

Standing in the warmth of the morning sun that falls across her doorway in the village of Abbas near Alexandria, Egypt, Mrs Fawzia El-Hady is nursing her child, a practice as universal and as old as time. Even though it has been 15 months since her child was born, Mrs El-Hady believes that she remains protected

lates the reproductive cycle. It is thought that the action of the baby's frequent sucking maintains high levels of prolactin: The stimulation of the nipples, received as a neural message in the hypothalamus region of the brain, is translated into a hormonal message to act on the pituitary to maintain prolactin production and milk supply.

A NATURAL CONTRACEPTIVE

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against another pregnancy because she is breast-feeding — and that the longer she nurses, the longer she delays the return of fertility.

She may be right. A natural mechanism triggered by breast-feeding has interrupted Mrs El-Hady's monthly cycle of ovulation and menstruation. Depending on how long and how frequently she suckles her child, this infertility — called lactational amenorrhea — could last as long as two years. This traditional method of spacing births, vital to the well-being of both mother and child, offers protection against pregnancy to more women than all other methods of contraception combined, according to family planning researchers. But with growing trends away from breast-feeding (see article, page 15) the traditional practice is losing its impact on fertility.

In Egypt, not many rural women use modern contraceptives. A three percent growth rate in a population of 43 million is taxing resources to their limit, and the contraceptive effect of breast-feeding could still play a very important part in programs attempting to slow population growth here.

Lactational amenorrhea is little understood. But as researchers continue to search for effective methods of family planning suited particularly to the needs and circumstances of rural people in developing countries, they are giving it much more attention.

They know that the effect is only temporary, and varies from woman to woman. Although Mrs El-Hady has been amenorrhic for 15 months, other women experience much shorter periods of amenorrhea, and some none at all.

The secretion of milk is promoted by a hormone called prolactin that the anterior pituitary gland produces in large quantities during pregnancy. Prolactin may also suppress the delicate hormonal feedback system that regu-

lates the reproductive cycle. It is thought that the action of the baby's frequent sucking maintains high levels of prolactin: The stimulation of the nipples, received as a neural message in the hypothalamus region of the brain, is translated into a hormonal message to act on the pituitary to maintain prolactin production and milk supply.

The frequency and duration of breast-feeding then, seem to determine the length of amenorrhea, although the mother's nutrition and any other type of contraception used may also play a role.

Dr Olfat Darwish, professor of nutrition at the University of Alexandria's High Institute of Public Health, set out in 1980 with an IDRC grant to investigate how the patterns of breast-feeding and nutrition of urban and rural women in Egypt influenced the length of this natural period of infertility.

Each month for two years, Dr Darwish and her research team have visited 260 rural mothers and 290 urban ones to gather data on diet, breast-feeding practices, state of amenorrhea, and use of contraception. The differences between rural and urban women emerged fairly quickly. Urban mothers more often combined bottle- and breast-feeding right from birth. They also switched from full to partial breast-feeding and started supplementing the baby's diet with other food earlier than rural women like Mrs El-Hady, who breast-fed for a longer period before supplementing. Rural women also tended to feed more "on demand," whenever the infant wanted. The duration of amenorrhea was shorter for urban women, pregnancy rates higher, and the interval between pregnancies shorter.

Thus, the length of the breast-feeding period was found to affect the duration of amenorrhea. Early weaning (and the end of sucking stimuli) brought an earlier return of ovulation and menstruation, and thus of fertility. Supplementing breast-milk with other food also results in a shorter period of amenorrhea than full breast-feeding.

"The mothers who breast-fed more fully or longer were able to postpone their pregnancy," notes Dr Darwish. "The others, the mixed feeders, got pregnant early, and often in spite of

their use of contraceptives, because they used the contraceptives irregularly."

The nutritional status of the mothers did not appear to affect the length of the period of amenorrhea: All of the women studied by Dr Darwish were mildly malnourished.

It is in redefining the relationship between lactational amenorrhea and modern contraceptive practice that Dr Darwish sees the application of her work. Family planning workers in developing countries put much emphasis on promoting contraception to women immediately following a birth: This is the time when women have the best access to contraceptive services and are most highly motivated to postpone another pregnancy.

At the same time, breast-feeding is being increasingly promoted for its nutritional, immunological and psychological benefits. Yet there is growing concern that hormonal contraceptives — while becoming the most widespread and effective method of fertility regulation — may adversely affect the quantity and quality of breast-milk and affect the health of the nursing infant in other ways. Ideally, women should have the option of not having to use hormonal contraceptives while they breast-feed, but still be protected against another pregnancy. (IUDs are not an efficient solution for the short period of protection required and, like condoms or other barrier methods, are unacceptable or unavailable to many couples.)

"I would like to see all mothers stick to breast-feeding as long as they can, and then after breast-feeding use contraceptives when it is convenient or indicated," says Dr Darwish. But it is unrealistic to expect that lactational amenorrhea can be manipulated to provide reliable contraception for the millions of women of different cultures and environments who need it, she points out. There are too many variables affecting the duration of amenorrhea, from individual genetic makeup to changing patterns of infant care in urban and rural societies.

Nevertheless, an understanding of how the mechanism operates and what its limitations are will enable family planners to offer women an additional contraceptive choice. "The method can be useful in rural areas, especially when the mother can lactate for a longer period of time. But it needs lots of effort to promote it. Because really, rural women don't know about how to prolong the state, about the relationship between breast-feeding and amenorrhea. If we can educate mothers to maintain breast-feeding for longer times, we can help them postpone the use of contraception." And after, when women do decide to seek contraception, both the time and the method will be appropriate — conditions that must be met if family planning is to have any success, Dr Darwish adds. □