

A promising future for contraceptive implants in Africa

Kerry Wright Aradhya, Senior Science Writer
Family Health International, Research Triangle Park, NC, USA

Contraceptive implants are a highly effective, long-acting, reversible method of family planning that can be safely used by the majority of women who wish to space or limit their pregnancies. Yet despite the advantages of implants, far fewer than 1% of the women in sub-Saharan Africa (with the exception of Burkina Faso, Ghana, and Kenya) use the method. Although a lack of availability has been a major problem in the region, that situation could soon improve.

Simpler implants

Norplant was the first contraceptive implant that was introduced to Africa more than two decades ago. It consists of six progestin-releasing capsules that are inserted under the skin of the upper arm. Although Norplant is being phased out, several new alternatives – primarily Jadelle and Implanon – are entering the market. These products generally have the same advantages and disadvantages as Norplant (see 'Continued use of implants'), but they differ in several important ways.

All of the implants release progestin from capsules or rods, but Norplant and Jadelle release a slightly different version of the synthetic hormone than Implanon does. The products also differ in the number of capsules or rods they use to deliver the hormone (see Table 1), and in the duration of their contraceptive effects. Norplant is labelled for 5 years of continuous use, although large studies have found it to be effective for up to 7 years. Jadelle has also been approved for up to 5 years of use, and Implanon for up to 3 years.¹



Implanon, one of the newer and simpler contraceptive implants beginning to enter the market

The biggest practical difference of the newer implants is that they are easier for a trained provider to insert and remove. Implanon takes only a quarter of the time to insert, with an insertion time of about 1 minute compared to 4 minutes for Norplant.² The removal times are about 2.5 minutes for Implanon, 5 minutes for Jadelle, and 10 minutes for Norplant.^{2,3} The newer implants also have fewer surgical complications such as bruising, pain, or broken implants.

Table 1 Long-acting implants in Africa

Tradename	Progestin type	Mode of delivery
Norplant	Levonorgestrel	6 capsules
Jadelle*	Levonorgestrel	2 rods
Implanon	Etonogestrel	1 rod

*Sinoplant-2 is a Chinese implant that is nearly identical to Jadelle but is currently available only in China and Indonesia. Efforts are under way to register the implant in Africa. If it is registered, its public-sector price is expected to be well below that of Jadelle.

Decreasing costs

Cost and donor support have historically been the largest barriers to the availability of implants in Africa. Among global donors in 2005, the average cost of an implant – US\$27 – was still at least 28 times higher than the cost of a copper IUD, an injectable contraceptive, or a packet of oral contraceptive pills.⁴

However, as alternatives to Norplant enter the market, the price of implants appears to be dropping. The US Agency for International Development recently secured a public-sector price of US\$21 for Jadelle, and public-sector prices are expected to be similar for Implanon.⁴ Although the upfront costs are higher for implants than for some other methods, over time implants are among the most cost-effective methods for a healthcare system.⁵⁻⁶

Another indicator that availability may soon increase is that the two-rod levonorgestrel-releasing implants were added to the World Health Organization's 'Model List of Essential Medicines' in March 2007. All items on the list – which are included on the basis of their safety, effectiveness, and cost-effectiveness – are considered necessary for a basic healthcare system.

Potential health impact

Scientists at Family Health International recently performed a modelling exercise to determine how improvements in the availability of implants might affect reproductive health.⁴ Kenya, which was one of the first countries in sub-Saharan Africa to receive Norplant through donor support, is the focus of their exercise.

The model is based on the relationships between different contraceptive methods and their associated rates of discontinuation and unintended pregnancies. Using the current number of reproductive-age women and current data on contraceptive use in Kenya, the scientists estimate the number of unintended pregnancies that could be prevented over a 5-year period if some oral contraceptive users switched to implants. If just 100 000 (26%) of the nearly 400 000 oral contraceptive users in Kenya switched to implants, more than 26 000 extra unintended pregnancies could be prevented over 5 years. In addition, about 260 maternal deaths would likely be averted as well.

Readiness for change

Only a very small percentage of African women use implants, but data from demographic and health surveys suggest that rates of use have slowly been increasing over the course of the past two decades in at least some sub-Saharan countries.⁷ The availability of implants may not be the only barrier to use, but a simpler and cheaper implant could dramatically affect the number of women who choose this highly effective method. Africa appears ready and poised to benefit from this change.

Resources

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Continued use of implants

Implants are among the most effective of all contraceptive methods. During a year of typical use, far less than 1% of the women who use them are expected to become pregnant. They also offer long-term protection against pregnancy and are among the most convenient of methods. Once inserted, an implant requires virtually no attention by a woman until she decides to have it removed. Once it is removed, fertility returns immediately.

Implants also have some of the highest continuation rates of any reversible contraceptive method. In small studies of Norplant use in Zimbabwe,¹ Senegal,² and Nigeria,³ at least 90% of the women were still using the method after 1 year.

Nevertheless, menstrual disturbances remain a barrier to continued use for some women. An analysis of more than 3400 Norplant users from 11 countries in Africa, Asia, and Latin America showed that women who menstruate for more than a week, bleed for more than a week between menstrual periods, or bleed excessively during menstruation are up to twice as likely as other women to stop using the method because of menstrual problems.⁴ Another study of 69 new implant users in Egypt found that each additional day of monthly bleeding increases a woman's chance of discontinuing use by about 2%.⁵

Healthcare providers should address potential menstrual disturbances when counselling a woman who wishes to consider implants. Providers should also recognise that such disturbances in a woman who is already using an implant may put her at risk of discontinuing use. Good counselling should also include information on contraceptive effectiveness, insertion and removal procedures, a woman's right to have her implant removed at any time, and all possible side effects.

Resources

1. Mitchel MJ, Thistle P. Acceptability of levonorgestrel subdermal implants versus tubal ligation for long-term contraception in a rural population of Zimbabwe. *Contraception* 2004; 70: 483–6.
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