

BACKGROUND

The tools to assess disease activity and quality of life in axial spondyloarthritis (axSpA) were developed in ankylosing spondylitis cohorts biased towards inclusion of males. At present, it remains unclear how adequately these tools capture burden of disease in females with axSpA. The Ankylosing Spondylitis Registry of Ireland (ASRI), an epidemiological database of patients with axSpA in Ireland, was used to address this question.

Objective

To examine and compare sex-specific relationships between disease activity (as assessed by BASDAI) and quality of life (as assessed by ASQoL) in patients with axSpA.

METHODS

IBM SPSS version 26 was used to run the analysis of the patient population registered in the ASRI to date. Patients with both BASDAI and ASQoL scores were included. Variables were assessed with a Shapiro-Wilk's test for normal distribution.

Variables were also assessed for presence of a monotonic relationship by visual inspection of a scatterplot of the two variables. Once a monotonic relationship was established, records were split by sex and a Spearman's rank-order correlation was undertaken to assess strength of correlation of scores within each sex.

RESULTS

Overall, 888 patients were assessed for inclusion. Data on both BASDAI and ASQoL scores were available for analysis on 879 patients, made up of 72.9% (641) males and 27% (238) females. Mean age was 45.8 years, with a mean disease duration of 17.1 years.

For both BASDAI & ASQoL means were significantly higher in females compared to males (BASDAI 4.57 vs 3.83, $p < 0.01$; ASQoL 7.51 vs 6.12, $p < 0.01$).

There was a statistically significant, strong positive correlation between BASDAI and ASQoL scores in the axSpA patients, $r_s = 0.765$, $p < 0.01$, translating clinically to higher BASDAI scores being associated with worse ASQoL scores. Analysis by sex showed the positive correlation becomes stronger if assessed specifically for males (Figure 1) but weaker for females (Males $r_s(644) = 0.774$, $p < 0.01$ vs Females $r_s(238) = 0.728$, $p < 0.01$) and this difference was statistically significant ($p < 0.01$) (Figure 2).

