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TUNISIA

Demographic and Health Survey 1988

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This report summarizes the findings of the 1988 Demographic and Health Survey in Tunisia (EDS), conducted by the Office National de la Famille et de la Population. This report was executed with the assistance of USAID and the Institute for Resource Development. Editorial and production support for this report was provided by the IMPACT project of the Population Reference Bureau.

The Tunisia survey is part of the worldwide Demographic and Health Surveys (DHS) Program, which is designed to collect data on fertility, family planning, and maternal and child health. Additional information on the Tunisia survey may be obtained from the Office National de la Famille et de la Population, Direction de la Population, 42, Avenue de Madrid, B.P. 55 le Belvédère 1002, Tunis, Tunisie. (Telex 15164TN).

Additional information about the DHS program may be obtained by writing to: DHS, Institute for Resource Development/Macro Systems, Inc., 8850 Stanford Boulevard, Suite 4000, Columbia, MD 21045, U.S.A. (Telex 87775).

December 1989

EXECUTIVE SUMMARY

The 1988 Tunisian Demographic and Health Survey (l'Enquête Démographique et de Santé en Tunisie--EDS) documents several important demographic and health trends since the 1978 National Fertility Survey (Enquête Tunisienne sur la Fécondité--ETF):

- Child mortality rates have declined regularly;
- Fertility rates have declined from an average of 5.7 children per woman to 4.3;
- Women under age 30 are marrying later and having fewer children than did older women; and
- Contraceptive use has increased from 31 percent to 50 percent of married women.

Nevertheless, because of the low levels of mortality, Tunisia's population growth rate remains high.

Major survey findings include:

- <u>Child Mortality</u>: Almost one in 15 children dies before his or her fifth birthday.
- <u>Maternity Care</u>: Mothers of half of the rural children under age 5 gave birth without medical assistance, and fewer than half of the rural mothers received any medical care during pregnancy.
- <u>Child Health</u>: One in five Tunisian children under age 5 had had diarrhea in the two weeks prior to the survey. Most of the children (84%) age 12-23 months with a verifiable health card have been immunized against all six major childhood diseases, but only one-

third of the children under five are protected from neonatal tetanus.

- o Child Malnutrition: Nearly one in five children age 3-36 months shows signs of chronic malnutrition.
- o Unwanted Fertility: Women have more children than they want. If all unwanted births could be prevented, the fertility rate would be 16 percent lower.
- o Breastfeeding: More than half of the women breastfeed for a year or longer, which contributes to prolonged natural infecundity following childbirth and to improved nutrition and health among infants.

The EDS found that infant and child mortality levels are higher among children who:

- o Live in rural areas;
- o Have mothers with no education;
- o Are born less than two years after a previous birth; or
- o Have mothers age 40 or older or under age 20.

Many infants die within one month after birth, suggesting the need for improved prenatal and maternity care.

In regard to family planning, half of all married women are using contraception, mainly the IUD and female sterilization. Contraceptive use is lower among rural and uneducated women and in the Central West and South regions. Public-sector services and pharmacies are the main providers of family planning methods. Women perceive side effects, contraceptive failure, and difficulty of use to be potential problems associated with

contraception, suggesting that they could benefit from more information on contraceptive methods. Nearly all women said that they considered mass media coverage of family planning to be acceptable.

Nearly two in five married women are estimated to be in need of family planning services, although only half of these women plan to use such services in the future.

The EDS documents steady progress in improving the lives of women and children during the past decade and points the way to further efforts needed to help couples achieve their desired family size and protect their children's health.

BACKGROUND

The 1988 Tunisian Demographic and Health Survey provides planners and policymakers with essential information on fertility, family planning, infant and child mortality, maternal and child health care, and related factors. It was conducted by the Office National de la Famille et de la Population (ONFP). A national-level sample of 4,184 ever-married women age 15-49 were interviewed between June and October 1988. Interviews with mothers provided health-related information for 4,435 children under age 5. Height and weight measures were taken and analyzed for 1,996 children age 3-36 months.

Tunisia's population of 7.9 million (see Figure 1) is estimated to be growing at about 2.15 percent annually (INS, 1988), a rate at which the population will double in 32 years.

FERTILITY

Fertility has declined by 25 percent during the past decade, from an average of 5.7 children per woman age 15-44 in 1978 to 4.3 in 1988 (see Figure 2, Total Fertility Rate).

The greatest differences in fertility are between educational groups. At current fertility levels, women with no education will have twice as many children as those with a secondary or higher education (5.1 compared with 2.5); nearly 60 percent of the women surveyed had no education. Similarly, rural women will have about two more children than urban women (5.7 compared with 3.4). Forty-one percent of the women interviewed live in rural areas.

Factors Affecting Fertility

The survey findings highlight several factors that directly influence fertility levels and trends in Tunisia, including: 1) age at marriage; 2) breastfeeding and natural infecundity following birth; 3) fertility desires; and 4) contraceptive use.

Age at Marriage and at First Birth

One reason for the fertility decline is the fact that Tunisian women are marrying later, thereby postponing their first birth. The EDS found that women who marry later tend to have fewer children than women who marry at an early age, mainly because they are married fewer years.

Today, Tunisian women typically marry at the age of 21 (median age) and have their first birth about two years later. Younger women are starting their families later than did older women. Women age 25-29 had their first birth 2-3 years later than did women currently age 35-49.

Nevertheless, early marriage and childbearing are still common, especially among women with no education. One in six women surveyed was married before the age of 18, and a similar proportion had their first birth during their teenage years. Legislation raising the age at marriage to 17 for women appears to have had some effect, since few women now marry before the age of 15.

Breastfeeding and Postpartum Infecundity

Breastfeeding extends the period of natural infecundity following a birth, during which a woman cannot conceive. Tunisian women breastfeed for an average of 16 months, but the duration of breastfeeding is lower among urban and educated women (see Figure 3). The period of postpartum amenorrhea--the absence of menses that is associated with the period of natural infecundity following a birth--lasts for an average of seven months.

