Background: Scleroderma is an autoimmune disease that affects the skin and internal organs such as joints, muscles, and heart and lungs. Hand involvement in individuals with scleroderma leads to functional disability. Loss of grasping ability and impaired hand mobility may be one of the important factors affecting the daily living activities of patients with scleroderma. Although hand rehabilitation is not supported by strong levels of evidence, it has been the subject of studies, and a number of interventions have been described in patients with scleroderma, but no established guidelines for rehabilitation have been established. Passive and active stretching has been shown to help the patient maintain joint range of motion and lengthen tendons and muscles, especially when fibrotic retraction is present. Literature has been shown that self-administered home programs to be benefical. In addition, evidence-based rehabilitation interventions for the upper extremity in scleroderma are limited.
Objectives: The aim of the study is to examine the effects of upper extremity exercises on joint range of motion, grip strength, activity performance and functionality in patients with scleroderma.
Methods: 46 SSc patients (42 female, 4 male) with an average age of 55.52±11.54 were included in the study. Patients were randomized into intervention (group 1) and control (group 2) groups. Group 1 received upper extremity home exercise for 5 days a week for 8 weeks. Group 2 received principles of joint protection education program. Goniometric measurement was used to evaluate the upper extremity range of motion. Dinamometer and pinchmeter was used to evaluate the hand grip and pinch strength. Canadian Occupational Performance Measure (COPM) was used to evaluate the activity performance and satisfaction. Disabilities of the Arm, Shoulder and Hand Questionnaire (DASH), Duruöz Hand Index (DHI), and Score for Assessment and Quantification of Chronic Rheumatic Affections of the Hands (SACRAH) was used to evaluate the upper extremity and hand functionality. All evaluations were performed at baseline and at the end of the 8th week.
Results: When the groups were compared before training, there was no significant difference (p> 0.05). In post-training comparisons, there was a significant difference in shoulder, elbow, forearm, wrist and fingers range of motion (p: 0.00-0.04); hand grip and pinch strength (p: 0.00-0.02); COPM performance-satisfaction (p: 0.00); SACRAH total and subparameters (p: 0.00), DASH and DHI (p: 0.00) in Group 1. There was a significant difference in shoulder, elbow and fingers range of motion (p: 0.00-0.04); pinch strength (p: 0.00); SACRAH total and subparameters (p: 0.00); DASH and DHI (p: 0.00) in Group 2. Comparing the groups for post-training, Group 1 was found to be superior in terms of shoulder flexion and rotations, elbow extention and deviations, fingers flexion, extention and abduction (p: 0.00-0.04); pinch strength (p: 0.00-0.04); SACRAH total and subparameters (p: 0.00-0.04).
Conclusion: As a result of our study, upper extremity home exercise program has a positive effect on ROM, hand grip and pinch strength, activity performance and functionality. In rehabilitation programs, upper extremity exercises -not only hand exercises- may be effective to increase ROM, grip strength, activity performance and functionality.
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Pregnancy outcomes in rheumatic diseases

OP0124

FETAL AND MATERNAL MORBIDITY IN PREGNANT SYSTEMIC LUPUS ERYTHEMATOSUS (SLE) PATIENTS: A 10-YEAR U.S. NATIONAL STUDY

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Background: Systemic lupus erythematosus (SLE) is an autoimmune disorder that affects women in their childbearing years. Previously, we demonstrated that fetal and maternal mortality has declined in SLE patients over the years, however little is known about morbidity (1).
Objectives: To determine the proportion of fetal and maternal *morbidity* in SLE deliveries compared to non-SLE deliveries in a US nationwide study over a decade.
Methods: We used retrospective data from the National Inpatient Sample database to identify all delivery related hospital admissions of patients with and without SLE from 2008 to 2017 using ICD-9 (710.0) and 10 (M32*) codes. Fetal morbidity indicators included preterm delivery and intrauterine growth restriction. 21 indicators of severe maternal morbidity were identified using the standard CDC definition: these are unexpected outcomes of labor and delivery that result in significant short- or long- term consequences to a woman's health (2). Descriptive statistics and their 95% confidence intervals were calculated using sample weights from the dataset.
Results: Among the 40 million delivery-related admissions, 51,161 patients (10,297 unweighted) were reported to have SLE. SLE patients were more likely to be older and have more comorbidities compared to non-SLE patients (Table 1). Patients with SLE had a higher risk of fetal morbidity, including intrauterine growth restriction (8.0% vs 2.7%) and preterm delivery (14.5% vs 7.3%) than patients without SLE. Amongst the CDC maternal morbidity indicators - SLE patients faced a greater risk of blood transfusion, puerperal cerebrovascular disorders, acute renal failure, eclampsia or DIC, cardiovascular and peripheral vascular disorders, and general medical issues than those without SLE (Figure 1).

