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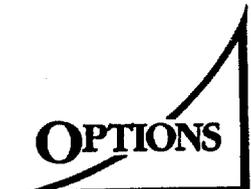
**AN ANALYSIS OF BIRTH SPACING
IN THE NEAR EAST**

Prepared for the Asia/Near East Bureau of USAID

by the OPTIONS II Project

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OPTIONS

PREFACE

Options for Population Policy (OPTIONS) II is a five-year project by the Office of Population of the U.S. Agency for International Development (USAID). The goal of the project is to help USAID-assisted countries formulate and implement policies that address the need to mobilize and effectively allocate resources for expanding family planning services. The project provides technical assistance to:

- improve the analytic capacity of developing-country institutions to design, manage and monitor family planning programs;
- assess legal and regulatory policies affecting the delivery of family planning services;
- promote efficient use of public sector resources in family planning programs; and
- increase private sector participation in service delivery.

This study is one of three prepared for the Asia/Near East Bureau of USAID to examine family planning issues in the Near East. The studies utilize data from the Demographic and Health Surveys (DHS) for Egypt, Jordan, Morocco, Tunisia and Yemen and highlight programmatic implications of the analytical results. The three papers in the series are:

- A Client-oriented Method Mix Analysis for Five Near East Countries
- An Analysis of Birth Spacing in the Near East
- Unmet Need in Egypt, Morocco and Jordan: What Do We Really Know About Reasons for Non-use of Contraception?

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EXECUTIVE SUMMARY

The Near East has one of the highest rates of natural population increase in the world, second only to sub-Saharan Africa. Fertility behavior of women in the region is generally characterized by early age at marriage, high fertility and short birth intervals. *In the Near East, infants born less than two years after the preceding birth are more than twice as likely to die before age one as those born two to three years after the preceding birth.* The health and demographic consequences of short birth intervals are particularly severe in the Near East, where the incidence of short birth intervals is among the highest in the world. In Jordan, 50 percent of all births in the last five years occur less than two years after a preceding birth. In Yemen, 42 percent of births are closely-spaced, as are 31 percent of births in Egypt.

Birth spacing is an integral part of family planning and reproductive health programs in the Near East. Therefore, understanding fertility behavior of women in regard to birth spacing is important to the formulation and implementation of these programs. For this reason, the unit of analysis in this study is mothers rather than births. A "woman-based" analysis is most relevant for policies and programs targeting women, such as birth spacing and reproductive health programs.

Looking at mothers rather than births, the Demographic and Health Surveys (DHS) show that about one-third of mothers who had at least two births at the time of the survey, at least one of which occurred during the five years preceding the survey, had their last birth after an interval of less than two years. The proportion of these women with short-interval births ranges from a low of 22 percent in Morocco to a high of 44 percent in Jordan.

DHS data from Egypt, Jordan, Morocco, Tunisia and Yemen are used to explore the extent and patterns of short birth intervals in the Near East, and how recent socio-demographic trends in the region may affect the fertility behavior of women in regard to birth spacing. Recent trends in the region indicate that the desire for smaller families is increasing, fertility is declining, contraceptive use is increasing, girls are staying in school longer, and societies are becoming more urban and modernized. The study also examines the wantedness of closely-spaced births, how the desired and actual birth intervals differ among women who had wanted to postpone their last birth, and mothers' family planning and breastfeeding practices three months prior to the pregnancy that resulted in a short-interval birth.

The study finds that half of mothers with short birth intervals had actually wanted to have the last birth when it occurred. It also shows that, despite the increase in contraceptive use, current socio-demographic trends in the region are not necessarily conducive to lowering a woman's risk of a short-interval birth. Of all educational groups, women with a secondary or higher education are at the greatest risk of having short-interval births, except in Tunisia. Although the demand for smaller families is increasing, the birth spacing behavior of women who desire a smaller family is not significantly different from women who want larger families. The study also shows that, in each country, women living in rural and urban areas have similar birth spacing behavior.

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Age and parity of mothers, characteristics that are themselves linked, are correlated with birth interval. Young women just beginning their families are at the highest risk of closely-spaced births. Although the decline in fertility rates observed in the region will reduce the number of high-order births, this change does not ensure that young, low-parity women will increase the spacing between births.

The study finds a large gap between desired and actual birth intervals. Mothers who had wanted their last birth later would have liked to postpone that birth for at least two years. This gap is consistent across different socio-demographic characteristics of mothers, such as rural-urban residence, age, parity, education, and desired number of children.

The study suggests the need to strengthen the birth-spacing programs in the region through:

- a strong IEC component to alert mothers, particularly young mothers, to the risks of having closely-spaced births;
- increased emphasis on breastfeeding; and
- provision of an appropriate contraceptive method mix to help women achieve their desired birth interval, as well as their desired family size, with special attention to the need of breastfeeding mothers.

The study also calls for further research on individual countries to examine why the differentials in contraceptive use among women with short birth intervals, such as by urban-rural residence, desired family size and education of mothers, are not reflected in their birth-spacing patterns.

AN ANALYSIS OF BIRTH SPACING IN THE NEAR EAST

I. INTRODUCTION

The Near East has one of the highest rates of natural population increase in the world, second only to sub-Saharan Africa. Fertility behavior of women in the region is generally characterized by early age at marriage, high fertility and short birth intervals.¹ The health and demographic consequences of short birth intervals are particularly severe in the Near East. In Jordan, 50 percent of births occur less than two years after a preceding birth. In Yemen, 42 percent of births are closely-spaced; in Egypt, 31 percent; and in Morocco, 26 percent. *In the region, infants born less than two years after a preceding birth are more than twice as likely to die before age one as those born two to three years after a preceding birth.*

There are a number of reasons why short birth intervals affect a child's chance of survival. One strong possibility is maternal depletion due to the nutritional demands of pregnancy and lactation. This depletion undermines the mother's reserves, resulting in intra-uterine growth retardation and, subsequently, low birth weight babies. A pregnancy that occurs within a short time after childbirth causes premature cessation of breastfeeding. Abrupt termination of breast feeding severely stresses a child's health and denies the child access to the health benefits of breast milk. Abrupt termination can also result in childhood malnutrition, which in turn leaves children prone to sickness. The risk of infection also is higher among children who are too closely spaced. A newborn tends to be exposed to more infections when he or she has siblings close in age. Short birth intervals create competition for mother's time and household resources.

Birth spacing is an integral part of family planning and reproductive health programs in the Near East. Therefore, understanding birth spacing patterns and fertility behaviors of women is important to the formulation and implementation of these programs in the region. For this reason, the unit of analysis in this study is mothers rather than births. While a "birth-based" analysis is useful in assessing infant and child health and survival, a "woman-based" analysis is most relevant for policies and programs targeting women, such as birth spacing and reproductive health programs.

While analyses of birth intervals can focus on the spacing between births of any order, this study looks at the birth-spacing pattern for the last birth only. This provides a recent picture of the birth spacing patterns among the women surveyed. In this study, birth-spacing patterns of ever-married women aged 15 to 49 years with at least two births at the time of the survey and at least one birth during the five years prior to the survey will be reviewed.

¹Birth intervals are measured as the number of months between two successive births. In this report, we are concerned with the length of the interval between the last birth and the one preceding it. A short birth interval is considered to be less than 24 months.

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This study explores the extent and patterns of short birth intervals in five countries in the Near East. It also examines how recent socio-demographic trends in the region may affect the fertility behavior of women in regard to birth spacing. Recent trends in the region indicate that demand for smaller families is increasing, fertility is declining, girls are staying in school longer, and societies are becoming more urban and modernized. The study also examines the wantedness of closely-spaced births, differences in the desired and actual birth intervals among women who wanted to postpone their last birth, and mother's breastfeeding and family planning practices three months prior to the last pregnancy that resulted in a short-interval birth.