Fertility Desires

Many Tunisian women are opting for smaller families. Women age 15-24 said that they would prefer to have an average of three

children each, compared with four children preferred by women age 45-49. Similarly, urban women prefer a three-child family, while rural women prefer to have four children.

More than three in four married women would like to limit or space their pregnancies.

The survey found that more than three in four married women would like to limit or space their births. Nearly half (46%) of the married women say they want no more children. An additional 12 percent of married women are already sterilized. One in five (21%) married women wishes to delay her next birth at least two years (see Figure 4).

Enabling women to achieve their desired number and spacing of children through use of family planning would reduce the number of unwanted and mistimed births. For example, mothers report that in the five years before the survey 13 percent of the births were unwanted and 20 percent were wanted later. If women had only the births they wanted, the fertility rate would be 16 percent lower.

FAMILY PLANNING

Recognition of Contraceptive Methods

Virtually all married women (99%) have heard of at least one method of contraception, and almost all (96%) know where to obtain information or services for at least one method. Among married women, the most widely recognized modern methods are the

Pill (96%), female sterilization (96%), the IUD (95%), the condom (66%), vaginal methods (61%), and the injection (59%). Nine in 10 married women have heard of at least one traditional method--mainly periodic abstinence or withdrawal.

Perception of Problems with Contraception

Women who recognized a specific contraceptive method--but who may not have used the method--were asked to name the major problem, if any, regarding its use. Although almost 30 percent of those recognizing the IUD did not think this method had any problems, more than 40 percent said that IUD use was associated with side effects or bad experiences. Almost 60 percent cited these problems in relation to use of the Pill, but nearly 20 percent said that there were no problems with this method and a similar proportion said they did not know. About 40 percent of those recognizing female sterilization said that there were no problems with the method, but 25 percent cited side effects or bad experiences. Almost one-fifth of the women recognizing periodic abstinence considered it ineffective, and more than one-fourth of the women said condoms or withdrawal were disagreeable to use.

Among methods which were less widely recognized--male sterilization, implants, injections, vaginal methods and condoms--women most frequently said they did not know of any problems with use of the method. Whether this reflects a lack of knowledge or lack of experience with the methods is not clear.

Half of all married women are using contraception, mainly the IUD and female sterilization.

Exposure to Family Planning Information

More than three in five women interviewed said that they had heard information about family planning on the radio or television or at meetings during the previous month. Women living in urban areas or having a primary-level or higher education were more likely to report hearing family planning messages than rural or uneducated women. Nearly all women interviewed (90%) said that they considered mass media coverage of family planning to be acceptable.

Contraceptive Use

Contraceptive prevalence has increased rapidly in the past decade, from 31 percent of married women in 1978 to 50 percent in 1988. More than two-thirds of all married women have used a contraceptive method at some time. Most current users rely on modern methods (see Figure 5). The IUD is the most popular method (17%), followed by female sterilization (12%) and the Pill (9%). Use of other modern methods is extremely limited; about one percent of married women rely on the condom or injection for contraception. About nine percent of married women are using traditional methods, mainly periodic abstinence (6%).

Contraceptive use, like fertility, varies considerably by

place of residence and educational level. Among married women living in urban areas, contraceptive use is 75 percent higher than among rural women (see Figure 6). The highest levels of contraceptive use are found in Tunis (64%) and the North East (57%). Contraceptive use is moderate in the North West (51%) and the Central East (49%) regions and lowest in the South (41%) and Central West (32%) regions. Among married women who have attended secondary school, contraceptive use is nearly 60 percent higher than among women with no education. Uneducated women are less likely to use the IUD, Pill or periodic abstinence than those who have attended school, but they are more likely to have been sterilized.

Few women use contraception prior to their first birth. Nevertheless, women are increasingly using contraception for birth spacing, as well as limitation. Of those women who have been sterilized, half were age 33 or younger at the time of the procedure, indicating that sterilization is playing an important role in family size limitation.

Family Planning Services

Three in four women using contraception obtain their method from public-sector services, mainly hospitals, maternities, Caisse Nationale de Sécurité Sociale (CNSS), the Centre Régional de l'Education et du Planning Familial (CREPF) de l'Office National de la Famille et de la Population (ONFP), Centres de Protection Maternelle et Infantile (PMI), and dispensaries.

About nine in 10 women using the IUD or female sterilization were served by public sources. One in four women use private-sector services, mainly pharmacies, which are a major source of the Pill, condoms and vaginal methods. Currently, physicians, midwives and private clinics play a limited role in delivering family planning methods, except for the injection. However, the ONFP is beginning to involve the private sector in service delivery through a contraceptive social marketing program.

Reasons for Discontinuation

Of those women who had discontinued contraceptive use in the five years prior to the survey, more than two in five women named unintended pregnancy as the principal reason for discontinuing periodic abstinence or withdrawal. About three in 10 women who had discontinued use of condoms, the Pill or the IUD also did so because of an unintended pregnancy (see Figure 7). Menstrual disturbances were cited by more than one in three women who had used the injection and more than one in five women who had used the IUD or Pill. One in five women who had used the IUD or the Pill said they discontinued due to health concerns. Interference with sexual relations was mentioned by more than three in 10 women who had used vaginal methods, periodic abstinence or withdrawal.

While many women appear to be satisfied with their contraceptive choices, these findings suggest that some women may need more information on the relative risks of contraception and

childbirth, correct method usage, possible side effects and the relative effectiveness of various methods. Additional counseling may also be needed to ensure that women select methods appropriate to their differing needs.

Potential Demand for Family Planning Services

Nearly two in five (39%) married women are estimated to be in need of family planning services because they are fertile, not contracepting, and either do not want to become pregnant soon or do not want any more children. However, only half of these women

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Nearly two in five married women are estimated to be in need of family planning services.

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plan to use family planning in the future. Among women who intend to use contraception, three in five plan to use either the IUD, the Pill or female sterilization. Those women at risk of unintended pregnancy who do not plan to use contraception--almost 20 percent of all married women--may need particular guidance and counseling in family planning.

