CHAPTER 13

SUMMARY AND POLICY IMPLICATIONS

The 1991/1992 Yemen Demographic and Maternal and Child Health Survey (YDMCHS) is the first national survey of Yemen since unification of the Yemen Arab Republic and the People’s Democratic Republic of Yemen into a single country, the Republic of Yemen, in May 1990. It is a nationally representative survey of ever-married women age 15-49 and children under five. All governorates and the city of Sana’a were covered by the survey. The objective of the YDMCHS was to gather reliable statistics on fertility and mortality, levels of family planning knowledge and use, and maternal and child health. While the survey was being implemented, a national strategy for population was adopted and the First National Population Policy Conference was held in 1991.

Fieldwork for the YDMCHS was conducted over a two-month period between November 1991 and January 1992. Information was collected from 12,836 households, 5,687 ever-married women age 15-49 years, and 6,715 children under five years.

The survey collected information on a number of important topics: child morbidity and mortality, factors affecting child health (e.g., vaccinations, curative measures, and feeding and weaning practices), various aspects of maternal health care, marriage, fertility, family planning, and reproductive preferences and attitudes. The YDMCHS also provides data on fertility, mortality, and family planning comparable to the 1979 Yemen Fertility Survey, which was conducted only in the northern and eastern governorates.

This chapter provides a summary of the main features of the health and demographic situation in the Republic of Yemen according to the YDMCHS findings presented in the preceding chapters. Also presented in this chapter are the conclusions and implications of the survey results for health and population activities and for program and policy recommendations in Yemen. Because maternal and child health are the primary concern of the survey, the following summary is presented with that focus, and topics are not necessarily presented in the order followed in the main body of the report. High infant and child mortality are consequences of poor maternal and child care, inadequate socioeconomic and environmental conditions, poor feeding and nutrition habits, and low vaccination rates. In addition, early marriage, pregnancy at too young or too old an age, too many births, and short intervals between births are contributing factors affecting the health of mothers and children. Improved and accessible health care and greater fertility regulation, however, will reduce morbidity and mortality rates among young children, increase child survival, and contribute to safe motherhood.

I. SUMMARY OF FINDINGS

Infant and child mortality levels are high in Yemen, but currently show a downward trend. Almost 1 in 5 children die before their fifth birthday. Women 45-49, at the end of their reproductive years, have borne an average of eight children, of which two have not survived.

The neonatal mortality rate is 37 deaths per 1,000 births for the five-year period preceding the survey and has been declining slowly from a level of 72 deaths per 1,000 births for the period 1968-72. The corresponding postneonatal mortality rates are 46 and 122, respectively. Infant mortality and under-five mortality rates declined slowly in the 1970s, and hit a plateau in the 1980s. Infant mortality dropped from 194 deaths per 1,000 live births during 1968-72 to 83 during 1978-82, or a decline of 57 percent; under-five mortality dropped from 305 deaths per 1,000 births to 122, or a decline of 60 percent during the same period.
Indirect methods of estimation yield similar results. With these observed trends, it is doubtful whether Yemen will achieve the United Nations target of an under-five mortality rate of 70 by the year 2000. Greater effort and resources would need to be committed to preventive and curative health measures for mothers and children.

Differentials in child survival by place of residence are significant. For example, for the ten-year period preceding the survey, the infant mortality rate was 89 deaths per 1,000 births in urban areas and 100 per thousand births in rural areas; under-5 mortality rates were 116 and 142 deaths per thousand births in urban and rural areas, respectively. Mother’s education is associated with child survival. Children of educated mothers have a greater chance of survival than children of illiterate mothers.

Reproductive factors, such as maternal age, birth order, length of the previous birth interval, and maternal care mothers receive before or during delivery, play an important role in child survival. Children born to very young or very old mothers pose a higher risk of death for both mothers and children. When the preceding birth interval is under two years, both infant and under-five mortality rates are doubled, compared to rates for births following an interval of two years or longer. In addition, children of mothers who received no health care before or during delivery are twice as likely to die before one year of age as children whose mothers received both antenatal and delivery care.