Figure 1: Correlation between BASDAI and ASQoL in Males with AxSpA

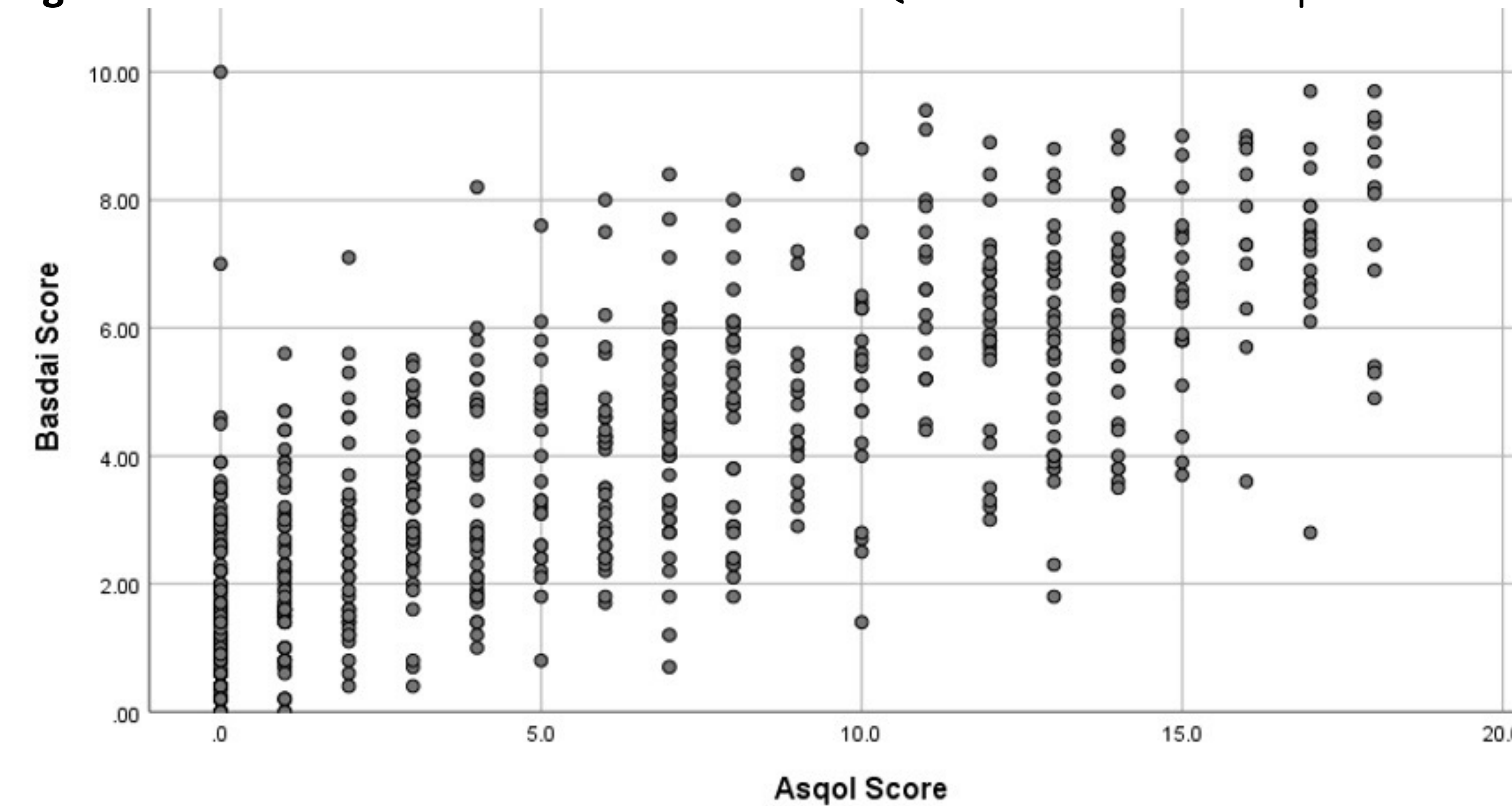
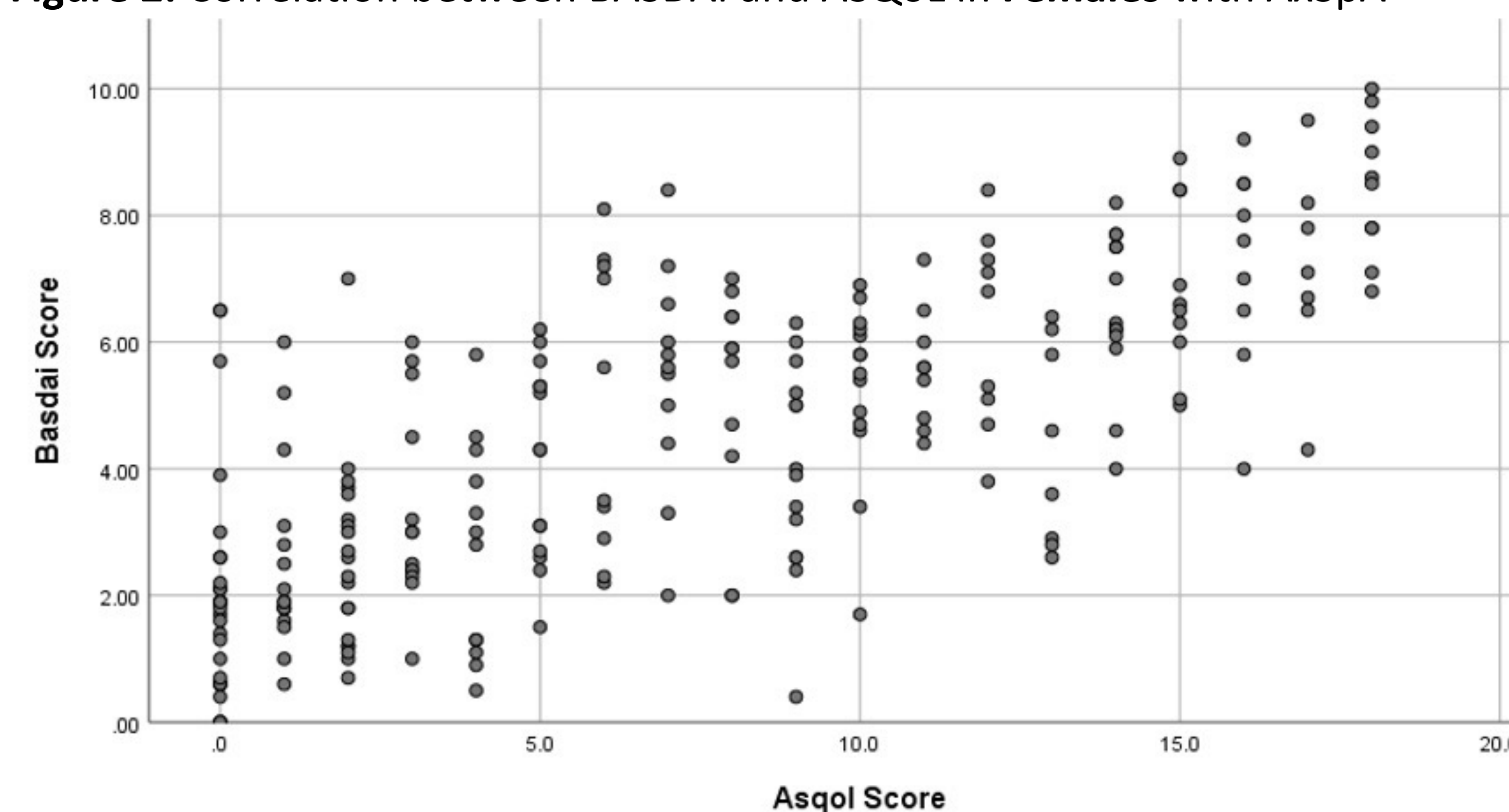


Figure 2: Correlation between BASDAI and ASQoL in Females with AxSpA



Conclusion

This analysis demonstrates that there is a stronger relationship between disease activity and quality of life in males with axSpA than females. This raises the following question: is QoL in women impacted by factors in addition to disease activity? Striving to answer this is critical to improving interpretation of patient outcomes between sexes in axSpA. It also has important implications for developing sex-specific treat-to-target strategies in axSpA. Our findings highlight the need for development and validation of tools to capture disease activity and patient experience of females with axSpA.