Background/Purpose: HAQ (Health Assessment Questionnaire) assesses functional disability in patients with rheumatoid arthritis (RA). The correlation between HAQ and disease activity might change according to the length of the disease duration.The purpose of our study was to assess the relationship between physical function and disease activity in RA patients according to disease duration

Methods: RA patients ≥18 years (ACR/EULAR 2010 criteria) seen between March and May 2014, were included. At the inclusion visit:age, gender, disease duration, tender and swollen joint count (28 joints), disease activity by CDAI (Clinical Disease Activity Index) and physical function (HAQ-A, argentine Spanish validated version) were recorded. Patients were divided in two groups according to disease duration (≤ or >5 years). Variables were compared between both groups. Spearman correlation between CDAI and HAQ was calculated in each subgroup of patients. Receiver Operating Characteristic (ROC) curve was used to assess the discriminating power of HAQ in patients in clinical remission (by CDAI), for the whole group and in the different age subgroups

Results: 104 patients, 91 females (88%), with a mean age of 60 years were included. Table 1 shows patients demographics and clinical features, by age group. While there were no significant differences in disease activity measurements, patients with longer disease duration had significantly worse HAQ-A.There was a significant correlation between HAQ-A and CDAI (r=0.50 (p<0.001)) for the total group. In patients with<5 years of disease duration (n=38) the correlation was r=0.69 (p<0.0001), whereas a lower correlation was found (r= 0.48: p<0.001) in patients with more than 5 years of disease duration(n=66). Patients on CDAI remission had significantly lower HAQ-A values than patients not in remission in both disease duration groups. However independently of remission status, patients with longer disease duration had significantly higher HAQ-A values than patients with short disease duration (table 2).The best cutoff value for HAQ–A to discriminate patients in remission by CDAI, using the ROC curve, in patients with shorter disease(≤ 5 years) was 0.125 (AUC:0.85; 95% CI:0.74-0.96; Sensitivity(Se):76%; Specificity(Sp):92% and 0.875(AUC:0.81; 95% CI: 0.69-0.92; Se:59%; Sp:90%) in patients with longer disease duration(>5 years)

Table 1

Characteristics	Total group (N= 104)	Disease duration < 5 years (n=38)	Disease duration > 5 years (n=66)	P value
Mean age (DS)	60 (14)	58.7 (16.7)	60.2 (11.7)	0.608
Females, n (%)	91 (88)	33 (87)	58 (88)	0.878
Mean years of Disease duration (SD)	10.1 (10.6)	1.3 (0.98)	15 (10.2)	<0.0001
Rheumatoid Factor positive, (n=96), n (%)	62 (65)	24/37 (65)	38/59 (64)	0.964
Anti-CCP positive, (n=87), n (%)	71 (82)	26/34 (76.5)	45/53 (85)	0.322
Mean CDAI (DS)	8,9 (10)	9.7 (12.2)	8.4 (8.4)	0.5320
Mean HAQ (DS)	0,64 (0,73)	0.37 (0.6)	0.8 (0.8)	0.0040
Mean pain VAS (DS)	29 (26,3)	27.3 (25.3)	29.7 (27.1)	0.6573
Mean VAS PGA (DS)	27 (27)	27.1 (27.2)	26.9 (27.3)	0.9644
Mean VAS PhGA (DS)	22 (20)	21.7 (20.6)	22.9 (20.2)	0.7862
On Methotrexate, n (%)	83 (80)	33 (87)	50 (76)	0.175
On Biologics, n(%)	33(32)	1 (2.6)	32 (49)	<0.0001
On Steroids, n(%)	25(24)	12 (32)	13 (20)	0.175

Table 2

	CDAI remisión (n=33)	CDAI no remisión (n=71)	P value
Mean HAQ-A, (SD), Patients < 5 years disease duration	(n=13) 0,03 (0,1)	(n= 25) 0,55 (0,7)	0,0105
Mean HAQ-A, (SD), Patients > 5 years disease duration	(n=20) 0,3 (0,5)	(n= 46) 1 (0,8)	0,0002
P value	0.0264	0.0078	

Conclusion: Correlation between disability measured by HAQ-A and disease activity measured by CDAI was better in patients with shorter disease duration.Patients with longer disease duration had higher functional disability independently of disease activity.Different HAQ-A values might need to be chosen as treatment targets for patients with different duration of the disease