Data from the Demographic and Health Surveys (DHS) in Egypt (1992), Jordan (1990), Morocco (1992), Tunisia (1988) and Yemen (1991/92) are used to examine women's reproductive behavior regarding birth spacing.

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II. BACKGROUND

With an annual natural increase rate of 2.6 percent, the population of the Near East is growing one percent faster than the world as a whole. At this rate, the region will double in population size in less than 30 years.

In the Near East, the total fertility rate (TFR) is about five children per woman--almost two children more than the world's average of 3.2.² Fertility varies among countries in the region, ranging from three children in Israel and Lebanon to more than seven children per woman in Yemen and Gaza (see Table 1). Although the TFR remains high, fertility in the Near East has been declining. Over the past three decades, the TFR fell from seven to five children. This is due, in part, to the increase in the proportion of married women practicing family planning, which rose from 7 percent to 35 percent during the same period. Contraceptive prevalence rates range from about 10 percent in Oman and Yemen to around 50 percent in Bahrain, Egypt, Tunisia and Turkey.

Although fewer than half of the governments in the region have policies to lower fertility,³ the majority of the region's population lives in these countries. For example, the governments of the three countries with the largest populations--Egypt, Iran, and Turkey--have strong policies to reduce the rate of population growth. Although the social welfare policies of the Gulf States may be viewed as pronatalist, only the governments of Iraq, Israel and Kuwait have explicit policies to encourage large families through the provision of child allowances and other incentives. The governments of the five countries analyzed in this paper (Egypt, Jordan, Morocco, Tunisia, and Yemen) all have explicit policies to reduce fertility. They view rapid population growth as an obstacle to economic and social development.

In the developing world as a whole, there are three strategies to slow population growth (Bongaarts, 1994). The first strategy, which has been the focus of international efforts during the past 30 years, is the establishment of family planning programs that make contraceptive information, commodities and services widely available to couples who wish to plan their families. A second strategy, which has gained attention in recent years, calls for investment in human development as a way to increase the demand for smaller families. This includes raising the status of women, especially through education. The third strategy for slowing population growth encourages raising the age of marriage and increasing the intervals between births. This paper will provide an analysis of birth intervals in the Near East.

More important than the long-term demographic impact of short birth intervals is their immediate effect on the health of mothers and children. Research has shown that infants born less than 24 months after a sibling are at greater risk of dying (Hobcraft et al., 1983). These infants are more

² The total fertility rate is the total number of children a woman would have during her lifetime if she were to experience the current age-specific fertility rates throughout her reproductive years.

³ As indicated in response to a United Nations Questionnaire.

likely to have low birth weights and are more vulnerable to disease. The elder sibling also is at risk, in part because the mother may be forced to discontinue breastfeeding prematurely due to the new pregnancy. Closely-spaced births also can compromise the mother's health, contributing to her nutritional and physical depletion.

DHS data show the effects of short birth intervals on child survival. In Yemen, the infant mortality rate for children born less than two years after the preceding birth is 131 per thousand live births--more than double the death rate for infants spaced two to three years after the preceding birth (51) (see Figure 1). In Egypt, the infant mortality rate for closely-spaced births is 129, as opposed to 63 for infants spaced two to three years after the preceding birth. This pattern of higher infant mortality for infants born after an interval of less than two years is found throughout the region.

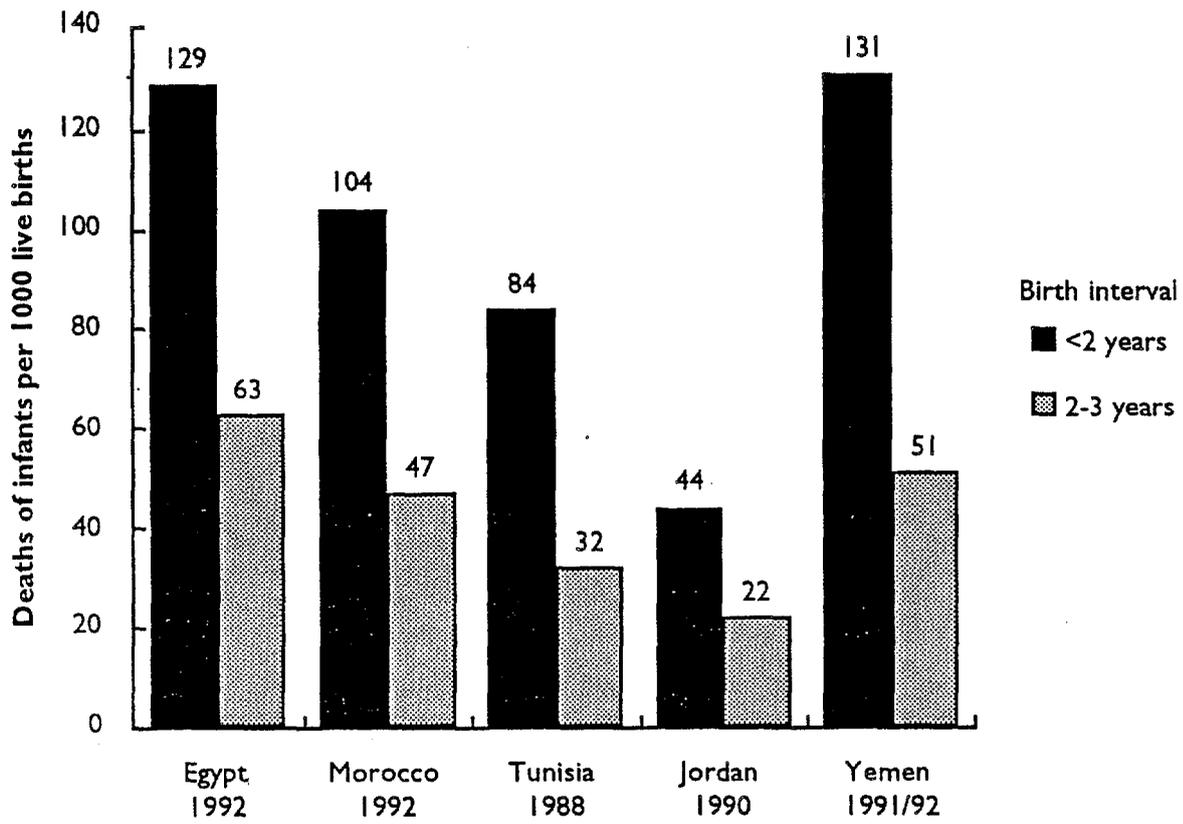
The health and demographic consequences of closely-spaced births are particularly severe in the Near East, which has the highest prevalence of short birth intervals in the world.⁴ According to the 1990 DHS for Jordan, 50 percent of all births in the five years preceding the survey were spaced less than two years after the preceding birth. Short-interval births are also common in other countries: 42 percent in Yemen, 31 percent in Egypt, and 26 percent in Morocco.

This study explores the extent and patterns of short birth intervals in five countries in the Near East: Egypt, Morocco, Tunisia, Jordan, and Yemen. Differentials in birth intervals are examined according to various socio-demographic characteristics of the mothers, including rural/urban residence, parity, age, education level and desired number of children. Data are also presented on actual and desired birth intervals, wantedness of the last birth, and family planning and breastfeeding practices. Data are presented graphically in the paper; tables in the Appendix provide more detail.

⁴ Central Asia also appears to have a high level of short interval births, but no national survey has been undertaken to document their prevalence.

Figure 1.

Birth Spacing and Infant Mortality



Infant Mortality (${}_1q_0$) is the probability of dying before the first birthday.

