

# Trends in Demographic, Family Planning, and Health Indicators in Jordan, 1976-1997



Department  
of Statistics



Demographic and  
Health Surveys  
Macro International Inc.

**TRENDS IN DEMOGRAPHIC,  
FAMILY PLANNING, AND HEALTH INDICATORS  
IN JORDAN  
1976-1997**

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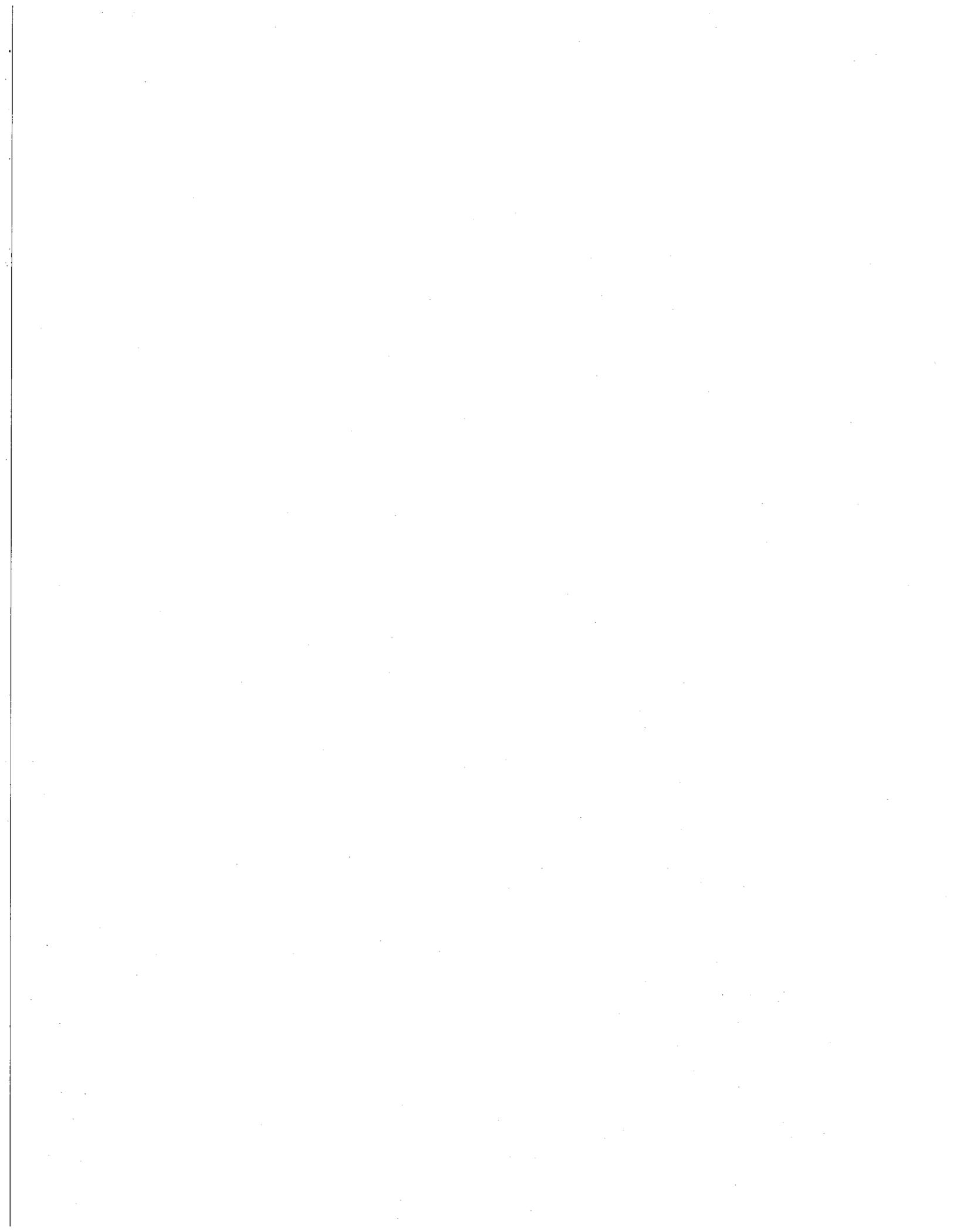
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## Contents

1	<b>Introduction</b> .....	1
2	<b>Demographic, Social and Economic Indicators</b> .....	2
	Population Growth .....	2
	Age Structure .....	2
	Housing Amenities and Possession of Durable Goods .....	3
	Educational Advances for Women .....	3
3	<b>Marriage Patterns</b> .....	5
	Marital Status .....	5
	Median Age at First Marriage .....	5
4	<b>Fertility</b> .....	7
	Other Risks to Pregnancy .....	7
	Total Fertility Rates .....	7
	Age-Specific Fertility Rates .....	8
	Fertility by Level of Education .....	9
	Age at First Birth .....	9
	Birth Intervals .....	9
	Adolescent Fertility .....	11
5	<b>Family Planning</b> .....	12
	Knowledge of Contraceptive Methods .....	12
	Ever Use of Family Planning .....	12
	Current Use of Family Planning .....	13
	Source of Supply for Family Planning Services .....	13
	Unmet Need for Family Planning Services .....	15
6	<b>Fertility Preferences</b> .....	17
	Desire for Children .....	17
	Ideal Family Size .....	17
7	<b>Maternal Health</b> .....	19
	Antenatal Care .....	19
	Tetanus Toxoid Injections .....	19
	Place of Delivery .....	20
	Assistance During Delivery .....	20
8	<b>Child Health</b> .....	22
	Breastfeeding .....	22
	Childhood Nutritional Status .....	22
	Immunization .....	23
	Prevalence and Treatment of Diarrhea .....	23
9	<b>Infant and Child Mortality</b> .....	25
	Childhood Mortality .....	25
	Infant Mortality by Selected Characteristics .....	25
	<b>References</b> .....	27



# 1 Introduction

This report presents trends in key population, family planning, and health indicators in Jordan over more than two decades. It is prepared with the primary objective of providing information needed by policymakers and program administrators in assessing the current situation, to better formulate future population, family planning, and maternal and child health programs.

Until recently, Jordan had no explicit and official population policy. The Ministry of Health and Health Care (MOHHC), through its Maternal and Child Health Centers (MCH), provided optional and predominantly free family planning services as an unofficial and indirect intervention in the population policy. The efforts made by the Jordan Family Planning and Protection Association (JFPPA), as well as by some voluntary non-governmental organizations, were invaluable in this regard.

In 1991, the National Population Commission (NPC) adopted the Birth Spacing National Program, originally launched by MOHHC, prepared an integrated proposal, and submitted it to the government and to the public as a suggested population policy (Hiyari and Saleh, 1996). This program was discussed nationwide and in 1993 the government approved the program as an official population policy in Jordan, taking into consideration the religious, social, national, and free-choice dimensions of Jordanian society.

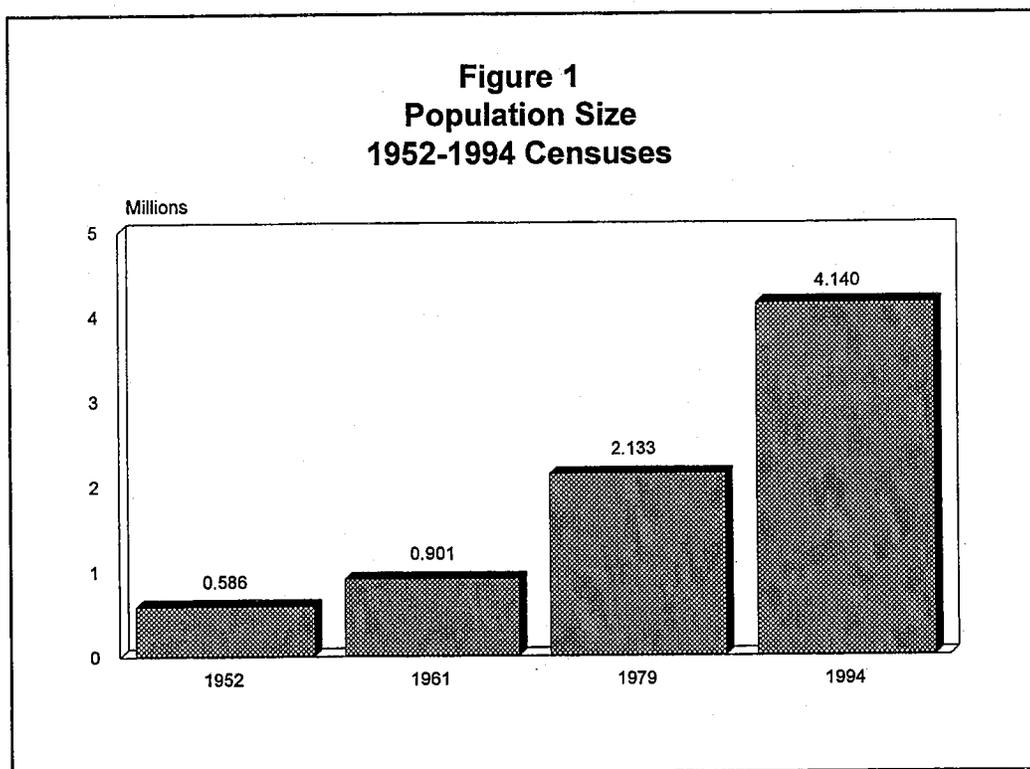
The MOHHC is committed to making health services available, accessible, and acceptable in all communities, and seeks to ensure equitable distribution of these services. The government has given priority to the health sector and developed a national health strategy. This strategy is aimed at creating a comprehensive health care system utilizing both public and private service providers and covering all levels of care from preventive care to tertiary and rehabilitative care.

Although Jordan has a long history of data collection in the field of population, this report draws data from selected sources, particularly those relevant to family planning and health programs. The trends analysis is also limited by the availability of data. While basic demographic statistics are available from censuses and surveys, comparable family planning and health indicators are only available from the 1990 and 1997 Jordan Population and Family Health Surveys (JPFHS).

## 2 Demographic, Social, and Economic Indicators

### Population Growth

In the past 40 years, the population of the Hashemite Kingdom of Jordan has increased more than seven times. It grew from less than 600 thousand in 1952 to 2.1 million in 1979. The 1994 Population Census recorded 4.1 million population (Figure 1). The rapid growth of the population can be attributed partly to international migration. Many Palestinians moved to the East Bank as a result of the establishment of the state of Israel in 1948 and the Arab-Israeli war in 1967. The Gulf crisis in 1991 brought back an estimated 300,000 Jordanians from the Gulf States, particularly from Kuwait. At the same time, a large number of guest workers crossed into Jordan from the neighboring countries.

