

ARTICLE

Contraception: Everyone's responsibility

M Patel, MB ChB, FCOG (SA), MMed O&G, Cert Reproductive Medicine (SA)

Reproductive Medicine Unit, Department of Obstetrics and Gynaecology, Groote Schuur Hospital and University of Cape Town, South Africa

Corresponding author: M Patel (m.patel@uct.ac.za)

Contraception and fertility planning should form part of every consultation, as it is key to reducing maternal mortality and morbidity associated with unplanned pregnancy. It also prevents pregnancy in women who are medically unfit for pregnancy until their condition has been optimised. This is only the tip of the iceberg compared with the social and economic burden of unintended pregnancy. The South African (SA) National Department of Health has recognised the importance of contraception and fertility planning. A national policy and guideline have been formulated that promote this agenda. In the past, the commonest contraceptives used in SA were the combined oral contraceptive and the injectable contraceptive. Long-acting reversible contraceptives (LARCs) offer the most benefit, and have efficacy comparable to permanent contraception. Their failure rates are the same for typical and perfect use. In addition, continuation rates after one year of use remain high. The intrauterine contraceptive device, the levonorgestrel intrauterine system and the injectable progestogen contraceptives form part of this group of contraceptives. The most recently launched LARC is Implanon NXT. A comprehensive guideline to assess suitability of the various contraceptive methods in various medical conditions is the World Health Organization Medical Eligibility Criteria for contraceptive use. Counselling is key to choice and suitability of contraceptive methods. Compliance, in part, is dependent on adequate discussion of side-effects, availability and acceptance of the method.

S Afr Med J 2014;104(9):644. DOI:10.7196/SAMJ.8764



Millennium Development Goal 5 addressed the need to improve maternal health by reducing the maternal mortality ratio by 75% and achieving universal access to reproductive health by 2015. This includes access to contraception.^[1] The Saving Mothers 2008-2010:

Fifth Report on the Confidential Enquiries into Maternal Deaths in South Africa (SA) quoted the institutional maternal mortality ratio to be 176.22/100 000 live births (4 867 deaths).^[2] The top five causes for maternal mortality were non-pregnancy-related sepsis (mainly HIV-related), obstetric haemorrhage, complications of hypertension in pregnancy, pregnancy-related sepsis and medical and surgical disorders. A key preventive measure to reduce the lifetime probability of dying from pregnancy-related causes is to ensure access to family planning.

According to the Population Reference Bureau, Family Planning Worldwide 2013, the lifetime risk of maternal death in SA is 1:140.^[3] The use of modern methods of contraception in married women or women in union was 59.8%, with injectable contraceptive use being the most prevalent at 28.4%, sterilisation 15%, the pill 10.9%, and male condoms 4.3%, while intrauterine device (IUD) use was the least prevalent at 1%. The implant was not available in SA at the time.

National policy

The SA National Department of Health (DoH) launched the National Contraception and Fertility Planning Policy and Service Delivery Guidelines and National Contraception Clinical Guidelines in 2012. Five key action areas were identified:

- providing quality contraceptive health services
- stimulating community awareness
- placing integration into practice – integration of contraceptive and fertility-planning services into other health services
- strategic multisectoral collaboration
- evidence-guided planning and provision.^[4]

Of importance is that the policy addresses the prevention and planning of a pregnancy, both of which need to be addressed within the context of HIV infection in SA. It also takes into account the needs of different groups of persons who may access the service, including adolescents, sex workers, lesbians, gay, bisexual, transgender and intersex persons, migrants, men, perimenopausal women and those with a disability or chronic condition.^[5]

In the past, two methods have dominated contraceptive use in SA, i.e. the hormonal oral contraceptive and the progestogen-only injectable contraceptive, but there is currently a move towards an expanded method mix. This approach includes promotion of existing methods, while addressing underutilised methods, such as the IUD. There is also a phased introduction of other long-acting reversible contraceptives (LARCs) such as the single-rod implant.

