



IG.B6 Methods of Birth Control and Sexually Transmitted Infections

EDEXCEL 4BI1 · Calculator allowed · about 50 minutes

Total Marks

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Name: _____ Date: ____ / ____ / ____

Answer ALL questions. Show all your working.

- 1** Describe the rhythm method (natural family planning) as a method of birth control, stating what the user must do and one limitation of the method in everyday use.

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

(Total for Question 3 is 2 marks)

- 4** Describe the basic way the combined contraceptive pill prevents pregnancy, naming the type of substance the pill contains and its main effect on ovulation.

(Total for Question 4 is 2 marks)

- 5** Describe how a contraceptive implant works and give one reason why it is considered more effective than the rhythm method.

(Total for Question 5 is 2 marks)

- 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)

- 7** Compare the condom and the diaphragm as barrier methods of contraception, stating one similarity and one difference in how they are used or how they protect against pregnancy or infection.

(Total for Question 7 is 3 marks)

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

(Total for Question 8 is 3 marks)

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

(Total for Question 9 is 2 marks)

- 10** Evaluate, with reference to effectiveness, user-dependence and protection against STIs, the use of hormonal methods (for example the pill or implant) compared with barrier methods (for example condoms).

Extended response: evaluate hormonal versus barrier contraception.

(Total for Question 10 is 6 marks)

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

(Total for Question 11 is 3 marks)

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

(Total for Question 12 is 2 marks)

- 13** Suggest two practical measures a health service could promote to improve correct condom use and so reduce both pregnancy and STI risk.

(Total for Question 13 is 2 marks)

- 14** Describe how the use of barrier contraception during sexual intercourse can reduce transmission of blood-borne STIs in situations where there are genital sores or bleeding.

(Total for Question 14 is 2 marks)

- 15** State two reasons why a young person might be encouraged to use condoms even if they or their partner are using a hormonal method such as the pill or implant.

(Total for Question 15 is 2 marks)

- 16** 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 two reasons.

(Total for Question 16 is 5 marks)

Mark scheme • IG.B6 Methods of Birth Control and Sexually Transmitted Infections

Question 1

- **B1** description: avoid intercourse on the days of the menstrual cycle when the woman is likely to be fertile, determined by tracking cycle length or symptoms
- **B1** limitation: unreliable because cycle length can vary, so there is a high chance of unintended pregnancy
- **Answer: Avoid intercourse on estimated fertile days by tracking the cycle; limitation is unreliability because cycle length varies**

Question 2

- **B1** 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
- **Answer: Condoms cover the penis and trap semen so sperm cannot enter the vagina; they also reduce STI transmission including HIV**

Question 3

- **B1** 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
- **Answer: Diaphragm covers the cervix to block sperm; it must be inserted before intercourse and left in place for the recommended time**

Question 4

- **B1** contains hormones (oestrogen and progesterone or progestogen)
- **B1** main effect: prevents ovulation so no egg is released
- **Answer: Contains hormones (oestrogen and progesterone or progestogen) and prevents ovulation, so no egg is released**

Question 5

- **B1** implant: a small device inserted under the skin releases hormones over a long period to prevent ovulation or thicken cervical mucus
- **B1** reason: effectiveness is higher because the implant provides continuous hormone release and does not rely on user timing or daily action
- **Answer: Implant is inserted under the skin and releases hormones to stop ovulation or thicken cervical mucus; it is more effective because it gives continuous protection and does not depend on timing**

Question 6

- **B1** 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
- **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

- **B1** similarity: both act as a physical barrier to stop sperm reaching the egg
- **B1** difference: condom covers the penis and also reduces STI transmission, diaphragm covers the cervix and does not protect against STIs
- **B1** difference in use: condom is used at the time of intercourse and removed afterwards, diaphragm must be inserted before intercourse and left in place for a specified time
- **Answer: Both block sperm physically; condoms cover the penis and also reduce STI transmission while diaphragms cover the cervix and do not protect against STIs; condoms are used and removed at intercourse, diaphragms are inserted beforehand and left in place afterwards**

Question 8

- **B1** 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
- **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 9

- **B1** route 1: unprotected sexual intercourse involving exchange of bodily fluids
- **B1** route 2: sharing contaminated needles or blood transfusion with infected blood
- **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 10

- **Level 1** (1-2): Simple statements about one or two features of hormonal and barrier methods, with little comparison or justification.
- **Level 2** (3-4): Comparative points made about effectiveness and user-dependence with some explanation, and a brief mention of STI protection differences.
- **Level 3** (5-6): Clear evaluation comparing effectiveness, user-dependence and STI protection. Reaches a balanced judgement supported by reasons and examples.
- **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

Question 11

- **B1** 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
- **Answer: Health education can encourage condom use, promote testing and treatment, and raise awareness of transmission routes to reduce risky behaviour**

Question 12

- **B1** testing identifies infected people, including those without symptoms
- **B1** early treatment reduces infectiousness and stops further transmission
- **Answer: Testing finds infected individuals including asymptomatic cases; early treatment reduces how infectious they are and prevents onward transmission**

Question 13

- **B1** measure 1: provide free or low-cost condoms widely so financial or access barriers are removed
- **B1** measure 2: run demonstrations or education on correct condom use and storage to reduce user error
- **Answer: Provide free or low-cost condoms and run demonstrations or education on correct use and storage**

Question 14

- **B1** barrier contraception prevents contact between the partners body fluids and skin with sores, reducing blood to blood or fluid transfer
- **B1** this lowers the chance that viruses in blood or sores are passed from one person to another
- **Answer: Barrier contraception prevents contact between body fluids and skin with sores, so blood to blood or fluid transfer is reduced and the chance of transmitting blood-borne STIs falls**

Question 15

- **B1** reason 1: condoms provide protection against STIs which hormonal methods do not
- **B1** reason 2: condoms provide backup protection if the hormonal method fails or is not used correctly
- **Answer: Because condoms protect against STIs while hormonal methods do not, and as backup protection if the hormonal method fails or is used incorrectly**

Question 16

- **B1** 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
- **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**