MATERNAL AND CHILD HEALTH

Infant and Child Mortality

Infant and child mortality rates in Tunisia continue to fall steadily and are now the lowest found in North Africa. Today, one in 15 children dies before his or her fifth birthday (see Figure 8). This child mortality rate is still more than five

times higher than that of the more developed countries. The neonatal mortality rate (deaths among infants during their first month of life) has declined at a slower rate than postneonatal (1-11 months of age) and child mortality (age 0-4) rates, suggesting the need for expanded prenatal care, including

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Infant and child mortality rates have been falling steadily in Tunisia.

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immunization against neonatal tetanus.

The EDS findings highlight a number of factors that directly influence child survival:

- Place of Residence: Infant mortality rates are more than 25 percent higher among children living in rural areas, compared with urban children. Children living in the South, Central West and North West regions have the highest mortality rates.
- Mother's Education: Children born to mothers with no education are almost twice as likely to die before their first birthday as those whose mothers have attended secondary school.
- Birth Spacing: Children born less than two years after a previous birth are almost three times more likely to die before age 1 than children born two or more years after a previous birth (see Figure 9).
- Mother's Age: Children born to mothers age 40-49 are nearly twice as likely to die before age 1 as those

born to mothers age 20-39, and children born to teenage mothers also face an increased risk of death.

Maternity Care

The care a woman receives during pregnancy can be critical to her child's chances of survival. Mothers of more than half of the children under age 5 living in rural areas had no prenatal care. Uneducated women also lack prenatal care. Trained midwives and physicians were the main providers of prenatal care.

Only one-third of the children under age 5 were protected from neonatal tetanus, a highly fatal--but preventable--disease that can strike newborns if the mother has not been immunized against tetanus and if the umbilical cord is not cut and treated in a sterile manner. In particular, women living in the South

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In rural areas, half of all births in the five years before the survey took place without medical assistance.

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and Central West regions and uneducated women are most in need of tetanus immunizations, since they are more likely than other women to deliver without medical attention.

Among urban women, nearly nine in 10 of the births in the five years before the survey were delivered by trained midwives or physicians. However, among rural women, only half of the births during this period were attended by medical personnel, while more than one in five births were assisted by friends, relatives or neighbors--people with neither training nor

experience in safe delivery procedures (see Figure 10).

Breastfeeding and Infant Health

In addition to providing the mother some protection against another pregnancy, breastfeeding is important to child health and development. Breastmilk is the ideal source of nutrition during the first year of life and also contains antibodies that help protect the child against disease. Exclusive breastfeeding for the first four to six months also contributes significantly to the infant's health.

Eighty-five percent of Tunisian children are breastfed through their first five months of life; half are breastfed through 15 months of age.

Prevention of Childhood Diseases

Immunization against the six major childhood diseases--tuberculosis, diphtheria, whooping cough, tetanus, poliomyelitis and measles--is a key intervention to improve child survival rates. Immunization status could be verified for 77 percent of the children age 12-23 months--those whose mothers could show a health card. Among children in this age group with a health card, 84 percent have been immunized against all six childhood diseases (see Figure 11). Immunization coverage is lowest among children living in rural areas or in the North West and North East regions, and girls are less likely than boys to be completely immunized. Children living in the South have the

highest immunization rates; this unexpected finding indicates that the intensive immunization campaigns in this region are having an effect.

Diarrhea

Diarrhea, a leading cause of child mortality, is very common in Tunisia. Mothers reported that 21 percent of the children under age 5 had had diarrhea in the two weeks prior to the survey. Diarrhea is more common among children age 6-17 months, those living in rural areas or in the North West and Central West regions, and among those whose mothers have no education.

Diarrhea is common among children, and more than one-third of those afflicted are not treated.

Almost two-thirds of the children under age 5 with diarrhea received some type of treatment; about one-third of these children were treated at health facilities (see Figure 12). However, more than one-third of the children with diarrhea were not treated. The anti-diarrheal campaigns of the last decade have had some effect. More than half of the mothers have heard of oral rehydration therapy (ORT), an inexpensive treatment which often can prevent death from dehydration. Nearly one in 10 mothers interviewed had a packet of oralyte (ORT) in their home.

Nutritional Status of Children

As part of the EDS, children age 3-36 months were weighed

and measured to assess their nutritional status. The study found that 18 percent of the children age 3-36 months are stunted--short in relation to their age, compared with the international reference population. Stunting is an indicator of chronic

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One in five children age 3-36 months shows signs of chronic malnutrition.

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malnutrition. It is more common in rural areas, where one in four children is stunted, and among children born three or fewer years after a previous birth (see Figure 13). Children whose mothers have no education and those living in the South, Central West and Central East regions are also more likely to be stunted, compared with those whose mothers have attended school or who live in other regions.

CONCLUSIONS

The 1988 Tunisian Demographic and Health Survey documents major improvements over the past decade in maternal and child health status: the child mortality rate is the lowest in North Africa, while the contraceptive prevalence rate is the highest in the region. Tunisian women are generally well informed about contraceptive methods and sources of information and services. Most children are immunized, and many mothers are knowledgeable about oral rehydration therapy.

At the same time, the survey findings indicate areas in which further improvements can be made in health education and

services:

- Rural women and children as well as women with little or no education are particularly disadvantaged in terms of health status and use of health and family planning services. Although school attendance rates for females are increasing, few women attend secondary school. Encouraging young women to attend and stay in school could have a major impact on both fertility and family health.
- School attendance could also reduce the incidence of teenage childbearing, which not only contributes to high fertility but also is associated with increased infant mortality as well as other economic, social and health problems.
- To prevent unwanted births, couples need better information and counseling to ensure that they select appropriate methods, use them correctly, and return to the service provider if they have problems or questions.
- Parents need to be informed of the importance of spacing births, since children born less than two years after a previous birth have a higher risk of dying or becoming malnourished.

Other policies and programs that could have a major impact on child survival and women's health include:

- Providing more extensive medical care during pregnancy

and childbirth and training traditional midwives, especially to identify and assist women with high-risk pregnancies;

- Expanding programs to educate parents on the importance of using oral rehydration therapy to counter the dehydrating effects of diarrhea; and
- Encouraging improved child nutrition through promotion of growth monitoring, nutrition education and extended breastfeeding, as well as food distribution programs.