Table 1. Characteristics for deliveries of patients with and without Systemic Lupus Erythematosus

	SLE deliveries		Non-SLE deliveries	
	Percent (%)	**(95 %CI)**	**Percent (%)**	**(95 %CI)**
N	51,161* (10,297 unweighted)	(49,419.14, 52,903.37)	40,000,000* (8,055,025 unweighted)	(39,200,000; 40,700,000)
Age (years)	30.05	(29.92, 30.18)	28.19	(28.14, 28.24)
Race				
White	46.15	(44.83, 47.47)	52.43	(51.74, 53.11)
African American	24.68	(23.55, 25.85)	15.01	(14.62, 15.42)
Hispanic	18.48	(17.40, 19.60)	21.45	(20.81, 22.10)
Other	10.69	(9.93, 11.50)	11.11	(10.76, 11.47)
Insurance				
Medicare	5.32	(4.83, 5.86)	0.7	(0.66, 0.75)
Medicaid	38.2	(37.00, 39.41)	43.79	(43.20, 44.39)
private insurance	51.84	(50.55, 53.13)	49.8	(49.15, 50.45)
self-pay	1.39	(1.13, 1.70)	2.74	(2.57, 2.92)
no charge	0.04	(0.02, 0.12)	0.13	(0.09, 0.18)
other	3.21	(2.84, 3.63)	2.84	(2.73, 2.95)
Elixhauser				
0	0	(*no obs)	80.56	(80.32, 80.80)
1 to 4	97.84	(97.50, 98.12)	19.4	(19.16, 19.64)
5+	2.16	(1.88, 2.50)	0.04	(0.03, 0.04)

*Population weighted values are listed.

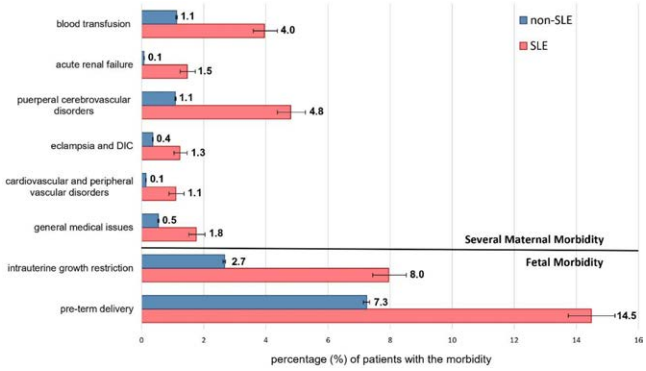

Figure 1. Fetal and severe maternal morbidity outcomes in Systemic Lupus Erythematosus (SLE) and non-SLE patients. Cardiovascular and peripheral vascular disorders include acute myocardial infarction, aneurysm, amniotic fluid embolism, cardiac arrest/ventricular fibrillation, heart failure, pulmonary edema/acute heart failure, sickle cell disease with crisis, air and thrombotic embolism, and conversion of cardiac rhythm. General medical issues include hysterectomy, shock, sepsis, adult respiratory distress syndrome, and severe anesthesia complications, temporary tracheostomy, and ventilation.

Conclusion: Our study demonstrates that fetal morbidity and severe maternal morbidity occur at a higher rate in patients with SLE compared to those without, even in this most recent decade. This work can help inform physicians to counsel and manage patients with SLE during pregnancy and its planning.
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OP0125 THE MANAGEMENT OF PREGNANCY IN AUTOIMMUNE RHEUMATIC DISEASES: ANALYSIS OF 758 PREGNANCIES FROM THE PROSPECTIVE NATIONWIDE P-RHEUM.IT STUDY (THE ITALIAN REGISTRY OF PREGNANCY IN THE RHEUMATIC DISEASES)

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Background: Pregnancy is a topic of fundamental importance for women living with autoimmune rheumatic diseases (ARD). Efforts at national and international levels have been put in the collection and harmonization of data in order to implement an evidence-based management of pregnant patients.

Objectives: The P-RHEUM.it study was designed as a nationwide, web-based longitudinal observational cohort study to collect data about pregnancy in ARD in 26 centers in Italy. The study started in May 2018 and has been supported by the Italian Society for Rheumatology.

Methods: Pregnant patients with a definite rheumatic disease according international criteria were enrolled up to gestational week (GW) 20. The course of maternal disease activity, the use of medications, fetal and maternal complications, and the quality of life (EuroQoL questionnaire) were collected for each trimester, as well as pregnancy outcome, mode of delivery, neonatal complications, and maternal and children's follow-up to 6 months after delivery, including the screening for post-partum depression by means of EPDS (Edinburgh Postnatal Depression Scale).