This government policy is closely aligned to the DoH frameworks and agreements for the National Service Delivery Agreement; the Millennium Development Goals 4, 5, 5b, and 6; the framework for sexual and reproductive health and rights; and the Campaign for Accelerated Reduction of Maternal Mortality in Africa.

Medical Eligibility Criteria

The Medical Eligibility Criteria (MEC) for use of contraception are published by the World Health Organization (WHO) as one of four evidence-based family planning guidelines.^[6] The other three guidelines include selected practice recommendations for contraceptive use, the decision-making tool for family planning clients and providers and family planning (a global handbook for providers).

The WHO MEC aims to assist in accessing quality care in family planning by reviewing the MEC for selecting different methods of contraception. These criteria represent the latest clinical and epidemiological evidence available on the safety of various forms of contraception in specific medical conditions. The website is regularly updated when evidence changes.^[6]

One such occasion followed the findings of epidemiological studies on hormonal contraception and HIV acquisition, progression and transmission. The WHO convened a technical meeting in 2012 to review the MEC for hormonal contraception and HIV. After deliberation of the evidence and analysis of the risk/benefit, it was decided that they would continue to recommend no restrictions on the use of hormonal contraception for women living with HIV or at high risk of HIV infection. However, they added a new clarification for women using the progestogen-only injectable contraceptive at high risk of HIV: 'Some studies suggest that women using progestogen only injectable contraceptive may be at increased risk of HIV acquisition, other studies do not show this association ... However, because of the inconclusive nature of the body of evidence on possible increased risk of HIV acquisition, women using progesterone only injectable contraception should be strongly advised to always use condoms, male or female, and other HIV preventive measures.'^[6] Evidence for the use of hormonal contraception, including the implant, for women using antiretroviral therapy is currently being reviewed again.

MEC is presented in table form and includes the medical condition, the type of contraceptive method and any clarification based on available evidence. It further divides method choice into initiation or continuation of treatment. A numerical grading system is used. Grade 1 indicates that the method is safe to use in a particular medical scenario, whereas Grade 4 indicates that the method is contraindicated. Grades 2 and 3 allow the prescriber to discuss the risks and benefits with the client.^[6]

Newer contraceptive methods – long-acting reversible contraceptives

LARCs are methods that require administration less than once per month. LARCs include the implant, intrauterine contraceptives (IUDs; the intrauterine system (IUS)) and injectable contraceptives. The advantage of LARCs is that the typical use equals the perfect use – which is similar to that of male and female sterilisation. The continuation rates of LARCs, as defined by the percentage of women continuing use at one year, remain high compared with other methods. Injectable contraceptives have for a long time been offered as a contraception choice in SA; therefore these will not be discussed further.

Implant

In SA, the Implanon NXT has been available since February 2014. Implanon NXT is a single-rod contraceptive implant measuring 40 mm × 2 mm, containing 68 mg of etonogestrel and delivering a daily dose sufficient to suppress ovulation over a 3-year period.

The percentage of women experiencing unintended pregnancy within the first year of use was the same for perfect and typical use at 0.05%.^[7] Eighty-four per cent of women continued use at 1 year, with the majority discontinuing treatment owing to bleeding abnormalities. Contraindications to the use of Implanon NXT include active venous thromboembolic disease, i.e. while a woman is on treatment for thrombosis, known or suspected sex steroid-sensitive malignancies, history of severe hepatic disease as long as liver function values have not returned to normal, undiagnosed vaginal bleeding or a known hypersensitivity to the active substance or any part of the excipients of Implanon NXT.

While no pregnancies were reported in study populations, in clinical practice pregnancies were related to insertion issues, making timing of insertion a critical step.^[8] Pregnancy should be excluded if Implanon NXT has not been inserted at a safe time in the menstrual

cycle. If no contraceptive method was used previously, insertion should be during days 1 - 5 of the cycle. If the woman was previously on a combined hormonal method including the pill, patch or ring, Implanon NXT should be inserted during the hormone-free week, but it may be inserted at any time if the woman is using a progesterone-only contraceptive. When using the injectable contraceptive or IUS, Implanon NXT is inserted when the next injected dose or device insertion is due. Alternatively, women may be informed that the onset of action of the implant is 7 days after insertion and that they must therefore use additional protection or continue using their existing method for 7 days.