FACT SHEET

Institut National de la Statistique

Population Size (millions) (1989)	**7.9**
Population Growth Rate (percent, 1988)	**2.15**
Population Doubling Time (years)	**32**
Birth Rate (per 1,000 population) (1988)	**27.6**
Death Rate (per 1,000 population) (1988)	**6.1**

Tunisia, Demographic and Health Survey 1988

Sample Population	
Ever-married women 15-49	4,184
Background Characteristics	
Percent Urban	58.8
Percent with more than primary education[1]	12.2
Marriage and Other Fertility Determinants	
Percent currently married	56.2
Percent ever-married	58.6
Median age at first marriage for women 25-49	21.1
Median age at first birth for women 25-49	23.1
Mean length of breastfeeding (in months)[2]	15.5
Mean length of postpartum amenorrhea (in months)2	7.2
Mean length of postpartum abstinence (in months)2	1.8
Fertility	
Total fertility rate (projected completed family size)[3]	4.3
Mean number of children ever born to women 45-49	6.7
Percent of currently married women who are pregnant	10.7
Desire for Children	
Percent of currently married women:	
Wanting no more children (excluding sterilized women)	45.8
Wanting to delay next birth at least 2 years	21.3
Mean ideal number of children for women 15-49	3.5
Percent of unwanted births[4]	13.3
Percent of mistimed births5	19.7

Knowledge and Use of Family Planning

Percent of currently married women:	
Knowing any method	99.2
Knowing source for any method	96.3
Ever using any method	68.2
Currently using any method	49.8
IUD	17.0
Female sterilization	11.5
Pill	8.8
Periodic abstinence	6.3
Withdrawal	2.4
Condom	1.3
Injection	0.8
Other methods	1.7
Percent of contraceptors obtaining modern method from:	
Government hospital/maternité/Caisse Nationale de Sécurité Sociale (CNSS)	30.7
Centre Régional de l'Education et du Planning Familial (CREPF de l'ONFP)	27.0
Centres de Protection Maternelle et Infantile (PMI)/dispensaries	18.3
Private doctor/midwife/clinic	8.8
Pharmacy	13.6
Other	1.5

Mortality and Health

Infant mortality rate[6]	50.4
Under five mortality rate[6]	65.2
Percent of mothers of recent births:[7]	
Received prenatal care during pregnancy	57.7
Immunized against tetanus during pregnancy	33.1
Assisted at delivery by doctor or trained nurse/midwife	69.0
Percent of children age 0-1 month still breastfed	96.5
Percent of children age 4-5 months still breastfed	85.0
Percent of children age 10-11 months still breastfed	59.8
Percent of children under five years of age with verifiable health cards	70.1
Percent of children age 18-23 months with verifiable health cards	76.6
Percent of children age 18-23 months with verifiable health cards:	
Vaccinated against BCG	96.0
Vaccinated against DPT (3 doses)	93.4
Vaccinated against polio (3 doses)	93.0
Vaccinated against measles	91.7
Vaccinated against all six diseases	84.7
Percent of children under age 5 with diarrhea[8]	20.7
Percent of children with diarrhea treated	65.4
Percent of children age 3-36 months considered moderately or severely chronically malnourished,	

based on height for age	18.2
Percent of children age 3-36 months considered moderately or severely acutely malnourished, based on weight for height	3.1

[1] 6 or more years of education

[2] Current status estimate based on births within 36 months of the survey

[3] Based on births to women 15-49 years during the period 0-4 years before the survey

[4] Percent of births in the 12-month period before the survey which were unwanted

[5] Percent of births in the 12-month period before the survey which were wanted later

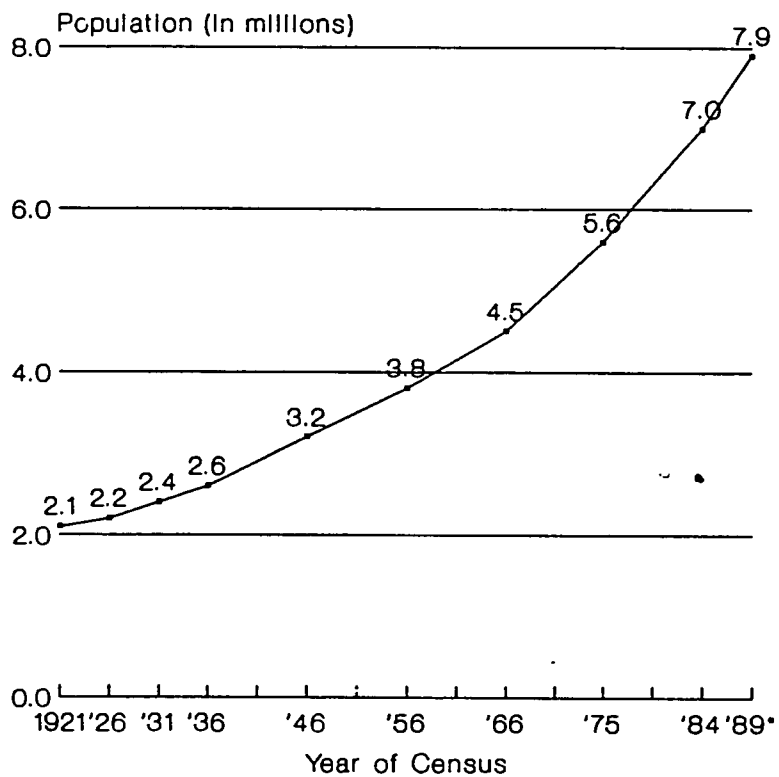
[6] Rates are for the five-year period preceding the survey (approximately 1983-1987)

[7] Based on births occurring during the five years before the survey

[8] Based on children reported by their mothers as having diarrhea in the two weeks before the survey