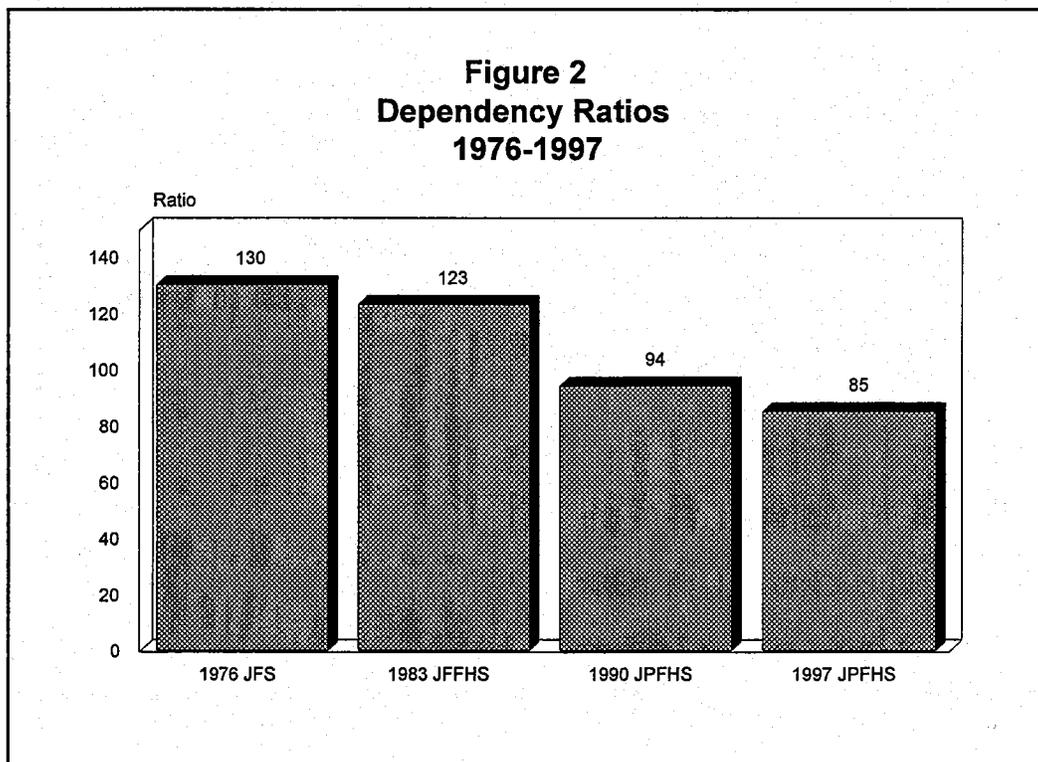


The Jordanian population is highly urbanized. In 1994, four in five Jordanians lived in localities of 5,000 inhabitants or more. Four in ten Jordanians live in the Amman governorate where the capital city is located. Irbid and Zarqa governorates, in which the next two largest cities are located, are inhabited by 18 percent and 15 percent of the population, respectively.

### Age Structure

Significant changes in the age structure of the Jordan population have taken place in the past 20 years partly as a result of declining fertility. As women have fewer children, the proportion of children under 15 has declined from 52 percent in 1976, to 44 percent in 1990, and to 41 percent in 1997.

The smaller proportion of young persons helps lessen the economic burden on persons in the “productive” age group. Measured by the *dependency ratio*, which is the ratio of “dependent” persons under 15 years of age and age 60 and over to persons in the economically active age group of 15 to 59 years, the ratio went from 130 in 1976 to the more favorable 85 in 1997 (Figure 2).



### **Housing Amenities and Possession of Durable Goods**

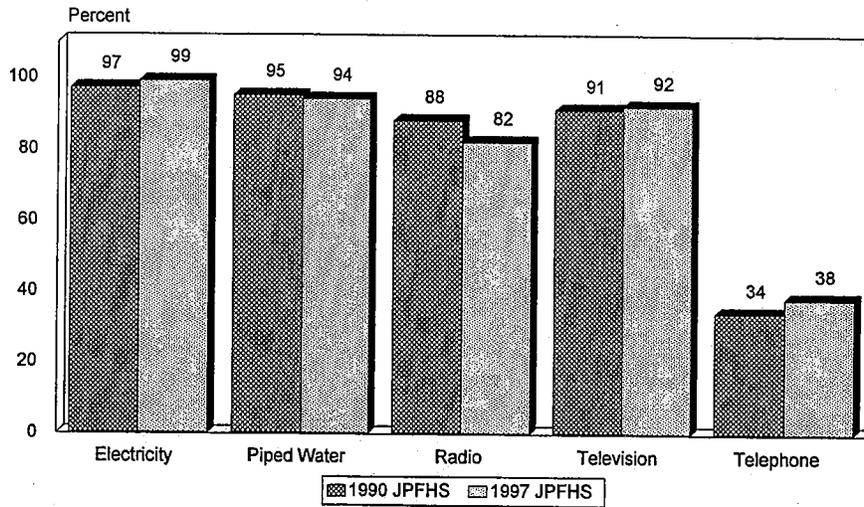
Jordan is becoming increasingly urbanized. Changes in the availability of amenities and durable goods were minimal between 1990 and 1997. Almost all Jordanians live in permanent buildings, and virtually all have electricity and running water in their residences. Modern conveniences such as radios, televisions, and refrigerators are available in almost all houses. While 34 percent of households had a telephone in 1990, the proportion has increased to 38 percent in 1997 (Figure 3).

### **Educational Advances for Women**

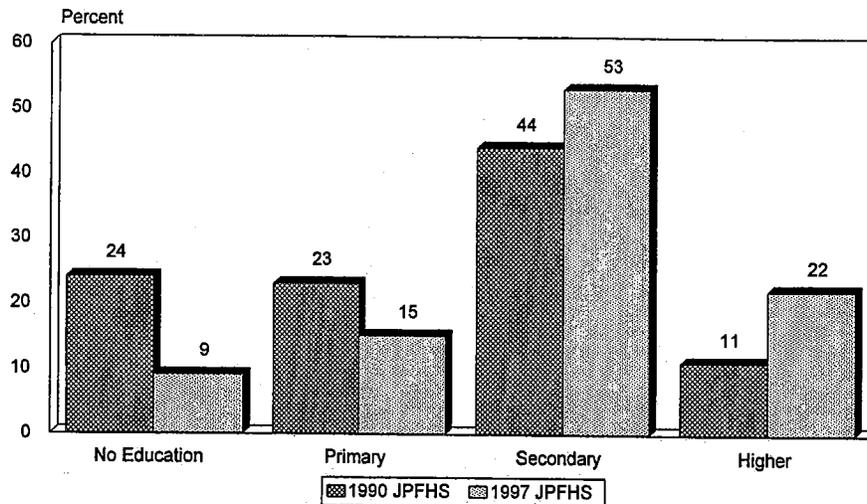
Free and compulsory basic education has benefited the population of Jordan for several decades, and the situation is continuing to improve. While in 1990 one in four women age 15-49 had never been to school, in 1997 the percentage had declined to 9 percent. During the same period, the percentage of women who had attended secondary school increased from 44 to 53 percent. Currently, 22 percent of women age 15-49 have more than secondary education (Figure 4).

The improvement in educational opportunities is most notable among young people. In 1997, nine of ten children age 6-15 were in school and girls had as many educational opportunities as boys. In the age group 21-24, women were slightly less likely to be attending school than men (11 percent and 17 percent, respectively).

**Figure 3**  
**Housing Amenities and Possession of Durable Goods**  
**1990 and 1997**



**Figure 4**  
**Educational Attainment Among Women Age 15-49**  
**1990 and 1997**

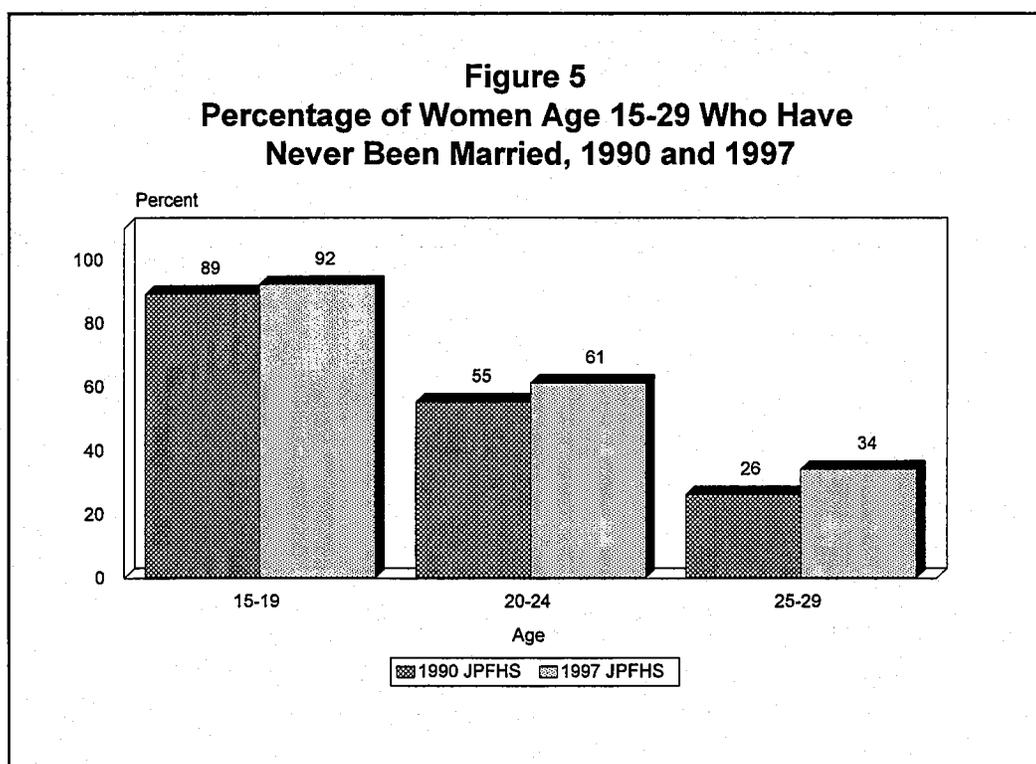


### 3 Marriage Patterns

#### Marital Status

In Jordan, the risk of pregnancy is directly related to entry into marriage, since virtually all births take place within formal unions. Marriage is universal in Jordan: in 1997, only 4 percent of women had never been married by the end of their reproductive years. However, the proportion of women age 15-49 remaining single has gradually increased from 34 percent in 1976 to 44 percent in 1983 and 1990, and to 45 percent in 1997.

The increasing proportion of women age 15-29 who remain single is shown in Figure 5. In 1990, 89 percent of women 15-19 were not married, in 1997 this percentage increased to 92 percent. At the same time, one in three women 25-29 has not been married, up from 26 percent in 1990.