The main issue with Implanon NXT is the change in bleeding patterns;^[9] this side-effect is responsible for women discontinuing use if they were not adequately counselled. The healthcare practitioner (HCP) should advise the woman that she may experience changes in the frequency, intensity and duration of menstrual bleeding. The bleeding pattern experienced in the first 3 months of use is usually indicative of the future bleeding pattern. Roughly 1 in 3 women continue with their normal menstruation, 25% will have 3 - 4 bleeds in a year, 20% will experience amenorrhoea and 1 in 6 will have nuisance bleeds. The suggested management for troublesome bleeding includes 2 - 3 cycles of combined oral contraceptive pills (including the placebos) and non-steroidal anti-inflammatory drugs.

Implanon NXT does not affect haemostasis or the serum lipid profile and results in mild insulin resistance. There have been concerns regarding bone mineral density and the prolonged use of progestogens. However, although the implant suppresses ovulation, oestradiol concentrations remain at levels noted in the early to mid-follicular phase.

Of clinical importance is that Implanon NXT is safe for use in obese and hypertensive women. It has the same MEC grading as the injectable contraceptive for use in postpartum and breastfeeding women and has a safer grading than the injectables for use in nulliparous women and adolescents.

Following removal of an Implanon NXT rod the etonogestrel levels are undetectable after a mean of 6 days (range 1 - 10 days), with reported return of ovulation within 3 weeks.^[10]

Intrauterine contraception

The IUD and levonorgestrel IUS are both available in SA and the former may also be used as an emergency contraceptive. The percentage of women experiencing an unintended pregnancy in the first year of use is the same for typical and perfect use for these two forms of contraceptives, with similar continuation rates at 1 year: 78% and 80% for IUD and IUS, respectively.^[12]

As previously noted, intrauterine contraception (IUC), including IUD and IUS, is underutilised in SA, which may be due to factors attributable to the healthcare system, the HCP or the end user. Common misperceptions held by the HCP surrounding the use of IUC in nulliparous women include: difficulty with insertion, pain and discomfort during and after insertion, higher risk of uterine perforation and expulsion, and the assumption that nulliparous women would not want an IUC although the evidence suggests otherwise.^[11-14] Patients also have misconceptions about IUC, mainly related to the presence of a foreign body. These as well as the use of IUC in HIV-positive patients are being addressed in large studies and promoted extensively in contraception and fertility planning training.

The IUS is marketed as Mirena[®] in SA and is a hormonal intrauterine system that provides contraceptive protection for up to 5 years. It comprises a T-shaped plastic frame with a cylindrical-shaped reservoir containing 52 mg of levonorgestrel, released at a

rate of 20 µg daily. Its action is based on its local effect and includes thickening of cervical mucus, disruption of normal function and movement of sperm inside the uterus and fallopian tubes, reduction in endometrial growth and a weak foreign body reaction. Ovarian function is altered only during the initial months. After the first year of use ovulation rates are similar to those in copper IUD (CuIUD) users.

The CuIUD consists of a small flexible frame with copper sleeves or wire around it. The copper ions released from the IUD lead to an inflammatory response in the uterus and are also toxic to spermatozoa and embryos.

The newest LARC registered for use in the UK and USA is the lower-dose levonorgestrel IUS. It is licensed for 3 years, only used as a contraceptive and contains 13.5 mg of levonorgestrel, with a release rate of 12 µg daily. The lower-dose levonorgestrel IUS is smaller than that of the Mirena[®] and the inserter measures 3.80 mm in diameter, making it easier to insert, and it has fewer side-effects than the latter. The addition of this LARC serves to widen the array of contraceptive choices available to women.

Women should be encouraged to discuss their fertility plans at clinical consultations, which should follow an integrated clinical approach. All HCPs should have knowledge of contraception. This opportunistic approach may introduce the woman to a variety of contraceptive options, remembering that she may have other issues related to fertility intentions. If necessary, preconception counselling may be offered. There is also a tendency to feminise contraception based on the perception that it is a woman's issue and responsibility, but wherever possible both partners should be involved.