Environmental factors, such as better flooring material, access to piped water, cleanliness around the house, and less crowding are associated with lower rates of infant and under-five mortality in Yemen. The results for urban and rural areas are not consistent for some of the environmental factors. For example, keeping farm animals inside the house has no effect on infant mortality, but the practice does affect rates for non-infant child mortality and under-five mortality in urban areas.

Fever, diarrhea, vomiting, cough, and breathing difficulties are the most common symptoms that preceded death of children under five years of age. Minor differences are observed in the order of importance of these symptoms by age of death of child. Many of these disease related infant and child deaths are preventable by following certain basic hygienic principles. Use of oral rehydration therapy (ORT) for treatment of diarrhea, and early detection and treatment of acute respiratory illness would contribute to a reduction of infant and child mortality in Yemen.

The antenatal, delivery, and postnatal care that mothers receive is important to the health, well-being, and survival of both children and mothers. The level of antenatal care (ANC) in Yemen is very low. The YDMCHS results indicate that mothers of only one-fourth of births in the five-year period preceding the survey made at least one antenatal care visit to a nurse/midwife or doctor. In the majority of cases, the first visit is made to confirm the pregnancy or to consult a physician regarding complaints; follow-up ANC visits are mostly made for complaints. In about 7 of 8 births, the checkup with a medical professional involved consultation with a doctor.

Higher proportions of births receive antenatal care in urban areas and in the southern and eastern governorates, compared to rural areas and the northern and western governorates. While only 1 in 5 births whose mothers have no education received ANC, over 1 in 2 births to mothers with primary education, and 3 in 4 births to mothers who attended more than primary education, received ANC.

One in 3 currently pregnant women who had no ANC reported that she had no complaint to warrant an ANC visit. Other reasons given by pregnant women for not having any ANC visit relate to accessibility of services, i.e., services were not available, were too far away, or cost too much. Accessibility and quality of care are major issues for policymakers and service providers in the health field. Substantial proportions of responses indicate ignorance of the need for ANC. Many women do not consider it necessary to have
antenatal care unless there is a problem with the pregnancy. This lack of understanding of the general need for an ANC check-up clearly suggests the importance of launching campaigns emphasizing that all mothers should receive antenatal care, not just those with complaints.

Among women who sought antenatal care, health facilities for ANC are not perceived to be close. Motorized transport is used by almost three-quarters of currently pregnant women for ANC visits. About one-third of pregnant women who made ANC visits reported that the trip took less than 30 minutes, while one-third reported that it took more than two hours. More than half of the ANC recipients stated that the waiting time was more than 30 minutes.

Neonatal tetanus, a major cause of infant deaths in developing countries, can be prevented if mothers receive tetanus toxoid vaccinations. For 1 in 7 births in the five years preceding the survey, mothers received one or more doses of tetanus toxoid while only 1 in 10 received two or more doses. Births in urban areas, in the southern and eastern governorates, and to educated mothers are more likely to receive protection against tetanus than births in rural areas, in the northern and western governorates, and to less educated mothers.

The fact that the proportion of births covered by tetanus toxoid is lower than proportion of births that received ANC, indicates missed opportunities for providing tetanus coverage at the time of ANC. The reasons for not providing tetanus toxoid at the time of ANC should be studied, and a strong message should be sent to all public health service outlets to not miss such opportunities to provide tetanus vaccinations.

Three of 5 currently pregnant women in Yemen reported that they suffered from some health conditions. The YDMCHS findings indicate that almost one-fourth had swollen ankles and fingers, one-half had persistent headaches, one-third had convulsions, and one-sixth had high blood pressure. Very few pregnant women were taking medications such as vitamins.