TABLE 1
Selected Demographic, Social, and Economic Indicators for Countries in the Near East

COUNTRY	Population 1994 (millions)	Crude birth rate (per 1,000)	Crude death rate (per 1,000)	Natural population increase (%)	Government policy towards fertility	Average number of children per woman	Percent of married women practicing family planning	Urban Population (%)
ALGERIA	27.9	32	7	2.5	Lower	4.2	36	50
BAHRAIN	0.6	29	5	2.4	No intervention	3.7	54	81
EGYPT	58.9	30	8	2.3	Lower	3.9	47	45
GAZA	0.7	56	6	5.0	-	7.7	-	-
IRAN	61.2	44	9	3.6	Lower	6.6	37	57
IRAQ	19.9	45	8	3.7	Raise	7.0	18	70
ISRAEL	5.4	21	6	1.5	Raise	2.8	-	90
JORDAN	4.2	38	5	3.3	Lower	5.2	35	70
KUWAIT	1.3	35	2	3.3	Raise	4.9	35	-
LEBANON	3.6	25	5	2.0	No intervention	2.9	-	86
LIBYA	5.1	42	8	3.4	No intervention	6.4	-	76
MOROCCO	28.6	30	7	2.3	Lower	4.0	42	47
OMAN	1.9	53	4	4.9	Maintain	6.9	9	12
QATAR	0.5	14	4	1.0	Maintain	3.0	26	91
SAUDI ARABIA	18.0	36	5	3.2	No intervention	5.5	-	79
SYRIAN ARAB REPUBLIC	14.0	44	6	3.7	No intervention	6.9	-	51
TUNISIA	8.7	25	6	1.9	Lower	3.3	50	59
TURKEY	61.8	29	7	2.2	Lower	3.5	63	61
UNITED ARAB EMIRATES	1.7	23	4	1.9	No intervention	4.1	-	83
WEST BANK	1.4	46	7	4.0	-	5.7	-	-
YEMEN	12.9	48	14	3.4	Lower	7.6	10	31

SOURCES: Macro International, Demographic and Health Surveys; Population Reference Bureau, World Population Data Sheet, 1994, and World Women's Data Sheet 1995; of the World Children, 1995; World Bank, World Development Report, 1994

DATA TABLE 1 (CONTINUED)

COUNTRY	Life expectancy at birth male/female	Infant mortality rate (per 1000 live births)	Maternal mortality ratio 1990-92 (per 100,000 live births)	Literacy Rate male/female 1990	Female Enrollment Ratio, Primary School 1986-92	Female Enrollment Ratio, Secondary School 1986-92	Percent of women in the Labor Force, age 15+ 1990-92	GNP per capita 1992 US \$
ALGERIA	66/68	55	140	68/41	88	53	-	1,830
BAHRAIN	69/73	21	-	87/75	-	-	29	7,150
EGYPT	60/63	62	270	61/34	93	73	30	630
GAZA	65/67	43	-	-	-	-	-	-
IRAN	64/65	66	120	72/52	105	49	9	2,190
IRAQ	63/64	79	120	66/38	87	37	-	-
ISRAEL	74/78	9	3	95/89	96	89	43	13,230.00
JORDAN	64/70	34	48	91/73	98	62	-	1,120
KUWAIT	74/78	16	6	77/72	-	-	34	-
LEBANON	73/78	28	-	94/88	110	64	-	-
LIBYA	62/65	68	70	84/54	-	-	-	-
MOROCCO	65/69	57	330	52/26	54	29	25	1,040
OMAN	70/73	24	-	-	96	53	-	6,490
QATAR	70/74	20	-	78/76	-	-	-	16,240
SAUDI ARABIA	69/72	24	41	69/44	72	41	-	7,940
SYRIAN ARAB REPUBLIC	65/67	44	140	82/49	103	43	10	1,170
TUNISIA	67/69	50	70	73/47	110	42	20	1,740
TURKEY	64/70	57	150	90/69	110	40	34	1,950
UNITED ARAB EMIRATES	70/74	23	-	77/76	114	73	-	22,220
WEST BANK	68/71	40	-	-	-	-	-	-
YEMEN	53/55	83	330	-	43	10	-	520

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III. FERTILITY PATTERNS

The fertility patterns during the five years prior to the DHS indirectly demonstrate birth spacing. As the number of births a woman has in five years increases, the length of the birth interval decreases. Figure 2 shows the distribution of ever-married women of reproductive age by their number of births (deliveries)⁵ during the five years preceding the survey. In Egypt (1992), 58 percent of women had at least one birth during the five-year period. In Yemen (1991/92), 73 percent of women had one or more births. The percentages for Morocco, Jordan and Tunisia fall between these values.

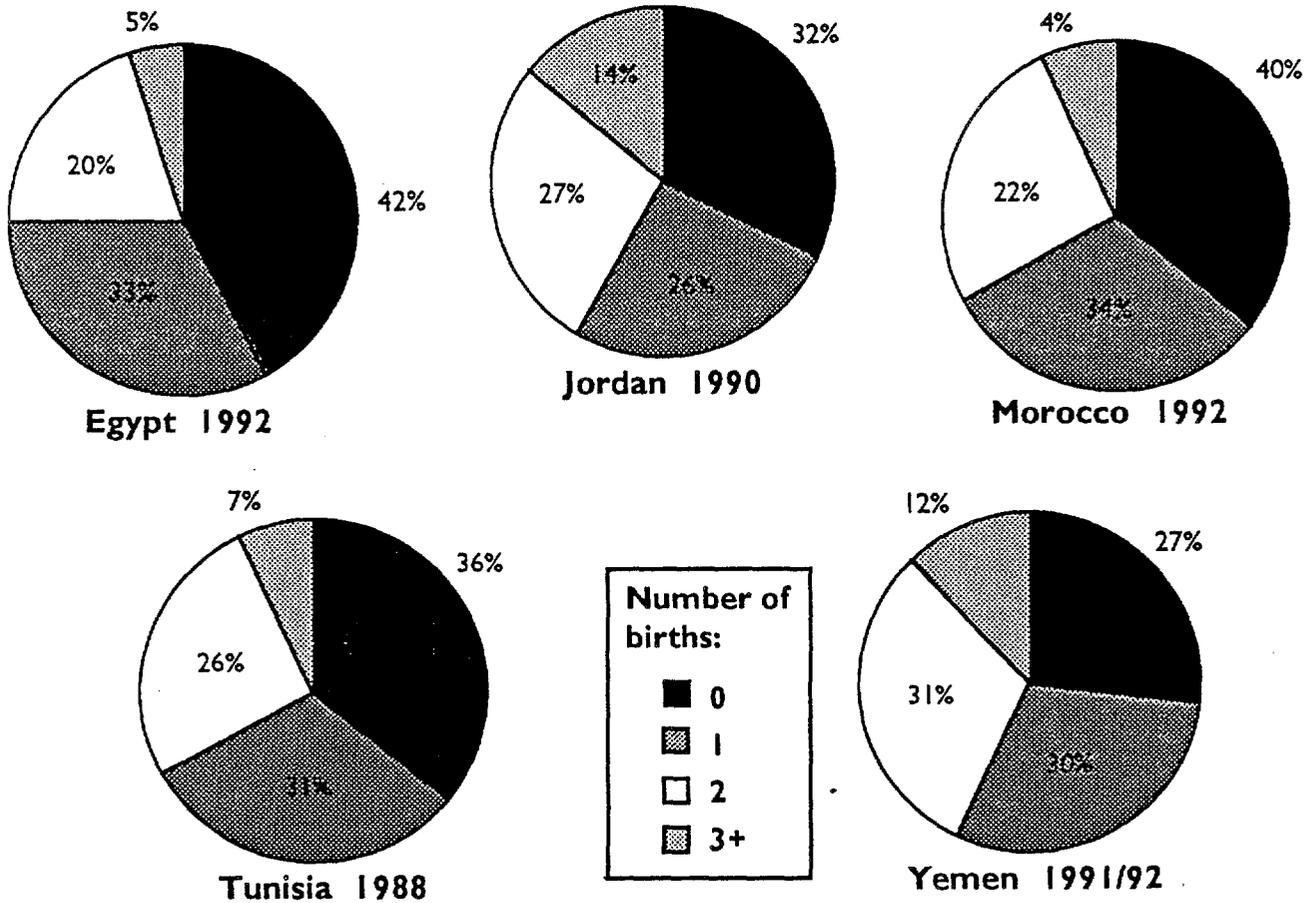
The percent of ever-married women having only one birth during the five-year period from 34 percent in Morocco to 26 percent in Jordan. In Jordan and Yemen, 14 percent and 12 percent of women, respectively, had at least three births during the five-year period.

