROMIS10 IN PATIENTS WITH ANKYLOSING SPONDYLITIS

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Background: Patient-reported outcome (PRO) measures are important in managing and improving the quality of care in patients with chronic rheumatic conditions including ankylosing spondylitis (AS). The RAPID3 was developed for use in patients with rheumatoid arthritis, but it has shown good correlation with the BASDAI and ASDAS in patients with AS.[1] The PROMIS10 is a universal (non-disease specific) PRO measure that quantifies physical and mental health;[2] validity of PROMIS10 has not been examined in patients with AS.
Objectives: To evaluate the relationship between RAPID3 and PROMIS10 in patients with AS.
Methods: US patients aged ≥18 years with a self-reported diagnosis of AS were recruited through CreakyJoints (www.CreakyJoints.org), an online patient support community comprising patients with arthritis and arthritis-related diseases and their caregivers and via outreach on social media. Respondents completed a web-based survey designed to collect data on socio-demographics and clinical symptoms, RAPID3, and PROMIS10. The RAPID3 score consists of three patient self-reported scores (0–10): functional impairment, pain, and patient global assessment; total scores≤3.0=near remission, 3.1 to 6.0=low disease severity, 6.1 to 12.0=moderate disease severity, and ≥12.1 = high disease severity. PROMIS10 is a 10-item questionnaire measuring physical, mental, and social domains; physical and mental health domain scores are transformed to T-score distributions normalised to the general population (mean score=50). PROMIS10 individual scores and global physical and mental health T-scores were stratified by RAPID3 disease severity and compared across RAPID3 severity levels using Kruskal-Wallis or ANOVA or tests, respectively. Spearman's correlation coefficient was calculated between the RAPID3 total score and the PROMIS10 physical health and mental health T-scores, respectively.
Results: Among 235 respondents, 174 (74%) were female, with a mean (SD) age of 49.8 (10.7) years. The mean (SD) RAPID3 cumulative score was 15.4 (5.4) The mean (SD) PROMIS10 global physical and mental health T-scores were 35.60 (7.39) and 39.89 (8.76), respectively, with individual domain scores and global T-scores decreasing with worsening RAPID3 disease activity (table 1; p<0.0001 for all). PROMIS10 physical and mental health T-scores showed a showed a strong correlation with RAPID3 (r_s=−0.84 and −0.63, respectively).

Abstract AB0849 – Table 1. PROMIS10 Scores by RAPID3 Disease Activity in Patients with AS

	RAPID3 Disease Activity*				
PROMIS10 domain, mean (SD)	**Near Remission (n = 5)**	**Low Severity (n = 9)**	**Moderate Severity (n = 52)**	**High Severity (n = 169)**	***P* value**
Overall health	4.20 (0.45)	3.89 (0.60)	2.77 (0.70)	2.09 (0.77)	< 0.0001
Quality-of-life	4.80 (0.45)	3.67 (0.71)	3.10 (0.63)	2.28 (0.88)	< 0.0001
Physical health	4.40 (0.55)	3.44 (0.53)	2.65 (0.65)	1.97 (0.78)	< 0.0001
Mental health	4.80 (0.45)	3.44 (0.53)	3.06 (0.78)	2.56 (0.96)	< 0.0001
Satisfaction with social activities/relationships	5.00 (0.00)	3.00 (0.71)	2.94 (1.00)	2.15 (1.01)	< 0.0001
Ability to carry out every day physical activities	4.80 (0.89)	3.67 (0.71)	2.98 (1.11)	2.09 (0.85)	< 0.0001
Emotional distress	4.40 (0.89)	3.22 (0.83)	2.75 (0.76)	2.20 (0.78)	< 0.0001
Fatigue	4.40 (0.89)	3.22 (0.83)	2.75 (0.76)	2.20 (0.78)	< 0.0001
Pain	4.20 (0.45)	4.00 (0.00)	3.25 (0.44)	2.38 (0.54)	< 0.0001
Global physical health T-score	57.94 (3.90)	47.62 (4.24)	40.92 (4.40)	32.66 (5.37)	< 0.0001
Global mental health T-score	63.56 (5.63)	46.72 (4.05)	44.26 (6.27)	37.48 (7.90)	< 0.0001

AS, ankylosing spondylitis; PROMIS10, Patient-Reported Outcome Management Information System Global Health short form; RAPID3, Routine Assessment of Patient Index Data 3.
* Disease severity classified by RAPID3 scores:≤3.0=near remission; 3.1 to 6=low severity; 6.1 to 12.0=moderate severity;≥12.1= high severity.

