Work participation and sick leave in women with systemic lupus erythematosus and matched controls during and after pregnancy

Sirs,

Work loss is a serious problem amongst patients with systemic lupus erythematosus (SLE), which is illustrated by high unemployment rates (35–64%) (1-3). Fatigue, physical impairment and pain have been suggested to play a role in reduced work participation (3). Pregnancy might also negatively influence work participation, since pregnancy complications (4) and disease flares during pregnancy or postpartum (5-7) may impair the ability to work. Although research on work participation of patients with SLE is a topic of increasing interest, this has not yet been investigated in pregnant or postpartum women with SLE. The objective of this study is to investigate work participation in pregnant employed women with SLE compared to pregnant employed matched controls.

Inclusion criteria for women with SLE and controls were: age ≥18 years, pregnancy of >16 weeks gestational age, employment ≥8 hours/week <1 year before conception, no language barrier and written informed consent. Women with SLE were diagnosed before conception, had a first recorded study pregnancy at Amsterdam UMC location VUmc between January 2010 and October 2017, and received both rheumatologic and obstetrical care at VUmc. Controls had a delivery in VUmc without medical reason or due to use of analgesics during delivery. Participants were matched on age, year of delivery, and number of living children.

Disease activity <6 months before conception and 6 months postpartum was assessed using Safety of Estrogens in Lupus Erythematosus National Assessment SLE Disease Activity Index (SELENA-SLEDAI) (8), and during each trimester of pregnancy using SLE Pregnancy Disease Activity Index (SLEPDAI) (9). The occurrence of flares was assessed using SELENA-SLEDAI flare criteria (8). Data were obtained through medical chart review and an interview <5 years after pregnancy. Descriptive statistics, conditional logistic regression and nonparametric tests were used for statistical analyses, using SPSS.

Pregnancy outcomes, disease activity and work participation were studied in 21 women with SLE and 21 controls (Table I). The majority of women was Caucasian and highly educated. Significantly more neonatal adverse pregnancy outcomes (APO), including one intra-uterine fetal death, occurred in women with SLE ($p<0.001$). Disease activity before conception, during pregnancy and postpartum was low (median disease activity index of 3, 0 and 2, respectively) and severe flares did not occur. Significantly more women with SLE stopped working during pregnancy ($p=0.02$). Nine women with SLE and two controls were advised by a healthcare provider to reduce working hours and/or completely stop working during pregnancy. Sick leave due to the the interruption of work for >1 week or completely stop working during pregnancy occurred more often in women with SLE, mostly due to obstetrical problems (5/10; 50%). In women with SLE, the duration of sick leave due to interruption of work or completely stop working in weeks was significantly longer ($p=0.004$). Within 6 months postpartum, 95% of women with SLE and 100% of controls returned to work. A delay in return to work after maternity leave occurred in half of women with SLE and controls. The median duration of return to work after maternity leave was not significantly different between groups. Sixty-three percent of women with SLE and 62% of controls restarted working the same number of hours per week after maternity leave. Overall, the results of this study demonstrate the occurrence and duration of sick leave in pregnant women with SLE are

Table I. Employment status, sick leave and return to work after maternity leave for women with SLE and matched controls.

	Women with SLE (n=21)	Matched controls (n=21)	OR	95% CI	*p*-value
Demographic variable					
Age at conception in years, mean (SD)	32 (3.8)	32 (3.8)			0.72
Obstetrical variable					
Gestational age at delivery in weeks, median (IQR)	39 (35-40)	41 (39-41)			0.003
Employment status before pregnancy, during pregnancy and after maternity leave					
Paid work within 1 year before pregnancy until conception	21 (100)	21 (100)			NA
Working hours/week before pregnancy, median (IQR)	32 (19-40)	36 (32-40)			0.117
Continuing paid work during pregnancy	13 (62)	20 (95)			0.02
Back to paid work until 6 months after maternity leave [a]	19 (95)	21 (100)			0.49
Sick leave during pregnancy and return to work after maternity leave					
Interruption of work for >1 week during pregnancy	6 (29)	1 (5)	3.0	0.3 – 28.8	0.34
Completely stop working during pregnancy for >1 week until delivery	6 (29)	1 (5)	0.2	0.02 – 1.7	0.1
Stop working for >1 week (interruption of work and/or completely stop working until delivery) during pregnancy	10 (48)	2 (10)	9.0	1.1 – 71.0	0.04
Reduction in working hours for >1 week during pregnancy	5 (24)	3 (14)	1.0	0.2 – 5.0	1.0
Occurrence of a delay in return to work after maternity leave [b]	9 (53)	11 (52)	1.0	0.25 – 4.0	1.0
Duration of the delay in return to work after maternity leave in weeks, median (IQR) [b]	4 (0 – 7)	2 (0 – 4)			0.57
Associations between ≥1 SLE flare or APOs and sick leave (stop working for >1 week or reduction in working hours for >1 week) during pregnancy in women with SLE					
Occurrence of ≥1 SLE flare during pregnancy and sick leave during pregnancy			0.7	0.1 – 4.2	0.70
Occurrence of ≥1 SLE flare postpartum and a delay in return to work after maternity leave [b]			0.9	0.05-16.7	0.93
Occurrence of maternal APO and sick leave during pregnancy			0.6	0.03 – 10.9	0.72
Occurrence of neonatal APO and a delay in return to work after maternity leave [b]			1.3	0.2 – 9.3	0.77

[a] Data of 20 women with SLE. From one woman with SLE no follow-up data on employment status after pregnancy were available.

[b] Data of 17 women with SLE. Data from one woman with SLE experiencing an IUFD was excluded. One woman with SLE did not return to work because she was declared disabled during pregnancy, from one woman with SLE no follow-up data on employment status after pregnancy was available, and from another woman with SLE no follow-up data on the timing of return to work after maternity leave was available.

Data are reported as numbers (%), unless otherwise stated. APO: adverse pregnancy outcome; IUFD: intra-uterine fetal death; IQR: interquartile range; NA: not applicable; SLE: systemic lupus erythematosus.

Maternal APO: defined as pregnancy-induced hypertension, pre-eclampsia, eclampsia, hemolysis, elevated liver enzymes, and low platelet count (HELLP)-syndrome.

Neonatal APO: defined as too small for gestational age (birthweight <p10), preterm birth (birth <37 weeks gestational age), or admission to a neonatal intensive care or medium care unit, or perinatal death.

significantly increased. On the other hand, return to work after maternity leave was similar compared to controls. These findings warrant improved counseling as well as increased attention from healthcare providers for problems occurring during pregnancy, which may impair continuing work in women with SLE.

Acknowledgements
The authors thank the patients and the controls for their participation in the study.

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Competing interests: none declared.

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