In the five years preceding the survey, 5 of 6 deliveries took place at home—6 of 10 in urban areas and 9 of 10 in rural areas. Births that are delivered at home are more likely to be delivered without assistance from anyone, whereas, births delivered at health facilities are more likely to be delivered by trained medical personnel. About half of deliveries in Yemen are assisted by a relative and one-fifth by a traditional birth attendant (jidda or daya). Medical doctors assist in only 11 percent of deliveries. Distance to health services, high costs, lack of available services, and the preference for home delivery were the main reasons for having a delivery at home.

Neonatal tetanus, which may result in death, is generally caused by unsterile cord-cutting practices or by applying infectious dressings to the umbilical stump. Among births that did not take place in a health facility, the most widespread practice for cutting the umbilical cord is the use of a razor or knife (3 in 5 deliveries), and then the use of a hot iron, and kohl for the cord dressing.

Postnatal care is even less common than antenatal care in Yemen. Postnatal care is sought for only 1 in 16 births. Doctors and nurses/midwives provided such care for most of the mothers who received postnatal care.

Both children and mothers are affected by infant feeding. Frequency, duration, and amount of feeding affect a child's nutritional status and survival. Virtually all children in Yemen are breastfed. Almost 95 percent of last births were breastfed. The early death of a child is the main reason for not breastfeeding.

Breastfeeding is continued for a relatively long period. The average duration of breastfeeding is 17 months. Less than 10 percent of births in the five years prior to the survey were weaned under three months.
of age. While no substantial differences are observed in the prevalence of breastfeeding by place of residence and mother’s education, significant variations in the mean duration of breastfeeding are noted. Breastfeeding duration is shorter for births to women residing in urban areas (15 months) than to those residing in rural areas (17 months).

Breastfeeding is widespread in Yemen; more than half of all infants are bottlefed. Differentials in bottlefeeding by mother’s education are striking. While almost half of last births to illiterate women were bottlefed, almost three-fourths of children whose mothers had more than primary education were given the bottle.

Weaning practices are generally associated with age at weaning, although, pregnancy is often a reason for weaning a child before two years of age. Reasons for weaning in early infancy are usually involuntary, namely, that the child refused, or the mother became pregnant, or the mother had no milk or insufficient milk. In later infancy, and for children weaned at 12-17 months, the mother’s pregnancy becomes the major factor determining the time of weaning. For weaning at age 12-17 months, the primary reasons, after mother’s pregnancy, are that the child is considered old enough to be weaned, or the mother has no milk or insufficient milk. Generally, mothers stop breastfeeding when their children reach their second birthday and are considered old enough to be weaned.

One of the primary mechanisms for improving child survival is increasing the proportion of children vaccinated against the major preventable childhood diseases (tuberculosis, diphtheria, whooping cough, tetanus, polio, and measles). Overall, 3 in 5 children under five years receive at least one vaccination against childhood illness. Two in 5 children have completed the primary schedule of immunization and are fully immunized. Urban mothers, educated mothers, and mothers living in the southern and eastern governorates are more likely to have their children vaccinated than less-educated mothers and those residing in rural areas or in the northern and western governorates.

The YDMCHS results indicate that a substantial proportion of mothers not only fail to have their children fully vaccinated, but also do not have them vaccinated at the recommended ages, which greatly diminishes the effectiveness of the vaccination. Distance to place of vaccination, lack of awareness of the need for vaccination, or belief that a child is too young for vaccination are the main reasons reported for 6 of 10 children who either were not vaccinated at all or had not completed the full vaccination schedule. Rural women and women residing in the northern and western governorates gave, as one of the main reasons for not (fully) vaccinating their children, that the place of vaccination was too far away, while urban women or women living in the southern and eastern governorates said that the child was too young for vaccination. The reasons cited for inadequate vaccinations pinpoint two deficiencies in the health system: (1) not having accessible health facilities (and not conducting special vaccination campaigns), and (2) not educating people about the need for vaccinations even for very young children. The need for vaccination of children can be impressed on mothers during the ANC visits, at the time of delivery, or when other contacts are made with health personnel. Similarly, the need to space births and the importance of ANC and tetanus toxoid vaccination during the next pregnancy can be emphasized at the time the mothers bring their children for vaccination.

