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TIME IN REMISSION AND LOW DISEASE ACTIVITY STATE (LDAS) ARE ASSOCIATED WITH A BETTER QUALITY OF LIFE IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS: DATA FROM A MULTI-ETHNIC, MULTICENTER US COHORT

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Background Achieving Remission and LDAS are desirable states in lupus patients as they are associated with better long-term outcomes including less damage accrual, lower flare rates and lower disease activity. However, whether achieving Remission and LDAS also account for a better quality of life (QoL) has not been examined. We hypothesized that this will be the case. The aim was to determine whether the proportion of time patients achieve either Remission or LDAS is associated with a better QoL.

Methods SLE patients from a well-established multiethnic, multicenter US cohort were included. Remission and LDAS were defined as follows: Remission, SLAM score=0 and prednisone 5 mg/day and no immunosuppressants; LDAS not in remission, SLAM score 3, prednisone 7.5 mg/day, no immunosuppressants; the proportion of time patients were in these two states (combined) was the independent variable. The endpoints were the physical and mental summary measures (PCS and MCS, respectively) and the individual subscales (Physical functioning: FP, Role Physical: RP, Bodily Pain: BP, General Health: GH, Vitality: VT, Social Functioning: SF, Role Emotional: RE and Mental Health: MH) of the Short Form (SF)–36 at the last available visit. Linear regression was used to estimate the association between the proportion of follow-up time in remission and LDAS and the SF-36 measures with and without adjustment for the following baseline variables: age, gender, racial/ethnic group, education, poverty, social support, abnormal illness behaviors, fibromyalgia, disease activity, damage and the baseline scores of the corresponding SF-36 summary measures and subscales.

Results Five-hundred and forty-two patients with complete data for the dependent, independent and confounding

variables were included. These patients were predominantly women, and either of Caucasian, African American or Hispanic ancestry. Overall, the mean scores for the summary measures of the SF-36 were low (38.9 for the PCS and 43.4 for the MCS); for the individual subscales the scores varied between 40.4 for VT and 65.4 for MH. In the adjusted MV analysis, the percent of time on either Remission and LDAS was associated with better QoL after adjusting for potential confounders (table 1).

Conclusions The percent of time lupus patients stay on Remission or LDAS is associated with a better QoL as measured by summary measures and subscales of the SF-36.

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IDENTIFICATION OF SYSTEMIC LUPUS ERYTHEMATOSUS SUBGROUPS USING ELECTRONIC HEALTH RECORD AND GENETIC DATABASES

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Background Systemic lupus erythematosus (SLE) is a multifactorial disease with genetic and environmental risk factors that encompass a wide range of disease severity and heterogeneous manifestations. Long-term outcomes for individual patients are difficult to predict and little is known about why an affected individual might develop a particular SLE phenotype. Identifying nuanced patterns in clinical and molecular data of patients could reveal distinct clusters of disease which could in turn lead to more refined and personalized treatment regimens. Previous studies have used phenotype-mapping approaches to identify subtypes of SLE using genome-wide association studies and gene expression data; however, no studies have integrated both genetic and clinical data from electronic health records (EHR) to identify SLE phenotypes using bioinformatic approaches.

Abstract 57 Table 1 Multivariable regression analysis of time in Remission and LDAS and Quality of Life as measured by the Summary Measures and subscales of the SF-36

SF-36*	Number of patients	Estimate	Standard error	t value	p value
MCS	456	5.89	1.96	3.01	0.0027
PCS	456	9.47	1.86	5.10	<0.0001
FP	472	18.14	4.85	3.74	0.0002
RP	466	31.79	6.28	5.06	<0.0001
BP	469	19.97	4.91	4.07	<0.0001
GH	469	23.15	3.95	5.86	<0.0001
VT	472	13.39	4.03	3.32	0.0010
SF	468	19.03	4.78	3.98	<0.0001
RE	463	26.28	6.37	4.13	<0.0001
MH	472	7.51	3.81	1.97	0.0495

*Short Form-36. Mental Component Summary measure; Physical Component Summary measure; Physical functioning; Role Physical; Bodily Pain; General Health; Vitality; Social Functioning; Role Emotional; Mental Health Index.