PC Lab 7 – Relative Risk and Odds Ratio

**Exercises**

1. A new vaccine has been developed and tested in a randomised controlled trial during an epidemic. 460 adults took part in the study. 20 out of 240 that received the influenza vaccination contracted influenza. 80 out of 220 that received the placebo vaccination contracted influenza.

Based on the information above, use appropriate statistical methods to assess the risk of developing influenza.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Diseased | Not Diseased | Total |
| Exposed | 20 | 220 | 240 |
| Unexposed | 80 | 140 | 220 |
| Total | 100 | 360 | 460 |

2. In a clinical trial to assess the value of a new treatment (X) in comparison with an existing treatment (Y), patients were randomly assigned to receive either treatment X or treatment Y. Of 373 patients treated by method X, 61 died; of 244 patients treated by method Y, 83 died. Use appropriate statistical methods to assess the risk of mortality.

3. A case control study reported the association of lung cancer and asbestos exposure for mine workers. The data is given in the table below. Calculate an appropriate measure of association between lung cancer and asbestos exposure and report your findings. Also calculate the 95% CI to see if asbestos is statistically associated with lung cancer.

|  |  |  |  |
| --- | --- | --- | --- |
| Asbestos exposure | Cases | Controls | Total |
| Exposed | 167 | 412 | 579 |
| Unexposed | 79 | 395 | 474 |
| Total | 246 | 807 | 1053 |

4. A hypothetical study was done looking at the association between chocolate assumption and acne. There were 389 adults who took part in the study and of the 200 that ate chocolate, 80 developed skin acne. Of the remaining 189 adults who didn’t eat chocolate, only 40 developed skin acne.

For the data given above, determine the OR and comment on the statistical significance of your result.

5. In all the above exercises, check your answers using SPSS.