Analysis of autoantibody status and interferon scores only in BILAG-BR confirmed similar clustering. Across both cohorts, the prevalence of the Sm/U1RNP and high IFN Score A cluster was associated with inadequate response to conventional immunosuppressive treatment (Table 2).

Table 2 : Prevalence according to stage of therapy

Treatment group	Sm/U1RNP & high IFN Score A	Other	p value
Antimalarial or conventional IS-treated (CONVAS) (n=90)	16/90 (17.8%)	74/90 (82%)	0.02
Conventional IS inadequate response, Previous rituximab (CONVAS) (n=38)	14/38 (36.8%)	24/38 (63.2%)	
Conventional IS inadequate response, starting rituximab (BILAG-BR) (n=163)	51/163 (31.2%)	112/163 (68.7%)	N/A

Conclusion: A cluster of 23% of unselected SLE patients had more severe immune abnormalities, more severe clinical disease activity and were less likely to be maintained on conventional therapies, with twice as many requiring biologic therapy. Other data in MASTERPLANS have demonstrated that Sm/U1RNP antibodies and IFN Scores predict better response to rituximab. This subgroup of patients may therefore be more appropriate for first-line biologic therapy.

Disclosure of Interests: Antonios Psarras: None declared, Danyang Li: None declared, Adewonuola Alase: None declared, Zoe Wigston: None declared, Ian Bruce Grant/research support from: Genzyme, Sanofi, GSK, UCB, Consultant of: Eli Lilly, AstraZeneca, Ilto, Merck Serono, Neil McHugh: None declared, Edward Vital Grant/research support from: AstraZeneca, Roche/Genentech, and Sandoz, Consultant of: AstraZeneca, GSK, Roche/Genentech, and Sandoz, Speakers bureau: Becton Dickinson and GSK

DOI: 10.1136/annrheumdis-2020-eular.4351

THU0252

CORRELATION BETWEEN DISEASE ACTIVITY AND MENTAL HEALTH IN SLE 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. SLEDAI-2K and Hospital Anxiety and Depression Scale (HADS) are commonly used to evaluate SLE patients' disease activity and mental health. All the 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 SLEDAI-2K and HADS by mobile App.

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

Methods: Under the guidance and training by HCPs, SLE patients downloaded SSDM and performed self-assessments bundle of SLEDAI-2K and HADS with SSDM. SLEDAI-2K ≤4, 5-9, 10-14 and ≥15 are defined SLE inactive, low (LDA), moderate (MDA) and high (HDA) disease activity, respectively. SLEDAI-2K score ≤4 is set as the main criteria for Lupus Low Disease Activity State (LLDAS) and achievement of T2T. HADS score ≥8 can be diagnosed with anxiety or depression.

Results: From June 2016 to Jan 2020, 3,332 SLE patients (199 male, 3,133 female) with a mean age of 36.34 ± 12.80 (10-91) years and the median disease duration of 3.43 years from 216 hospitals performed bundle

self-assessments for 4,967 times in total. According to the HADS and SLEDAI-2K 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 LLDAS was 53% and 47%, respectively. The prevalence of anxiety (A) and depression (D) was 19% and 27% among LLDAS achievers; 41% and 47% among LLDAS failures, respectively (pA<0.01, pD<0.01).

According to SLEDAI-2K, in LLDAS, LDA, MDA and HDA subgroups, the prevalence of anxiety and depression was 19%, 30%, 37%, 54% and 27%, 36%, 44%, 61%, respectively. The correlation coefficients of anxiety (A) and depression (D) with SLEDAI-2K were rA=0.9957 and rD=0.9819. It suggested that with the increase of disease activity, the proportion of SLE patients with anxiety and depression increased significantly. (Figure 1)

Conclusion: Conclusion: Higher prevalence of anxiety and depression were Associated with higher levels of disease activity in SLE patients. SSDM is an effective mobile interface to monitor and study entanglement of disease activity and mental health in SLE patients, which build a foundation for proactive interventions physically and mentally in future.

References:

Acknowledgments: SSDM was developed by Shanghai Gothic Internet Technology Co., Ltd.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2020-eular.1803

THU0253

FATIGUE AND PAIN REMAIN PROMINENT AND IMPACTFUL IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS (SLE): A CROSS-SECTIONAL SURVEY OF SLE PATIENTS IN THE UNITED STATES

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Background: Systemic lupus erythematosus (SLE) is a chronic autoimmune inflammatory condition impacting multiple organ systems.^{1,2} SLE affects approximately 1.5 million Americans, disproportionately females of reproductive age, and is more prevalent in non-Caucasian populations.³ Fatigue and pain are some of the most prominent symptoms of SLE, contributing to the heavy disease burden and disruption to daily life.⁴ This study aimed to further understand the burden of SLE. Lilly worked with the Lupus Foundation of America (LFA) and Evidera to develop the SLE-UPDATE (Understanding Preferences, Disease Activity and Treatment Expectations) survey.