(Table A1 in the Appendix shows additional trend data for Egypt and Morocco.)

⁵ Since the unit of analysis in this study is a mother rather than an infant, throughout this paper each birth corresponds to a delivery, regardless of whether it resulted in a single or multiple birth.

Figure 2.

Distribution of Ever-married Women of Reproductive Age by Number of Births during 5 Years Prior to DHS



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IV. MOTHERS WITH CLOSELY-SPACED BIRTHS

While analyses of birth intervals can focus on the spacing between births of any order, this study looks at the birth-spacing pattern for the last birth only. This provides a recent picture of the birth spacing patterns among the women surveyed. In this study, birth-spacing patterns of ever-married women aged 15 to 49 years with at least two births at the time of the survey and at least one birth during the five years prior to the survey will be reviewed.

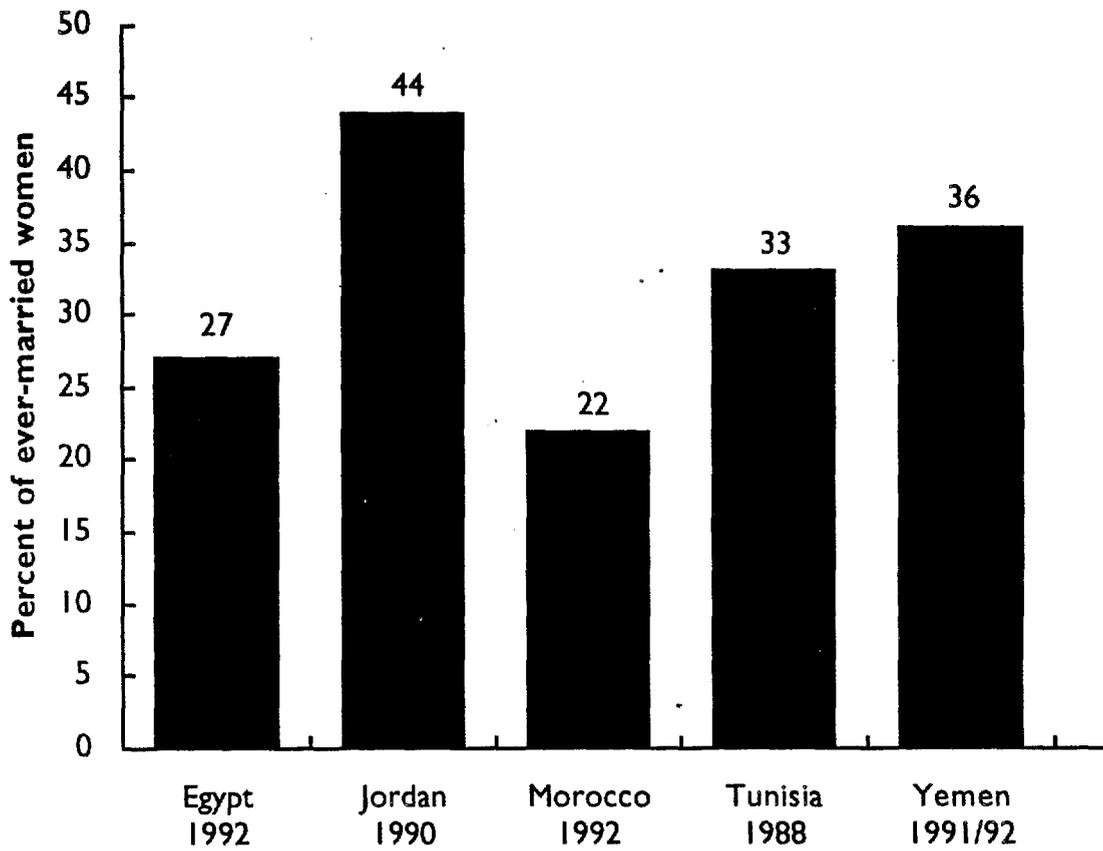
For the five countries under review, approximately one-third of mothers had their last birth less than two years after a previous birth. In Jordan, 44 percent of mothers had births following short intervals--the highest proportion in the region.⁶ This proportion is twice as high as that found in Morocco (22 percent), the lowest proportion among the five countries (see Figure 3).

(See Table A2 for additional trend data for Egypt and Morocco.)

⁶ (Please note that the previous percentages given in the Executive Summary and in Part II (e.g., 50% in Jordan) refer to all births during the five years prior to the survey. Here the percentages (e.g., 44% in Jordan) refer to women (rather than births) and pertain only to their last birth.)

Figure 3.

**Percent of Women Whose Last Birth was <2 Years
from Preceding Birth**



Preceding Birth Interval by Rural-urban Residence

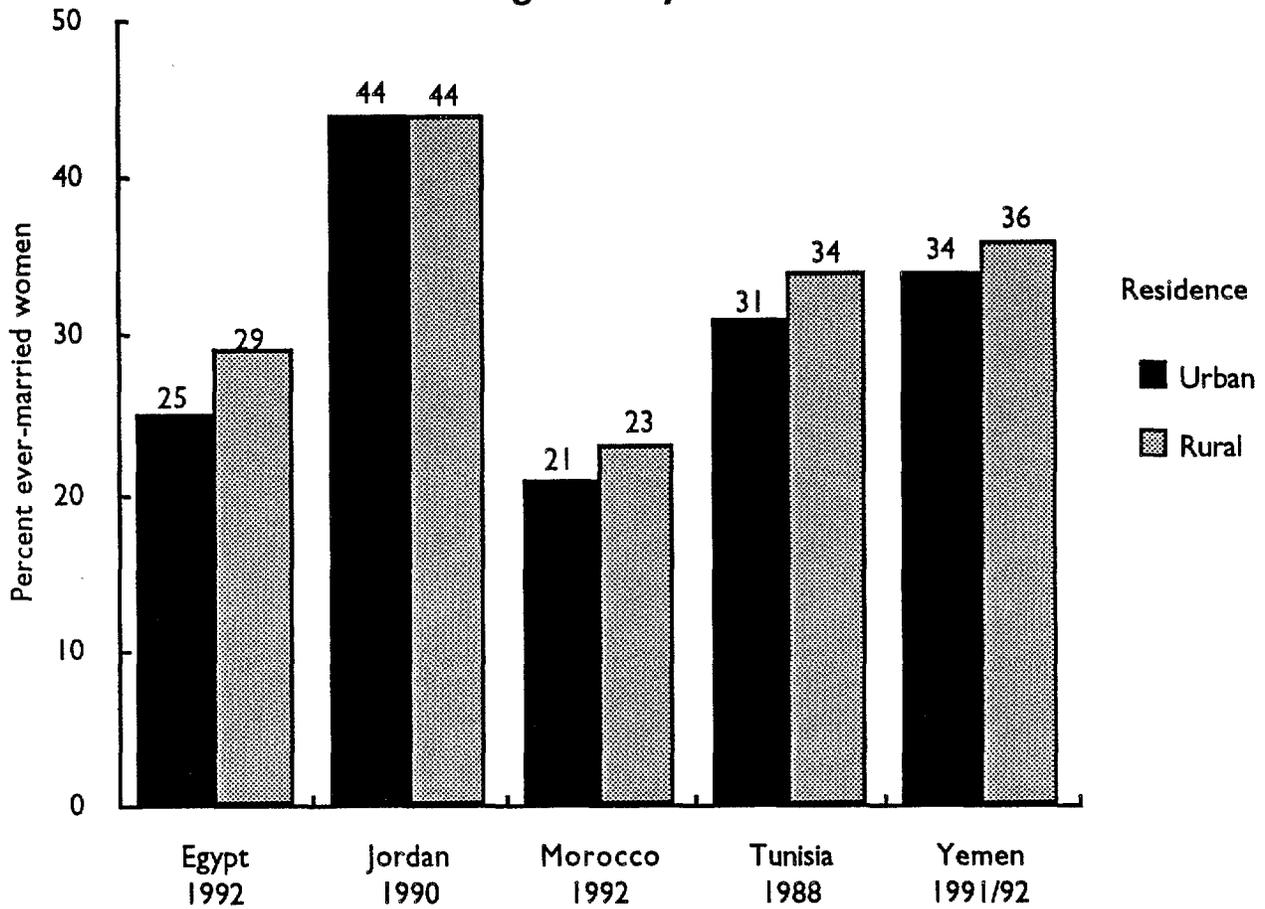
As Figure 4 shows, the prevalence of short birth intervals does not vary significantly according to **rural or urban residence** of the mother. Despite differences in the levels of contraceptive prevalence between the two areas, it can be hypothesized that longer and more intense breastfeeding practice among women in rural areas may compensate for the greater use of contraception among women in urban areas. Thus, the two groups can achieve similar patterns of birth spacing.