Figure 1

Population Growth 1921 - 1989

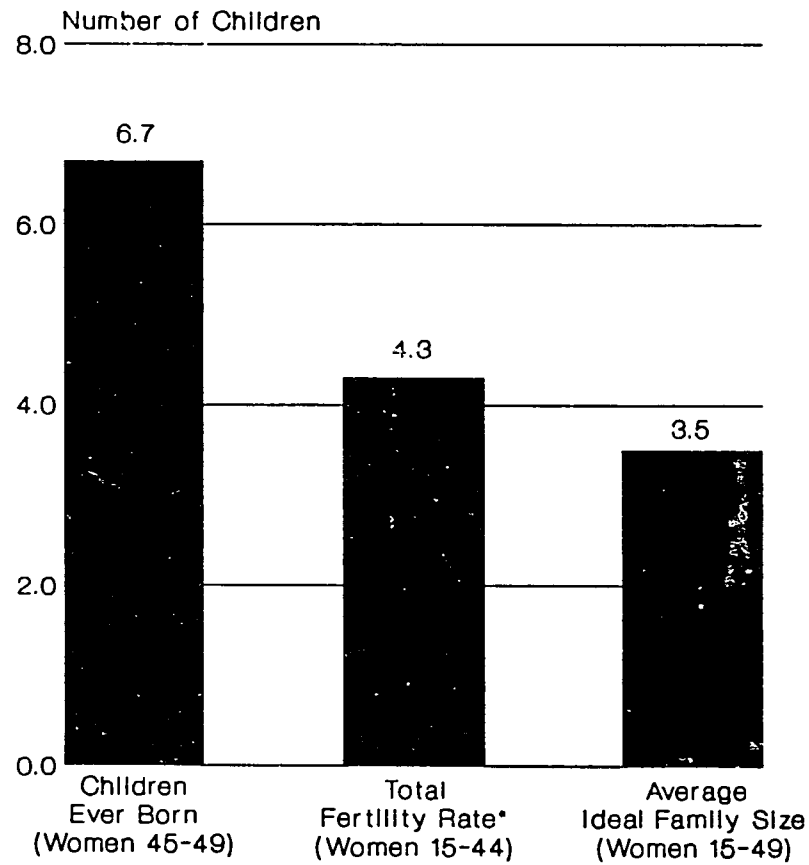


*Estimate from the Institut National de la Statistique

Tunisia EDS 1988

Figure 2

Past and Current Fertility and Ideal Family Size



*Projected Completed Family Size

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Figure 3
Average Duration of Breastfeeding by Residence and Education

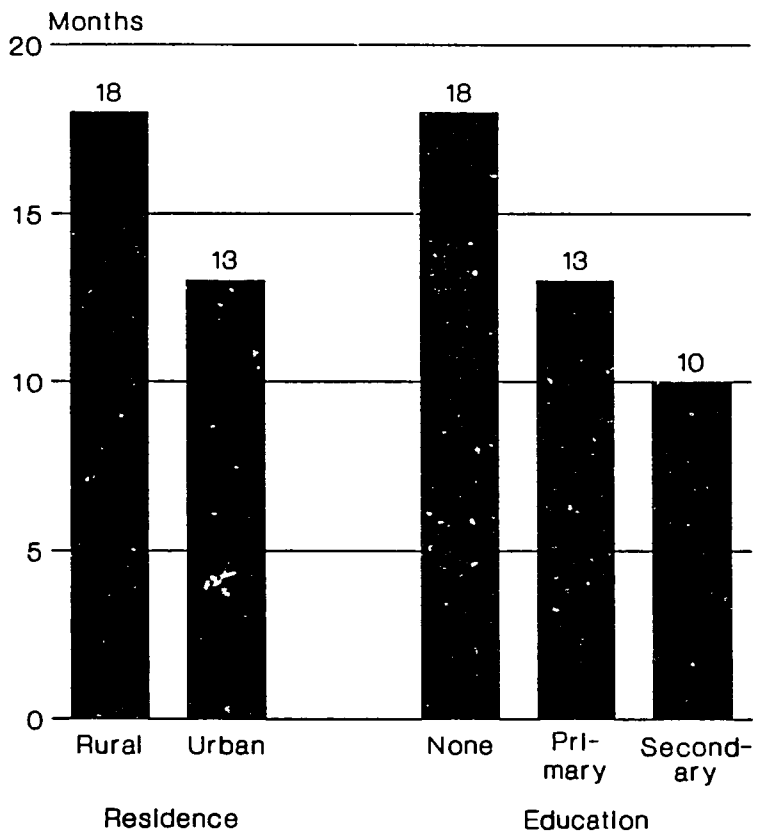

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Figure 4
Fertility Preferences
(Married Women 15-49)