Objectives: To understand the patient-perceived symptom burden of SLE, in particular pain and fatigue, within the current landscape of therapeutic options. This study also focused on current treatment patterns in SLE patients.

Methods: This was a cross-sectional, non-interventional, online survey study conducted in partnership with the LFA. English-speaking United States patients aged ≥18 years with a self-reported diagnosis of SLE completed the survey following online screening and informed consent. Descriptive data are presented by means (standard deviation [SD]) for continuous measures, and frequency (n, %) for dichotomous measures. Demographic, clinical, and patient-reported outcomes were collected including the FACIT-Fatigue (range 0-52, higher scores

indicate less fatigue), Pain Numerical Rating Scale (NRS) (0 [none] to 10 [worst imaginable]), Worst Joint Pain NRS (0 [none] to 10 [worst imaginable]), and the LupusPRO, a validated, lupus-specific quality of life (QoL) instrument (range 0-100, higher scores indicate better QoL).

Results: A total of 500 patients with SLE completed the survey. Patients were predominantly female (75%), white/Caucasian (76%), with a mean age of 42.6 years and mean disease duration of 11.1 years.

Most patients with SLE rated their overall condition as either good (38%) or fair (31%), with 8% rating poor and 7% excellent. Current non-biologic prescription medication use included: antimalarials 42%, corticosteroids 33%, immunosuppressants 33%, nonsteroidal anti-inflammatory drugs (NSAID) 32%, other analgesics 15% and 10% were using tofacitinib. Biologic therapies were being used by only 19%, including intravenous (IV) Benlysta (37%), *subcutaneous* (SC) Benlysta (25%), rituximab (17%), and 22% were using other biologics. Fatigue was the most commonly reported symptom (69%), with 40% of patients ranking fatigue as their most bothersome SLE symptom. Forty eight percent of patients with current fatigue rated the severity as moderate and 33% as severe. The mean (SD) FACIT-Fatigue score was 22.9 (12.0). The next most commonly reported symptoms were joint stiffness (57%), sleep problems (55%), joint pain/swelling (53%), and muscle pain (52%). Sixty percent of patients reported experiencing pain all or most of the time over the past seven days. A total of 30% of patients with current joint pain/swelling rated it as severe, and 24% of patients with current joint stiffness rated it as severe. The mean scores for Worst pain NRS and Worst Joint Pain NRS were both 5.8 out of 10.

The LupusPRO domains indicated by respondents as the most impacted by SLE were Emotional Health, Pain/Vitality, and Lupus Medications.

Conclusion: Fatigue, followed by pain and joint stiffness, were the most common patient-reported symptoms contributing to the overall SLE disease burden. Further research could highlight the efforts required to address the inadequacies in treatment and management of pain and fatigue in this patient population.

Disclosure of Interests: Julie Birt Shareholder of: Eli Lilly and Company, Employee of: Eli Lilly and Company, Monica Hadi: None declared, Nashmel Sargalo: None declared, Ella Brookes: None declared, Paul Swinburn: None declared, Leslie Hanrahan: None declared, Karin Tse: None declared, Natalia Bello Vega Shareholder of: Eli Lilly and Company, Employee of: Eli Lilly and Company, Kirstin Griffing Shareholder of: Eli Lilly and Company, Employee of: Eli Lilly and Company, Maria Silk Shareholder of: Eli Lilly and Company, Employee of: Eli Lilly and Company, Laure Delbecq Shareholder of: Eli Lilly and Company, Employee of: Eli Lilly and Company, Diane L Kamen Consultant of: Consulted on SLE survey development for Lilly and consulted on SLE trial protocol development for EMD Serono in 2019

DOI: 10.1136/annrheumdis-2020-eular.4190

THU0254

ARTICULAR INVOLVEMENT, STEROID TREATMENT AND FIBROMYALGIA ARE THE MAIN DETERMINANTS OF PATIENT-PHYSICIAN DISCORDANCE IN SYSTEMIC LUPUS ERYTHEMATOSUS

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Background: Remission or the lowest possible disease activity are the main targets in the management of Systemic Lupus Erythematosus (SLE). Anyway, conflicting data are present in the literature regarding the correlation between physician-driven definitions and patient perception of the disease. The discordance between patient and physician perspectives may have a negative impact on disease outcomes.

Objectives: The aim of this study was to identify the main determinants of patient-physician discordance in the evaluation of SLE and health status.