In Jordan, 44 percent of women living in urban areas, as well as in rural areas, had short birth intervals. In Egypt, Morocco, Tunisia and Yemen, women living in rural areas had a slightly higher chance of having closely-spaced births.

(See Table A3 in the Appendix for detailed data.)

Figure 4.

Percent of Women Whose Last Birth was <2 Years from Preceding Birth by Rural-Urban Residence



Preceding Birth Interval by Desired Number of Children

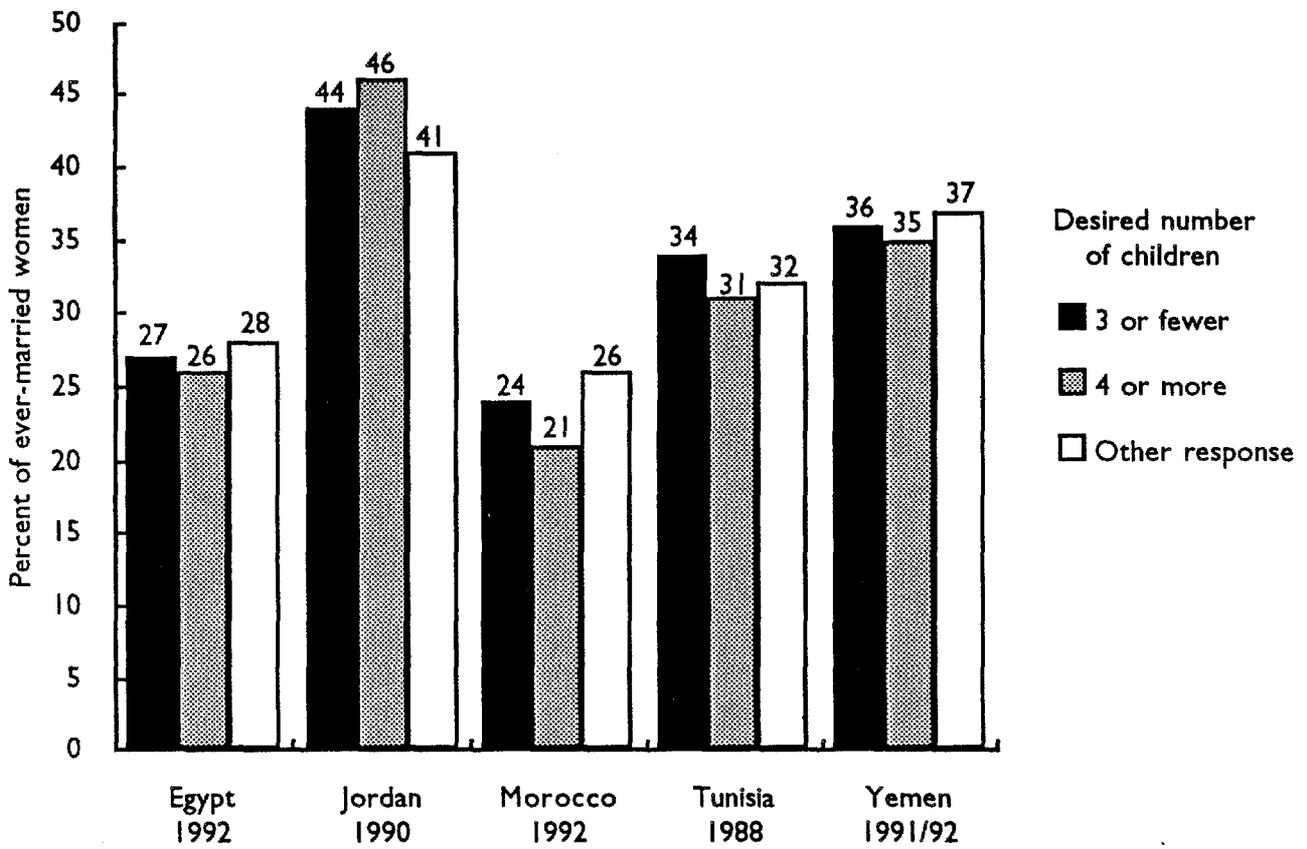
The data also indicate that a woman's **desired family size** is not correlated with short birth intervals (see Figure 5). In all five countries, the percent of women with a short birth-interval who desired three or fewer children is only three or less percentage points higher or lower than that of other women with a short birth interval.

In the Near East, where women generally desire large families, one might expect that a larger desired family size would contribute, at least in part, to a higher proportion of short-interval births in the region. The data, however, do not show much variation according to desired family size.

As previously mentioned, one strategy for reducing population growth focuses on investing in human development to increase the desire and demand for smaller families. In the Near East, where the desired family size is relatively large, increasing the desire for smaller families is a rational strategy for reducing population growth. Nonetheless, as Figure 5 shows, an increase in the desire for smaller families will not necessarily reduce the risk of a short interval.

Figure 5.

Percent of Women Whose Last Birth was <2 Years from Preceding Birth by Desired Number of Children



Preceding Birth Interval by Women's Education

Women's education, one of the most important elements in improving human development, appears to have little impact on reducing the risk of short-interval births. Despite their later age at marriage and greater contraceptive practice, women with at least a secondary education are more likely to have closely-spaced births, except in Tunisia. The different pattern in Tunisia may be due in part to the availability of abortion. Tunisia is the only Arab country where abortion is legal on request.