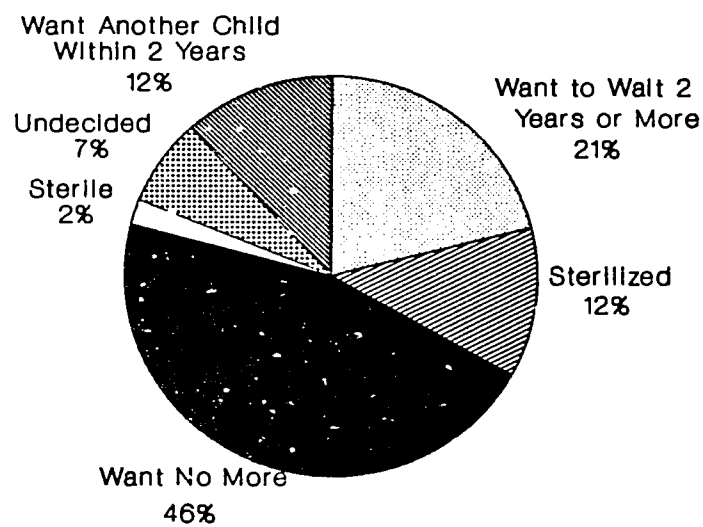

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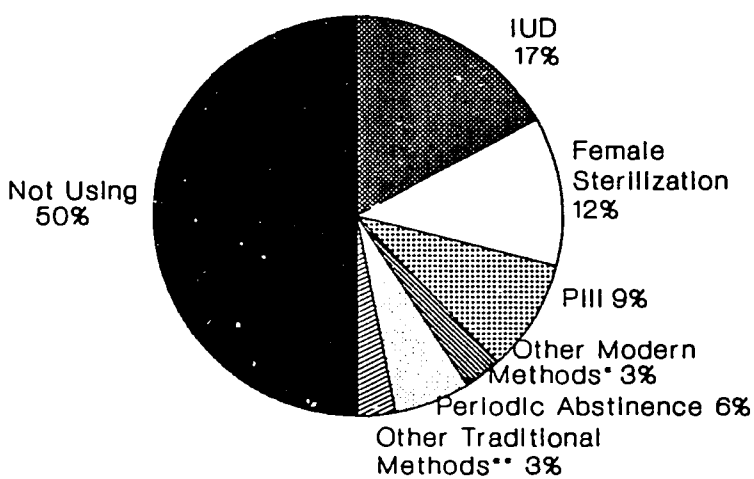
Figure 5

Current Use of Contraception

(Percent of Married Women 15-49)



*Includes: condom, injectable, other

**Includes: withdrawal, other

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Figure 6

Current Contraceptive Use by Residence and Education

(Married Women 15-49)

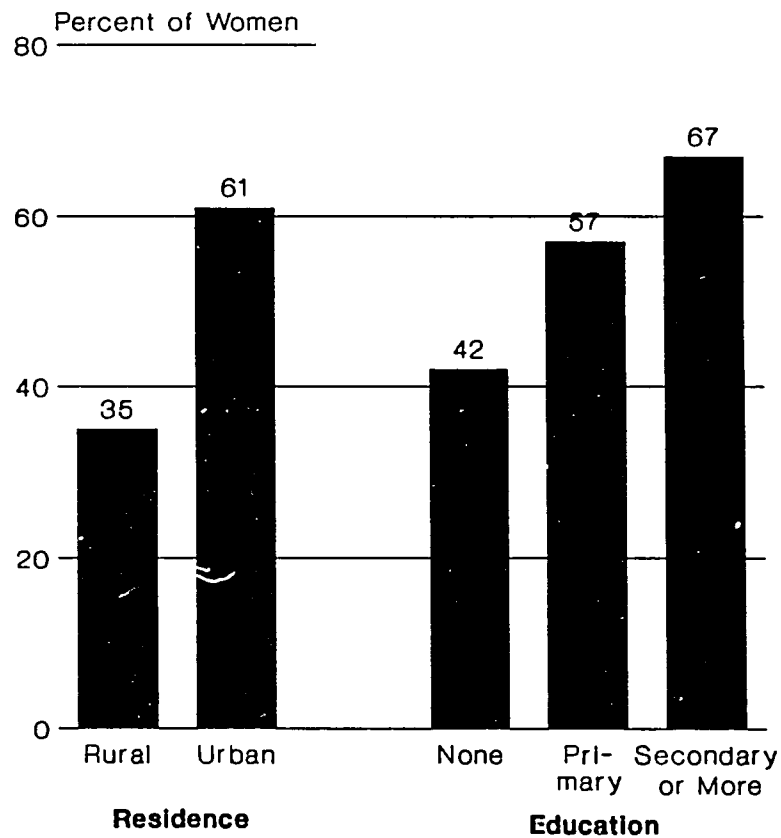

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Figure 7

Reasons for Discontinuation of Contraceptive Use

(Women who had discontinued use in the 5 years before the survey)

Percent stating principal reason

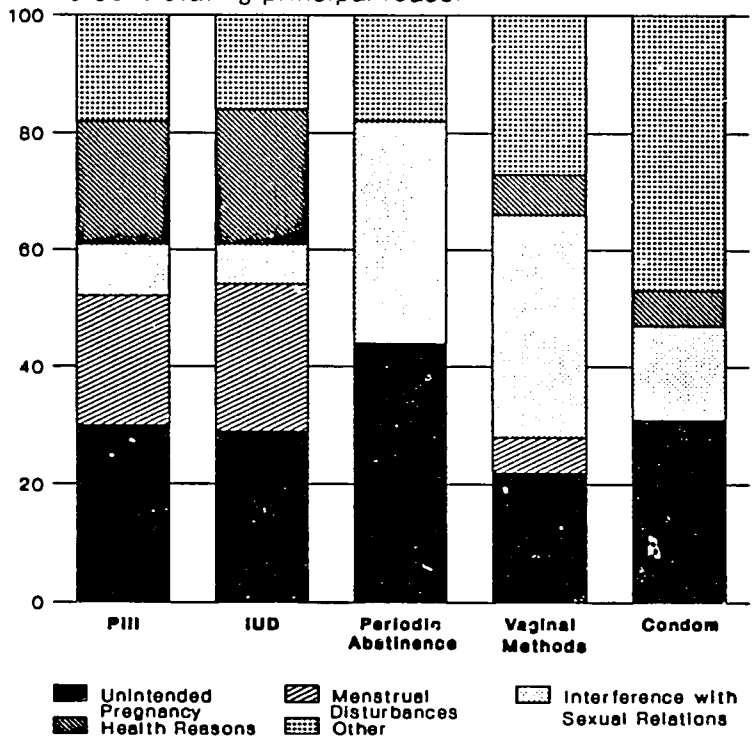

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Figure 8

Child Mortality Trends

(Deaths among children under age 5)

