Family planning in the year 2000

by Tabitha Standley and Alexander Kessler

The year 2000 is less than 20 years away. Will family planning have changed substantially by then? If we look back to 1960, and compare the forecasts made in 1960 for 1980 with what has actually taken place, some of them have come true, but much has happened which was not generally foreseen. Will the same be true of our predictions for the year 2000?

Family planning: 1960 to 1980

The "pill": In June 1960, the "pill" was first marketed in the USA and it was correctly foreseen that it would be widely adopted as a means of having children by choice rather than by chance. Between 60 and 80 million women are presently using it and more than 100 million have used it at some time. In some countries, however, such as the USA, use of the pill is decreasing, largely owing to fear of side-effects which, although of rare occurrence, have received disproportionate attention from the mass media. The pill has, in fact, become much safer since 1960 as studies have shown that the amounts of active drugs could be decreased significantly without lowering its almost 100 per cent efficacy.

The intra-uterine device: In 1960, interest was growing in intra-uterine devices (IUDs). Although different models were developed in the 1920s and 1930s, they had practically gone out of use in the next two decades. Availability in the early 1960s of inexpensive plastic devices led to the rapid introduction on a wide scale of IUDs such as the Lippes' Loop. Certainly by 1964, when the results of research became generally known, hopes ran high that a second new modern family planning method was becoming available. About 20 million women are presently using IUDs. Although this is a large number by any reckoning, it falls below what was anticipated, given that the IUD does not require the effort of daily pill-taking. Two main factors are responsible for the still restricted use of IUDs: shortage of skilled personnel for insertion of the device in the womb, and the unacceptable increase in menstrual blood loss and pain that IUDs frequently cause.

Sterilization: What was unforeseen in 1960 was the increase in demand for sterilization in the 1970s from both men and women in a number of countries, for instance in the United States and the United Kingdom. In the USA, 30 per cent of married couples are using sterilization to control fertility, more than are now using the pill. In 1975 in developing countries other than China, about one-fifth of all couples practising family planning had opted for sterilization. Worldwide, about 60 million women and at least 20 million men rely on sterilization to control their fertility.

The 1970s saw the simplification of techniques for female sterilization, including reduction in the operation scar, which served to make the operation more popular.

Abortion: Again, few would have foreseen in 1960, when family planning was still spoken of in most countries in guarded tones and discussion of abortion was avoided, that there would be such a liberalization of abortion laws in the next two decades. At present, two-thirds of the world's population reside in countries that allow abortion at the request of the pregnant woman, without specifying reasons, or that authorize it on very broad social or economic grounds. About 20 to 30 million legal terminations of pregnancy are estimated to take place each year, facilitated in part by advances in the techniques.

An unforeseen phenomenon has been the increase in abortions among adolescent girls, particularly in developed countries. In 1976 in the USA, for example, one-third of the 1.2 million abortions performed were obtained by teenagers.

Male methods: The big emphasis in 1960 was on methods of birth control for women to allow them to regulate their own fertility. In the 1970s the demand has been voiced increasingly loudly for methods for men, other than the condom and vasectomy. It has come, not only from Women's Liberation movements, but also from men who wish to share the responsibility for family planning. Use of the condom varies widely in different cultures: in developing countries, overall use is low, although in a few countries, such as India, the condom is popular. In the USA, condom use is still not surpassed mainly by sterilization and oral contraceptives. However, its use declined among married couples from 14 per cent in 1965 to 7 per cent in 1976. One of the big disappointments of the past decade has been the failure of research to come up with a "pill" for men.

Injectable contraceptives: One method of fertility regulation on which studies were only just beginning in 1960 was the injectable contraceptive for women. Demand from developing countries for an injection that need only be given once every three months is great. However, only one drug, depot-medroxyprogesterone acetate (DMPA), is widely available. Up to 10 million women have used it at some time, and about one and a quarter million women are using it at present. The number is not greater, partly because the drug stops menstruation in a substantial number of women, and partly because there has been continuing controversy about its long-term safety. The extensive scientific assessment of the drug in the past five years has shown no evidence for its causing cancer, or infertility after discontinuation of use. Nevertheless, it has become the target for attacks from various consumer and fringe groups in the USA and Europe which aim to ban its use in developed and developing countries, and these attacks have been accompanied by considerable publicity.
Everyone has a role to play in family planning care. A religious leader explains family planning to women in a mosque in Alexandria. (Photo WHO/M. Jacot)

