1.6 Methods of Birth Control and Sexually Transmitted Infections: 30-minute Pack

EDEXCEL 4BI1 · Calculator allowed · about 30 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Describe how a diaphragm functions as a barrier method of contraception and name one practical step needed when using it.

(Total for Question 1 is 2 marks)

2 Describe briefly how male condoms act as a barrier method of contraception and give one additional health benefit of correct condom use.

(Total for Question 2 is 2 marks)

3 Describe two routes by which HIV can be transmitted between people, and state one common way HIV is not transmitted.

(Total for Question 3 is 2 marks)

4 Describe three ways in which health education in a community can reduce the spread of sexually transmitted infections such as HIV.

(Total for Question 4 is 3 marks)

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5 State why regular testing and early treatment are important in controlling the spread of STIs in a population.

(Total for Question 5 is 2 marks)

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6 State briefly what is meant by sterilisation as a surgical method of contraception and name one advantage and one disadvantage of sterilisation.

(Total for Question 6 is 2 marks)

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7 Explain how correct condom use reduces the spread of HIV, describing two specific actions of the condom that lower transmission risk.

(Total for Question 7 is 3 marks)

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8 Extended response: evaluate hormonal versus barrier contraception.

(Total for Question 8 is 6 marks)

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9 A public health team must decide between investing in free condom distribution or in subsidised long-acting hormonal implants for reducing unintended pregnancies and STIs in a town. Using evidence-based reasoning, suggest a combined strategy the team could recommend and justify it with four reasons, one of which considers cost, delivery or fairness.

(Total for Question 9 is 5 marks)

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Mark scheme · 1.6 Methods of Birth Control and Sexually Transmitted Infections: 30-minute Pack

Question 1

function: the diaphragm is placed over the cervix to block sperm entering the uterus **B1**

practical step: must be inserted before intercourse and often used with spermicide, left in place for a specified time afterwards **B1**

Answer: Diaphragm covers the cervix to block sperm; it must be inserted before intercourse and left in place for the recommended time

Question 2

barrier action: a condom covers the penis and collects semen, preventing sperm entering the vagina **B1**

additional benefit: reduces transmission of sexually transmitted infections such as HIV **B1**

Answer: Condoms cover the penis and trap semen so sperm cannot enter the vagina; they also reduce STI transmission including HIV

Question 3

route 1: unprotected sexual intercourse involving exchange of bodily fluids **B1**

route 2: sharing contaminated needles or blood transfusion with infected blood **B1**

Answer: HIV can be transmitted by unprotected sex with exchange of bodily fluids and by sharing contaminated needles or infected blood; it is not spread by casual contact such as hugging or sharing food

Question 4

education can encourage correct and consistent condom use among sexually active people **B1**

education can promote testing and early treatment so infected people are identified and counseled to reduce further spread **B1**

education can raise awareness about transmission routes and safer behaviours, reducing risky practices **B1**

Answer: Health education can encourage condom use, promote testing and treatment, and raise awareness of transmission routes to reduce risky behaviour

Question 5

testing identifies infected people, including those without symptoms **B1**

early treatment reduces infectiousness and stops further transmission **B1**

Answer: Testing finds infected individuals including asymptomatic cases; early treatment reduces how infectious they are and prevents onward transmission

Question 6

definition: a surgical operation that permanently prevents gametes meeting, for example cutting or blocking the fallopian tubes or sperm ducts **B1**

one advantage and one disadvantage: advantage could be permanent and highly effective; disadvantage could be that it is usually irreversible and does not protect against STIs **B1**

Answer: Sterilisation is a surgical operation that permanently prevents gametes meeting, for example cutting or blocking the fallopian tubes or sperm ducts; advantage: permanent and highly effective, disadvantage: usually irreversible and gives no STI protection

Question 7

action 1: condoms prevent direct contact between mucous membranes and block exchange of semen and vaginal fluids that can carry the virus **B1**

action 2: condoms stop blood to blood contact from genital sores or bleeding, reducing another transmission route **B1**

overall explanation: by blocking the body fluids that contain the virus condoms reduce the chance that HIV will be transferred between partners **B1**

Answer: Condoms block semen and vaginal fluids from entering the partner and prevent blood to blood contact from genital injuries, so they reduce the chance that HIV-containing fluids are exchanged

Question 8

Level 1 Simple statements about one or two features of hormonal and barrier methods, with little comparison or justification. **1-2**

Level 2 Comparative points made about effectiveness and user-dependence with some explanation, and a brief mention of STI protection differences. **3-4**

Level 3 Clear evaluation comparing effectiveness, user-dependence and STI protection. Reaches a balanced judgement supported by reasons and examples. **5-6**

Indicative content:

- Hormonal methods typically have high effectiveness when used correctly because they prevent ovulation or change mucus, and implants are long acting so reduce user error
- Pills can be less effective if doses are missed, so they are more user-dependent than implants
- Barrier methods like condoms are less effective than perfect-use hormonal implants but are effective in typical use if used correctly every time
- Condoms provide protection against STIs including HIV, whereas hormonal methods do not protect against STIs
- Consideration of side effects and acceptability may influence effectiveness in practice because users stop or misuse methods
- A judgement might conclude that implants are best for preventing pregnancy while condoms are necessary when STI protection is required, so the best option depends on priorities

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Question 9

suggests combined strategy eg provide free condoms widely and subsidise implants for those who want long-acting pregnancy prevention	**B1**
justification 1: condoms reduce STI transmission immediately and are accessible, tackling infections	**B1**
justification 2: implants reduce unintended pregnancy effectively because they reduce user error, lowering pregnancy rates long term	**B1**
justification 3: combined approach allows individuals to choose according to priorities, and pairing both reduces both pregnancy and STI rates	**B1**
explicit consideration of cost or implementation logistics or equity, for example targeting implants to those who want long-term contraception while keeping condoms free for general population	**B1**

Answer: Provide free condoms for everyone to reduce STI spread and offer subsidised implants to those who want reliable long-term pregnancy prevention; this tackles both infections and unintended pregnancy, allows choice and can be targeted to those most in need

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