Contraception for first-time users

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Abstract

First-time users of contraception are mostly young sexually active patients who may or may not be in a stable relationship who would want to prevent an unwanted pregnancy. Seeing these patients presents a golden opportunity to counsel patients about sexually transmitted diseases, sexual health and also legal aspects regarding sexual offences. Contraceptives may also be prescribed for their additional benefits like cycle control and acne and are also used to assist couples to space and plan their families. This article presents value information on the various methods of contraception for product selection and counselling.

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Introduction

Contraception is used to assist couples to space and plan their families by preventing the occurrence of an unplanned pregnancy. The easy availability of contraception is one of the major advances in health care. Not only is effective prevention against unwanted pregnancy now within reach of almost every woman but there are also several non-contraceptive benefits associated with the use of contraception. This will be discussed more fully below.

First-time users of contraception will include persons in stable relationships as well as persons engaging in sexual activity without a stable or 'family' relationship having been developed.

Contraceptive methods can be broadly classified into four categories:

Highly reliable	• tubal ligation or vasectomy • depomedroxyprogesterone acetate injections • intrauterine contraceptive devices
Very reliable	• combined oral or transcutaneous contraception • deponorethisterone oenanthate injections
Reliable	• progestogen-only pills • male or female condoms with spermicides
Unreliable	• conventional methods of contraception

In all cases the objective of the practitioner must be to provide reliable or very reliable contraception with ease of use and with a limited side-effect profile.

Benefits of contraception

A huge benefit is that the prescribing physician has the opportunity to discuss relationships, sexuality, sexually transmitted infections (STIs) including HIV, as well as reliable use of a method with the potential user. Barrier methods help prevent the transmission of STIs. There are several non-contraceptive benefits of hormonal contraception (Table I).

Table I: Non-contraceptive benefits of oral contraceptives

1. Programmed menstruation
2. Decreased menstrual blood loss
3. Decreased menstrual symptoms
4. Decreased incidence of benign breast disease and ovarian cysts
5. Decreased incidence of anaemia and acne
6. Some protection against trichomoniasis and upper genital tract infections
7. Protection against development of ovarian and endometrial cancer
8. Reversibility – most women will return to normal fertility 11 to 3 months after stopping use of the pill

Options for first-time users

The recommended options for all first-time users are the following:

- Barrier contraception
- Combined oral contraceptives (COCs)
- Combined contraceptive patch

Barrier contraception

The male condom has been available for hundreds of years and was originally used for prevention of the spread of STIs. The condom is made from latex and is a single-use item to be placed on the penis during erection but prior to ejaculation. The female condom is a cumbersome polyurethane sheath that is inserted into the vagina prior to intercourse and covers the cervix, vagina and part of the vulva. It is available but unpopular in South Africa. Male condoms are currently pre-packed in a foil sachet containing a spermicide that also acts as a lubricant. Nonoxynol-9 and nonoxynol-11 are the most commonly used spermicides. On their own, spermicides are much less effective than condoms in preventing pregnancy. Used with condoms their value may be regarded as added prevention of pregnancy if small leaks have occurred from the condom. Condoms are recommended for couples with infrequent or unplanned intercourse when another reliable method such as COC

is not available. Persons at risk of transmission of STIs should use either male or female condoms, independent of whether hormonal contraception is utilised. Couples requiring short-term contraception, for example when a woman on a COC has to use an antibiotic that may decrease COC effectiveness, are also advised to use condoms.

Frequent use of condoms with spermicides may be associated with a contact dermatitis type of vulvo-vaginitis. The patient presents with pruritus and slight burning and sometimes a thin watery discharge. There are usually no other symptoms or any sign of infectious vaginitis. A change in contraceptive strategy is required.

Combined oral contraceptives (COCs)

COC preparations differ from one another on the basis of the following:

1. Phase: monophasic (with fixed oestrogen-progestogen dosage) or bi/triphasic (with varying oestrogen and progestogen dosages).
2. Dosage: low-dose or high-dose pills based on the hormone content per pill.
3. Type of progestogen: norethisterone, norgestrel, levonorgestrel, desogestrel, gestodene, norgestimate, drospirenone and cyproterone. The type of progesterone plays a major contributory role in the side effect and complication profile. A list of preparations with comments on the action is offered in Table II.