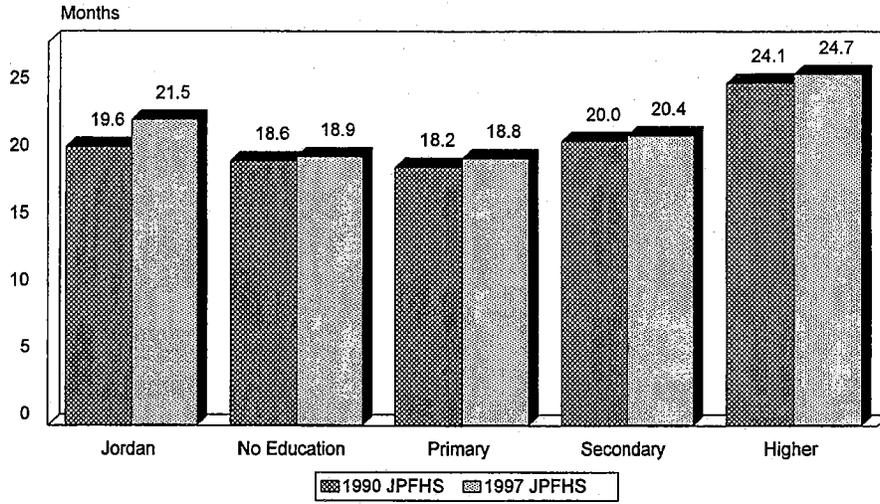


#### Median Age at First Marriage

One measure used to investigate the timing of marriage is the median age at first marriage, which indicates the age by which 50 percent of women in an age group are married for the first time. Past data sources demonstrate that women in Jordan are marrying at a later age. The median age at first marriage among women 25-49 was 19.6 years in 1990 and increased to 21.5 years in 1997 (Figure 6).

Data from the 1997 JPFHS also show that younger and better educated women are, on average, marrying at a later age than other women; women in the 25-29 age group marry two years later than women in the 45-49 age group. Women with more than secondary education marry, on average, almost six years later than women who have no formal education.

**Figure 6**  
**Median Age at First Marriage by Education**  
**1990 and 1997**

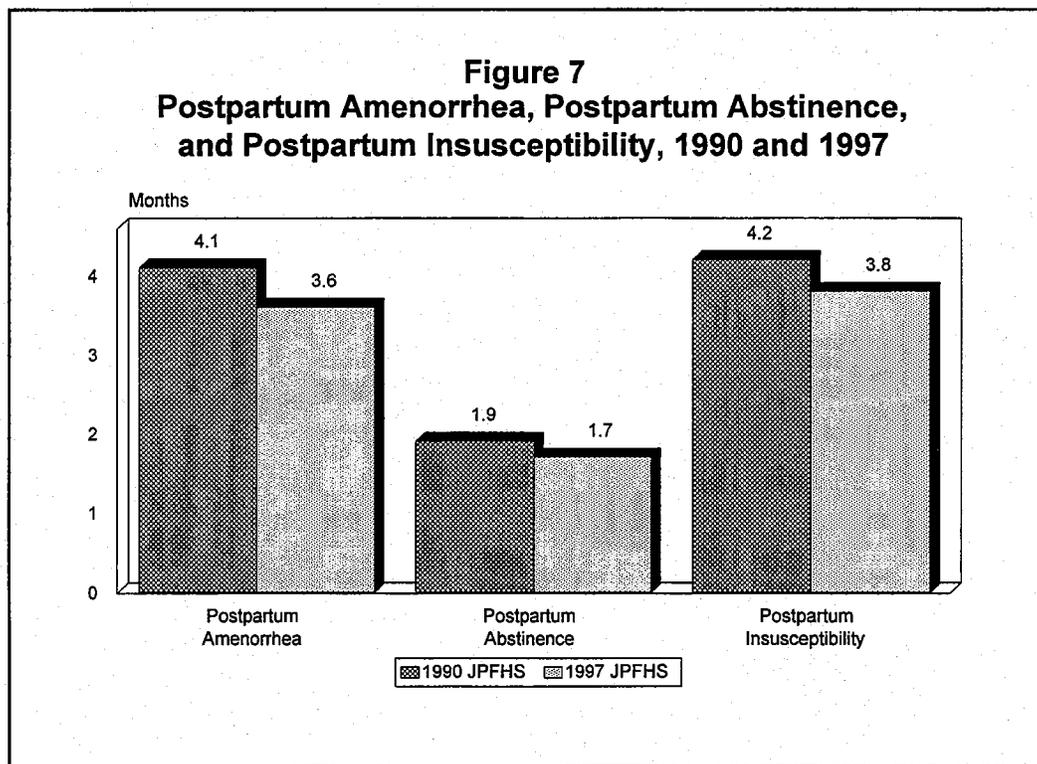


## 4 Fertility

### Other Risks to Pregnancy

Other factors besides marriage patterns can affect the risk of pregnancy. Women have little risk of becoming pregnant in the period after childbirth when menstruation has not returned (*postpartum amenorrhea*) and in the period when sexual activity has not been resumed (*postpartum abstinence*). In the period following a birth, the risk of pregnancy is also affected by breastfeeding practices.

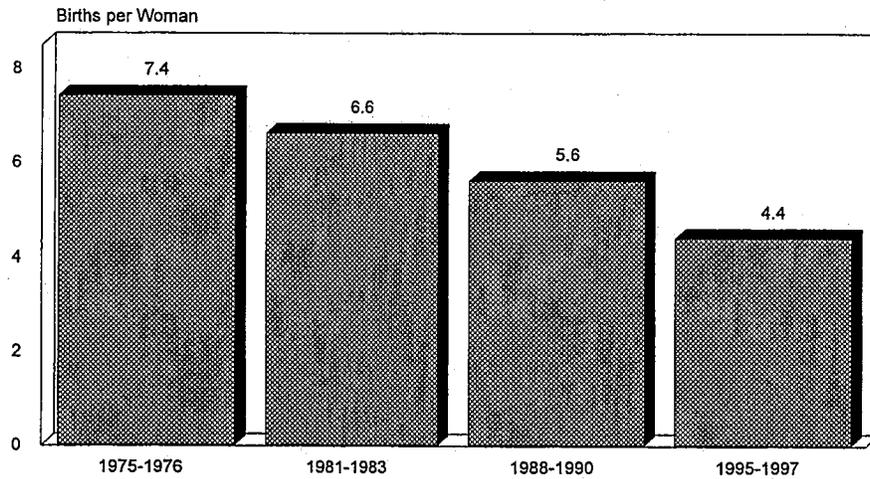
Data from the 1990 JPFHS and 1997 JPFHS show that the period of *postpartum insusceptibility* when a woman is not at risk of becoming pregnant has become shorter, decreasing from 4.2 months in 1990 to 3.8 months in 1997. This decline is primarily due to the shorter period of postpartum amenorrhea—3.6 months in 1997 compared with 4.1 months in 1990 (Figure 7). During the same period, the median duration of breastfeeding declined from 12.3 to 11.9 months.



### Total Fertility Rates

The total fertility rate (TFR) can be interpreted as the average number of births women would have by the end of their reproductive years if the current fertility levels prevailed. Figure 8 shows the fertility trend based on results from selected sources. Estimates from the 1976 Jordan Fertility Survey (JFS) refer to the two-year period preceding the survey, while those based on the subsequent surveys refer to the three-year period before the respective survey. Fertility rates in Jordan fell by 1.7 births from 7.4 births per woman in the mid-1970s to 5.6 births in late 1980s, and further declined to 4.4 births per woman in the mid-1990s (Figure 8). The pace of fertility decline has accelerated in more recent periods. It was 11 percent between 1976 and 1983, and 21 percent between 1990 and 1997.

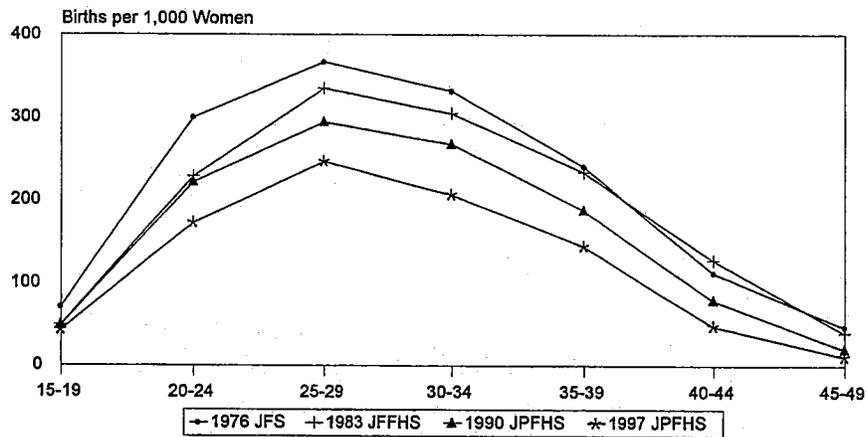
**Figure 8**  
**Total Fertility Rates**  
**1975-1997**



**Age-Specific Fertility Rates**

Figure 9 shows that the decline in fertility continues to occur at all ages. However, the largest proportional decline (61 percent) is found among women in their teens, from 71 births per 1,000 in the mid-1970s to 43 births per 1,000 in the mid-1990s. The drop in fertility among teenagers is partly due to later marriage and increased use of contraception.

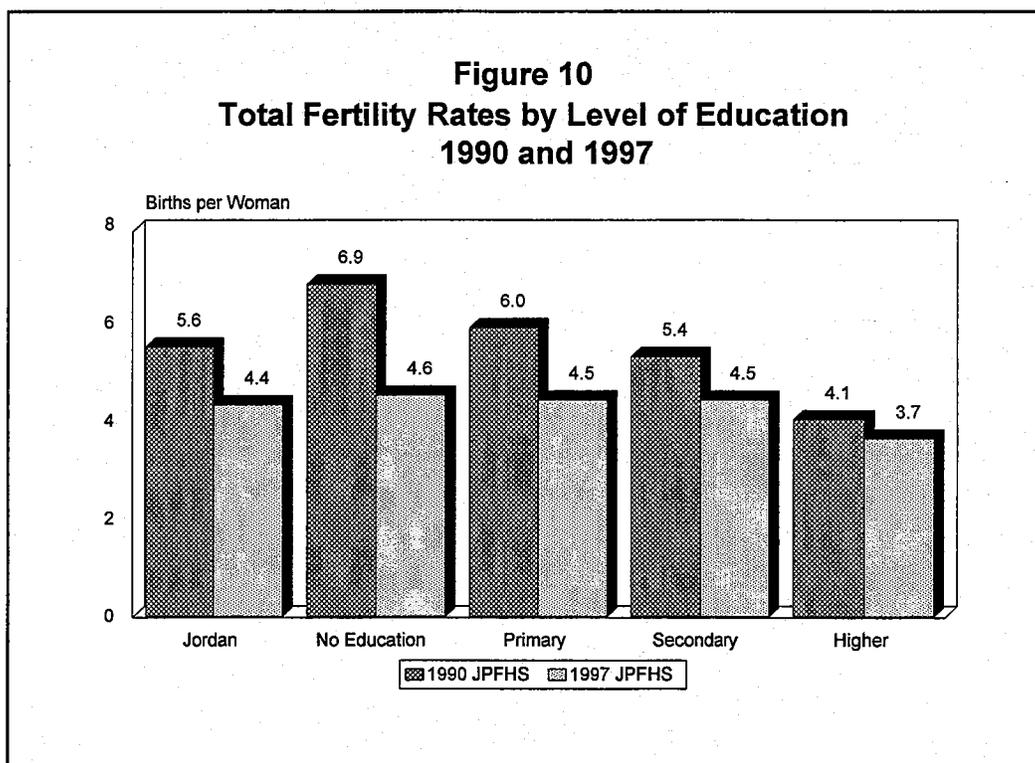
**Figure 9**  
**Age-Specific Fertility Rates**  
**1976-1997**



Although the pace of fertility decline varies across age groups, childbearing remains concentrated in the middle childbearing years, between ages 20 and 35. Currently, by her 35th birthday, a woman will have had three-fourths of the total number of children she will have during her reproductive years.

