changes between baseline and follow-up with delta (Δ) values on xyz-plots. Associations between PCS and MCS scores, DAS28CRP, and PsA symptoms were described with fitted linear regression plane models. PCS and MCS were derived from 8 domains of SF-36 and ranged from 0-100 with lower values reflecting more impaired QoL.

Results: 71 PsA patients were included in the study. 40 (56%) patients were female with a mean age of 50 (IQR 41-60) years and disease duration of 2.15 (IQR 0.2-9) years. Figure 1 shows associations between PsA symptoms, DAS-28CRP, and PCS (green regression plane) and MCS (blue regression plane). For all PROs; pain, fatigue and physical function, improvements in both Δ PCS and Δ MCS scores were associated with improvements in either Δ pain, Δ PsAID fatigue, and/or Δ HAQ, and to a larger extent than improvements in Δ DAS28CRP. Improvements in Δ nail PsO (regression coefficient (RC): -0.22) and Δ PASI (RC: -0.31) positively impacts Δ MCS, without a clear association in PCS scores (RC: 0.13 and 0.38 for Δ nail PsO and Δ PASI, respectively). Improvement in inflammatory features SPARCC enthesitis and DAS28CRP showed improvement in both Δ PCS and Δ MCS.

Conclusion: Pain and fatigue are well-known factors to impair QoL in PsA patient. Here we show that diminishing these factors, pain and fatigue, improved both PCS and MCS scores more than changes in DAS28CRP. Improvements in skin and nail manifestations impacted MCS scores and are as important as changes in joint manifestations which affect PCS and MCS scores equally.

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FRI0593

CORRELATION BETWEEN DISEASE ACTIVITY AND MENTAL HEALTH OF AS PATIENTS: A CROSS-SECTION STUDY WITH SELF-ASSESSMENTS BASED ON SMART SYSTEM OF DISEASE MANAGEMENT (SSDM) MOBILE TOOLS

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Background: WHO survey showed that the prevalence of anxiety and depression in Chinese population and Chinese patients with chronic diseases were between 3.1% - 4.2% and 3.1% - 7.3%, respectively. Ankylosing Spondylitis Disease Activity Score (ASDAS) and Hospital Anxiety and Depression Scale (HADS) are commonly used to evaluate AS patients' disease activity and mental health. All those assessments were mainly performed by health professionals (HCPs) with paper questionnaire previously. SSDM is a novel smart disease management tool that allows patients to do self-assessments on ASDAS and HADS by mobile terminals.

Objectives: To estimate the prevalence of anxiety and depression in Chinese patients with AS and to analyze the potential association between disease activity and mental health.

Methods: Under the guidance and training by HCPs, AS patients downloaded SSDM and performed self-assessments bundle of ASDAS and HADS with SSDM. ASDAS ≤ 1.3 , 1.3-2.1, 2.1-3.5 and > 3.5 are defined as inactive (IDA), moderate (MDA), high (HDA) and very high (VHDA) disease activity, respectively. ASDAS score ≤ 1.3 represents inactive disease status and achievement of T2T. HADS score ≥ 8 can be diagnosed with anxiety or depression.

Results: From June 2016 to Jan 2020, 1,931 AS patients (1,118 male, 813 female) with a mean age of 34.09 ± 11.86 (12-82) years and the median disease duration of 2.61 years from 207 hospitals performed bundle self-assessments for 2,477 times in total. According to the HADS and ASDAS assessment results, the prevalence of anxiety and depression in all patients was 36.7% and 39.3% respectively, which was significantly higher than that in the WHO survey in Chinese population and chronic disease patients. The proportion of patients achieved and failed on T2T was 29% and 71%, respectively. The prevalence of anxiety (A) and depression (D) was 25% and 23% among T2T achievers; and 37% and 32% among T2T failures, respectively ($p < 0.05$, $p < 0.05$).

According to ASDAS, in IDA, MDA, HDA and VHDA subgroups, the prevalence of anxiety and depression was 27%, 36%, 41%, 52% and 29%, 38%, 45%, 56%, respectively. The correlation coefficients of anxiety (A) and depression (D) with ASDAS were $r_A = 0.9908$ and $r_D = 0.9964$. It suggested that with the increase of disease activity, the proportion of AS patients with anxiety and depression increased significantly. (Figure 1)

Conclusion: The prevalence of anxiety and depression in AS patients was significantly higher than that in the WHO survey in Chinese population and chronic disease patients. Higher prevalence of anxiety and depression were associated with higher levels of disease activity. SSDM is an effective mobile interface to monitor and study entanglement of disease activity and mental health in AS patients, which build a foundation for proactive interventions in future.

Figure 1. The prevalence of anxiety and depression according to ASDAS.

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USE OF ANTI-DFS70 ANTIBODIES IN RHEUMATOLOGICAL PATIENTS WITH SUSPICION OF SYSTEMIC AUTOIMMUNE DISEASE

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Background: Positivity of dense fine speckles antibodies (anti-DFS70) has been associated with antinuclear antibodies positivity in people with no evidence of