When choosing the most appropriate COC preparation the first rule is to start with the lowest effective dosage of one of the first-choice preparations in order to minimise side effects. The contra-indications for use of COCs are listed in Table III. The COC should be used for

Table II: Different types of COC

1. Gonane-containing preparations	Notes
Monophasic	
Ovral®: ethinyl oestradiol (EE) 50 μg, norgestrel 500 μg	These are highly progestogenic COC preparations but are also highly oestrogenic. These are not recommended for routine contraception but remain useful for management of abnormal uterine bleeding or for emergency contraception.
Nordiol®: EE 50 μg. levonorgestrel 250 μg	
Norinyl-1/28®: mestranol 0.05 mg, norethisterone 1 mg.	
Nordette®: EE 30 μg, levonorgestrel 150 μg.	This low-oestrogen-content COC is moderately progestogenic and therefore provides good cycle control. It remains a good first-choice preparation.
Femodene ED®, Minulette®: EE 30 μg, gestodene 75 μg.	These balanced low-dose third-generation gonane preparations are good first-choice preparations. Gestodene is androgenically neutral, leading to very few androgenic side effects.
Melodene®: EE 20 μg, gestodene 75 μg.	This is a very low- dose balanced preparation. Tablets should be taken at the same time each day due to the low oestrogen content, otherwise inhibition of FSH may not be adequate.
Marvelon®: EE 30 μg, desogestrel 150 μg.	This low-dose COC is oestrogenic because of the neutral androgenicity. It is a good first-choice preparation for persons needing some oestrogenicity.
Mercilon®: EE 20 μg, desogestrel 150 μg.	This is a very low-dose slightly oestrogenic pill with less than perfect cycle control. Tablets should be taken at the same time each day due to the low oestrogen content, otherwise inhibition of FSH may not be adequate.
Mirelle®, *Minesse®*: 15 μg EE and 60 μg gestodene.	This is an ultra-low-dose contraceptive. This is aimed at the woman with stable cycle control and who is very compliant. It should be taken daily at the same time.
Cilest®: EE 35 μg, norgestimate 250 μg.	This low-dose preparation contains more EE than other preparations.
Triphasic	
Triphasil®, Logynon ED®: Phase 1: 6 tablets of EE 30 μg, levonorgestrel 50 μg. Phase 2: 5 tablets of EE 40 μg, levonorgestrel 75 μg. Phase 3: 10 tablets of EE 30 μg, levonorgestrel 125 μg.	These balanced triphasic COCs are good first-choice preparations. They provide good cycle control.
Triodene®, Tri-Minulet®: Phase 1: 6 tablets of EE 30 μg, gestodene 50 μg. Phase 2: 5 tablets of EE 40 μg, gestodene 70 μg. Phase 3: EE 30 μg, gestodene 100 μg.	These balanced triphasics are good first-choice preparations. They provide good cycle control.
Trinovum®: Phase 1: 7 tablets of EE 35 μg, norethisterone 0,5 mg. Phase 2: 7 tablets of EE 35 μg, norethisterone 0,75 mg. Phase 3: 7 tablets of EE 35 μg, norethisterone 1 mg.	
Tricilest®: 7 tablets of EE 35 μg, norgestimate 0,18 mg. Phase 2: 7 tablets of EE 35 μg, norgestimate 0,215 mg. Phase 3: 7 tablets of EE 35 μg, norgestimate 0,25 mg.	These COCs have a higher oestrogen content than other preparations.
Biphasic	
Biphasil®: Phase 1: 11 tablets of EE 50 μg, levonorgestrel 50 μg. Phase 2: 10 tablets of EE 50 μg, levonorgestrel 125 μg.	This oestrogen-dominant preparation is used for women needing some oestrogenicity.
2. Pregnane progestogen preparations	
Monophasic	
Diane-35®, *Ginette®*, *Minerva® :* EE 35 μg, cyproterone acetate 2 mg.	These oestrogenic anti-androgenic preparations are used against acne and hirsutism.
3. Fourth-generation progesterone preparations	
Monophasic	
Yasmin®: 30 μg EE, 3 mg drosperinone	Drosperinone is the most recently used progestogen in a COC preparation. It pharmacologically resembles naturally occurring progesterone and also has some of the effects of spironolactone. The benefits are that it improves acne, the patient does not suffer from fluid retention due to the diuretic effect and it decreases menstrual and pre-menstrual complaints.

three to four months before a final assessment of acceptability of possible side effects is made. Either a monophasic or triphasic low-dose COC can be used as a starting prescription.

Table III: Contra-indications for use of COC

1. Absolute contra-indications
• Pregnancy • Undiagnosed vaginal bleeding • Patients > 35 years who smoke and have diabetes mellitus, hyperlipidaemia or gross obesity • History of ischaemic heart disease, cerebral vascular disease or arterial and/or venous thrombosis • Severe untreated hypertension • Focal migraine • Heart valve lesions • Hepatitis, history of cholestatic jaundice of pregnancy or gall bladder disease • Current breast or endometrial cancer
2. Relative contra-indications
• Diabetes mellitus • Epilepsy • Intestinal malabsorption syndromes • Major depression • Chronic renal or hepatic disease • Planned major surgery with immobilisation • Possibly porphyria

Common side effects of COCs

Patients using COCs may experience side effects that may indicate progestogen excess with oestrogen deficiency or oestrogen excess with progestogen deficiency. This should assist in deciding what preparation to change to should a change be contemplated.