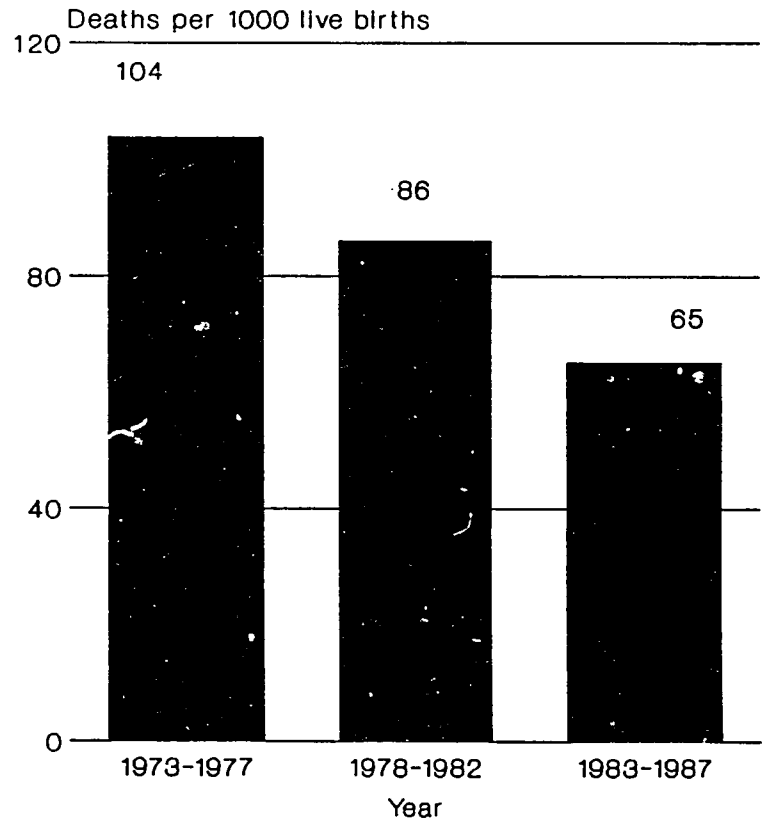

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Figure 9

Birthspacing and Infant Mortality

(Deaths among children under age 1)

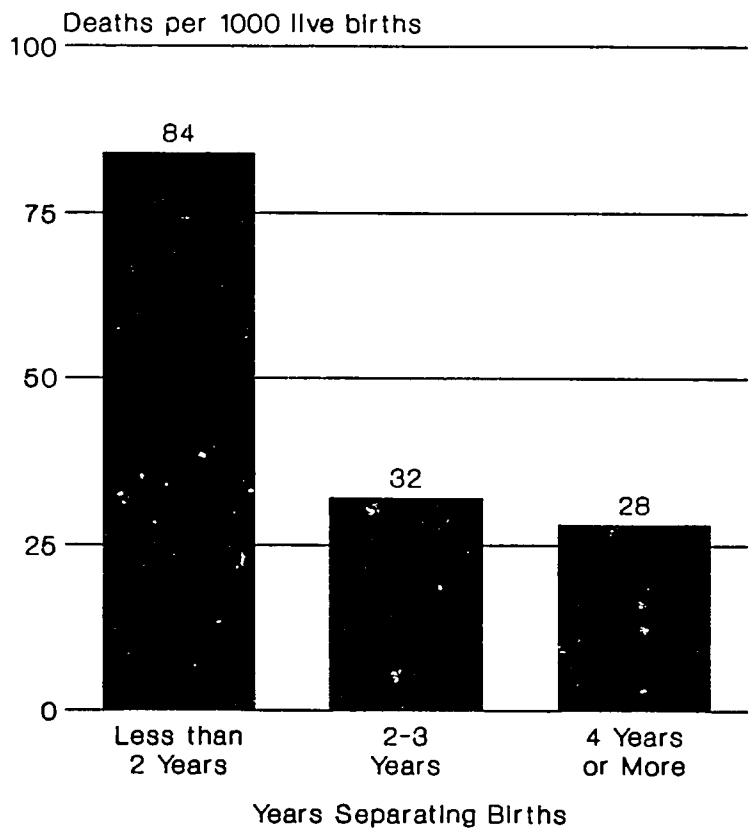

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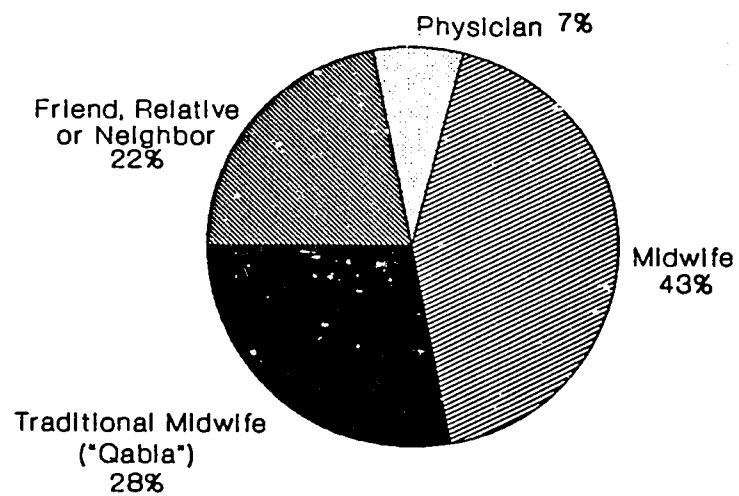
Figure 10

Assistance During Childbirth - Rural Women

(Births during the 5 years before the survey)