Facing page: Building for the future: the Shanghai Institute of Planned Parenthood Research, already getting off the ground, reflects the priority China gives to research in this field. (Photo WHO/F. Webb)

"Natural family planning" methods: In 1960, there was considerable use in developed countries of traditional methods of birth control, such as withdrawal and periodic abstinence based on the rhythm and calendar methods. Figures here are very uncertain, but use has decreased from about 25 per cent of couples employing these methods in developed countries in 1960, to only a few per cent at present. This is due principally to the unreliability of these methods. In developing countries, use of these methods varies greatly in different cultures. An attempt was made in the late 1960s and early 1970s to determine more physiologically a woman’s fertile period in order to increase the efficacy of methods based on periodic abstinence. Scientific assessment of these “natural family planning” methods showed that, although they seemed effective when practised by highly motivated individuals, the period of abstinence required made them unsuited for widescale use.

Family planning programmes: Probably the greatest of all changes that were not foreseen in 1960 was the profound transformation of social and political attitudes to family planning as a human right, as a concomitant of health, and as an integral part of socio-economic development. In 1960, WHO was under a prohibition by its Member States from having anything to do with family planning. This is a far cry from the Alma-Ata Declaration of September 1978 which affirmed that family planning was a basic component of primary health care. The most concrete manifestation of the change in attitudes has been the development of national family planning programmes that now relate to over 90 per cent of the world’s population. This means that about 1,500 million persons of reproductive age should have access to information about family planning, to methods and to family planning care. Even if one subtracts from this figure the women who want to get pregnant and the men or women who are not sexually active, there is clearly a wide gap between this more than 1,000 million people and the numbers of users of birth control methods quoted above.

This gap was brought out in 1980 through the findings of the World Fertility Survey, which is bringing to light information on 350,000 women in 41 developing and 20 developed countries. The survey shows the immensity of the gap in some countries: for example, only ten per cent of all married women in Bangladesh, three per cent in Nepal and six per cent in Pakistan were using contraception. In these three countries, even among the women who did not want any more children, only ten per cent were employing any form of contraception. Figures for the sub-Saharan African countries are undoubtedly of the same order, ten per cent of women in Kenya practising contraception.

On the positive side, however, the survey shows an increase in family planning in a number of other developing countries. For example in Colombia, Thailand, the Republic of Korea and the Philippines the percentage of married women using contraception increased from about 15 per cent fifteen years ago to around 50 per cent ten years later. However, in some of these countries, many women are still
employing inefficient methods, for instance, 62 per cent of them in the Philippines and 57 per cent in Sri Lanka.

Overall we can therefore conclude that an unexpected social and technological revolution has taken place over the past 20 years, in an area where personal and cultural forces are so strong that rapid change could not be anticipated. A much greater proportion of people might have practised family planning had it not been for certain obstacles, of which two major ones are the inadequacy in many areas of a proper structure for family planning care, and the shortcomings of current birth control technology.

**Family planning and primary health care**

With the growing recognition of the importance of primary health care and of related socio-economic factors, there is a fair chance that the first of these obstacles will be surmounted by the year 2000. By then, the activities in family planning—and that includes diagnosis and treatment of infertility—will have been identified that are to be carried out by the people themselves, by the community, by the health services and by other structures, such as the school, the place of work and the mass media. This will define the appropriate support action required by the government for each of these categories. The mistakes made in the past in treating family planning as an isolated activity will, it is hoped, be avoided. Primary health care will also assure, at the very least, ready access to currently available methods, whatever their shortcomings might be.

**Birth control technology of the future**

The shortcomings of present birth control technology can most clearly be seen from the high rates of discontinuation of use reported in developed and developing countries. Even in countries where there is easy access to family planning care and to all methods, the continuing high rates of abortion and of unwanted births reflects to a great extent the failure of present methods to meet the needs of the users. Some types of methods for which there is demand are not available, for instance post-coital drugs for women or pills for men. Are we likely to be better off in the year 2000? The answer is yes.

Within the next ten years, research that is already in progress should—if support to it continues at least at the present level—have managed to bring about considerable improvements in current methods from the point of view of both the user and the system of care. For the user, they will have fewer side effects and be more appealing. For the care system, certain methods will be simplified and will require less highly trained personnel and less expensive facilities.

Between 1990 and 2000, if the research effort receives much greater funding as of today to allow essential basic studies to be started immediately, several entirely new approaches to birth control may be available. These are much needed, since one of the lessons learned in family planning in the past 20 years is that a great variety of methods are required to meet individual needs and preferences at different stages of the life cycle.