### Fertility by Level of Education

Fertility decline has occurred in all subgroups; however, the largest decline has been among women with no education. While women with more than secondary education experienced a decline of 0.4 births per woman between 1990 and 1997, the decline among women with no education was 2.3 births, thus narrowing the differentials in fertility by level of education (Figure 10). As women's education becomes more widespread, the difference in fertility by level of education is likely to diminish.



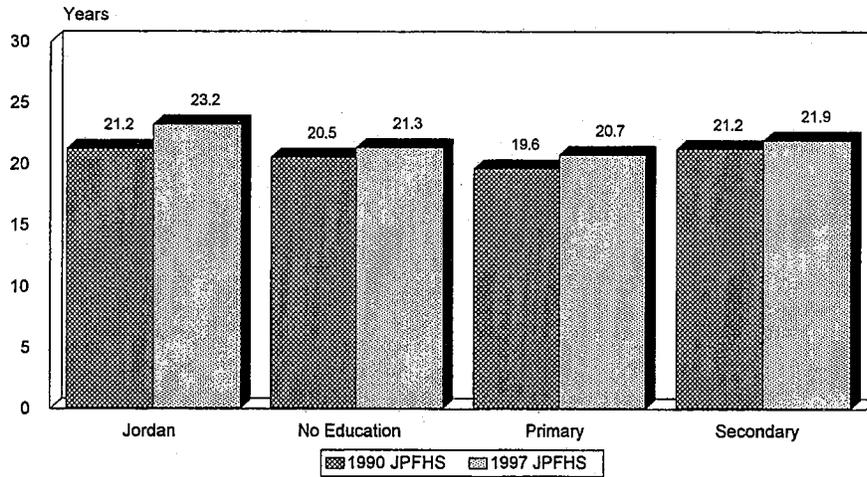
### Age at First Birth

In recent years, there has been a significant increase in the median age at which women begin childbearing—from 21.2 years in 1990 to 23.2 years in 1997 (Figure 11). In general, rural women, women in the South region, and those with primary education begin childbearing earlier than other women. In all age groups, women with primary education give birth earlier than women with no education.

### Birth Intervals

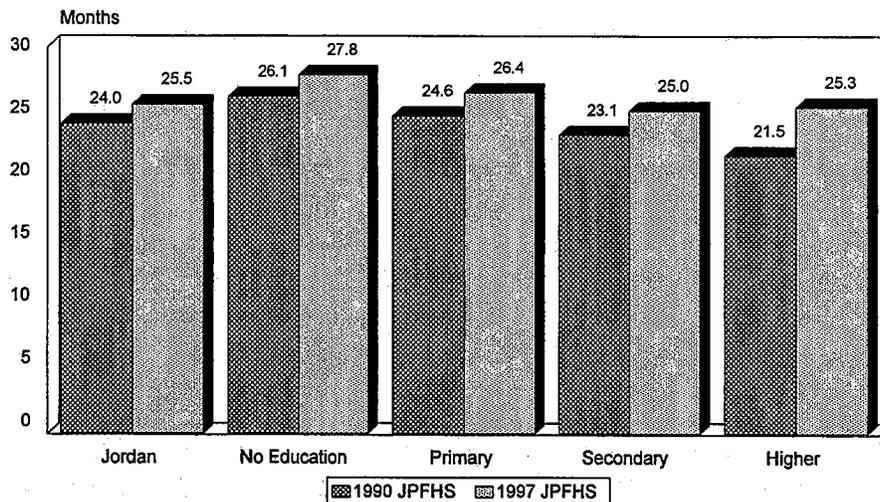
A child's health status is related to the length of the preceding birth interval. Children born shortly after a prior birth are at a greater risk of illness and death than those born after a long interval. Further, the occurrence of closely spaced births gives the mother insufficient time to restore her health, which may limit her ability to take care of her children.

**Figure 11**  
**Median Age at First Birth by Education**  
**1990 and 1997**



Overall, births in Jordan are spaced slightly more than two years apart. The interval has increased in recent years from 24 months in 1990 to 25.5 months in 1997 (Figure 12). Among births in the period 1992-1997, 56 percent occurred at least two years after a previous birth—41 percent two to three years after and 15 percent four or more years after a previous birth.

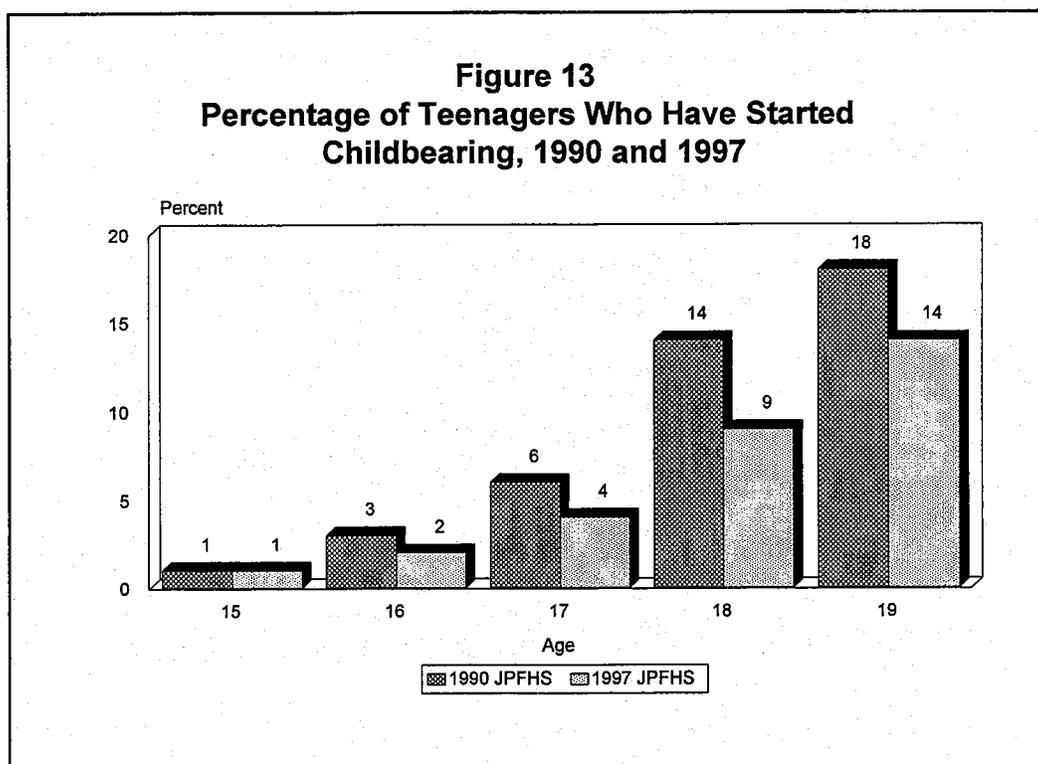
**Figure 12**  
**Birth Intervals by Education**  
**1990 and 1997**



The increase in the birth interval is positively associated with women's education. Women with more than secondary education spaced their births an average of 3.8 months longer in 1997 than in 1990, while the increase among women with no education was 1.7 months for the same period.

### Adolescent Fertility

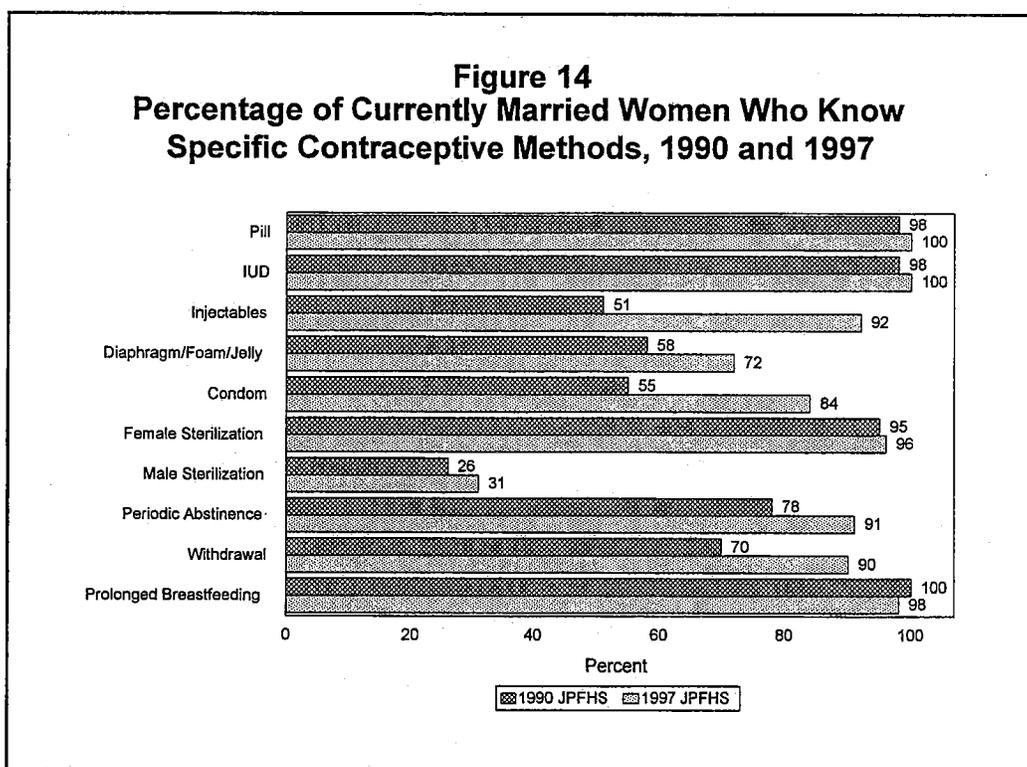
Few women in Jordan marry before age 20. Hence, the percentage of teenagers who have started childbearing is small—7 percent in 1990 and 6 percent in 1997. With increasing age at marriage and increasing age at first birth, only one in 100 girls age 15 has become a mother or is pregnant with her first child. At age 19, one in seven women has experienced motherhood, 4 percentage points less than in 1990 (Figure 13).



