9.9 Principles of contraception 1626

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9.9 Principles of contraception Zara Haider ESSENTIALS A wide range of contraceptive methods is available (increasing year on year), which can be classified as hormonal or nonhormonal, shorter or longer lasting, and reversible or irreversible. A full range of these should be available from accessible sources such as primary care facilities, sexual health clinics, and outreach clinics. When particular methods are not available from any source there should be a pathway for easy, timely access of that method from a nearby location. Clinicians must deliver up-to-date, accurate, unbiased informa- tion about each contraceptive method including details of efficacy, advantages, noncontraceptive benefits, side effects, disadvantages, and risks. They should discuss the contraceptive options with each patient to find the right method for them, taking into account their history (medical, drug, gynaecological, and so on), lifestyle choices, be- liefs and concerns. The patient must have enough information to make an informed choice and feel part of the negotiation process to maximize the chance of them continuing with the chosen method. No contraceptive method is 100% effective (apart from abstin- ence) and where there is potential risk of conception due to unpro- tected sex or an error with a contraceptive regimen, the patient must be informed about methods of emergency (post-coital) contracep- tion, the most effective being the post-coital intrauterine device. Education of the public about the benefits of contraception is vital and must be done in a timely way (e.g. through school sex educa- tion, media, and online resources). Introduction Every woman should have the right and ability to control her fer- tility. With careful history taking, explanation, and negotiation, a clinician and woman should come to agreement about the most suitable contraceptive method for her, based on a myriad of fac- tors. Encouraging women to use more cost-effective long-acting methods should be a priority in the current economic climate with the cost of raising a child and the cost of performing a termination of pregnancy far outweighing the cost of providing fertility control. History taking To find the most appropriate contraceptive method for an indi- vidual, an accurate, concise history needs to be taken. The clin- ician should refer to the UK Medical Eligibility Criteria (UKMEC) https://www.fsrh.org/standards-and-guidance/documents/ ukmec-2016-summary-sheets/ for guidance, as certain methods might be contraindicated and alternative choices should be considered where necessary. History taking should include the following: Medical history (see UKMEC for more details: https://www.fsrh.

org/standards-and-guidance/documents/ukmec-2016-summary- sheets/) • Enquire about medical conditions that might contraindicate use of certain methods (e.g. cardiovascular disease, hyperten- sion, venous thromboembolism, migraine, liver disease, breast cancer) • Enquire about family history of medical issues (especially if affecting <45-year-old first-degree family members) Drug history: • Ask about prescribed and over-the-counter drugs. Is the pa- tient taking any liver enzyme-inducing drugs, for example, St John's Wort? (These cause reduced efficacy of COC, POP, and subdermal implant, so consider alternative methods) Gynaecological history: • Last menstrual period: timing and nature, menstrual cycle, bleeding pattern, and consider noncontraceptive benefits of

