

Question 1

- a) Prospective cohort study
b) Two by Two table:

BMI	Colon cancer	No colon cancer	Total
<22	28	10,667	10,695
22-<24	41	7,743	7,784

$$RR = (41/7,784) / (28/10,695) = 2.0$$

Those who have a BMI between 22 & 24 are 2 times more likely to develop colon cancer than those who have a BMI less than 22.

Question 1

- b) Two by Two table:

BMI	Colon cancer	No colon cancer	Total
<22	28	10,667	10,695
24-<26	36	7,286	7,322

$$RR = (36/7,322) / (28/10,695) = 1.9$$

Those who have a BMI between 24 & 26 are 1.9 times more likely to develop colon cancer than those who have a BMI less than 22.

Question 1

- b) Two by Two table:

BMI	Colon cancer	No colon cancer	Total
<22	28	10,667	10,695
26-<28	40	6,487	6,527

$$RR = (40/6,527) / (28/10,695) = 2.3$$

Those who have a BMI between 26 & 28 are 2.3 times more likely to develop colon cancer than those who have a BMI less than 22.

Question 1

- b) Two by Two table:

BMI	Colon cancer	No colon cancer	Total
<22	28	10,667	10,695
28-<30	35	4,189	4,224

$$RR = (35/4,224) / (28/10,695) = 3.2$$

Those who have a BMI between 28 & 30 are 3.2 times more likely to develop colon cancer than those who have a BMI less than 22.

Question 1

b) Two by Two table:

BMI	Colon cancer	No colon cancer	Total
<22	28	10,667	10,695
30+	42	6,939	6,981

$$RR = (42/6,981) / (28/10,695) = 2.3$$

Those who have a BMI more than 30 are 2.3 times more likely to develop colon cancer than those who have a BMI less than 22.

Question 1

c) Two by Two table:

BMI	Colon cancer	No colon cancer	Total
<22	28	10,667	10,695
22+	194	32,644	32,838

$$RR = (194/32,838) / (28/10,695) = 2.3$$

Those who have a BMI equal or more than 22 are 2.3 times more likely to develop colon cancer than those who have a BMI less than 22.

Question 2

a) Prospective cohort study

b) Two by Two table for smoking as the exposure:

Smoking	ARM		Total
	Yes	No	
Yes	230	884	1114
No	76	492	568
Total	306	1376	1682

$$\text{Relative risk} = \frac{a/a+b}{c/c+d} = \frac{230/1114}{76/568} = \frac{0.206}{0.134} = 1.54$$

Smokers are 1.54 times more likely to develop age related maculopathy than non smokers.

Question 3

Abstract 1

a) **Study design:** Cross sectional study

b) **Dependent variable:** Headache

Independent variable: handheld cellular phone (HP)

c) Two by Two table:

		Headache	No headache	Total
HP	Yes	218	144	362
	No	204	242	446
	Total	422	386	808

d) PRR: $1.31 = (218/362) / (c/446) \Rightarrow c = 204$

Question 3

Abstract 2

- a) **Study design:** Cohort study
- b) **Dependent variable:** Birth defects
Independent variable: Program before & after pregnancy
- c) Two by Two table:

		Birth defects	No Birth defects	Total
Program	Before	1	83	84
	After	12	98	110
	Total	13	181	194

- d) $RR = (1/84) / (12/110) = 0.11$
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