Signs and symptoms of progestogen excess with oestrogen deficiency include the following:

- increased appetite
- acne, irritability, mood swings or depression
- headaches during use of the placebo tablets
- vaginal dryness
- shortened menstruation or amenorrhoea

In such cases a change to a more oestrogenic preparation should be considered.

Signs and symptoms of oestrogen excess and progestogen deficiency include the following:

- excessive menstruation and breakthrough bleeds
- mastodynia
- headaches during use of the active pills
- a white non-infectious vaginal discharge
- corneal oedema

In such cases a change to a more progestogenic preparation should be considered.

If any change of COC is contemplated the current packet should be completed and the new preparation started on the corresponding day during menstruation. The most common side effect is poor cycle control presenting as breakthrough bleeding. If this occurs in the first half of the cycle the endometrium does not proliferate adequately and breaks down; more oestrogen is required and a change to a more balanced or oestrogenic preparation may improve the situation. If the bleeding occurs in the last week of the cycle or if menstrual blood loss is heavy, the impact of the progestogen on cycle control is suboptimal. A change to a more balanced or progestogenic preparation could be considered.

Total loss of cycle control would require temporary use of a high-dose combined preparation. This should be taken for three to four months and then a balanced preparation should be used. Post-pill amenorrhoea rarely occurs for more than two to three months. Reassurance is required. Persistent post-pill amenorrhoea for more than six months is pathological and should be investigated, as in the case of other patients with secondary amenorrhoea.

Complications associated with COC use

There have been reports that gestodene- and desogestrel-containing drugs were associated with an increased risk for thrombo-embolic events and stroke in young persons, in particular young women who suffer from thrombophilias. It is therefore important to ask the patient about own or familial clotting disorders prior to prescribing one of these preparations. A positive answer should result in screening for the above-mentioned disorders, and alternative contraception should be planned. If the women are young and healthy a preparation containing gestodene and desogestrel can be used.

COC users older than 35 years who smoke and have concomitant heart or vascular disease have a high risk of thrombo-embolic disease. Drug interaction regularly occurs with COC use. The most common event is use of broad-spectrum antibiotics that change the constituency of the intestinal flora, resulting in reduced circulating levels of oestrogen and thus pill inefficiency. Other drug interactions are due to induction of hepatic microsomal enzyme action where the metabolism of the COC is accelerated and the preparation loses effectiveness. Such drugs include the following:

- anti-epileptic drugs phenytoin, barbiturates, carbamazepine, ethosuximide and primidone
- rifampicin and griseofulvin
- spironolactone
- chlorpromazine and chloral hydrate

The list of contra-indications to COC use is given in Table III.

Teenagers who are sexually active

Teenagers should be motivated to use COCs as prescribed and to avoid irregular use. The starting preparation should be either a low-dose (like *Yasmin®* and *Mercilon®* or *Marvelon®*) or an ultra-low-dose product (like *Mirelle®*).

Teenagers, like other women in possibly short-term or unstable relationships or those exposed to STI or HIV transmission, should be motivated to use 'double' contraception, namely COCs as well as condoms to minimise the risk of transmission of STIs.

The contraceptive patch

The contraceptive patch is a valuable new addition to contraception. Each patch contains ethinyl oestradiol 0.9 mg and gestodene 1.9 mg that are secreted or released from the patch on a dose-controlled basis daily for a week whereafter the patch must be replaced. It is important that the patch be placed correctly. The effectiveness, side effects and long-term effects mimic those of COCs. Heat, humidity and exercise do not impact on the pharmacokinetics of the patch but if the woman has a body mass of more than 90 kg effectiveness may be compromised. This is a popular modern choice of hormonal contraception. Often six active patches are used in sequence followed by one placebo patch. This way menstruation can be postponed.

The use of injectable contraception or intrauterine devices is not recommended for first-time users.

Emergency postcoital contraception

This is the use of a drug or device to prevent pregnancy after intercourse. This may be required after accidental intercourse, after condom breakage and after rape. In South Africa the most common method is to use ethinyl oestradiol 100 μg with 250–50 μg of norgestrel twice within 72 hours of the episode of intercourse and taken 12 hours apart. Another popular method is to insert a copper-containing intrauterine contraceptive device (IUCD) up to five days after the earliest estimate of ovulation but not later than seven days after intercourse.

Hormonal emergency contraception will prevent about 80% of pregnancies. This is influenced by the time of ovulation and the correlation with the episode of intercourse. The failure rate of the IUCD is less than 1%.

Counselling opportunities

The initial consultation provides a huge counselling opportunity. This can lay the foundation of future contraceptive attitude and use in the patient. Explanation of mechanisms of action, dealing with common side effects and attempts to maintain constant and consistent method use will all help decrease the later occurrence of contraceptive intolerance.

Much attention should be given to STIs. The first-time user has often had unprotected intercourse already. Confidentiality should be assured, especially in the case of a teenager.

The prescription of a contraceptive should always follow on a good discussion and never simply replace it.

Further reading

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