

SISG Module Genetic Epidemiology
Optional Exercise: Measures of Association

Table 1: Association between binge drinking and atherosclerosis

Exposure Status	Disease Status	
	Case	Control
Exposed (+)	106	585
Unexposed (-)	186	2165

1. What is the incidence of outcome in the exposed group? In the unexposed group?
2. What is the RR for the association between exposure and outcome? The AR? The OR?

Table 2: Association between, stratified by gender

Men		
Exposure Status	Disease Status	
	Case	Control
Exposed (+)	89	374
Unexposed (-)	118	801

Women		
Exposure Status	Disease Status	
	Case	Control
Exposed (+)	17	211
Unexposed (-)	68	1364

3. What is the RR in men? What is the RR in women?
4. Is there evidence for confounding or effect modification?

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ANSWER KEY

Table 1: Association between binge drinking and atherosclerosis

Exposure Status	Disease Status	
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Exposed (+)	106	585
Unexposed (-)	186	2165

1. What is the incidence of outcome in the exposed group? In the unexposed group?

ANSWER: Incidence in exposed = $106/(106+585)=15.3\%$

Incidence in unexposed = $186/(186+2165)=7.9\%$

2. What is the RR for the association between exposure and outcome? The AR? The OR?

ANSWER: RR = 1.9 (1.6 – 2.4); AR=7.4%; OR = 2.1 (1.6 – 2.7)

RR = 1.9 (1.6 – 2.4)

Table 2: Association between, stratified by gender

Men		
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Exposed (+)	89	374
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Women		
Exposure Status	Disease Status	
	Case	Control
Exposed (+)	17	211
Unexposed (-)	68	1364

3. What is the RR in men? What is the RR in women?

ANSWER: RR in men= 1.50 (1.16-1.93); RR in women= 1.57 (0.94-2.62)

4. Is there evidence for confounding or effect modification?

ANSWER: The RR is similar between men and women, so there is not strong evidence for effect modification. The RR in the stratified analysis is lower (closer to the null of 0) than in the combined analysis, indicating evidence of confounding.