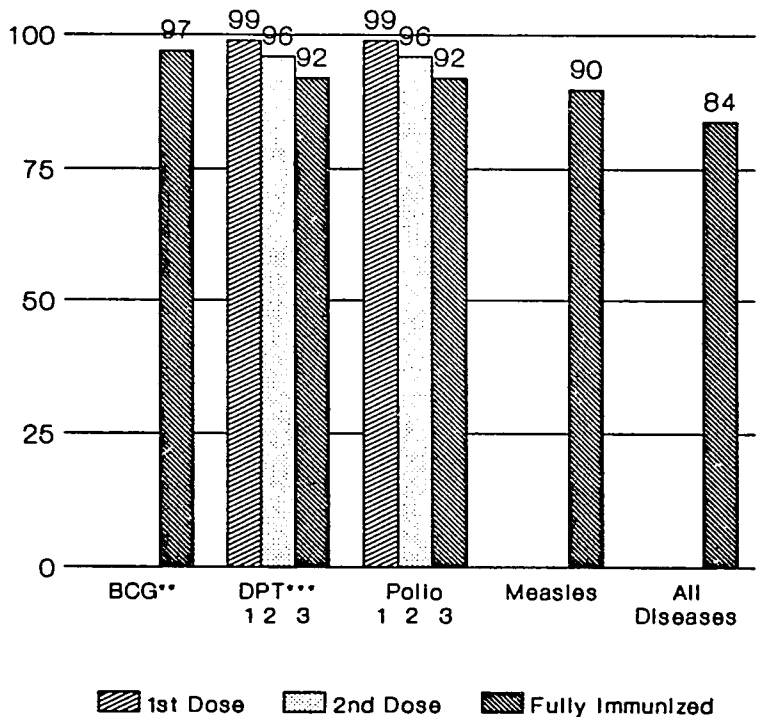


Tunisia EDS 1988

Figure 11
Immunization Coverage

(Percent of children age 12-23 months with verifiable health cards)*

Percent of children



* 77% of the children had health cards verified by the interviewer

** Tuberculosis

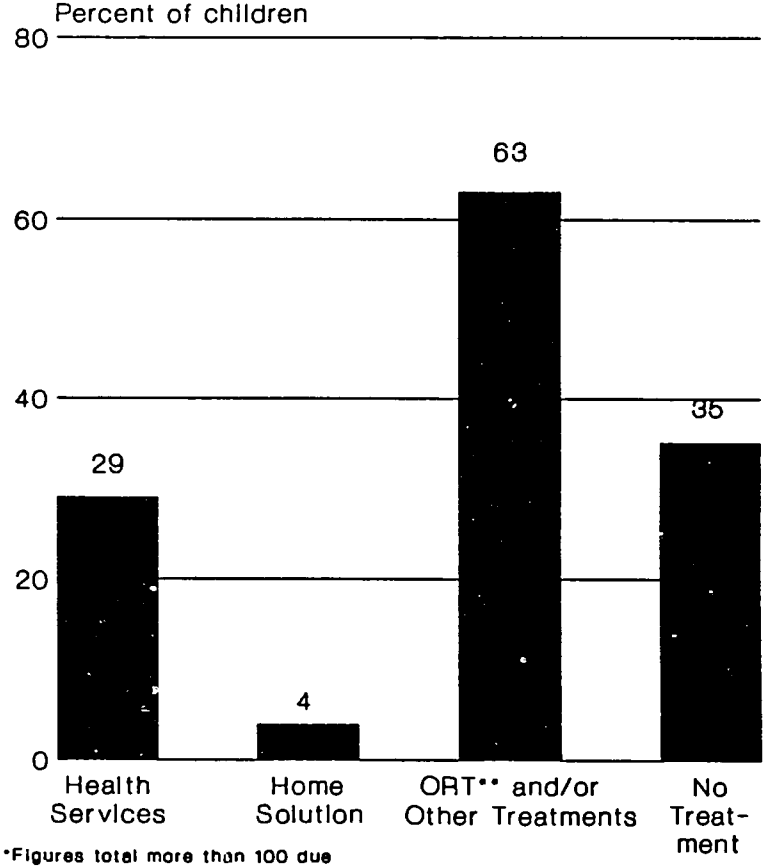
*** Diphtheria, tetanus and pertussis

Tunisia EDS 1988

Figure 12
Treatment of Childhood Diarrhea

(Children under age 5 having diarrhea in the two weeks before the survey*)

Percent of children



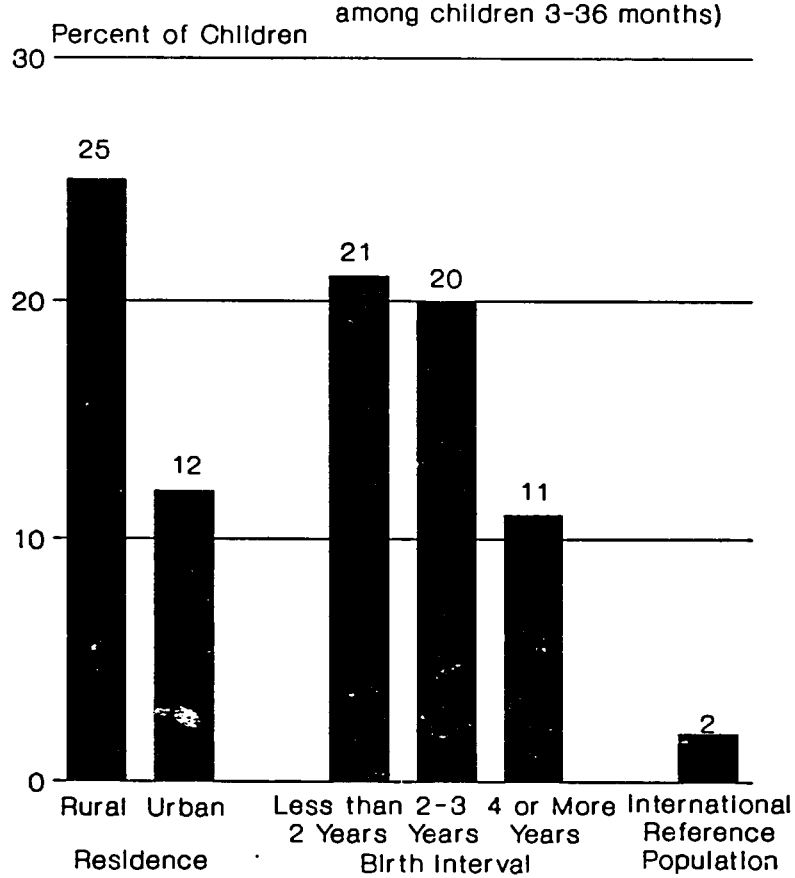
*Figures total more than 100 due to multiple responses.

** Oralyte

Tunisia EDS 1988

Figure 13

Childhood Malnutrition by Residence and Birth Interval (Based on height-for-age ratio among children 3-36 months)



Moderately or Severely Chronically Malnourished*
Tunisia EDS 1988

* Less than or equal to two standard deviations below the median of the international reference population