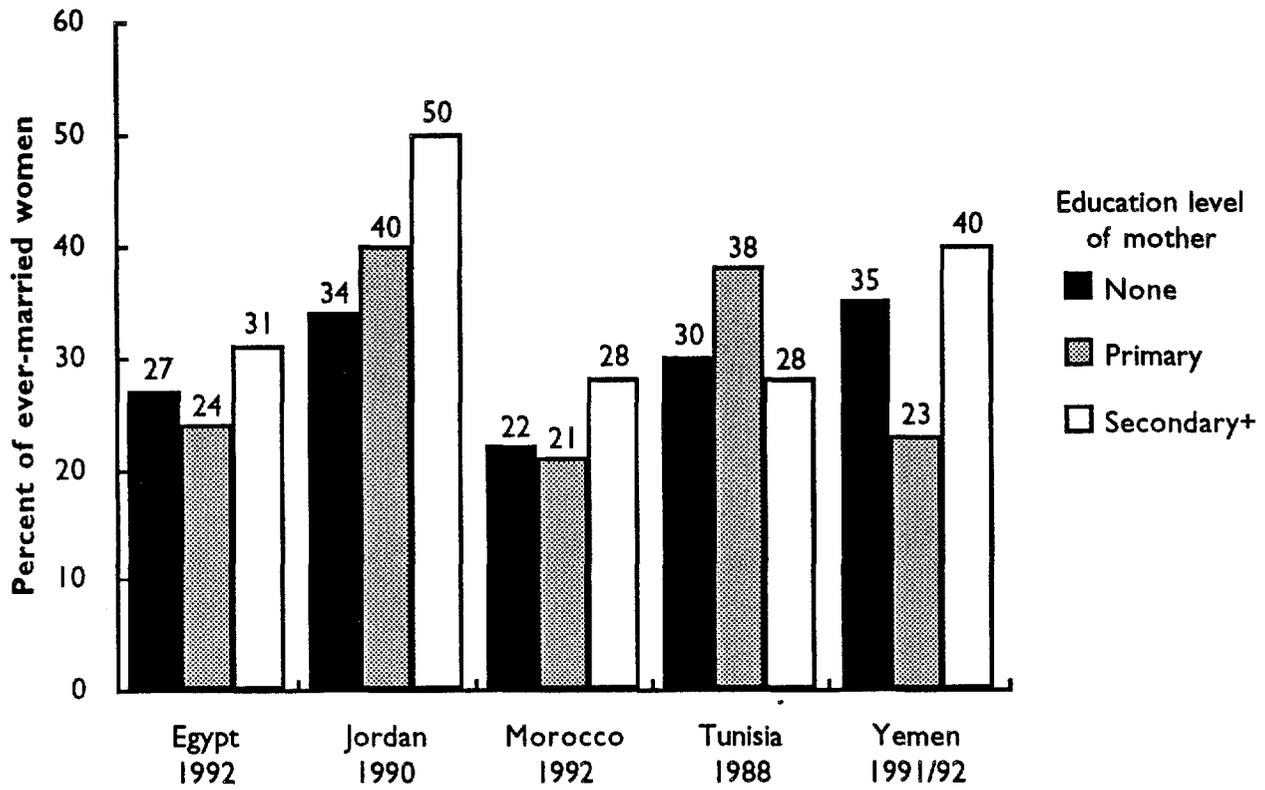
The data shown in Figure 6 indicate that the relationship is actually U-shaped in some countries: the least educated and most educated women in Egypt, Morocco and Yemen are more likely to have a short-interval birth than women with a primary education. Although many of the women surveyed had not completed primary school, advances in education indicate that women's primary education is now almost universal for girls throughout the region, except for a few countries such as Morocco and Yemen. Consequently, for women now entering their reproductive years, it will be most significant to focus on the birth-spacing differential by primary and secondary or higher levels of education.

Although women with secondary or higher educational levels generally rely on the private sector for their reproductive health care, including their family planning needs (Cross et al., 1991), they should not be excluded from government IEC activities promoting birthspacing.

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Figure 6.

Percent of Women Whose Last Birth was <2 Years from Preceding Birth by Education



Preceding Birth Interval by Age and Parity of Mother

Birth intervals vary the most according to the **age** and **parity** of mothers.⁷ These two indicators are themselves linked; usually, the younger the mother, the lower the parity. Younger mothers and mothers with fewer children are most likely to have had a closely-spaced birth in the five years prior to the survey. (See Figure 7 and Figure 8.)

Although the decline in fertility rates observed in the region reduces high-order births, as shown in Figure 8, this change does not ensure that young, low-parity women will increase the spacing between births.

(See Table A4 for more detailed data.)

⁷ Parity refers to the number of births a woman has had.

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Figure 7.

Percent of Women Whose Last Birth was <2 Years from Preceding Birth by Age

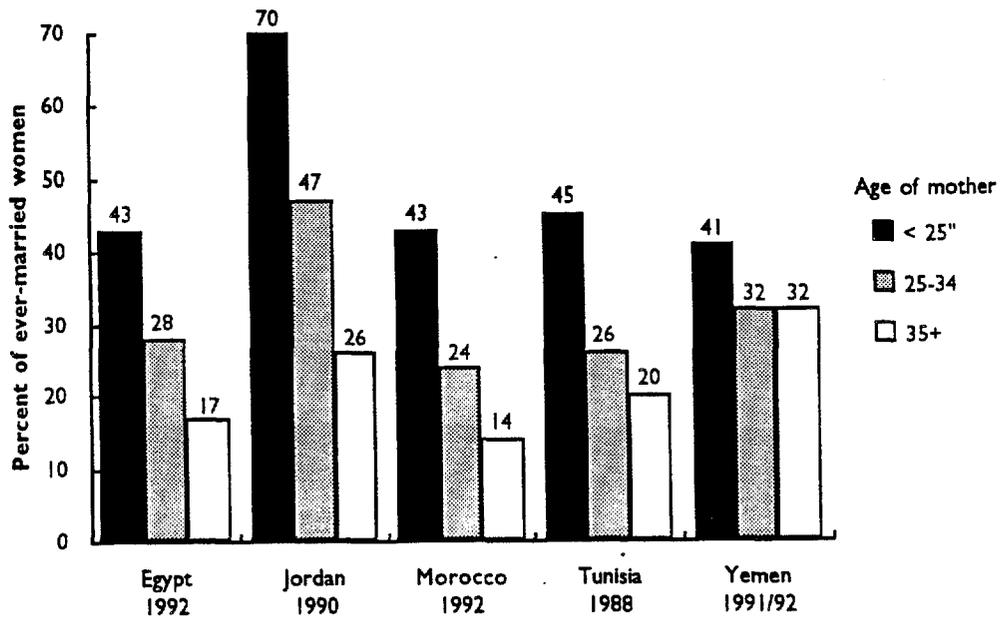
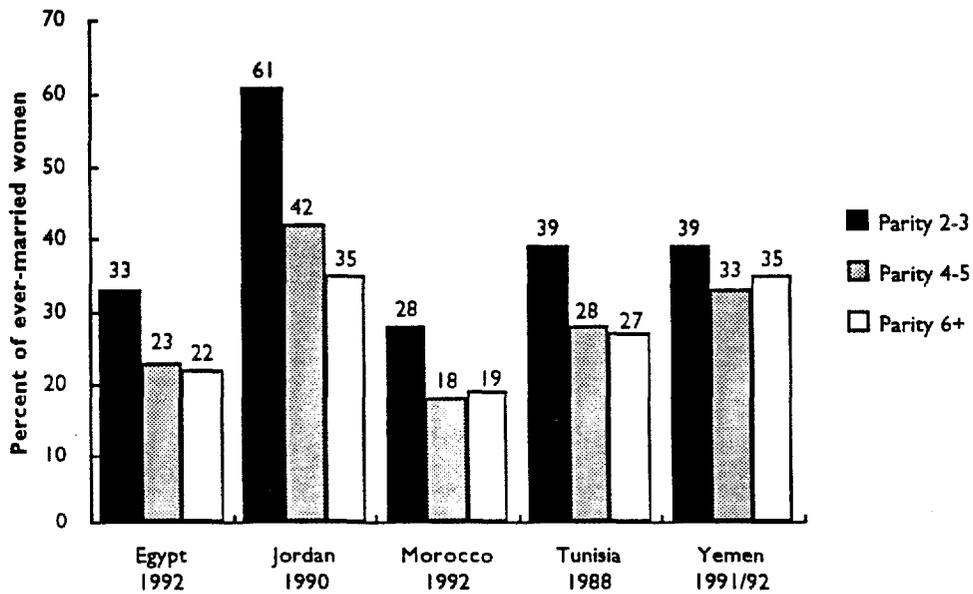


Figure 8.

Percent of Women Whose Last Birth was <2 Years from Preceding Birth by Parity



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V. WANTEDNESS OF CLOSELY-SPACED BIRTHS

Among ever-married women with at least two births (at the time of the survey) and at least one birth during the five years prior to the survey, between 50 and 60 percent had wanted their last birth when it occurred, regardless of the length of the birth interval (see Figure 9). Ten to 20 percent of the women had wanted the birth later, and 20 to 40 percent had not wanted any more children.

