Abstract 255 Table 1 Histological characteristics of patients

RPS/ISN Classification	Number of patients
Class II	1
Class III	4
Class IV	11
Class V	6
Class III+IV	6
Class IV+V	2

treated with high dose steroids. The other medications, the patients were previously treated with, were Cyclophosphamide (n=25), Azathioprine (n=7), Mycophenolate mofetil (n=17). Also one patient was treated with plasmapheresis due to thrombotic thrombocytopenic purpura. Two patients were lost in follow-up. Twelve patients (38%) are still on rituximab, in which 5 of them (42%) still have active LN. Treatment of 11 out of 18 patients was terminated owing to remission of disease. All of the patients whom rituximab was terminated in disease remission did not flare, except one. Moreover, in 7 patients, treatment was terminated because 3 had inadequate response, 2 had severe infection (cellulitis, pneumonia), 1 had Rituximab-induced serum sickness, 1 had will of pregnancy. The mean level of proteinuria decreased from 3440 ± 2476 mg/day to 927 ± 895 mg/day ($p < 0.0001$). Additionally, there was a reduce in steroid dose from $23,75 \pm 19,6$ mg/day to $9,02 \pm 10,59$ mg/day ($p < 0.0001$). None of the patients had a new organ involvement during therapy.

Conclusions In our single center, most of the patients were class IV nephritis whom we observed the efficacy of rituximab. Generally, the side effects were acceptable. Rituximab can be a steroid sparing agent in these patients.

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EXPLORING THE PERCEIVED IMPACT OF THE CHRONIC DISEASE SELF-MANAGEMENT PROGRAM ON SELF-MANAGEMENT BEHAVIORS AMONG AFRICAN AMERICAN WOMEN WITH LUPUS: A QUALITATIVE STUDY

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Background Effective self-management is critical to improve outcomes in individuals with systemic lupus erythematosus (SLE). African Americans with SLE face formidable barriers to accessing self-management education. We qualitatively explored the perceived processes through which the Chronic Disease Self-Management Program (CDSMP), an evidence-based, worldwide disseminated educational intervention for people with chronic conditions, affects self-management behaviors among African American women with SLE.

Methods Participants were recruited from the WELL (Women Empowered to Live with Lupus) Study, a behavioral trial of the effectiveness of the CDSMP on African American women with SLE. The CDSMP is a community-based, small-group program designed to enhance self-efficacy and self-management skills in people with chronic conditions. The CDSMP

addresses self-management challenges that are universal across chronic conditions (e.g. pain and fatigue management, healthy eating, physical activity, communication with providers). Using a longitudinal pre-/post-intervention design, we conducted one-on-one, semi-structured interviews among a purposive sample of WELL participants. Pre-intervention interviews explored self-management behaviors at baseline; post-intervention interviews focused on changes in these behaviors after the CDSMP. Transcripts were analyzed using thematic methods.

Results Twenty-four and 23 women participated in the pre- and post-intervention interviews, respectively. Mean age and disease duration were 48.6 (SD=13.5) and 14.1 years (SD=8.1), respectively. Most women (91.7%) were employed and 1/3 reported an annual income of \$10,000-\$19 000. The sample was balanced with regard to education, depression, and SLE activity.

Participants perceived the CDSMP to be a valuable resource that helped them to improve fundamental self-management behaviors, including exercise, relaxation, diet, and medication-taking. With few exceptions, womens reported changes in self-management behaviors were not dependent on age, education, SLE activity or depression status. Womens most widespread perceived effects of the CDSMP were on relaxation and exercise. Strategies that generated improvements in those behaviors included goal setting, action planning, encouragement to pursue low-impact physical activity, and introduction of mindfulness techniques to better manage SLE symptoms.

Conclusions African American women living with SLE, a population vulnerable to high rates of SLE morbidity and mortality, perceived benefits from CDSMP participation. The programs potential to catalyze improvements in self-management behaviors was independent of womens demographic or disease characteristics. Because the CDSMP is widely disseminated

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RESIDENTIAL EXPOSURES ARE ASSOCIATED WITH INCREASED ODDS OF SLE DIAGNOSIS

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Background Environmental exposures, such as pesticides, silica, and asbestos have been associated with risk of SLE. In this study, we assessed the association between different residential exposures and SLE diagnosis in a diverse cohort of lupus participants and healthy controls.