Conclusions: RAPID3 and PROMIS10 are relatively short questionnaires that can be used in the real world to track and monitor disease symptoms and health-related quality of life in patients with AS. RAPID3 and PROMIS10 were strongly correlated in patients with AS; although, the PROMIS mental health T-score likely measures a slightly different construct than RAPID3.

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AB0850 DO SYMPTOMS OF DEPRESSION AND ANXIETY INFLUENCE TREATMENT RESPONSE AND LONG-TERM PHYSICAL HEALTH OUTCOMES IN ANKYLOSING SPONDYLITIS?

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Background: Psychological disturbances, frequently observed in inflammatory rheumatic diseases, seem to negatively influence patient's clinical status and treatment response.
Objectives: The aim of this study was to examine the longitudinal impact of depression (D)/anxiety (A) in treatment response, disease activity, physical disability and quality of life in patients with Ankylosing Spondylitis (AS).
Methods: Data from patients who fulfilled the modified New York criteria for AS were collected at baseline, weeks 2 and 14 post-treatment with Adalimumab. The Hospital Anxiety and Depression Scale (HADS) was used to evaluate D/A symptoms severity. The primary outcomes were AS disease activity score – C reactive protein (ASDAS-CRP), Bath AS Disease Activity Index (BASDAI), Bath AS Functional Index (BASFI) and AS Quality of Life (ASQoL) Scale. Secondary outcomes were patient and physician global assessment by Visual Analogue Scale (VAS), erythrocyte sedimentation rate (ESR), CRP and BASDAI question 1 (fatigue). Difference-in-differences estimation took into account the covariates gender, age at baseline and disease duration.
Results: Data from 54 patients were included. At baseline, D/A symptoms significantly influenced the mean value of BASFI (p=0.006; p=0.003) and ASQoL (p<0.001; p=0.004). On the other hand, BASDAI (p=0.009), CRP (p=0.017), patient's VAS (p=0.003) and fatigue (p=0.015) were only influenced in the individuals with A symptoms, while the physician's VAS (p=0.005) was only influenced in patients with D symptoms. After 14 weeks of treatment, significant differences in ASQoL mean values were found in patients with both D/A symptoms at baseline (p=0.005; p=0.022) and in BASFI (p=0.044) and patient VAS (p=0.006) for the population showing only A symptoms at the baseline. Apart from the physician VAS (p=0.023), D/A baseline symptoms did not affect the treatment's response.

Abstract AB0850 – Table 1. Difference-in differences estimation results. †p-value<0.05.

Difference-in-differences		Baseline Mean difference (p-value)	3 Months Mean difference (p-value)	Global Mean difference (p-value)
Anxiety symptoms (HADS≥11)	*ASDAS-CRP*	0.27 (0.308)	0.30 (0.317)	0.03 (0.317)
	BASDAI	1.63 (0.009†)	1.08 (0.106)	-0.55 (0.541)
	BASFI	2.04 (0.006†)	1.62 (0.044†)	-0.42 (0.693)
	ASQoL	7.32 (<0.001†)	4.53 (0.005†)	-2.79 (0.199)
	ESR	-7.24 (0.208)	-2.99 (0.644)	4.26 (0.622)
	CRP	+10.05 (0.017†)	-0.503 (0.914)	9.54 (0.128)
	Patient's VAS	21.43 (0.003†)	21.52 (0.006†)	0.09 (0.993)
	Physician's VAS	-0.70 (0.909)	-0.54 (0.931)	0.16 (0.986)
	Fatigue	1.90 (0.014†)	1.05 (0.204)	-0.84 (0.452)
Depression symptoms (HADS≥11)	*ASDAS-CRP*	0.35 (0.339)	0.19 (0.665)	-0.17 (0.769)
	BASDAI	0.93 (0.293)	0.56 (0.587)	-0.37 (0.784)
	BASFI	2.94 (0.003†)	1.88 (0.100)	-1.06 (0.476)
	ASQoL	5.84 (0.004†)	5.26 (0.022†)	-0.58 (0.846)
	ESR	9.85 (0.168)	-1.48 (0.859)	+11.33 (0.301)
	CRP	+4.44 (0.450)	1.36 (0.843)	5.80 (0.522)
	Patient's VAS	15.25 (0.121)	1.70 (0.881)	+13.55 (0.366)
	Physician's VAS	25.76 (0.005†)	-3.16 (0.721)	+28.92 (0.023†)
	Fatigue	0.69 (0.509)	0.271 (0.825)	+0.424 (0.793)

Conclusions: Psychological status does not seem to affect response to treatment with Adalimumab, even if the overall characteristics of the population are different at baseline between patients with/without D/A symptoms.
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