9.9 Principles of contraception 1627 lighter, regular, less painful menses with certain contraceptive methods • Is there a risk of pregnancy? Consider the need for a preg- nancy test Sexual history: • Concise history, which should include the questions: ■ 'When did you last have sex?' ■ 'When did you last have sex with anyone different?' • Ask about sexually transmitted infection (STI) symptoms (e.g. change in vaginal discharge, dysuria, pelvic pain, vulval lesions, and so on) • Offer STI testing Social history: • Smoking (current or in the past) • History of sexual assault/domestic violence Examination: • Body mass index (BMI) • Blood pressure Effectiveness of contraceptive methods Failure rates are expressed as conceptions per 100 women years. 'Perfect use' means that the method is used consistently and cor- rectly at every intercourse. 'Typical use' means imperfect use and depends on characteristics such as age, social class, acceptability of contraception in the population studied, and so on. Examples of imperfect use are missed pills, split condoms, failing to leave dia- phragm in for six hours after intercourse, and so on (see Table 9.9.1). A brief overview of contraceptive methods Long-acting reversible contraceptive methods See Fig. 9.9.1. Combined hormonal contraception and the progestogen-only pill See Fig. 9.9.2. Male and female sterilization See Table 9.9.2. Barrier contraceptive methods See Fig. 9.9.3. Emergency contraception See Fig. 9.9.4. Fertility awareness based methods Mechanism of action: a woman needs to identify her fertile and infertile times of the cycle using various fertility indicators (e.g. changes in cervical mucous, menstrual cycle calculations, and basal body temperature). Alternatively, there is Persona which is a small handheld com- puterized monitor which measures hormonal changes using urine sticks (94% effective). Advantages: no side effects, body awareness, and can be used to plan pregnancy. Disadvantages: need to learn method from a trained teacher, need to avoid sex or use condom during fertile times, it takes 3–6 menstrual cycles to learn effectively, and the patient must keep daily records. Table 9.9.1 Effectiveness of contraceptive methods: percentage of US women experiencing an unintended pregnancy during the first year of use Method % Pregnant Typical use Perfect use No method 85 85 Withdrawal 22 4 Diaphragm 12 6 Female condom 21 5 Male condom 18 2 Progestogen-only pill 9 0.3 Combined oral contraceptive pill 9 0.3 Patch 9 0.3 Vaginal ring 9 0.3 Female sterilization 0.5 0.5 Male sterilization 0.15 0.1 Medroxyprogesterone acetate injection 6 0.2 Copper intrauterine device (IUD) 0.8 0.6 Levonorgestrel intrauterine system (IUS) 0.2 0.2 Subdermal etonogestrel implant 0.05 0.05 Fertility awareness based methods Calendar 24 4–5 Ovulation method 24 3 Sympto-thermal 24 0.4 Source data from Trussell J In: Hatcher R, Trussel J, Nelson A et al. (eds), Contraception Technology, New York, NY: Ardent Media 2011.

Section 9 Sexually transmitted diseases 1628 Fig. 9.9.1 Long-acting reversible contraceptive methods.

9.9 Principles of contraception 1629 Fig. 9.9.1 Continued

Section 9 Sexually transmitted diseases 1630 Fig. 9.9.2 Combined hormonal contraception and the progestogen-only pill.

9.9 Principles of contraception 1631 Fig. 9.9.2 Continued Table 9.9.2 Male and female sterilization Method Male sterilization (vasectomy) Female sterilization Mode of action The vas deferens is occluded by cutting, sealing, or tying. Most commonly done using ‘no scalpel’ method Must be considered irreversible The fallopian tubes are cut and sealed. This is done at laparoscopy, mini laparotomy, or open procedure (e.g. post caesarean section). Must be considered irreversible Advantages Difficult to reverse No serious long-term side effects Quick to perform under local anaesthetic Difficult to reverse Periods unaffected Disadvantages Surgical procedure must be performed by trained clinician Pain post procedure and surgical risks Must wait for azoospermia (16–18 weeks). Need to use alternative precautions during this time Chronic scrotal pain Sperm granulomata: leakage of sperm may form small painful lumps (sperm granuloma) Surgical procedure must be performed by trained clinician Pain post procedure and surgical risks Small risk of ectopic pregnancy if procedure fails

Section 9 Sexually transmitted diseases 1632 Fig. 9.9.3 Barrier contraceptive methods.

9.9 Principles of contraception 1633 Fig. 9.9.4 Emergency contraception.

Section 9 Sexually transmitted diseases 1634 FURTHER READING Faculty of Sexual and Reproductive Healthcare. Guidance on all con- traceptive methods. https://www.fsrh.org Family Planning Association. http://www.fpa.org.uk/help-and- advice/contraception-help fertility-awareness.com Glasier A, Gebbie A (2008). Handbook of family planning and repro- ductive healthcare. Churchill Livingstone Elsevier, London. Guillebaud J (2013). Contraception—your questions answered, 6th edition. Churchill Livingstone Elsevier, London. Trussell J (2011). Contraceptive failure in the United States, Contraception, 83, 397–404. UK Medical Eligibility Criteria (UKMEC) (2009). Available as full version and summary sheets on fsrh.org. http://www.fsrh.org/pdfs/ UKMEC2009.pdf

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