**Within the next ten years:** The next ten years should see some improvement in the daily pill for women, with reduction in some of the common side-effects, such as nausea, vomiting or disturbances of the menstrual cycle. The serious side-effects, such as thromboembolism, might become even rarer. Research is also being pursued with the presently-used constituents of the pill in formulations that will allow them to be deposited in fatty tissue and subsequently slowly released from the storage site. This would convert the daily pill to a once-a-week or once-a-month pill.

IUDs that will cause no increase in menstrual bleeding and little pain are currently being tested in large numbers of women. Present studies focus on assessing their safety and on extending to at least ten years the period during which they can be left in the womb.

By 1990, new injectable contraceptives should be available allowing women to choose whether they want an injection every month, or every three or six months, with less disturbance of the menstrual cycle than from present injectables. There may also be available even longer-acting implants—one to five years—that can be inserted under the skin and removed if the woman wishes to have a baby or has unpleasant side-effects from the drug released by the implant.

In addition to improvements on current methods, the results of continuing research and development should also greatly simplify some current approaches, for instance: sterilization for women that does not involve surgery but in which the tubes are closed off by a chemical substance instilled through the womb; termination of pregnancy by using drugs rather than the present vacuum aspiration or surgical methods; home kits by which a woman could predict accurately her fertile period, thus reducing significantly the period of abstinence required by present natural family planning methods. Small devices are already at an advanced stage of clinical testing that can be placed by women deep in the vagina, and can be left in position for one month or more; the contraceptive action is achieved by release of very small quantities of steroids from the device.

**The 1990s:** The end of the present decade, but more likely the 1990s, should see some really new developments in birth control technology. A vaccine might by then be available by which a woman's immunological processes would automatically prevent fertilization, or would act against the earliest stages of pregnancy before she was even aware that conception had occurred. Research going on at present into such vaccines aims at giving them a limited duration of action, one to five years, so that fertility would be restored after that time. A woman could then choose to have another child or become immunized. It is thought at present that a vaccine for men might irreversibly destroy their fertility, and very little research is therefore pursuing this line.

A number of drugs have been tried in recent years for fertility control for men, but none so far have proved satisfactory. They either are toxic, or decrease libido, or cause other undesirable side-effects, or do not sufficiently inhibit sperm production. One substance, derived in China from cotton-seed oil, "gossypol", may be promising if chemists succeed in separating its antifertility components from those that cause toxic effects. It is generally believed that little progress can be made in developing a pill or an injectable contraceptive for men unless a far greater effort is devoted, starting immediately, on basic research into male physiology, where there are still great areas of the unknown.

There are good hopes that, within the next twenty years, scientists will come up with birth control pills that can be used in different circumstances: a safe...
post-coital ("morning-after") pill, one to be taken when a woman notices her period is late (menstrual-inducer), or one, based on new compounds, that could safely and effectively be taken regularly once a month.

**Why does all this take so long?** Since research is already in progress on these contraceptives of the future, why will it take up to ten or twenty years for them to become available? There are four main reasons. One is that the development of fertility regulating methods is a highly complicated and lengthy process. The statutory requirements for safety testing are more stringent than for any other drug since the methods are to be used by healthy people for long periods of time and with little medical supervision. Another is that all research and development is subject to great uncertainties; many promising lines fall by the wayside.

Thirdly, our knowledge of reproductive physiology is still deficient, and we are beginning to know more about the rings of Saturn than about production of sperm in the testis. This is partly a reflection of the lack of investment by society in this field, which is the fourth main reason for the slowness of progress. Biomedical research is a poor relation in the research family, if compared for instance to nuclear physics. But within biomedical research, reproduction and contraception receive no more than one or two per cent of the pie! Indeed, funding to the field has not even kept up with inflation over the past 10 years.

**WHO’s effort**

This is despite the fact that WHO, at the request of its Member States, has mounted a major research effort in human reproduction. The response that this programme has received from policy makers, scientists and clinicians has shown their perception of the social relevance of the problem and the intellectual challenge it poses. In 1980, the WHO Special Programme of Research, Development and Research Training in Human Reproduction brought together talents, skills and resources from 85 countries, of which 57 are developing countries.

The Programme has four main objectives: strengthening capabilities in developing countries for research in this field; promoting and supporting collaborative research on the safety of current birth control methods, the development of new techniques, operational and psychosocial aspects of family planning, and infertility; worldwide coordination of research efforts; and dissemination of information to policy makers, service personnel, scientists and the public.