Olivia reads an article about smoking. The article states:

“Research has shown that there is a direct link between smoking and lung cancer. Smoking increases the risk of lung cancer”

Olivia did smoke for a number of years when she was younger and her partner currently smokes, so she is convinced that she will get lung cancer. Olivia also read somewhere that alcohol consumption can increase the risk of lung cancer but Olivia has never drank alcohol. Olivia also lives in a vey polluted region and has a poor immune system, both lesser risk factors for causing lung cancer.

What advice would you give Olivia about this?

**Mark scheme:**

* **Reference to the fact that there is a correlation between smoking and lung cancer**
* **Idea that an observed correlation does not necessarily mean that smoking (factor) will cause lung cancer (outcome)**
* **Some idea that while a factor might increase the probability of an outcome, it doesn’t make it certain to happen (e.g. smoking will not DEFINITELY cause lung cancer)**
* **Mention that other factors e.g. alcohol may also contribute to the risk of lung cancer**
* **Reference to changing Olivia’s life style**

**Examples**

* **Changing lifestyle factors e.g. pollution of area, stopping partner smoking, improve immunity e.g. multivitamin, relocate**

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| **[Level 3]** Answer clearly explains the links between the ideas of correlation, factors and cause, and considers genetic **and** lifestyle factors. All information in answer is relevant, clear, organised and presented in a structured and coherent format. Specialist terms are used appropriately. Few, if any, errors in grammar, punctuation and spelling. (5 – 6 marks) **[Level 2]** Answer shows limited understanding of correlation, factors and cause, and gives examples of relevant factors. For the most part the information is relevant and presented in a structured and coherent format. Specialist terms are used for the most part appropriately. There are occasional errors in grammar, punctuation and spelling. (3 – 4 marks) **[Level 1]** Answer only gives examples of factors without considering ideas of correlation and cause **OR** only states that smoking does not necessarily cause lung cancer without considering other factors. Answer may be simplistic. There may be limited use of specialist terms. Errors of grammar, punctuation and spelling prevent communication of the science. (1 – 2 marks) **[Level 0]** Insufficient or irrelevant science. Answer not worthy of credit. (0 marks)  |