Methods Data were from the California Lupus Epidemiology Study (CLUES), a racially/ethnically diverse cohort of SLE patients, and healthy controls with no history of autoimmune systematic diseases who resided in the San Francisco Bay Area. SLE diagnoses were confirmed through medical records and rheumatologist clinical examination. All participants completed a structured interview that included demographics (age, sex, race/ethnicity and education) and residential exposures (frequent exterminator use, other home insecticide use, kerosene

Abstract 257 Table 1 The odds ratio of having a specific residential exposure among SLE patients and healthy controls, adjusted for race/ethnicity, gender, age and education

	SLE patients (n=359)	Healthy controls (n=106)	
Residential Exposure, ever	n (%)	n (%)	adjusted OR (95% CI)
Any exposure	200 (56.7)	42 (40.0)*	1.9 (1.2,3.0)*
Exterminator (>5 times)	80 (22.3)	12 (11.3)*	1.9 (1.0,3.7)
Home insecticide use (at least weekly for 2 months)	73 (21.0)	13 (12.5)	2.1 (1.1,4.1)*
Kerosene (heater)	31 (8.8)	3 (2.9)*	3.0 (0.9,10.2)
Lived in an agricultural area	103 (28.9)	25 (24.0)	1.3 (0.7,2.1)

* Indicates $p < 0.05$ from chi-square tests and adjusted regression models.

for heating, and living in an agricultural area), and for SLE, disease damage (Brief Index of Lupus Damage, BILD) score and age of lupus diagnosis. Multivariable logistic regression models assessed the association of each exposure with SLE status, and linear regression models to examine the association of each exposure with disease damage (i.e. BILD score) for SLE patients, both adjusting for age, sex, race/ethnicity and education.

Results We included 359 SLE patients with an average diagnosis age of 32 ± 11 years and 106 healthy controls. Ninety-one percent of SLE patients and 89% of controls were female. SLE patients were older than controls, with a mean age of 49 ± 14 vs. 41 ± 16 ($p < 0.05$). Both groups were racially/ethnically diverse, with over 65% identified as non-White. Over half of SLE patients (56.7%) reported any exposure compared to 40% of controls ($p < 0.05$). Specific exposures of the SLE group ranged from 8.8% for kerosene to 28.9% for agricultural exposure (see table 1). There was a higher prevalence of any exposures among SLE patients vs. controls (OR 1.9, 95% CI 1.2–3.0, $p < 0.05$), as well as specific exposures to pesticides (exterminator) (OR=1.9, 95% CI 1.0–3.7), other home insecticide use (OR=2.1, 95% CI 1.1–4.1, $p < 0.05$) and kerosene (OR=2.8, 95% CI 0.8–9.7). We found no association between residential exposures and BILD score in the SLE-only analysis.

Conclusions SLE diagnosis was associated with increased odds of residential exposures, but this study is under powered to fully examine individual exposures. Lack of information on timing of exposures is another study limitation. While this study demonstrates the prevalence of exposures, the observed trend warrants further investigation with assessments of exposure timing relative to age and SLE diagnosis.

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258 NK GENE SIGNATURE IN SLE

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Background SLE has traditionally been considered a disease of dysregulated B cells and the production of pathogenic autoantibodies. Evidence that other cell types contribute to the observed pathology is being recognised with the advent of a new techniques providing focused avenues of exploration. The aim of this study was to determine which genes are differentially expressed in patients compared to healthy autoimmune controls. This may then lead to downstream intracellular signalling pathways and aberrant cytokine production which may contribute to the understanding of the pathogenesis of SLE.

Methods Whole blood RNA was extracted from 46 SLE patients with heterogeneous disease manifestations and at different stages of disease activity, 5 Autoimmune encephalitis and 20 healthy controls. Gene expression was measured using a Nanostring nCounter mRNA expression assay incorporating over 500 immunological genes. Data was analysed using Partek Genomics Suite to identify differentially expressed genes and find pathways that may be of interest to interrogate further in the context of SLE.

Results Gene expression analysis unsurprisingly showed higher expression of interferon-related genes in SLE (MX1, GBP1, IRF7, IFIT2), however we also found that there were genes that were under-expressed. An NK signature with genes such as KLRC2, KLRC1, KLRB1, KLRF1, KLRG1, PRF1 and IL2RB shows the potential value of the approach to discern the important cell types in the development of SLE.

Conclusions The most significantly differentially expressed genes in SLE show an NK signature, with genes that encode activating and inhibitory NK receptors having reduced expression compared to healthy controls. This NK signature recognises a role for this arm of the innate immune response as a unique fingerprint of SLE.

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259 HEALTHCARE SYSTEM AFFECTING SYSTEMIC LUPUS ERYTHEMATOSUS IN ASIA-PACIFIC COUNTRIES

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Background There are between-country disparities in healthcare systems in Asia and Pacific region. The aim of the study was to construct profiles of disparities in healthcare system affecting systemic lupus erythematosus (SLE) in Asia and Pacific countries.

Methods An online survey was conducted between March and October 2018 of rheumatologists specializing in SLE in the Asia and Pacific region. Responses were collected anonymously and analyzed, using descriptive statistics

Results The survey was sent to 45 SLE rheumatologists and 20 (44.4%) provided a complete response. Responders were from 14 countries in the Asia-Pacific region. (Australia, Bangladesh, China, Hong Kong, Indonesia, Japan, Republic of Korea, Kuwait, Myanmar, New Zealand, Philippines, Singapore, Taiwan, Thailand). The estimated prevalence of SLE was 51.1 per 1 00 000 (IQR 26.5 76.9) with 50% (IQR 36.7 60.0) having lupus nephritis. Most respondents (66.7%) reported that 80% to 100% of the general population had public health insurance. Fifty percent felt that their country's health care system functions quite well on the whole, and