

AS Level Biology B

H022/02 Biology in depth

Question Set 14

1 Lung cancer is the second most common cancer diagnosed in the UK.

Fig. 1 shows the incidence rate of lung cancer in male and female smokers from 1979 to 2007.

Lung cancer incidence trends over time', www.cancerresearchuk.org, Cancer Research UK. Item removed due to third party copyright restrictions. Link to material: <https://www.cancerresearchuk.org/health-professional/cancer-statistics/statistics-by-cancer-type/lung-cancer/incidence#heading-Two>

Fig. 1

(a) (i) Compare the changes in incidence rate for males **and** females from 1980 to 2000.

Use information from Fig. 1 to support your answer.

[2]

(ii) In 2007, a ban on smoking in indoor work and public places was introduced in the UK.

Explain what you would expect to happen to the incidence rates of lung cancer for the first three years after the ban was introduced.

[2]

(iii) Cumulative incidence rate (CIR) can be used to estimate the risk of a disease in a population over a period of time.

In 2007, 41 000 cases of lung cancer were diagnosed. The incidence rate was 85 per 100 000 of the population.

Calculate the total number of people at risk of the disease in 2007.

Use the formula:
$$\text{CIR} = \frac{\text{number of new cases of the disease}}{\text{number of total population at risk of the disease}}$$

Give your answer to **2** significant figures.

number of people = [2]

(b)* Lung cancer is more prevalent in urban areas where there is a higher level of air pollution.

Describe the effects of pollutants on the respiratory system **and** why these may lead to the development of lung cancer.

[6]

Total Marks for Question Set 14: 12



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