Methods: This is a cross-sectional study that enrolls patients with a diagnosis of SLE (ACR 1997 criteria). For each patient, demographics, comorbidities, treatment, clinical and laboratory data were collected. Disease activity was evaluated with the SELENA-SLEDAI score and organ damage with the SLICC/DI. Patients included have been categorized according to the following categories: remission, on or off treatment¹, low disease activity (LLDAS)² and active disease status. At enrollment, each patient completed the following PROs: SF-36, FACIT-Fatigue, LIT and SLAQ. We defined a SLAQ score <6, corresponding to the 25th percentile of our cohort, as the cut-off value to define a low disease activity state according to the patient self-evaluation.

Results: We enrolled 259 consecutive adult SLE patients (93.05% female, 97.2% Caucasian, mean age 45.33±13.14 years, median disease duration 14 years (IQR 6-21)). 208/259 patients satisfied the definition of LLDAS and among them 171 were in remission; 51/259 patients were active. No significant differences emerged as for the results of PROs between groups. Considering the subgroup of 208 patients in LLDAS, we identified 56 patients with a subjective condition of

low disease activity (SLAQ<6) and we defined them as "concordant"; the remaining 152 patients in LLDAS presented a subjective active disease (SLAQ≥6) and we defined them as "discordant". Comparing these two groups, we found that "discordant" patients had more frequently ongoing and past joint involvement (p<0.05) and a concomitant diagnosis of fibromyalgia (p<0.01); finally, they were more frequently on glucocorticoid therapy (p<0.01). "Discordant" patients showed a significantly worse quality of life, evaluated by all PROs (p<0.0001) (Tab 1).

Table 1. Determinants of patient-physician discordance

	Discordant patients (152/208)	Concordant patients (56/208)	p-value
Age at enrollment (years)	47.7±13.1	44.3±10.8	ns
Disease duration (years)	15.5±10.2	13.8±9.2	ns
SLICC-DI	1.3±1.7	0.9±1.7	ns
Ongoing joint involvement (% of patients)	10.5%	0	p<0.05
Past joint involvement (% of patients)	70.9%	55.3%	p<0.05
GC therapy (% of patients)	50%	28.6%	p<0.01
GC daily dose (mg of prednisone)	1.6±1.9	1.1±1.9	p=0.06
Fibromyalgia (% of patients)	15.8%	1.8%	p<0.01
PCS	54.7±14.1	65.8±20.4	p<0.0001
MCS	54±14.5	64.3±17.7	p<0.0001
LIT	28.4±20.4	14±16.8	p<0.0001
FACIT	35.3±10.1	47.3±3.6	p<0.0001

Conclusion: Articular involvement, fibromyalgia and ongoing glucocorticoid treatment, even at low dose, are the major determinants of patient-physician discordance in SLE, determining a negative patient perception of health status.

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Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2020-eular.4436

THU0255

AUTOANTIBODY PROFILE AND ETHNICITY: RISK FACTORS FOR ACCELERATED DEVELOPMENT OF LUPUS NEPHRITIS

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Background: Systemic Lupus Erythematosus (SLE) is a multisystem autoimmune disease. African ancestry is associated with an increased risk of Lupus Nephritis (LN). Anti-DNA autoantibodies play a major role in the development of LN and anti-Ro antibodies have also been implicated. McCarty et al suggested that women of African ancestry with the unusual autoantibody combination of anti-Sm, Ro & RNP antibodies (AB) were at increased risk of developing LN (1).

Objectives: Our aim was to determine the correlation between autoantibody profile: Sm, Ro and RNP as a combination in the development of LN in patients with African ancestry. We investigated time to the development of LN from SLE onset.

Methods: A retrospective case-control study was conducted at Guys and St Thomas NHS Trust, London, United Kingdom.

75 patients with confirmed LN meeting the ACR classification criteria for SLE and Nephritis, were included: African (n=35), Caucasian (n=22) and Asian (n=17) ancestry. LN patients with the combination of Sm, Ro and RNP antibodies (Group 1) were compared to LN patients without this autoantibody combination (Group 2). Demographic data, pathology results and laboratory findings were collected. Anonymised data was analyzed using Statistical Package for Social Sciences (SPSS). Left censorship bias was reduced by use of a database of confirmed LN in our cohort of patients. Research and Development Office approval was obtained for this study.

Results: There were 66 (88%) females and 9 (12%) males. The median age in Group 1 was 39 years (range 18-60), while in group 2 the median age was 45 years (range 24-64).

We stratified our population based on their antibody status: Of the 75 (100%) patients, 32 (42.6%) patients had the combination of Sm, Ro & RNP antibodies (Group 1) while the remaining 43 (57.4%) patients did not (Group 2).