Counselling provided by an expert caring for a woman with a complex medical or surgical condition emphasises the importance of contraception and fertility planning and gives the woman confidence that the contraceptive advice will not conflict with the treatment of her condition. Compliance and service quality require adequate counselling by appropriately trained staff with adequate

and appropriate equipment and supplies. Counselling must include information regarding effectiveness of the various methods available, their mode of action, correct use, potential side-effects, health risks and benefits. Women should also be given information on symptoms that necessitate return to the clinic. Return to fertility following discontinuation of use must be discussed as well as information regarding sexually transmitted infections.

References

1. United Nations. Millenium Development Goals and Beyond 2015. http://www.un.org/millenniumgoals/beyond_2015 (accessed 3 August 2014).
2. Health Systems Trust. Saving Mothers 2008-2010. Fifth Report on the Confidential Enquiries into Maternal Deaths in South Africa. Pretoria: Department of Health, 2012.
3. Population Reference Bureau. World Population Data Sheet: Family Planning Worldwide, 2013. <http://www.prb.org/publications/datasheets/2013> (accessed 15 June 2014).
4. National Department of Health. National Contraception and Fertility Planning Policy and Service Delivery Guidelines and National Contraception Clinical Guidelines, 2012. Pretoria: Department of Health, 2012.
5. National Department of Health. National Contraception and Fertility Planning Policy and Service Delivery Guidelines. A companion to the National Contraception Clinical Guidelines. 2012. Pretoria: Department of Health, 2012.
6. World Health Organization (WHO). Medical Eligibility Criteria for Contraceptive Use. 4th ed. Geneva: WHO, 2010. http://www.who.int/reproductivehealth/publications/family_planning/9789241563888/en/ (accessed 3 August 2014).
7. Trussell J. Contraceptive efficacy. In: Hatcher RA, Trussell J, Nelson AL, Cates W, Stewart FH, Kowal D, eds. Contraceptive Technology. 19th ed. New York, NY: Ardent Media, 2007.
8. Graesslin O, Korver T. The contraceptive efficacy of Implanon: A review of clinical trials and marketing experience. *Eur J Contracept Reprod Health Care* 2008;3(Suppl 1):4-12. [<http://dx.doi.org/10.1080/13625180801942754>]
9. Blumenthal PD, Gemzell-Daniellson K, Marinicheva-Petrova M. Tolerability and clinical safety of Implanon. *Eur J Contracept Reprod Health Care* 2008;13(Suppl 1):29-36. [<http://dx.doi.org/10.1080/13625180801960012>]
10. Davies GC, Feng LX, Newton JR, van Beek A. Release characteristics, ovarian function and menstrual bleeding pattern with single contraceptive implant releasing 3-ketodesogestrel. *Contraception* 1993;47(3):251-261.
11. MacIsaac L, Espey E. Intrauterine contraception: The pendulum swings back. *Obstet Gynecol Clin North Am* 2007;34:91-111. [<http://dx.doi.org/10.1016/j.ogc.2007.02.004>]
12. Marions L, Lovkvist L, Taube A, Johansson M, Dalvik H, Overlie I. Use of levonorgestrel releasing intrauterine system in nulliparous women – a non-interventional study in Sweden. *Eur J Contracept Reprod Health Care* 2011;16:126-134. [<http://dx.doi.org/10.3109/13625187.2011.558222>]
13. Hubacher D, Reyes V, Lillo S, Zepeda A, Chen PL, Croxatto H. Pain from copper intrauterine device insertion: Randomized trial of prophylactic ibuprofen. *Am J Obstet Gynecol* 2006;195:1272-1277. [<http://dx.doi.org/10.1016/j.ajog.2006.08.022>]
14. Veldhuis HM, Vos AG, Largo-Jansen AL. Complications of intrauterine device in nulliparous and parous women. *Eur J Gen Pract* 2004;10:82-87. [<http://dx.doi.org/10.3109/13814780409044540>]