Higher levels of morbidity reflect poor health and imply greater risk of dying. Diarrheal diseases are among the leading causes of infant and childhood deaths in Yemen. Overall, 17 percent of children under age five were reported to have had an episode of diarrhea in the 24 hours before the interview, while 34 percent had diarrhea during the two weeks preceding the survey. One in 2 children who had a diarrheal episode was reported by the mother (or other person who was the respondent for the Child’s Questionnaire) to have a severe case of diarrhea. In the northern and western governorate the prevalence rate of diarrhea is three times that in the southern and eastern governorates.
Use of oral rehydration salt (ORS) for treatment of diarrhea depends on the mother’s recognition of the severity of the illness, her knowledge of ORS and its sources of supply, and her skills and motivation for its effective use. Around 6 of 10 mothers have heard of ORS; higher levels of knowledge is reported among urban and educated respondents and respondents residing in the southern and eastern governorates than among rural and uneducated mothers and those residing in the northern and western governorates. About half of the respondents who had heard of ORS mentioned private pharmacies as a source for ORS packets while 2 in 5 reported public health facilities as a source. Respondents residing in the southern and eastern governorates were much more aware of public health facilities as a source for ORS than women residing in the northern and western governorates. Although there is general awareness of ORS, and a substantial proportion of respondents have had experience preparing the solution, only 1 in 4 mothers used it as a treatment during the last episode of their child’s diarrhea. Six in 10 children received neither ORS nor medical advice. For those children for whom no outside advice was sought, it was mainly because no health facilities were available, or the child’s illness was perceived as mild, or the mothers were busy.

Respiratory illnesses are another important public health problem which affects child survival. During the two weeks prior to the interview, half of the children experienced a cough. About half of the children who had a cough also had difficult breathing. The percentage of children experiencing cough is higher in rural areas and in the northern and western governorates than in urban areas and in the southern and eastern governorates. Almost 1 in 2 mothers reported that their children did not receive any treatment for cough, and when they did, cough mixture was the preferred treatment; only a small proportion were treated with antibiotics.

Measles is one of the leading causes of death among young children in Yemen. The YDMCHS findings indicate that among living children under five years of age 15 percent are reported to have had measles. A similar pattern was observed by place of residence and mother’s education. While vaccination programs have achieved some success and the majority of children have been vaccinated against measles, these programs have not yet been able to achieve the results that they had hoped for. To be effective, measles vaccination should be administered before a child’s first birthday. An investigation should be made of the reasons for the low level of reported measles in Yemen. The low level of measles vaccination may have resulted because people in some areas of the country are not inclined to immunize their children, or vaccination services are not provided there in a regular manner, or both.

Almost half of children under five had fever in the two weeks preceding the interview. Differentials are similar to those observed in diarrheal and cough infections. Only 6 in 10 respondents stated that some medication was given for fever, usually aspirin.

Studies have shown that early age at marriage, and the subsequent teenage pregnancies, negatively affect child health and result in higher infant and child mortality. Almost all Yemeni women marry during their lifetime. Consanguineous marriage is quite common in Yemen: among ever-married women 15-49, almost 2 in 5 reported having a blood relationship with their husbands. About 6 percent of currently married women lived in a polygynous union (i.e., married to a man who has more than one wife).

Overall, among all women 15-49 years, about 1 in 4 have never been married, 72 percent are currently married, 2 percent are widowed, and another 2 percent divorced or separated. Nine of 10 women in Yemen have been married only once. The proportion who have been married more than once increases with age, from 5 percent among women age 20-24, to 20 percent among women who are in their forties.