Results: As of December 2021, 758 pregnancies had been enrolled, 205 (27%) ongoing and 553 (73%) with outcome. Pregnancy loss occurred in 54 (9.8%) cases (40 spontaneous miscarriages; 6 voluntary terminations). Live births were 495 (89.5%), perinatal death occurred in 4 (0.7%) cases. Table 1 reports on the group of 495 live births, along with subgroups of Rheumatoid Arthritis (RA) and Systemic Lupus Erythematosus (SLE), the two most represented diseases. Regarding treatments, 166 (30%) pregnancies were exposed to corticosteroids, 239 (43%) to hydroxychloroquine, 59 (10.7%) to csDMARDs, 84 (15.2%) to TNF inhibitors, 1 (0.2%) to non-TNFi bDMARDs, 299 (54%) to low dose acetylsalicylic acid, and 126 (22.8%) to heparin.

Table 1.

PREGNANCIES WITH LIVE BIRTHS, EXCLUDING PERINATAL DEATHS	Total pregnancies (n=495)	RA pregnancies (n=69)	SLE pregnancies (n=93)
Age at conception (years)	34 (31 - 37)	34.5 (32 - 38)	34 (31 - 36)
Disease duration (years)	6.1 (2.2 - 11.1)	7.1 (4.3 - 11.6)	9.3 (5.9 - 15.9)
Caucasian	431 (87.8%)	53 (79.1%)	75 (80.6%)
Never smokers	358 (73.8%)	53 (80.3%)	66 (71.7%)
Body Mass Index >30	45 (9.5%)	7 (10.3%)	5 (5.6%)
Arterial Hypertension	6 (1.2%)	0 (0%)	2 (2.2%)
Time to pregnancy (months)	3 (1 - 6)	3 (1 - 6)	3 (0 - 10)
Physician-reported flares in the 12 months prior to conception	107 (23%)	22 (34.4%)	13 (14.8%)
Physician global assessment at enrolment (VAS 0-100)	5 (0 - 17)	5 (0 - 20)	4 (0 - 10)
Patient global health at enrolment (VAS 0-100)	18 (7 - 30)	10 (5 - 29)	10 (5 - 25)
EuroQoL at enrolment (-1.6 – 1)	1 (0.8 - 1)	1 (0.8 - 1)	1 (0.8 - 1)
Flares during pregnancy	35 (7.1%)	6 (8.7%)	7 (7.5%)
Hypertensive disturbances*	8 (1.7%)	1 (1.6%)	6 (6.6%)
Delivery at term (≥37 GW)	410 (85.1%)	53 (77.9%)	74 (80.4%)
Spontaneous vaginal delivery	173 (35.9%)	23 (33.8%)	23 (25.3%)
Congenital malformations	11 (2.4%)	2 (3.1%)	1 (1.1%)
Small for gestational age (SGA) neonate	24 (4.9%)	1 (1.4%)	9 (9.9%)
Breastfeeding in the first 4 weeks after delivery	341 (79.7%)	45 (77.6%)	59 (76.6%)
EPDS score at risk for post-partum depression	22 (14.1%)	0 (0%)	3 (10.3%)

Continuous variables are expressed as median (interquartile range); *gestational hypertension/preeclampsia/HELLP syndrome/eclampsia.

Conclusion: Multiple factors may have contributed to the high rate of live births, including good disease control before and during pregnancy thanks to the use of anti-rheumatic drugs and low frequency of general risk factors. SLE pregnancy was affected by a higher frequency of complications (hypertensive disturbances, SGA babies) as compared to RA pregnancy. Nearly 80% of patients breastfed in the first month after delivery. For the first time, data about the screening questionnaire for post-partum depression were collected, showing at least 1 out 10 patients can be at risk.

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OP0126 ARE WOMEN WITH SPONDYLOARTHRITIS AT INCREASED RISK OF ADVERSE MATERNAL AND INFANT OUTCOMES? – A SWEDISH COHORT STUDY

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Background: An increased risk of adverse pregnancy and neonatal outcomes has been reported for pregnancies in women with several rheumatic diseases including rheumatoid arthritis and psoriatic arthritis. In spondyloarthritis (SpA), findings have not been uniform, with some studies reporting increased risks of Cesarean delivery, preterm birth, infants born small-for-gestational-age (SGA), and gestational diabetes- and hypertension, while others have failed to identify any significant differences between women with SpA and general population control women. Most studies reporting no differences have either been small or lacked an appropriate comparison group [1].

Objectives: To assess the risk of adverse maternal and infant pregnancy outcomes in women with SpA compared to the general population.

Methods: In this nationwide register-based study, we included singleton births between April 2007 and December 2019 in women diagnosed with ankylosing spondylitis (AS; ICD-10 codes M45 or M08.1) or undifferentiated SpA (uSpA; ICD-10 codes M46.8 or M46.9). This was performed through linkage between the National Patient Register and the Medical Birth Register. Each birth was matched on birth year, maternal age, and parity to ten comparator births in women free from chronic inflammatory arthritis at time of birth. Relative risks (RR) of adverse outcomes were estimated by Poisson regression, adjusting for