## 5 Family Planning

### Knowledge of Contraceptive Methods

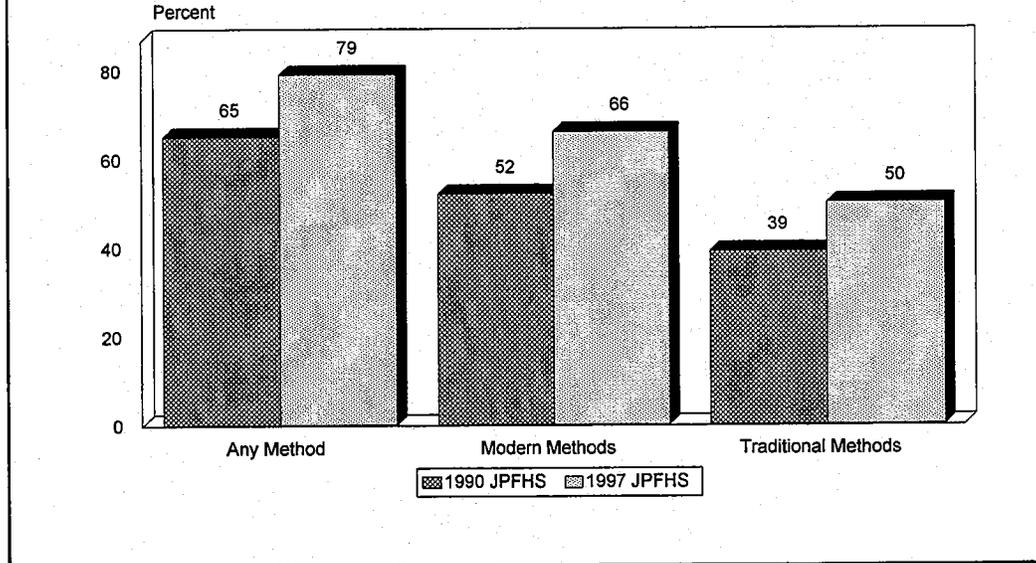
Trends in knowledge and practice of contraception are of particular interest to policymakers and program managers in population and family health. Familiarity with contraceptive methods is among the prerequisites for the adoption of fertility regulation. Knowledge of contraceptive methods is widespread in Jordan. Virtually all married women have heard about the pill, the IUD, injection, female sterilization, and prolonged breastfeeding as methods to delay or avoid pregnancy (Figure 14). Nine of ten married women know of periodic abstinence and withdrawal. In the seven years between 1990 and 1997, knowledge of the condom and injection increased to 84 percent and 92 percent, respectively.



### Ever Use of Family Planning

The proportion of married women who have ever used a method of contraception has increased significantly over the past seven years. Between 1990 and 1997, the percentage of married women 15-49 who reported ever using a method of family planning increased from 65 to 79 percent. During the same period, the proportion of women who ever used a modern method increased from 52 to 66 percent, while those who ever used a traditional method increased from 39 to 50 percent (Figure 15).

**Figure 15**  
**Ever Use of Contraceptive Methods Among Currently**  
**Married Women 15-49, 1990 and 1997**



### Current Use of Family Planning

Information on the current level of contraceptive use is important for measuring the success of the national family planning program. The proportion of married women age 15 to 49 using a contraceptive method increased from 40 percent in 1990 to 53 percent in 1997. The proportion using a modern method increased from 27 percent to 38 percent.

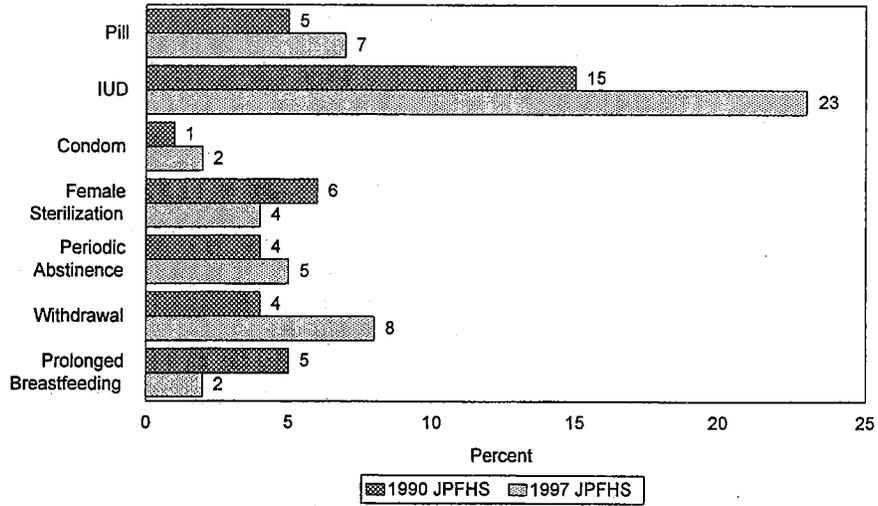
The trend in the contraceptive method mix between 1990 and 1997 is shown in Figure 16. Among modern methods, the most notable increase in this period is shown by the IUD, which increased from 15 percent in 1990 to 23 percent in 1997. Use of the pill increased from 5 to 7 percent, and use of the condom doubled from 1 to 2 percent. The percentage of currently married women sterilized decreased from 6 percent in 1990 to 4 percent in 1997.

Contraceptive use increases with women's level of education. For example, in 1997, 37 percent of women with no education used a modern contraceptive method, compared with 58 percent of women who have more than secondary education (Figure 17). The increase in the use of family planning occurred among all women regardless of level of their education; however, women with more than secondary education had the largest overall increase, while those with no education had the smallest increase (15 percentage points compared with 5 percentage points).

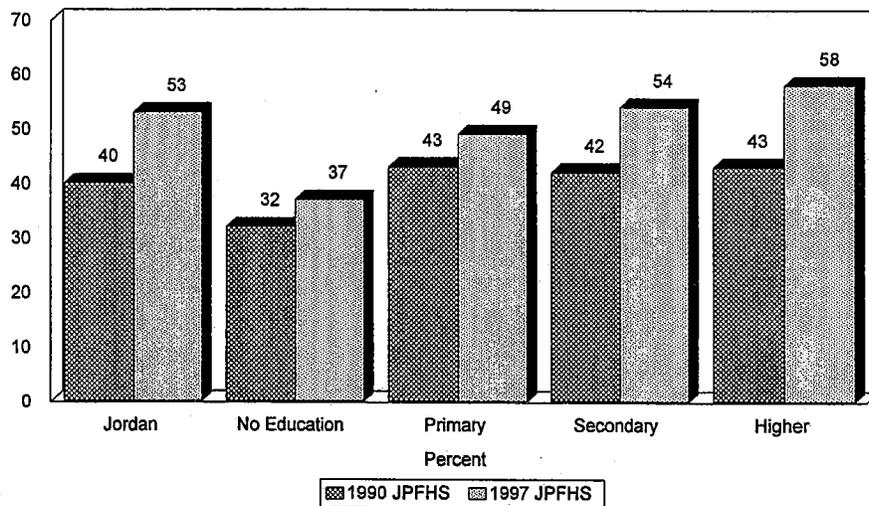
### Source of Supply for Family Planning Services

Between 1990 and 1997 there was a decline in the use of private sources to obtain family planning services and an increase in the use of public sources (Figure 18). Family planning clinics, private doctors, and pharmacies are the main private sources for modern contraceptive methods. Together, they serve almost three-quarters of current users (72 percent in 1997 and 75 percent in 1990).

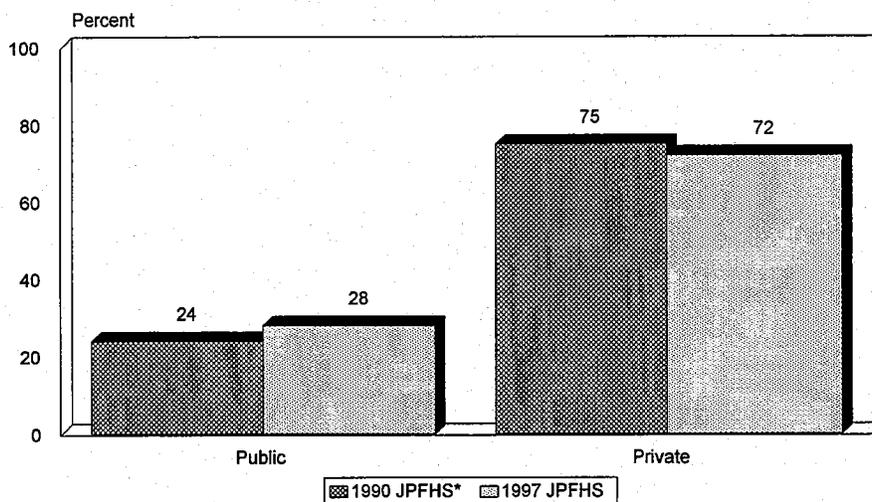
**Figure 16**  
**Percentage of Currently Married Women**  
**Currently Using Specific Contraceptive Methods**  
**1990 and 1997**



**Figure 17**  
**Current Use of Modern Contraceptive Methods**  
**Among Currently Married Women 15-49 by Education**  
**1990 and 1997**



**Figure 18**  
**Distribution of Current Users by Source of Supply for Family Planning Services, 1990 and 1997**



\* Includes one percent of users who obtain their methods from other sources.

The sources relied on by users vary by the method used. Pharmacies are the primary source for methods requiring resupply such as the pill (64 percent in 1990 and 52 percent in 1997) and condoms (61 percent in 1990 and 52 percent in 1997). Family planning clinics are the main source for the IUD (49 percent in 1990 compared with 36 percent in 1997). In the public sector, government hospitals are the major source for most female sterilizations, although there has been a decline since 1990 from 73 percent to 41 percent.