In Egypt and Morocco, countries with two DHS, data show that the proportion of women who wanted their last birth when it occurred has remained fairly stable. In Egypt in 1988, 51 percent of women wanted the birth when it occurred; in 1992 this proportion was 52 percent. In Morocco, the percentages were 55 and 57 percent in 1987 and 1992, respectively. However, the proportion of women who said they had not wanted any more children increased from 33 percent to 38 percent in Egypt, and from 21 percent to 27 percent in Morocco.

(See Table A5 and Table A6 for detailed data by selected characteristics of mothers.)

Women surveyed in the DHSII were asked the following questions about the timing and wantedness of their last birth:

- a) "At the time you became pregnant with (NAME), did you want to become pregnant then, did you want to wait until later or did you want no (more) children at all?"

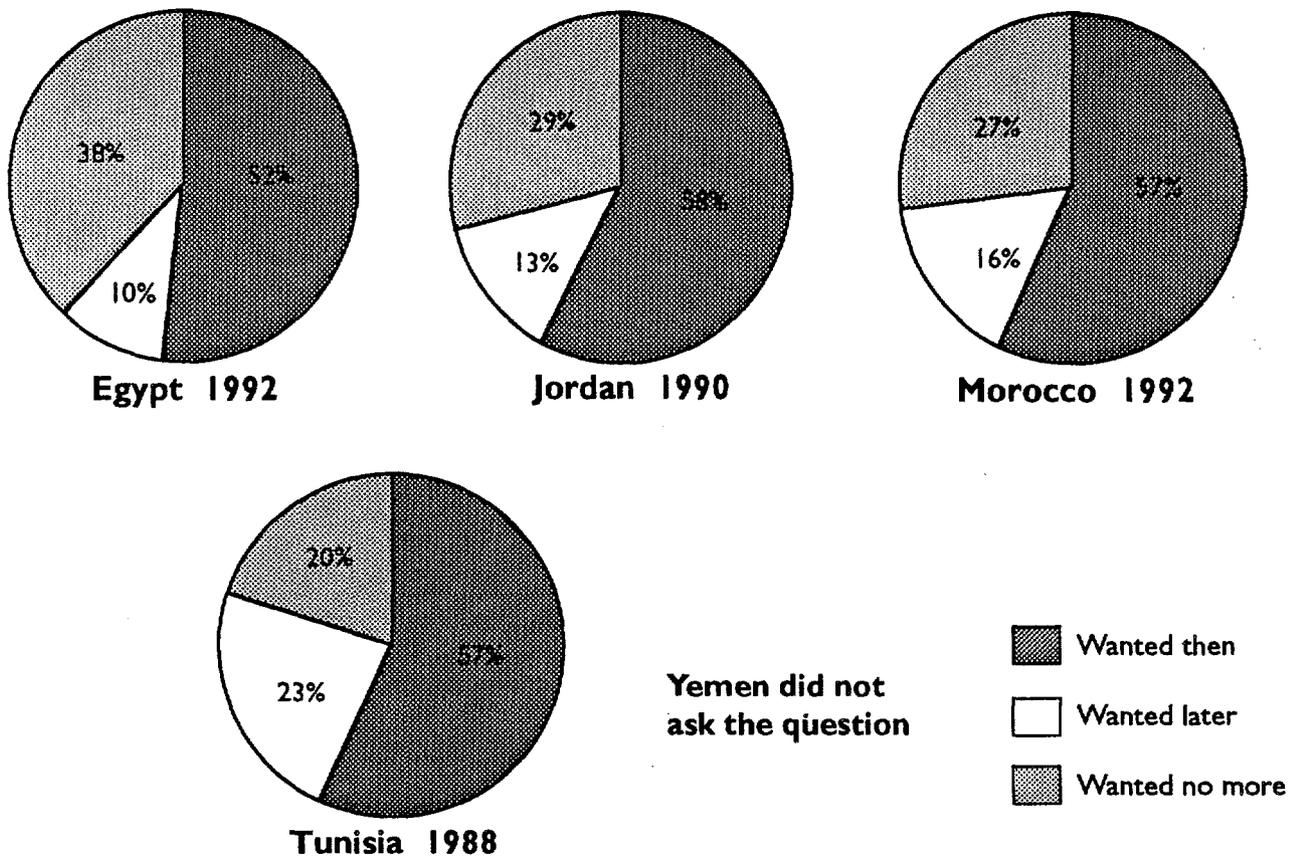
Those women answering "later" were then asked:

- b) "How much longer would you like to have waited?"

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Figure 9.

Wantedness of Last Birth among Women Who Had at Least One Birth During 5 Years Prior to DHS and Who Had at Least Two Births at the Time of DHS

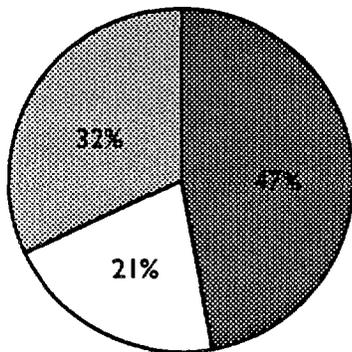


About half of the women whose last birth followed a short interval wanted that birth when it occurred. (See Figure 10.) This is slightly lower than the values for all the women regardless of the length of their last birth interval. (See Figure 9.) At least one in five mothers with short-interval births had wanted the birth later, and a similar or slightly greater proportion had wanted no more children.

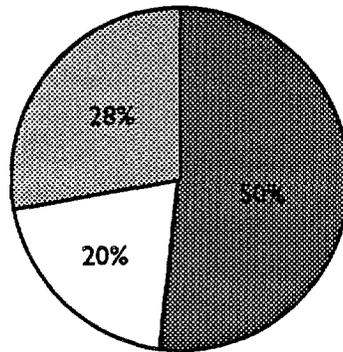
(See Table A5 for trend data on Egypt and Morocco. See Table A7 for detailed data by selected socio-demographic characteristics of mothers.)

Figure 10.

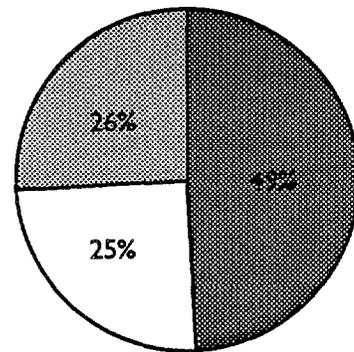
Wantedness of Last Birth among Women Whose Last Birth was <2 Years from Preceding Birth



