This includes a score of vitality level (a lower score is suggestive of more fatigue). RDW was recorded, in addition to standard markers of lupus disease activity including Erythrocyte Sedimentation Rate (ESR), Complement C3, anti-double-stranded DNA binding (anti-dsDNA), C-reactive protein (CRP) and SLEDAI/BILAG. Spearman’s rank was used to analyse variables with a p-value of <0.05 considered significant.

Results In cohort 1, 72 patients aged 14–42 (median 21) were recruited. FACIT score did not correlate with anti-dsDNA (p=0.4), C3 (p=0.06), ESR (p=0.06), CRP (p=0.1) or SLEDAI (p=0.6). There was a strongly significant correlation between FACIT and RDW (p≤0.001; r=−0.44); figure 1. In cohort 2, 106 patients were recruited aged 18–75 (median 44.5). RDW correlated with ESR (p=0.03; r=−0.20), BILAG (p=0.002; r=−0.30) and vitality scores (p=0.02; r=0.23); figure 2. In cohort 3, 47 patients aged 19–75 (median 46) were recruited. FACIT correlated with RDW (p=0.03; r=−0.32); figure 3.

Conclusions An elevated RDW correlates with higher levels of fatigue. For the first time a serologically marker has shown strong association with fatigue in patients with lupus. This is demonstrated in three groups of varying age, ethnicity and geography and using two different fatigue scores.