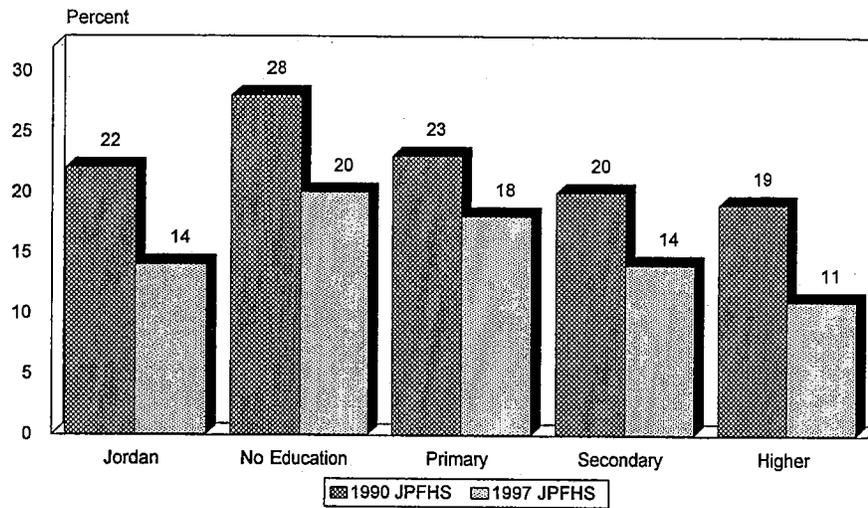
### Unmet Need for Family Planning Services

In this report, unmet need for family planning includes women who are pregnant or amenorrheic and whose last birth was mistimed, and women who are neither pregnant nor amenorrheic but who are not using any method of family planning and who say they either want to delay their next birth for at least two years or want no more children.

The total demand for family planning among currently married women in Jordan is 71 percent; 80 percent of this demand has been satisfied for women who are currently using contraception and women who used a method but it failed. Comparison with the 1990 JPFHS findings indicates that unmet need for family planning has declined by 36 percent (from 22 percent to 14 percent), and the proportion of total demand satisfied has increased by 21 percent (from 66 percent to 80 percent) (Figure 19).

Unmet need for family planning services varies by level of education in both 1990 and 1997. Unmet need among women with no education declined from 28 percent in 1990 to 20 percent in 1997. Likewise, unmet need among women with more than secondary education declined from 19 percent to 11 percent.

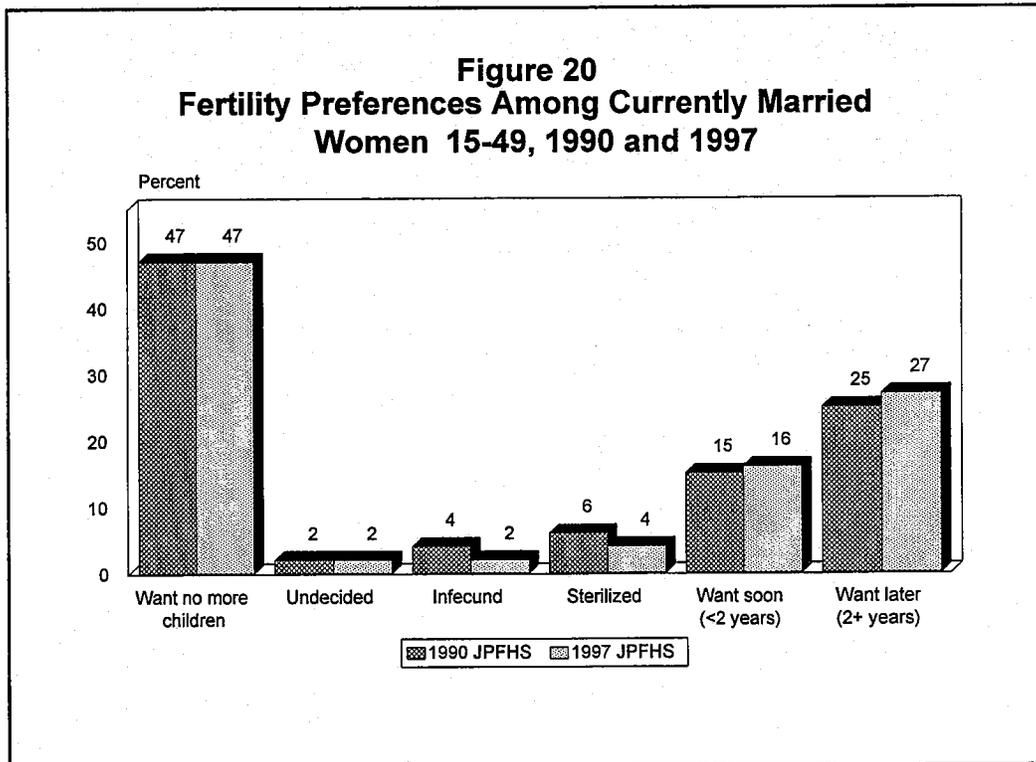
**Figure 19**  
**Unmet Need for Family Planning Services**  
**Among Currently Married Women Age 15-49 by Education,**  
**1990 and 1997**



## 6 Fertility Preferences

### Desire for Children

Data from the 1997 JPFHS indicate that 47 percent of married women in Jordan want to stop childbearing, 4 percent have been sterilized, 27 percent want to delay the next birth for at least two years, and 16 percent want to have another birth within two years. While the proportion of women who want no more children remained the same between 1990 and 1997, the increase in the proportion who want to delay their next birth was offset by an increase in the proportion who want to have a child soon and a decrease in the proportion who have been sterilized and who report being infecund (Figure 20).

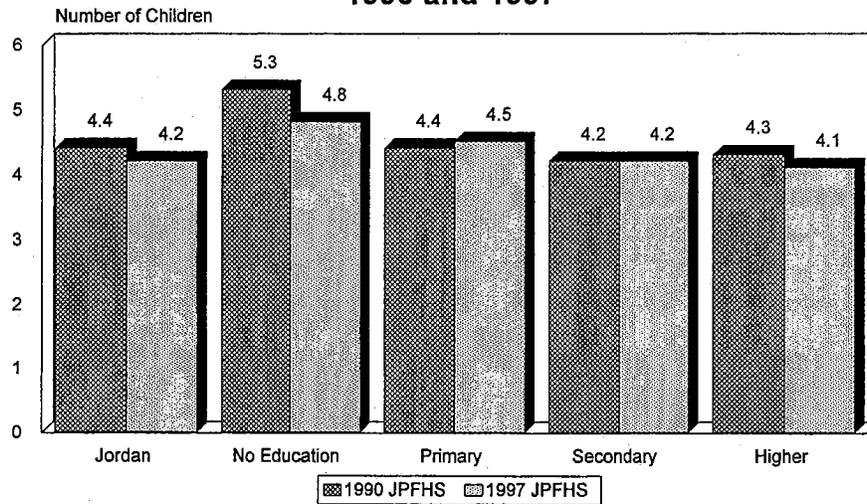


### Ideal Family Size

Fertility preferences can also be determined from reported desired family size. All ever-married women in the survey were asked a hypothetical question about the number of children they would choose to have if they could again experience their childbearing years. In 1990, one in three women declined to give a numeric response. In 1997 this proportion declined to just 5 percent.

Urban women, women in the Central region and women with higher education expressed a desire for fewer children than other women. Women's education is negatively associated with ideal family size. Better educated women want a smaller number of children than less educated women (Figure 21). For example, while the average ideal number of children among women with no education is 4.8, women with more than secondary education want 4.1 children. Figure 21 also shows that the gap in desired family size between subgroups of women has narrowed. In 1990, women with no education wanted one child more than women with more than secondary education. In 1997, this difference had declined to 0.7 children.

**Figure 21**  
**Mean Ideal Number of Children Among**  
**Currently Married Women 15-49 by Education**  
**1990 and 1997**

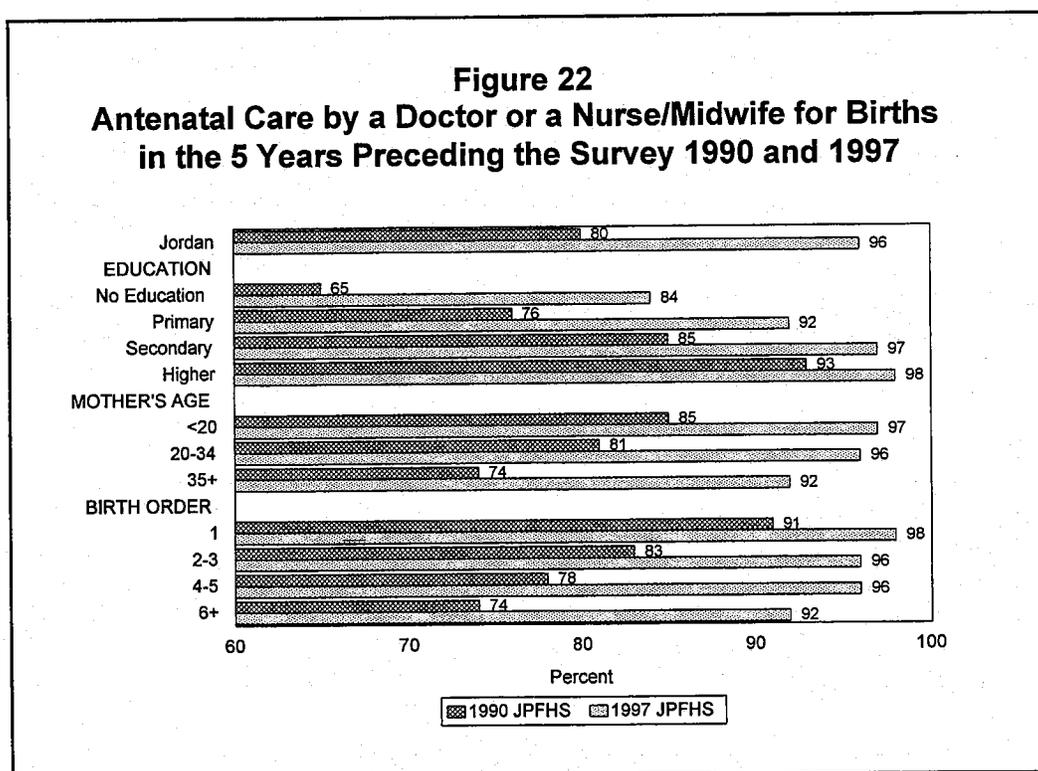


## 7 Maternal Health

### Antenatal Care

Antenatal care, which has been widespread in Jordan for some time, continues to increase. In 1990, eight in ten births in the five years preceding the survey were to mothers who received antenatal care. Among these births, 73 percent received care from a doctor and 8 percent from a nurse or midwife. In 1997, virtually all births in the five years preceding the survey were to mothers who received antenatal care; among these, only 5 percent received care from a nurse/midwife.

Figure 22 indicates that there are significant differences in antenatal care coverage among subgroups. Younger mothers, better educated mothers, and mothers with lower-order births are more likely to have received antenatal care. However, women with less education and older women, as well as mothers with higher-order births showed a significant increase in antenatal care coverage in 1997.

