191 MYLUPUSGUIDE, A LUPUS-SPECIFIC WEB INTERACTIVE NAVIGATOR, IMPROVES SELF-EFFICACY AND ACTIVATION IN PATIENTS WITH LOW ACTIVATION AND IN MEN

[1]Paul R Fortin*, [2]Carolyn Neville, [3]Anne-Sophie Julien, [2]Elham Rahme, [4]Murray Rochon, [5]Vinita Haroun, [6]Evelyne Vinet, [7]Christine Peschken, [8]Ann E Clarke, [9]Janet Pope, [10]Stephanie Keeling, [11]Antonio Avina-Zubieta, [12]Douglas Smith, [13]Mark Matsos, [14]Marie Hudson, [5]Jodie Young, [5]Anna-Lisa Morrison, [1]Davy Eng, [2]Deborah DaCosta. *[1]CHU de Québec – Université Laval; [2]McGill University Health Centre Research Institute; [3]Université Laval; [4]Jack Digital Productions Inc; [5]Lupus Interactive Navigator Patient Advisory Committee; [6]Department of Medicine, Division of Rheumatology, Faculty of Medicine, McGill University; [7]Faculty of Medicine, Department of Internal Medicine, University of Manitoba; [8]Division of Rheumatology, Cumming School of Medicine, University of Calgary; [9]University of Western Ontario; [10]University of Alberta; [11]Arthritis Research Canada, Univeristy of British Columbia; [12]University of Ottawa; [13]McMaster University; [14]McGill University*

10.1136/lupus-2019-lsm.191

Background Systemic Lupus Erythematosus (SLE) is an unpredictable multisystem chronic disease that leads to insecurity, requires life-style adaptations, work accommodations and long-term medication use. We previously reported that a web-based interactive navigator named MyLupusGuide (MLG) was well accepted by lupus patients and met with their informational needs. When used without reinforcement however MLG did not change patient activation towards self-management. We performed additional analyses to test if subgroups of patients were more likely to become activated than others in a large lupus population.

Methods Population and recruitment strategy: Patients from ten lupus centers were randomized to either immediate access to MLG (NOW) or usual care (LATER). Partial cross-over occurred at three months and there was a final assessment at six months. Data collected: Demographic and socioeconomic data were collected at baseline. The 13-item Patient Activation Measure (PAM) was used to assess patient`s healthcare engagement. Higher PAM score relates to greater engagement. Additional self-reported measures for self-efficacy (Lupus Self-Efficacy Scale - LSES) and coping strategies (Coping with Health Injuries and Problems - CHIP) were obtained at baseline, 3 and 6 months. Statistical analyses: Linear mixed models were used to test the evolution of PAM over time between groups. This abstract reports on the following subanalyses: analyses of the subgroup with low PAM score at baseline and of being male or female, and analyses of other outcomes such as LSES and CHIP.

Results A total of 541 of 1920 (28%) lupus patients responded at baseline, 399 at 3 months and 355 at 6 months. At baseline, mean (sd) age=50.1 (14.2) years, female=93%, Caucasian=74%, disease duration=16.9 (11.9) years and PAM score=61.1 (13.5). The following subanalyses (table 1) showed a beneficial effect of MLG on activation after three months in the subgroup of patients with low PAM at baseline, as well as for men. A significant improvement in LSES was also observed after 3 months of exposure to MLG but there was no change in CHIP.

Conclusions At 3 months, access to MLG improved activation in patients with a low activation at baseline and in men. Self-efficacy also improved significantly without changes in coping strategies. The MLG is a unique web-based resource that provides reliable information for patients with lupus to assist them with disease management and lifestyle adaptations.

Funding Source(s): A Knowledge-to-Action Canadian Institute for Health Research grant. Dr. Fortin holds a Canada Research Chair.

Abstract 191 Table 1 Improvement after three months in patient activation and self-efficacy in subgroup analyses of 541 patients given access to MyLupusGuide (analyses done on pooled groups after a 3 months exposure* to MLG)

Outcome	Subgroup	Mean±Standard Error	*p* value
PAM	Intention to treat	0.81±0.58	0.16
PAM	Per Protocol (complete visits+access to MLG)	0.57±0.74	0.45
PAM	Low PAM at baseline	2.24±0.80	0.01
PAM	Women	0.51±0.61	0.40
PAM	Men	6.46±2.42	0.01
Self-Efficacy	Intention to Treat	1.72±0.77	0.03
Palliative Coping	Intention to Treat	0.12±0.21	0.57
Distractive Coping	Intention to Treat	0.34±0.25	0.17
Instrumental coping	Intention to Treat	−0.14±0.23	0.54
Emotional coping	Intention to Treat	−0.46±0.25	0.06

* Pooled Difference Post vs Pre MLG access for time 0 to 3 months in the NOW group and time 3 to 6 months in the LATER group.

192 DISPARITIES OF B-CELL TYPE I INTERFERON PRODUCTION AND RESPONSES IN SLE

W Winn Chatham*, Hui-Chen Hsu, John Mountz, Qi Wu, Alex Essman, Oluwagbemiga Ojo, Shanrun Liu, PingAr Yang, Bao Luo, Jennie Hamilton. *University of Alabama at Birmingham*

10.1136/lupus-2019-lsm.192

Background Dysregulated responses to type I interferons (IFNs) is a hallmark of autoreactive B-cell development in SLE. This study investigated the source of IFN, the major type I IFN responsive B cells, and the disparities associated with B-cell IFN production and type I IFN responses.

Methods IFN expression in B, CD4 T and plasmacytoid dendritic cells (pDCs) in PBMCs were analyzed by flow cytometry. Single cell gene expression analysis was carried out using the Fluidigm/BioMark system for targeted expression of low abundance genes, and the 10x Chromium platform for unbiased transcriptome and BCR V(D)J analysis of approximately 2,000 B cells per subject. Autoantigen epitope targets were analyzed using a 4287 high-throughput PEPperPrint Autoimmune Epitope Microarray and a conventional ELISA analysis.

Results IFN was analyzed in B cells, CD4 T cells and pDCs in PBMCs of SLE patients and healthy controls (HCs). Endogenous IFN was significantly increased in transitional (Tr), mature naïve, and memory B cells of SLE patients compared to HCs. Endogenous IFN in B cells was equivalent to that in pDCs. B-cell endogenous IFN was highly correlated with renal disease, anti-dsDNA, anti-Sm and anti-SSA. Strikingly, the highest correlation of IFN with clinical manifestations was observed in African-American (AA) patients with IgG autoAbs against snRNP323-339, U1snRNP-C97-113. At the single cell transcriptome levels, Tr B cells could be divided into type I IFN expressing (IFN+) or type I IFN stimulated gene (ISG+) subpopulations. TLR7 and TLR3 were mainly expressed by IFN +cells whereas TLR9 was mainly expressed by ISG +B cells. Unbiased single cells analysis of B cells indicated highly