Reminders

- HW7 due Saturday, November 23
- HW8 due Wednesday, December 4
- Reminder: lowest HW grade is dropped
- Final Exam is Monday, December 9 4:30-6:20. Exam procedures and style will be similar to the Midterm.
- If you have a conflict with the Final Exam time and need to take it early, reach out to Katie *this week*

HW 7

Trichopoulos Et al Data on secondary infertility

British Journal of Obstetrics and Gynaecology
August 1976. Vol 83. pp 645–650

INDUCED ABORTION AND SECONDARY INFERTILITY

BY

D. TRICHOPOULOS

N. HANDANOS

J. DANEZIS

ANNA KALANDIDI

AND

VICTORIA KALAPOTHAKI

Department of Hygiene and Epidemiology and the First Department of Obstetrics and Gynaecology University of Athens Medical School

Article by Trichopoulos et al (1976)

- Study of Secondary Infertility
- Matched case-control study, 1:2 matching
- 83 cases, each matched to 2 controls (→166 controls)
  - n=249
  - controls matched for:
    - age (within 3 years)
    - parity
    - level of education
    - maternity department of the same hospital
  - Individual matching, rather than frequency matching
- Two exposures of interest
  - Number of spontaneous abortions (miscarriage)
  - Number of induced abortions

Trichopoulos et al Table 1

Spontaneous abortions	Induced abortions			
	0	1	2+	Total
0	7/60 ref	12/33 3.1 (1.2)	9/20 3.9 (1.3)	28/113
1	22/25 7.5 (3.1)	5/11 3.9 (1.1)	4/4 4.6 (2.1)	31/40 6.6 (2.8)
2+	18/11 14.0 (5.3)	6/1 51.4 (10.8)	0/1	24/13 15.8 (6.2)
Total	47/96	23/45 4.4 (1.8)	13/25 4.5 (1.7)	83/166

- Distribution of 83 cases and 166 controls (#cases/#controls) into 9 categories defined by numbers of previous spontaneous and induced abortions.
- Second row in cells gives OR relative to the 0/0 reference cell (called “relative risk” in paper), with lower confidence limit in parentheses

Trichopoulos et al Table 1

Spontaneous abortions	Induced abortions			
	0	1	2+	Total
0	7/60 ref	12/33 3.1 (1.2)	9/20 3.9 (1.3)	28/113
1	22/25 7.5 (3.1)	5/11 3.9 (1.1)	4/4 4.6 (2.1)	31/40 6.6 (2.8)
2+	18/11 14.0 (5.3)	6/1 51.4 (10.8)	0/1	24/13 15.8 (6.2)
Total	47/96	23/45 4.4 (1.8)	13/25 4.5 (1.7)	83/166

- Consider (0, 1) cell
- Odds that a case is in (0,1) cell vs (0,0) cell is 12/7.
- Odds that a controls is in (0,1) cell vs (0,0) cell is 33/60
- OR 3.1 comes from dividing 12/7 by 33/60

Trichopoulos et al
Table 1

Spontaneous abortions	Induced abortions			
	0	1	2+	Total
0	7/60 ref	12/33 3.1 (1.2)	9/20 3.9 (1.3)	28/113
1	22/25 7.5 (3.1)	5/11 3.9 (1.1)	4/4 4.6 (2.1)	31/40 6.6 (2.8)
2+	18/11 14.0 (5.3)	6/1 51.4 (10.8)	0/1	24/13 15.8 (6.2)
Total	47/96	23/45 4.4 (1.8)	13/25 4.5 (1.7)	83/166

- Study matched on parity. True or False: the OR in the table can be considered to be parity-adjusted OR

APPENDIX

History of induced and spontaneous abortions in 83 patients with secondary infertility and 166 (2×83) matched controls

Matching category			No. of induced abortions among preceding pregnancies			No. of spontaneous abortions among preceding pregnancies		
Education (years)	Age (± 3 years)	No. of previous pregnancies	Propositus	Control No.		Propositus	Control No.	
				1	2		1	2
0-5	26	6	1	3	3	5	0	0
0-5	42	1	1	0	0	0	0	0
0-5	39	6	6	6	3	0	0	0
0-5	34	4	2	0	0	0	1	2
6-11	35	3	1	2	0	1	0	0
6-11	36	4	2	1	0	1	1	2
6-11	23	1	0	0	0	0	0	0
6-11	32	2	0	2	0	0	0	1
6-11	21	1	0	0	1	1	1	0
6-11	28	2	0	0	0	0	1	1
6-11	29	2	1	0	0	0	0	1
6-11	37	4	2	1	0	1	1	1
6-11	31	1	1	0	0	0	0	0
6-11	29	3	2	0	0	0	1	2
6-11	31	2	1	1	1	1	0	0

Re-analysis by Hogue (1978)

- Created binary exposure variables
- Combined some matched sets: 83 matched sets → 63 strata

- Neither Trichopoulos et al nor Hogue used conditional logistic regression
  - it wasn't invented yet!

HW 7

- Consider various analyses and the differences among them. What might explain different results from different analyses?
  - non-collapsibility of the odds ratio?
  - anti-conservative bias of ordinary logistic regression with too-large models?
- Data file available to you but not actually needed – software output provided