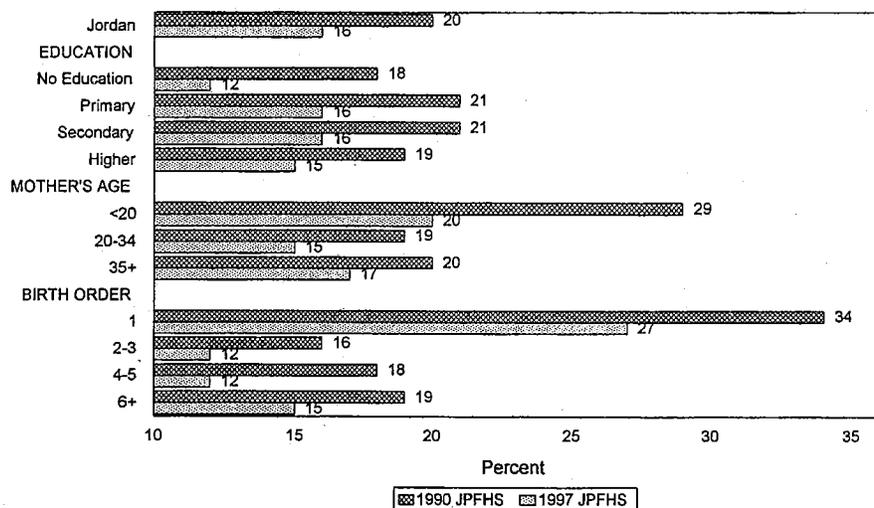


### Tetanus Toxoid Injections

Tetanus toxoid injections are given to pregnant women in order to prevent neonatal tetanus, a common cause of death in infants. The Expanded Program on Immunization and the maternal and child health care units of the Ministry of Health and Health Care recommend that women receive two tetanus toxoid injections during the first pregnancy and up to five injections over the following five years.

Coverage of tetanus toxoid injections in Jordan has decreased since 1990. In 1997, 16 percent of births in the five years preceding the survey were to mothers who received two or more doses of tetanus toxoid, compared with 20 percent in 1990 (Figure 23).

**Figure 23**  
**Tetanus Toxoid Coverage**  
**1990 and 1997**



Note: Coverage is for births in the 5 years preceding the survey for which the mother received two or more doses of tetanus toxoid vaccine.

The decline is observed in all population subgroups. In 1990 and 1997, tetanus toxoid coverage varied little by level of education. However, younger mothers and mothers with lower-order births are more likely to have received the tetanus toxoid injections than other mothers.

### Place of Delivery

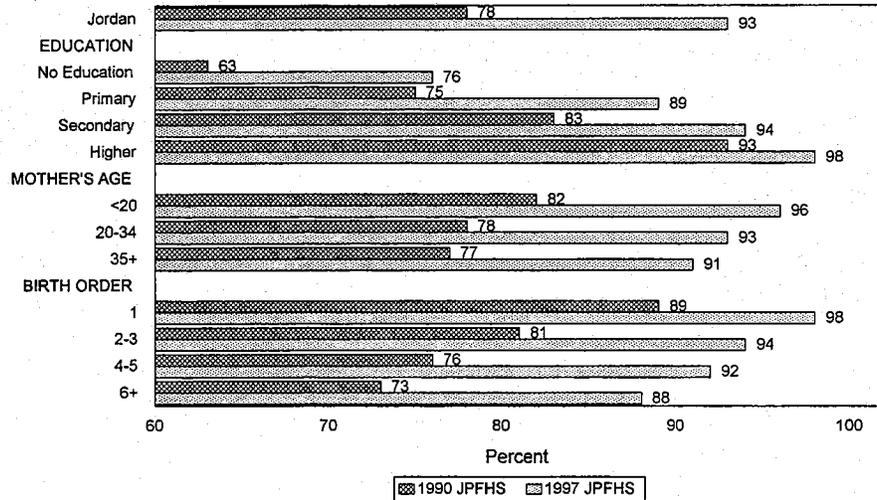
Virtually all births in Jordan (93 percent) take place in a health facility. This is an improvement since 1990 when 78 percent of births were delivered in a health facility (Figure 24). However, the pace of increase is faster among births to young women, women with less education, and high-order births, again narrowing the gap with other women.

### Assistance During Delivery

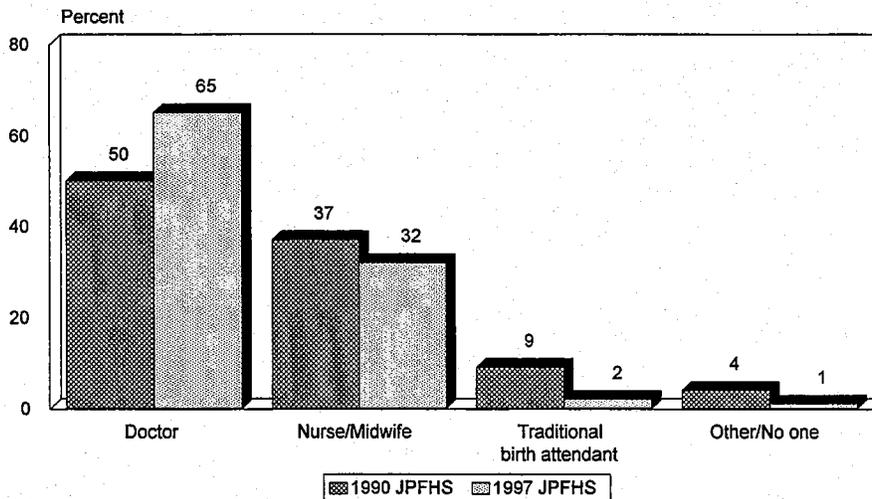
Most deliveries in Jordan are assisted by medical personnel. In 1997, 65 percent of births were delivered by a doctor compared with 50 percent in 1990. The proportion of births delivered by a nurse or midwife has declined from 37 percent in 1990 to 32 percent in 1997 (Figure 25). The role of traditional birth attendants during delivery is minimal.

As in 1990, doctors are still more likely to deliver births to better educated women, women living in urban areas, women with lower-order births, and women who received antenatal care.

**Figure 24**  
**Delivery in a Health Facility for Births in the 5 Years**  
**Preceding the Survey, 1990 and 1997**



**Figure 25**  
**Delivery Assistance**  
**1990 and 1997**



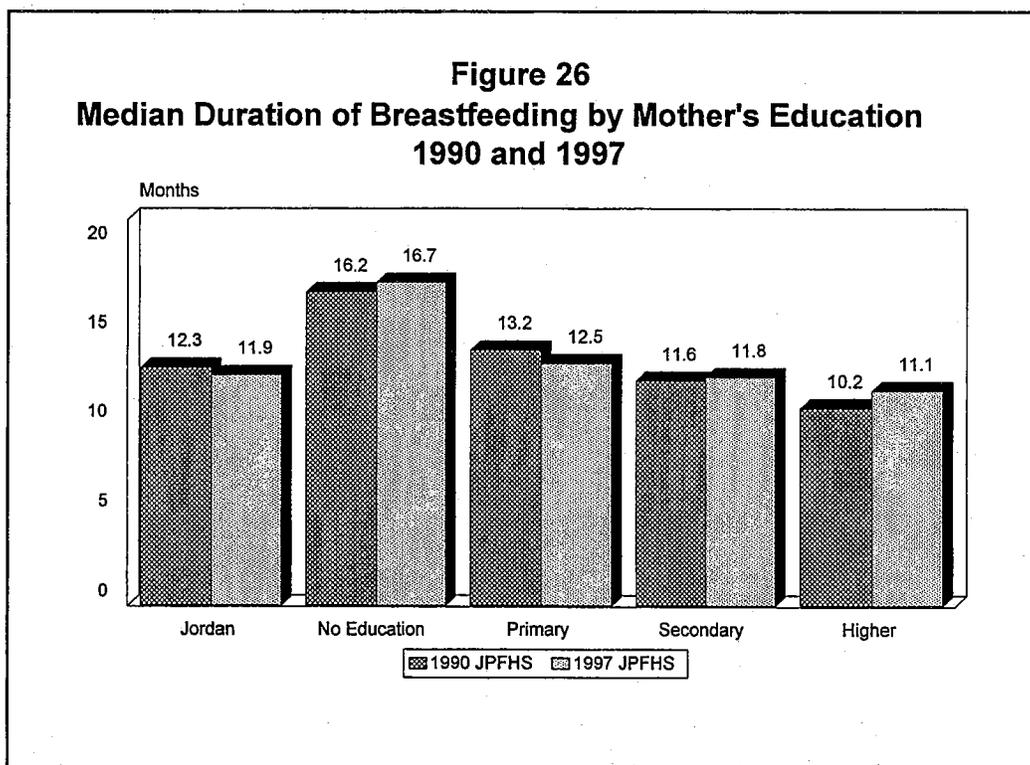
## 8 Child Health

### Breastfeeding

Breastfeeding is almost universal in Jordan. In 1997, 95 percent of infants were breastfed. The practice of breastfeeding varies little by background characteristics. While breastfeeding is generally initiated early, so is the practice of complementary feeding, including plain water.

It is worth noting that the median duration of breastfeeding has declined slightly from 12.3 months in 1990 to 11.9 months in 1997 (Figure 26). In 1997, shorter durations of breastfeeding were observed for all subgroups of children.

Duration of breastfeeding is negatively associated with women's education. Women who have no education breastfeed for a median of 16.7 months, 6 months longer than women with more than secondary education.



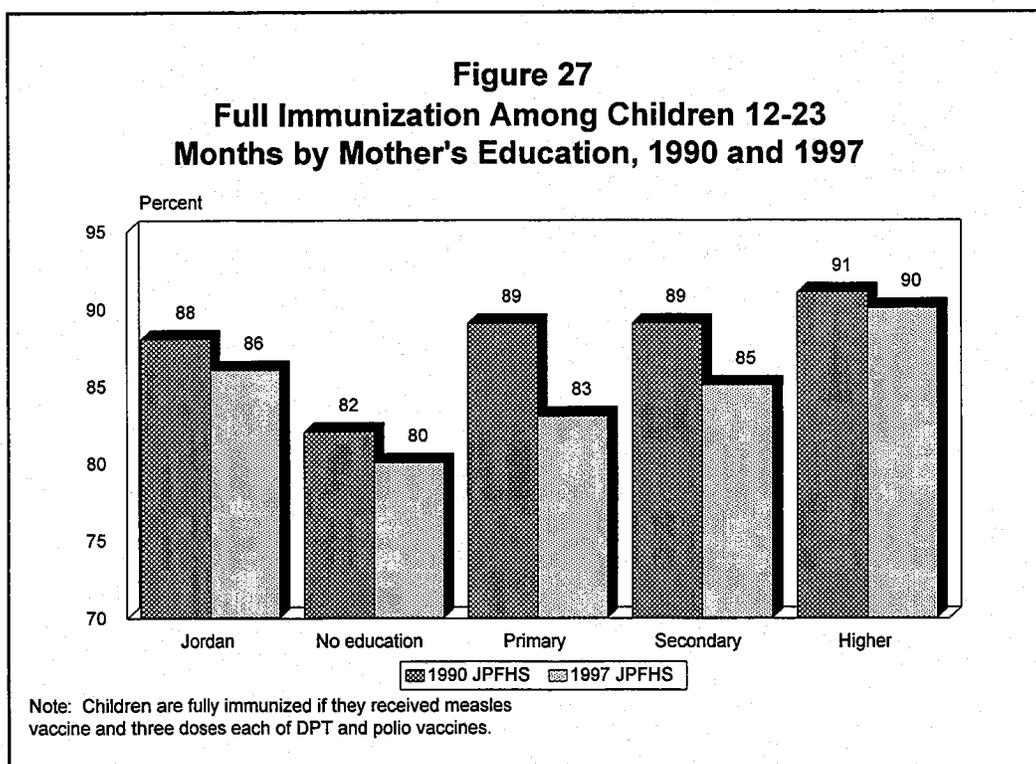
### Childhood Nutritional Status

Nutritional status is known to be subject to seasonal variations, and varies with fluctuating disease prevalence. However, the nutritional status of children under five in Jordan improved between 1990 and 1997. Chronic malnutrition or stunting (low height-for-age) decreased from 19 to 8 percent while acute malnutrition or wasting (low weight-for-height) declined from 3 to 2 percent between the two surveys. The percentage of underweight children (low weight-for-age) also declined slightly from 6 percent in 1990 to 5 percent in 1997.

