

Fatigue in Axial Spondyloarthritis: Associations with Disease Activity and Functional Ability

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Introduction

- Fatigue is a common symptom reported by patients with axial spondyloarthritis (axSpA), which can affect patients' quality of life and limit daily activities.
- However, the impact of fatigue and the relationship with disease activity is often overlooked, due to difficulties in capturing and quantifying this symptom.

Aims

- The aim of this study is to determine how fatigue relates to patient reported outcomes in axSpA.

Methods

- Data from the axSpA DEXA study was extracted for this analysis, which included 107 axSpA patients from St. James's Hospital.
- Patient reported outcomes that were of interest included Bath Ankylosing Spondylitis Disease Activity Index (BASDAI), Bath Ankylosing Spondylitis Functional Index (BASFI), Health Assessment Questionnaire (HAQ) and Fatigue Severity Scale (FSS).
- Scores were treated as continuous variables which were plotted against each other to undergo correlational studies
- Analysis was performed using IBM SPSS version 26, where normalcy was assessed via Shapiro Wilk's test ($p < 0.05$) and correlation using Spearman's rank correlation coefficient.

Table 1: Characteristics of the study cohort and mean scores

	n (%)
n	107
Males	83 (77.7%)
Females	24 (22.4%)
Age (years)	50.17
Disease duration (years)	24.1
Caucasian	101 (94.4%)
HLA-B27 +	87 (81.3%)
Uveitis	33 (30.8%)
Psoriasis	16 (15%)
Colitis	19 (17.8%)
NSAIDs	47 (43.9%)
DMARDs	9 (8.4%)
Biologics	66 (61.7%)

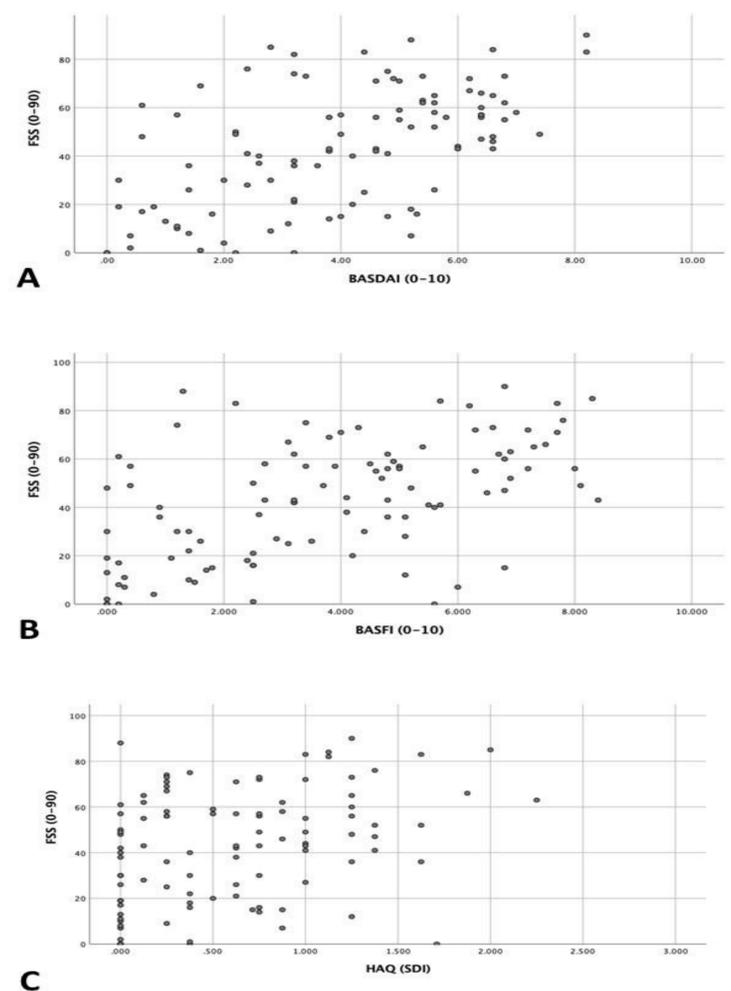
Patient Reported Outcomes

BASDAI	3.90
BASFI	3.73
ASQoL	6.89
HAQ	0.61
FSS	42.71

Results

- Baseline demographics and averages of patient reported outcome scores are outlined in table 1.

Figure 1: Visualisation of relationship between FSS and **A.** BASDAI ($r_s=0.548$), **B.** BASFI ($r_s=0.523$) and **C.** HAQ ($r_s=0.343$). All results significant at the $p<0.01$ level



- BASDAI, BASFI, HAQ and FSS scores were not normally distributed ($p<0.05$).
- Visual inspection of the scatterplot of BASDAI, BASFI and HAQ vs FSS showed the variables had a directly proportional monotonic relationship.
- A moderate positive correlation was observed between BASDAI and FSS ($r_s(101) = 0.548$, $p < 0.01$).
- BASFI and FSS also showed a moderately positive correlation ($r_s(102) = 0.523$, $p < 0.01$).
- HAQ and FSS showed a weaker positive correlation ($r_s(102) = 0.343$, $p < 0.01$).
- Fatigue levels were more strongly associated with BASDAI and BASFI, compared to HAQ

Conclusions

- These results indicate disease activity and functional ability are directly associated with fatigue severity in axSpA. Based on these findings, we believe that there is clinical utility in capturing fatigue levels via the FSS when managing patients with axSpA.