Young age at marriage tends to lead to young age at first birth. Births at a young age contribute to ill health and death in children. Over the last thirty years, there has been some decline in early marriage in Yemen. While the median age at marriage for women 30-49 years is 15.7 years, it has increased for women.
age 25-29 (16.2 years). The YDMCHS results also indicate that half of women age 20-24 now marry after age 18, i.e., more than two years later than the national average. No urban-rural differentials are observed for median age at marriage.

Level of education plays an important role in determining woman’s age at first marriage. Increasing educational opportunities for women will contribute to the decline in early marriage and to the upward trend in age at first marriage.

High parity and short birth intervals are known to influence child health and survival. The average number of children ever born for all currently married women in Yemen is very high (4.9 children), and exceeds 8 for those age 45-49. These results reflect a high level of fertility in Yemen. Less than 2 percent of currently married women age 40-49 are childless. Among women age 30-34 years, the average number of children was 5.5, while women age 35-39 reported an average of 6.9 children. One-fourth of women age 40-44 and one-third of those age 45-49 have given birth to 10 or more children.

Women and children are at greater risk of sickness and death due to the complications of pregnancy and delivery if the pregnancy occurs among women under the age of 20 or over the age of 35. Among all women, more than 1 in 7 age 15-19 have begun childbearing. Fifty percent of Yemeni women age 25-49 have had their first birth before age 20. The incidence of very early childbearing might have increased slightly over time. The median age at first birth decreased from almost 23 years for women age 45-49 to 20 years for women under 35 years of age. One-half of women aged 25-34 gave birth to their first child before age 20, while one-third of women aged 40-44 gave birth to their first child before their twentieth birthday. In addition, one-fifth of 19 year old women have already had two children. The high proportion of births among the youngest and oldest age cohorts indicates that a serious health and social problem exists and needs to be addressed.

The total fertility rate (TFR) for Yemen is 7.7. Differentials in fertility by place of residence and level of education are notable. The TFR for urban areas and the southern and eastern governorates is about 5.5 births, compared to 8.2 for rural areas and the northern and western governorates. Illiterate women have a much higher TFR (8.1) than women with primary education (5.7) or women with more than primary education (3.5).

Current fertility, measured by the proportion of women reporting a current pregnancy, indicates that at the time of the survey this proportion was 18 percent of currently married women and 13 percent of all women. Differentials by place of residence or geographic region are observed. Urban-rural differentials by age show an interesting pattern; in urban areas women under age 25 report much higher pregnancy rates than rural women, but rural women have higher proportion currently pregnant among women 25 and over. Women residing in the northern and western governorates reported higher pregnancy rates (19 percent) than women residing in the southern and eastern governorates (15 percent). The proportion of currently married women reporting a pregnancy shows no pattern by the number of children; however, high pregnancy rates are observed among women with at least five surviving children. Pregnancy and births to these women increase the risks to life and health of both mother and child and should be avoided or at least minimized.

Overall, one-half of currently married women in Yemen wanted to have more children. Only 1 in 3 women wanted to cease childbearing. While the proportion of women desiring more children decreased steadily with the increase in the number of living children, about one-fourth of women with six living children or in the age group 40-44 still want to have more children. One-third of women in rural areas do not want any more children, compared to almost one-half of urban women. No significant differences are detected between women residing in the northern and western governorates and those residing in the southern and eastern governorates, or by educational level.
The ideal family size in Yemen is 5.4 children. Differences by mother's level of education are substantial, compared to urban-rural and regional differentials. Women with primary or higher education desire, on average, 3.8 children, while illiterate women desire 5.6 children, or almost two children more. Husband's ideal family size, as perceived by the wife, was even larger than the wife's ideal family size (6.4 children).

The preferred type of family composition is the balanced-gender family—i.e., equal numbers of boys and girls—even though there are some indications of son preference. For Yemeni families with balanced sex composition or with no children, there is almost no gender preference.