## Immunization

The immunization program of the Jordan Ministry of Health and Health Care recommends that all children receive immunizations against the five major childhood diseases—diphtheria, pertussis, polio, tetanus, and measles, while BCG vaccine (for tuberculosis) is given to children at entry into school (about age 6 years).

In the 1990 and 1997 JPFHS, immunization information was collected for children born in the five years before the survey. Immunization coverage is based on information recorded on health cards and information from mothers' reports. Based on both sources, the proportion of children age 12 to 23 months who are fully vaccinated against the five childhood diseases has decreased slightly from 88 percent in 1990 to 86 percent in 1997. As in the case of antenatal care and delivery assistance, children of better educated mothers are more likely to be fully immunized than children of less educated mothers (Figure 27).

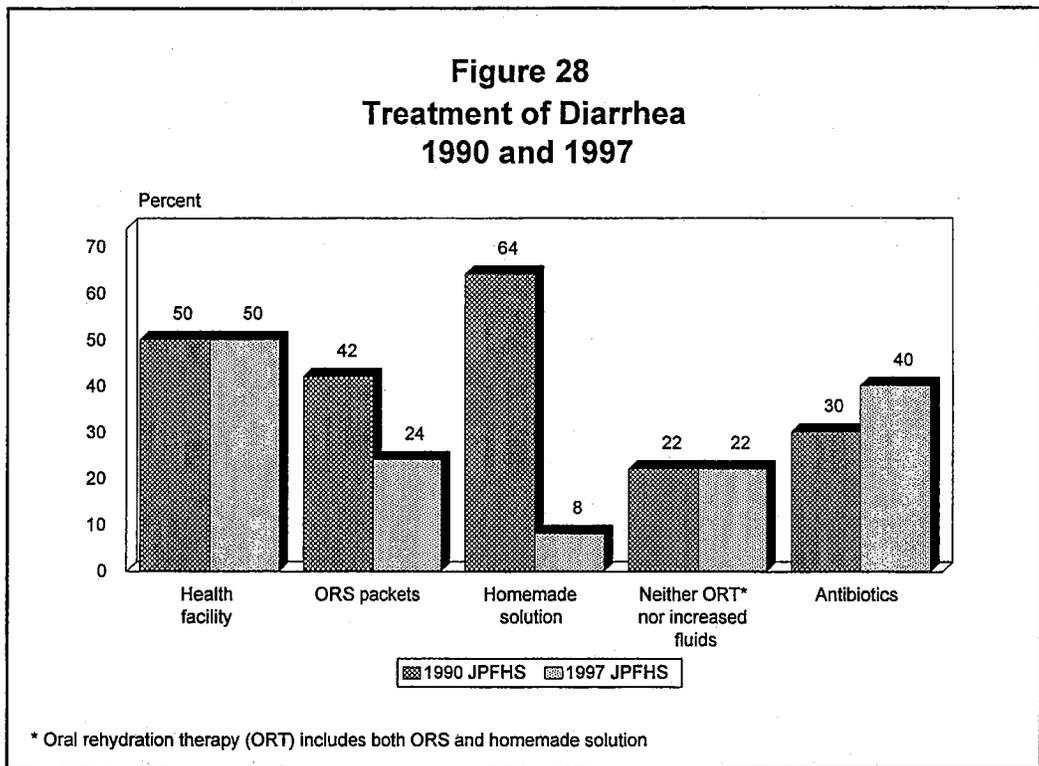


## Prevalence and Treatment of Diarrhea

The proportion of children under five years of age who had diarrhea during the two weeks preceding the survey doubled between 1990 and 1997 from 9 to 18 percent. The increase was observed for all subgroups.

In 1990 and 1997, virtually all women with children under five reported knowing about the use of oral rehydration salts (ORS) for treatment of diarrhea—oral rehydration therapy.

In both years, half of children who had diarrhea were treated at a health facility, such as a hospital or a health center, or taken to a private doctor. However, in 1997 a smaller proportion of children were treated with ORS or homemade solution than in 1990. The decline reflected a higher proportion of children being treated with antibiotics (30 percent in 1990 compared with 40 percent in 1997) (Figure 28).

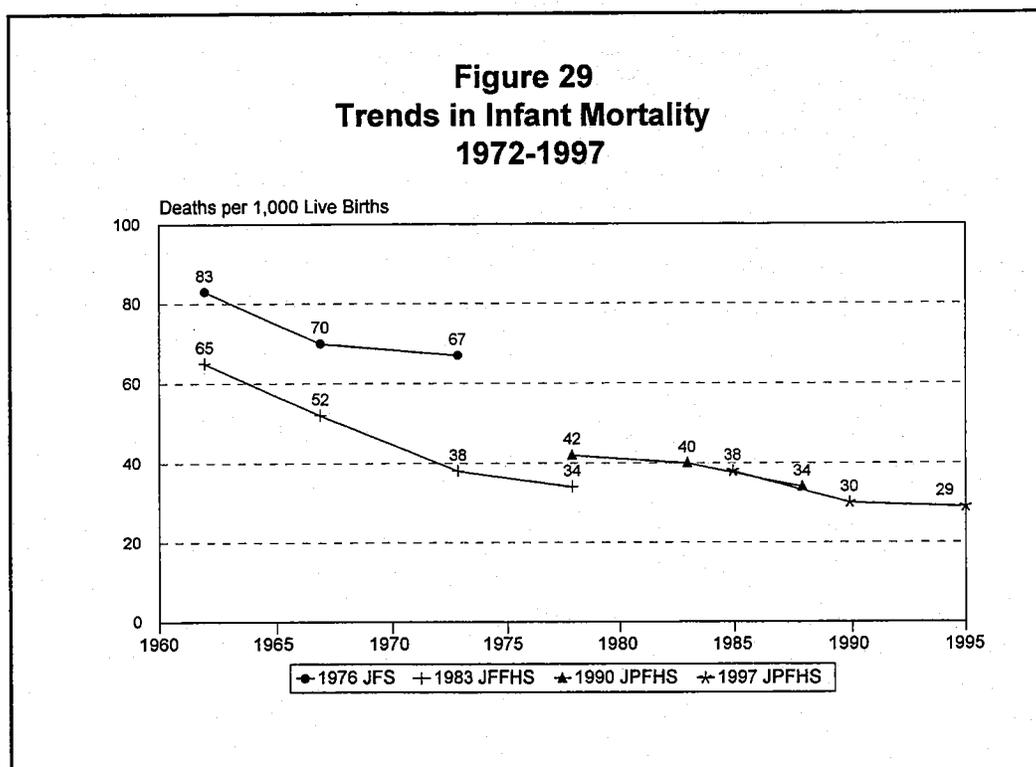


## 9 Infant and Child Mortality

### Childhood Mortality

Trends in infant and child mortality can be analyzed using estimates based on successive demographic surveys as well as retrospective data from a single survey. Infant and child mortality rates in this report were calculated from birth history data and refer to three five-year periods preceding the survey.

Over the last three decades, the infant mortality rate in Jordan has declined by 60 percent, from 83 deaths per 1,000 births in the early 1960s to 29 deaths per 1,000 births in the early 1990s (Figure 29). During the same period, mortality among children under age five declined from 89 to 34 deaths per 1,000.

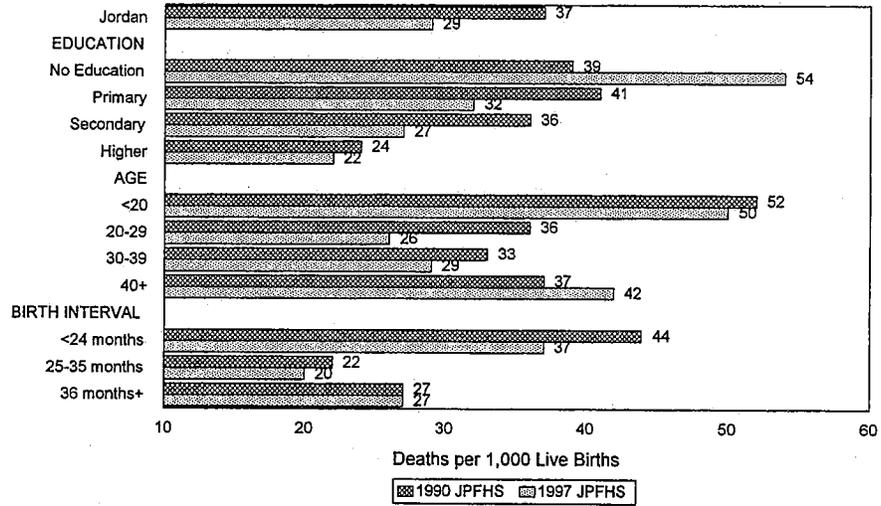


### Infant Mortality by Selected Characteristics

Childhood mortality is closely associated with social and economic factors. For example, mother's level of education is inversely related to deaths among young children. Children of mothers with no education are twice as likely to die before their first birthday as children of mothers with some secondary education (54 deaths per 1,000 live births compared with 27 deaths per 1,000) (Figure 30).

Infant mortality rates are lowest for children whose mothers gave birth at age 20-29 and children born between 25 and 35 months after the preceding birth. On the other hand, giving birth at a young age (under 20) and having a short birth interval (less than 24 months) increase mortality risks. Overall, infant mortality declined between 1990 and 1997, however, differentials between subgroups have become more marked.

**Figure 30**  
**Infant Mortality Rates**  
**1990 and 1997**



Note: Rates are for the five years preceding the survey

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