

# IDRC

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# FEATURE

*A monthly features service on scientific, technical, and educational subjects pertinent to development.*

Words: 750 approx.

## DEMOCRATIZING FAMILY PLANNING

by JEAN-MARC FLEURY

Although family planning is now practiced in most developing countries, the means and knowledge to use the available contraceptive methods are generally only within reach of the upper and middle classes. According to Dr Elsimar Coutinho of Bahia, Brazil, the problem today is how to extend to rural peoples the right to choose when to have children.

After inventing the intra-uterine device and the pill, scientists turned to making fertility control more widespread through the development of new and less costly techniques that would require only minimal intervention on the part of the doctor. At a seminar organized in Ottawa by Canada's International Development Research Centre (IDRC), Dr Coutinho described two new methods that have evolved from the pill and one entirely new method now being perfected.

Dr Coutinho first outlined the research carried out in his Bahia laboratory on a hormone capsule that is inserted under the skin of the forearm or posterior. This capsule, made of silastic -- a silicone based plastic -- is 3 cm long and 0.5 cm in diameter and prevents pregnancy for periods varying from six months to ten years. It is simply injected under the skin with a needle, like an ordinary injection. The varying duration of the contraceptive is obtained by using different hormones that take more, or less, time to be released from the implant. When its wearer decides to have a child, a slight incision is all that is needed to remove the implant and restore fertility.

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The implant contains progesterones, one of the two hormones present in oral contraceptives, the other being estrogen. By omitting the estrogen which is usually considered to be the cause of the pill's undesirable side effects, the implant causes less problems than the pill, says Dr Coutinho.

The implant's second advantage is that the progesterone is released directly into the blood stream, therefore avoiding the liver. This organ does not usually play a part in the reproductive process, its main function being to produce substances that enable the body to assimilate food. However, when the liver receives a daily dose of hormones -- which is the case when the woman takes the pill -- its functioning is affected and the woman may, for instance, gain weight. By by-passing the liver, the implant avoids this, says Dr Coutinho.

The woman can also choose between an implant that will stop her menstruations for periods of up to 10 years, or one that will allow her to menstruate regularly while preventing pregnancy.

The second contraceptive method described by Dr Coutinho is a variation of the first. In this case, the hormone-releasing capsule is a ring, 5 cm in diameter, that is placed in the vagina. The woman can insert and remove the ring at will, without having to consult a doctor. "If she wants to menstruate every 30 days, she simply removes the ring on the 25th day and menstruates during the next five", explains Dr Coutinho. If not, she leaves the ring in place. Like the implant, the ring has very few side effects and those presently being tested are effective for one to two years.

The third and most revolutionary method is a promising anti-pregnancy vaccine developed by Dr G.P. Talwar of the All India Institute of Medical Research in New Delhi. To prevent conception, it mobilizes the body's own immunological mechanisms (the same mechanisms that, for example, cause rejection of transplants) against the hormone necessary for the survival of the embryo in the uterus. This hormone - chorionic gonadotropin - is produced by the fertilized ovum to create an environment favourable to its development in the woman's body. In the case of a "vaccinated" woman, the ovum no longer receives the necessary substances and it is expelled during menstruation as if conception had never occurred. The anti-pregnancy vaccine acts only when ferti-

lization has occurred and does not disturb the woman's hormonal balance. It is considered to be the most important breakthrough in the field of human reproduction to have occurred in a developing country. The IDRC is contributing \$1.5 million in support of Dr Talwar's research.

Further research during the next few years will be needed before these methods, particularly the vaccine, are widely available. Field trials are actually underway in Sweden, India, Brazil and the United States. But, says Dr Coutinho, the implant could be available today. If it is not, it is partly because of a lack of interest on the part of large pharmaceutical firms and partly because all countries insist on a thorough evaluation before accepting, and allowing distribution of, new pharmaceutical products.

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