Knowledge of fertility regulation is not widespread in Yemen. Only 60 percent of currently married women have heard of at least one method of family planning. The most widely known method is the pill, which was known by more than half, followed by the IUD, injection (one-third), and female sterilization (one-fourth). Differentials by place of residence and region and level of education were quite substantial. Younger women, educated women, and women living in urban areas and in the southern and eastern governorates reported higher levels of knowledge of family planning.

Nonuse of family planning, which results in higher parities and shorter birth intervals, affects child survival. The level of contraceptive use is very low in Yemen. About one-fifth of all ever-married women have ever used at least one method to regulate their fertility; only 13 percent have ever used a modern method. However, the survey results indicate that once women decide to adopt contraception, they do so at a fairly early stage in the family building process. Almost one-fourth of all ever-users began using contraception when they had only one child. This early use of contraception is probably for purposes of spacing rather than for stopping childbearing; half of ever-users mentioned spacing as the reason for first use.

The percentage of current users of family planning (including prolonged breastfeeding) among all currently married women is 10 percent; excluding breastfeeding it is 7 percent. However, because of the relatively common use of traditional methods compared to modern methods, current use of modern methods is only about 6 percent. Contraceptive use varies substantially by socioeconomic variables. Current use of any method, for example, is 28 percent among urban women and 39 percent among women with more than primary education.

Only one-fourth of women, or just half of those who have heard of any modern method, know where to go to get a family planning method. The public sector, including nongovernmental organizations, is a major provider of family planning in Yemen. It provides methods to 6 of 10 users of modern methods. Pharmacies are the major source of contraceptive methods, providing modern methods to one-fourth of those who want to regulate their fertility.

There are many obstacles to the use of family planning in Yemen, the most important of which is that most women do not plan to ever use a method. Only 16 percent of currently married women who are not currently using any method intend to use a method in the future. Among nonusers, almost half reported that their method of choice is the pill, while in 7 preferred either injection or the IUD. The main reasons given for nonuse are: lack of knowledge (one-fourth), disapproval of husbands (16 percent), religious prohibition (15 percent), and fear of side effects (10 percent). Religious prohibition was mentioned more often by older women, while disapproval of husbands was mentioned more often by younger women.

Family planning efforts should initially be directed at identifying those women who want no more children, in order to assist them in realizing their desired family size (which may be well below the actual number), for the welfare of the child, the mother, and the family and community. Simultaneously, information and educational efforts should be directed at changing misconceptions about and negative
attitudes toward family planning and to vigorously promote child spacing as a means of increasing child survival and reducing maternal mortality.

II. POLICY RECOMMENDATIONS

In mid-1990, the population of Yemen was estimated at 11.3 million, based on a crude birth rate of about 54 per thousand and a crude death rate of 23 per thousand. The annual rate of growth is high, approaching 3.1 percent, and has resulted in an age structure in which 52 percent of the population is below 15 years of age. The resulting dependency ratio is above one. An increasing proportion of the population lives in urban areas, such that the urban-rural ratio is about 1:4.

Low levels of social and economic conditions constitute an important dimension of the health and demographic setting in Yemen. These characteristics, in terms of health, nutrition, illiteracy, education, life expectancy, and the status of women, have been associated with low rates of labor productivity and, hence, with only moderate rates of socioeconomic development. Most recent estimates indicate that (1) infant mortality rate is about 130 deaths per 1,000 live births, (2) literacy rates are only 49 percent for males and only 8 percent for females, (3) dependency ratio is 126, (4) maternal mortality rate is in the range 800-1,000 deaths per 100,000 females, and (5) life expectancy is very low (46 years for males and 47 years for females).

In light of the findings from the YDMCHS and the socioeconomic backdrop, some policy recommendations are discussed below. One of the major objectives of the YDMCHS was to provide planners and policymakers with a comprehensive set of data suitable for designing strategies and policies for dealing with the social and health status of the mother and child.

