

WHEN LUPUS MEETS PREGNANCY: NATIONAL OUTCOMES FROM AOTEAROA NEW ZEALAND



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01. INTRODUCTION

Systemic lupus erythematosus (SLE) is a chronic autoimmune disease that primarily affects women of reproductive age and is associated with high-risk pregnancies, including miscarriage, preterm birth, pre-eclampsia, intrauterine growth restriction, and stillbirth.⁽¹⁾ In Aotearoa/New Zealand, national-level data on pregnancy and delivery outcomes in women with SLE are lacking, and the impact of ethnicity, disease activity and socioeconomic deprivation on outcomes remains poorly understood.

02. STUDY AIM

- Examine pregnancy & delivery outcomes in NZ women with SLE
- Identify factors: timing of SLE diagnosis, End-Stage Kidney Disease (ESKD), maternal age, ethnicity, deprivation
- Support equitable, evidence-based care

Related Literature

Existing research by our team on SLE in Aotearoa/New Zealand

- Lao C, White D, Rabindranath K, Van Dantzig P, Foxall D, Aporosa A, et al. Incidence and prevalence of systemic lupus erythematosus in New Zealand from the national administrative datasets. *Lupus*. 2023;32(8):1019-27.
- Lao C, White D, Rabindranath K, Van Dantzig P, Foxall D, Lawrenson R. Mortality and causes of death in systemic lupus erythematosus in New Zealand: a population-based study. *Rheumatology*. 2023;63(6):1560-7.

03. METHODOLOGY

Study population

1,532 women with SLE in Aotearoa/New Zealand, aged 18-45 years, from 2005-2022
Ethnicity: 289 Asian, 274 Māori, 311 Pacific, 658 European/Other
Identified via linked national datasets: National Minimum Dataset, Mortality Collection, Death Certificates

Pregnancy & Delivery Data

1,371 pregnancies and 560 deliveries in the study population from 2005-2022
Obtained from National Maternity Collection
Outcomes included: miscarriage, stillbirth, preterm birth (<37 weeks), induction of labour, mode of delivery, antenatal admissions
Timing of SLE diagnosis & ESKD recorded

Variables

Ethnicity: Asian, Māori, Pacific, European/Other
Socioeconomic deprivation: NZDep2018 quintiles
Maternal age & year of pregnancy/delivery

05. RESULTS



Delivery Outcomes

- Single live births: 96%
- Overall stillbirth: 3% (Māori stillbirth: 6%)
- Overall preterm birth: 28% (Māori preterm birth: 32%, Pacific preterm birth: 29%)
- Vaginal delivery most common: 62%; elective caesarean: 15%; emergency caesarean: 21%

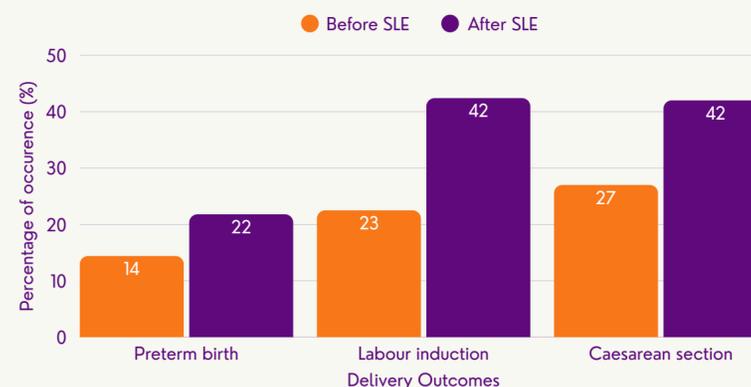
Pregnancy Outcomes

- 58.4% of pregnancies resulted in pregnancy loss
- 17.1% of women experienced ≥ 1 miscarriage
- Miscarriage prevalence varied by ethnicity, highest in Māori (22%) and lowest in Asian (11%)
- In multivariable logistic regression, miscarriage was not significantly associated with ethnicity, deprivation, or timing of SLE diagnosis, but risk increased with maternal age and ESKD.

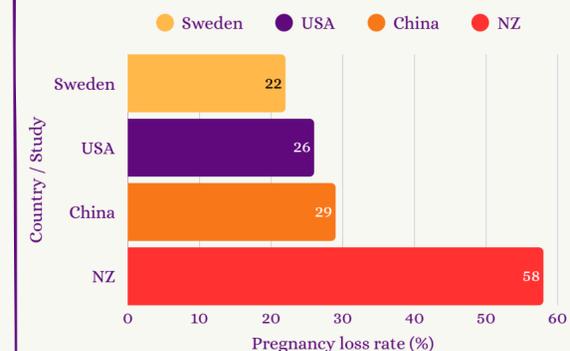
**DELIVERIES
AFTER SLE
DIAGNOSIS
ARE
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WITH
POORER
OBSTETRIC
OUTCOMES**



Delivery Outcomes Before vs After SLE Diagnosis



Pregnancy Loss Rates in Women with SLE: International Comparison



NZ SLE cohort shows substantially higher pregnancy loss (58.4%) than international published SLE cohorts. (2-4)

Factors Increased Miscarriage Risk in Women with SLE

Factor	Adjusted OR (95% CI)	p value
Maternal age	1.10 (1.08-1.12)	<0.001
After ESKD	2.49 (1.08-5.82)	0.032

Out of all variables investigated, only maternal age and ESKD had positive aOR with 95% CI intervals not overlapping 1, indicating a significant increase in miscarriage risk. (p<0.05)

04. ANALYSIS

- Compared categorical variables (ethnicity, deprivation, pregnancy/delivery outcomes) using chi-square tests
- Conducted multivariable logistic regression to calculate adjusted odds ratios (aOR) and 95% confidence interval (CI) for key outcomes: miscarriage, preterm birth, labour induction, and caesarean section
- Calculated overall pregnancy loss rate using: (gravida - parity) / gravida



IMPORTANT!

Observed differences are not always statistically significant; significance requires $p < 0.05$ in chi-square tests or logistic regression

06. CONCLUSION

This population-based study shows that women with SLE in Aotearoa/New Zealand face substantial pregnancy and delivery risks. Overall pregnancy loss was high ($\approx 58\%$), though most deliveries resulted in live births (96%). Advancing maternal age and ESKD were the only factors significantly associated with increased miscarriage risk. Ethnic disparities were evident, with miscarriage, preterm birth, and stillbirth more common among Māori women. These findings highlight the need for early, tailored preconception counselling, risk stratification, and coordinated multidisciplinary care to improve maternal and fetal outcomes and support equitable, evidence-based care for all women with SLE in Aotearoa/New Zealand.

Scan for
references

