



# THE ASSOCIATION OF SEXUALLY TRANSMITTED INFECTIONS WITH PREGNANCY IN THE LOUSSI STUDY

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## INTRODUCTION

- Infertility: “the failure to establish a clinical pregnancy after 12 months of regular, unprotected sexual intercourse.”
- Assisted Reproductive Technologies (ARTs):
  - Can greatly enhance the likelihood of conception.
  - Includes ovulation induction, intra-uterine insemination, in-vitro fertilization, or intra-cytoplasmic sperm injection.
- Spontaneous conception: conception in infertile woman without medical treatment.

No studies have investigated the effects of sexually transmitted infections (STIs) with spontaneous conception. This is an important factor, as chlamydia is known to increase the odds of tubal infertility nearly 10 times over.

## OBJECTIVE, AIMS, AND HYPOTHESIS

Specific Aim 1: To estimate the effect of STI history on probability of conception in the LOUSSI cohort.  
 Specific Aim 2: To estimate the effect of STI history on the time to achieve pregnancy in the LOUSSI cohort.  
 Hypothesis: a history of STI will be associated with lower probability of pregnancy and a longer time to pregnancy.

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## METHODS

Three sub-samples: 1) No ART, N=82; 2) ART, N=88; 3) Total sample, N=170.

Specific Aim 1: Logistic Regression: dichotomous outcome of pregnancy (ever vs. never); main predictor of History of STI (ever vs. never)

Specific Aim 2: Survival Analysis: dichotomous outcome of pregnancy (ever vs. never) and a time-varying covariate when ART was present

## RESULTS

### Odds Ratios for the Effect of History of STI on Pregnancy Among all Sub-Samples

	OR (95% CI)	p-value
Entire Cohort (N=170) <sup>a</sup>	1.56 (0.77 - 3.13)	0.21
No ART (N=82) <sup>b</sup>	2.75 (0.86 - 8.77)	0.09
With ART (N=88) <sup>c</sup>	1.19 (0.46 - 3.11)	0.71

<sup>a</sup> Adjusted for age, obesity, race, ovarian infertility diagnosis.

<sup>b</sup> Adjusted for age, obesity, blood pressure, alcohol use, tubal infertility diagnosis, ovarian infertility diagnosis.

<sup>c</sup> Adjusted for age, obesity, race.

### Hazard Ratios for the Effect of History of STI on Time to Pregnancy Among all Sub-Samples

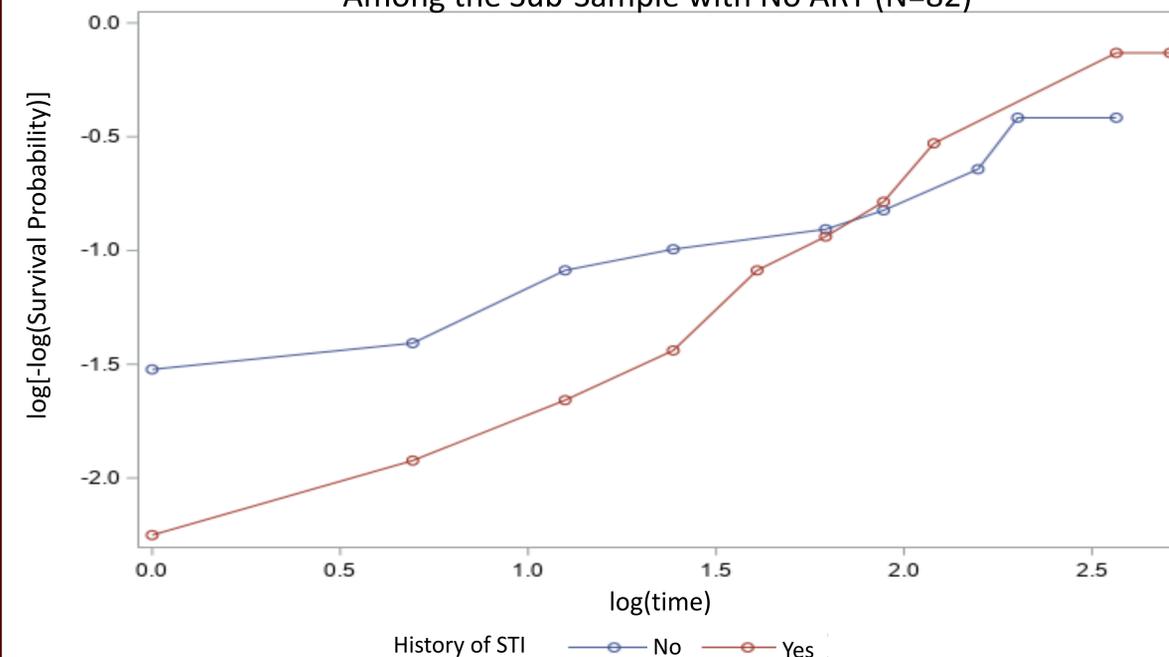
	HR (95% CI)	p-value
Entire Cohort (N=170) <sup>a</sup>	1.27 (0.78 - 2.06)	0.33
No ART (N=82) <sup>b</sup>		
< 6 months	5.51 (2.09 - 12.00)	>0.001
>= 6 months	0.6992 (0.19 - 2.38)	0.56
With ART (N=88) <sup>c</sup>	1.28 (0.67 - 2.47)	0.45

<sup>a</sup> Adjusted for age, obesity, race, ovarian infertility diagnosis.

<sup>b</sup> Adjusted for age, obesity, blood pressure, alcohol use, tubal infertility diagnosis, ovarian infertility diagnosis.

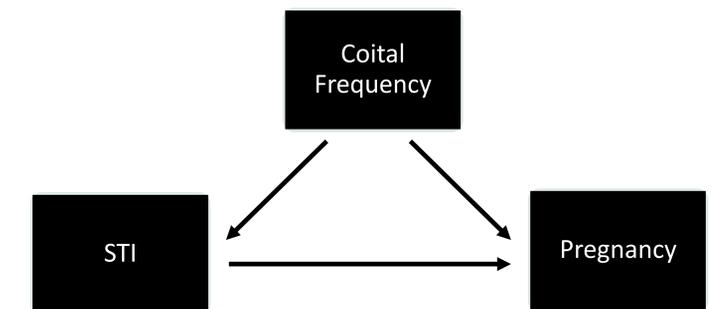
<sup>c</sup> Adjusted for age, obesity, race.

Ln(-ln) Curves of Estimated Survivor Functions of History of STI Among the Sub-Sample with No ART (N=82)



## DISCUSSION

- The results are most likely due to confounding by coital frequency.
- Coital frequency was not a variable that was collected in this study.
- Small sample size and low power of the analysis, could mean that these effects were left to chance.



Strengths:

1. Longitudinal and prospective design.
2. Follow-up was completed in short time intervals.
3. Collection of time-varying covariates allowed for survival analysis.

Limitations:

1. Small sample size.
2. Potential for selection bias.
3. Potential for misclassification.

## CONCLUSION

- History of STI increases the odds and the hazards of pregnancy.
- Women with a positive history of any STI had increased odds of spontaneous conception and were experiencing spontaneous conceptions faster than those with a negative history of STI.
- These findings are not consistent with prior literature, which states that chlamydia can cause tubal infertility.