The preceding review points to three main areas of concern. First, there is an urgent need to adopt strategies that will help to reduce the level of infant and child mortality. Greater effort should be made and programs designed to achieve the United Nations target of an under-five mortality rate of 70 deaths per 1,000 live births by the year 2000. Second, efforts should be targeted toward improving maternal and reproductive health. An 11 percent pregnancy rate among the high risk group of young women (i.e., those age under 20 years) and a high proportion of pregnancy wastage should be avoided or at least minimized. Third, policies and programs should be designed to alter the motivation for large families for the sake of mothers’ and children’s health and well-being. More specifically, the following strategies are recommended.

1. Sanitary and environmental conditions inside houses or in neighboring communities should be improved. Unhealthy sources of drinking water, presence of farm animals in the home, and other conditions within the house or in the surrounding environment are associated with infant and child mortality.

2. A coherent information, education, and communication campaign should be developed to inform parents about the need for vaccination and the vaccination schedule against childhood diseases.

3. Health facilities should be more accessible to people, especially those residing in rural areas. Distance, cost, and/or unavailability of services are cited repeatedly by the Yemeni mothers, particularly in these two areas in which majority of the total population reside.

4. The essential elements of obstetrical care should be available at the first referral level for better maternal and child health and survival. These elements should include surgical obstetrics, anesthesia, medical treatment, blood replacement, management of women at high risk, family planning support, and neonatal care.
5. Regular medical checkups and receiving tetanus toxoid vaccinations during pregnancy should be advocated. In addition, a referral system is needed to treat and supervise those high risk pregnancies which are detected by regular checkups.

6. Public health programs aimed at reducing child mortality should be coordinated with intensive efforts to educate parents on the family size implications of these programs. Moreover, family planning efforts could be especially productive if coordinated or integrated with programs which strive to reduce child mortality.

7. Fertility regulation for spacing purposes should be encouraged. Emphasis on encouraging women to increase the interval between desired births would contribute to health benefits for the child and the mother and consequently, to reduced infant, child, and maternal mortality levels.

8. With the implementation of a referral system for high risk pregnancies, specialized training programs for dayas and midwives in fields related to delivery and fertility regulation should be promoted.

9. Attention should be focused on the demographic variables associated with the shortening of the reproductive life span, such as age at first marriage and maternal age at first and last birth. With high proportions of women marrying before reaching their fifteenth birthday and still perceiving that their daughters marry at an early age, a legal age at marriage decree would be appropriate. Information regarding the health hazards of having births at very young (under 20 years) or very old (above 35 years) to both the mother and the child should be made available to all couples in reproductive age groups.

10. Fertility regulation efforts should focus on developing the preconditions for family planning by providing basic health care to reduce child mortality, augmenting basic education programs, and establishing strong informative campaigns aimed at increasing knowledge of and shifting attitudes toward fertility regulation.

11. With regard to promotion of family planning efforts, priority should be given to women in immediate need of contraceptive services, i.e., those who do not want any more children and are not currently using any method. Specifically, among women in the high risk group, either those age 35-49 or those with at least five living children, one-third cited that they do not want more children; they should be key targets of family planning efforts, since eliminating unwanted childbearing among this group would result in reducing completed fertility in Yemen. Family planning messages should emphasize the health benefits of contraceptive use for mothers and their children.

12. With regard to target populations for family planning campaigns, emphasis should be given especially to women living in rural areas and to women at low educational levels.

13. Emphasis should continue to be placed on the health benefits of traditional practices such as high prevalence and long durations of breastfeeding and postpartum abstinence.

14. An educational policy which is designed to increase enrollment rates among the female population, especially in primary and preparatory schools, should be of great importance. Educated Yemeni women are characterized by favorable fertility attitudes and behavior, and by better health for the mother and child.