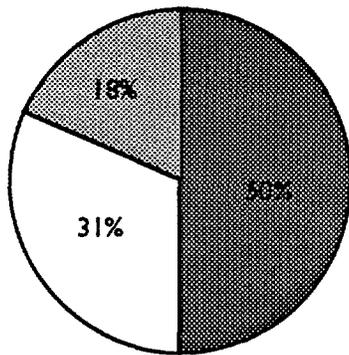
Egypt. 1992



Jordan. 1990



Morocco 1992



Tunisia 1988

Yemen did not ask the question

-  Wanted then
-  Wanted later
-  Wanted no more

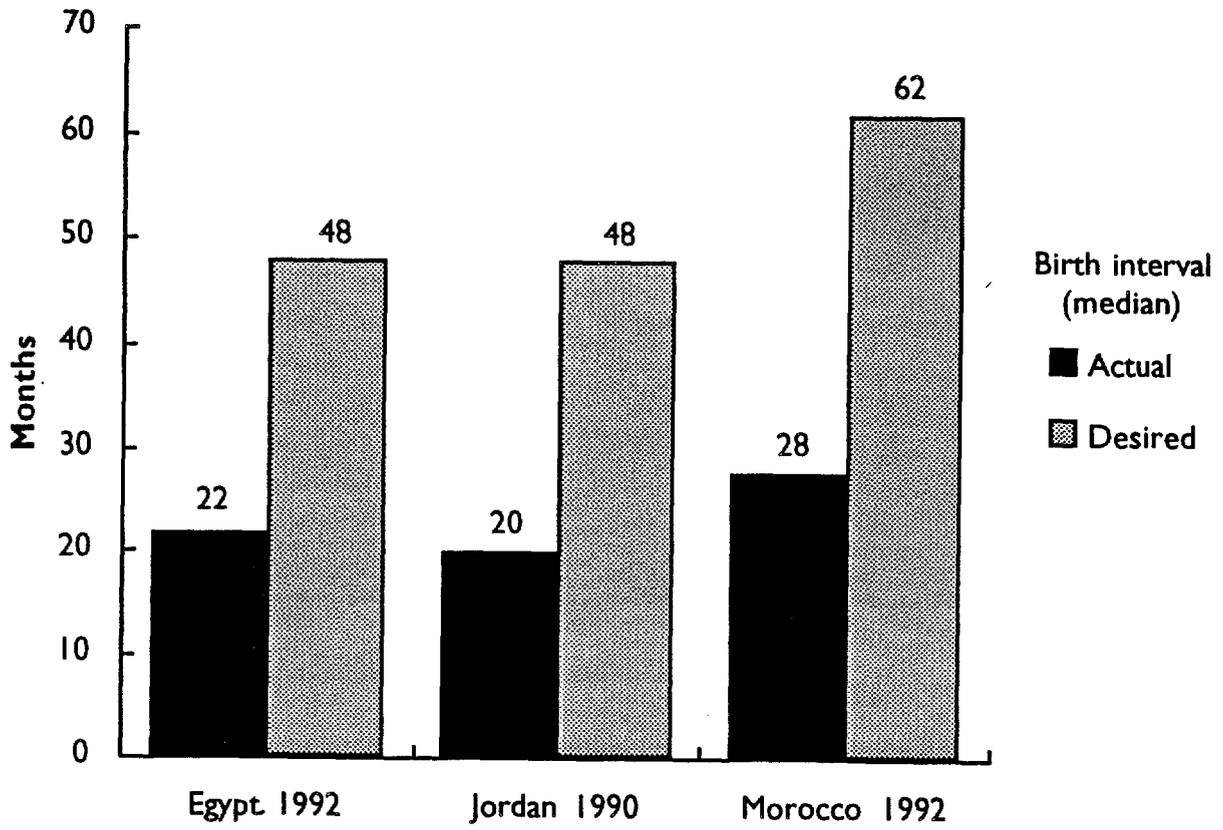
VI. DESIRED AND ACTUAL BIRTH INTERVAL

There is a large gap between actual and desired birth intervals in the Near East. On average, women who wanted their last birth later (regardless of the length of their last birth interval) would have liked to postpone their last birth by at least two years (see Figure 11).

(For additional detailed data, see Table A8 and Table A9 in the Appendix.)

Figure 11.

Actual and Desired Preceding Birth Interval Among Women Who Wanted Their Last Birth Later



Actual and Desired Birth Interval for Egypt, Jordan and Morocco

Egypt

In Egypt, the average birth interval among women who had wanted the last birth later was 22 months. These women would have preferred waiting 48 months between births. As Figure 12 shows, this large gap between actual and desired birth intervals is consistent regardless of desired family size, parity, age, education and place of residence of the mother.

Jordan

In Jordan, the average birth interval for women who wanted their last birth later was 20 months. Their desired interval was 48 months. Figure 13 shows that, as was seen in Egypt, the gap is apparent across socio-demographic characteristics of the mothers.

Morocco

In Morocco, the average birth interval among women who wanted their last birth later was 28 months. These women would have preferred an interval of 62 months. Figure 14 shows that, as in Egypt and Jordan, the desire to have longer birth intervals is apparent across socio-demographic characteristics of the mothers.

Figure 12.

Actual and Desired Preceding Birth Interval Among Women Who Wanted Their Last Birth Later by Selected Socio-Demographic Characteristics of Mothers, Egypt 1992

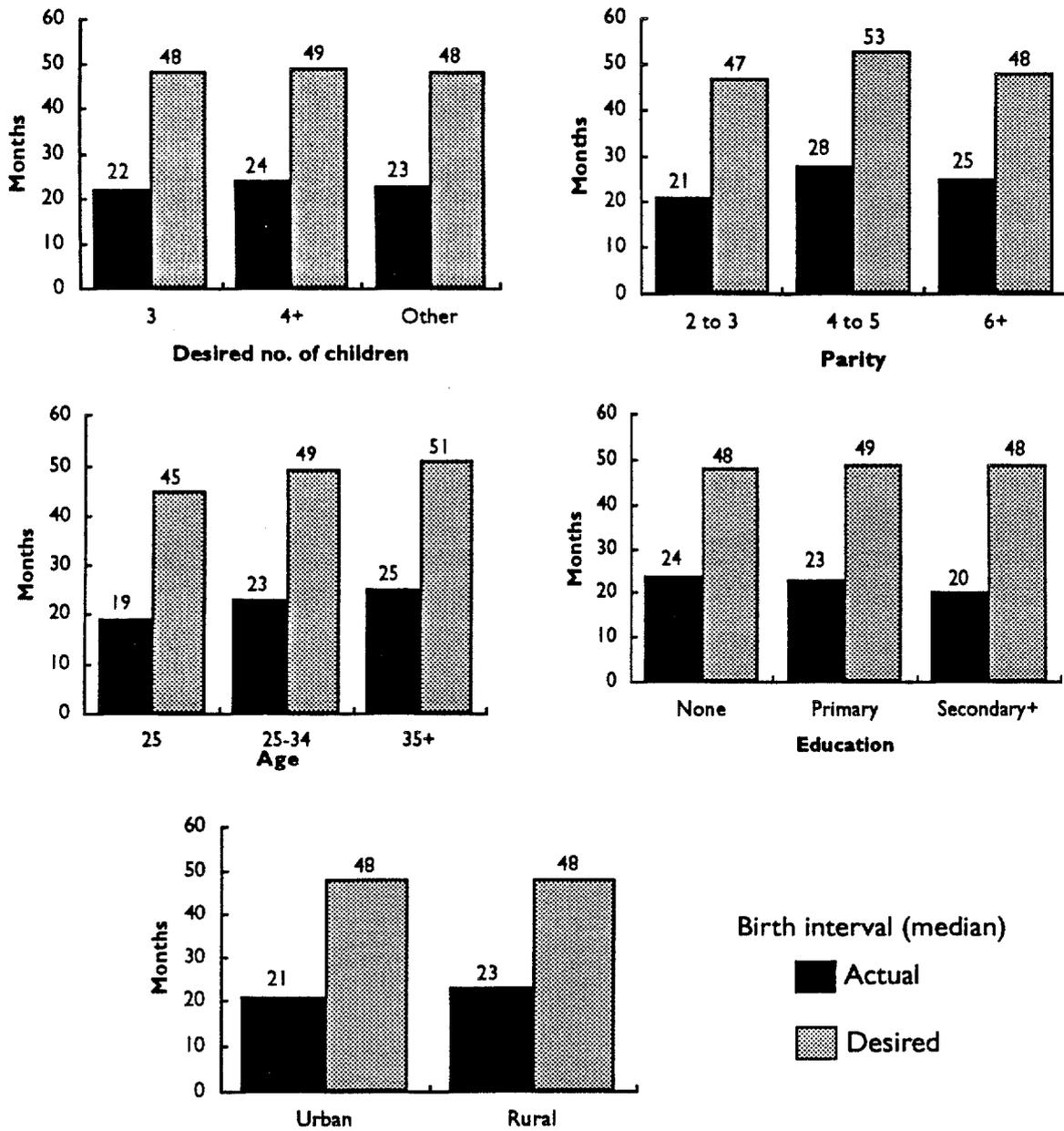
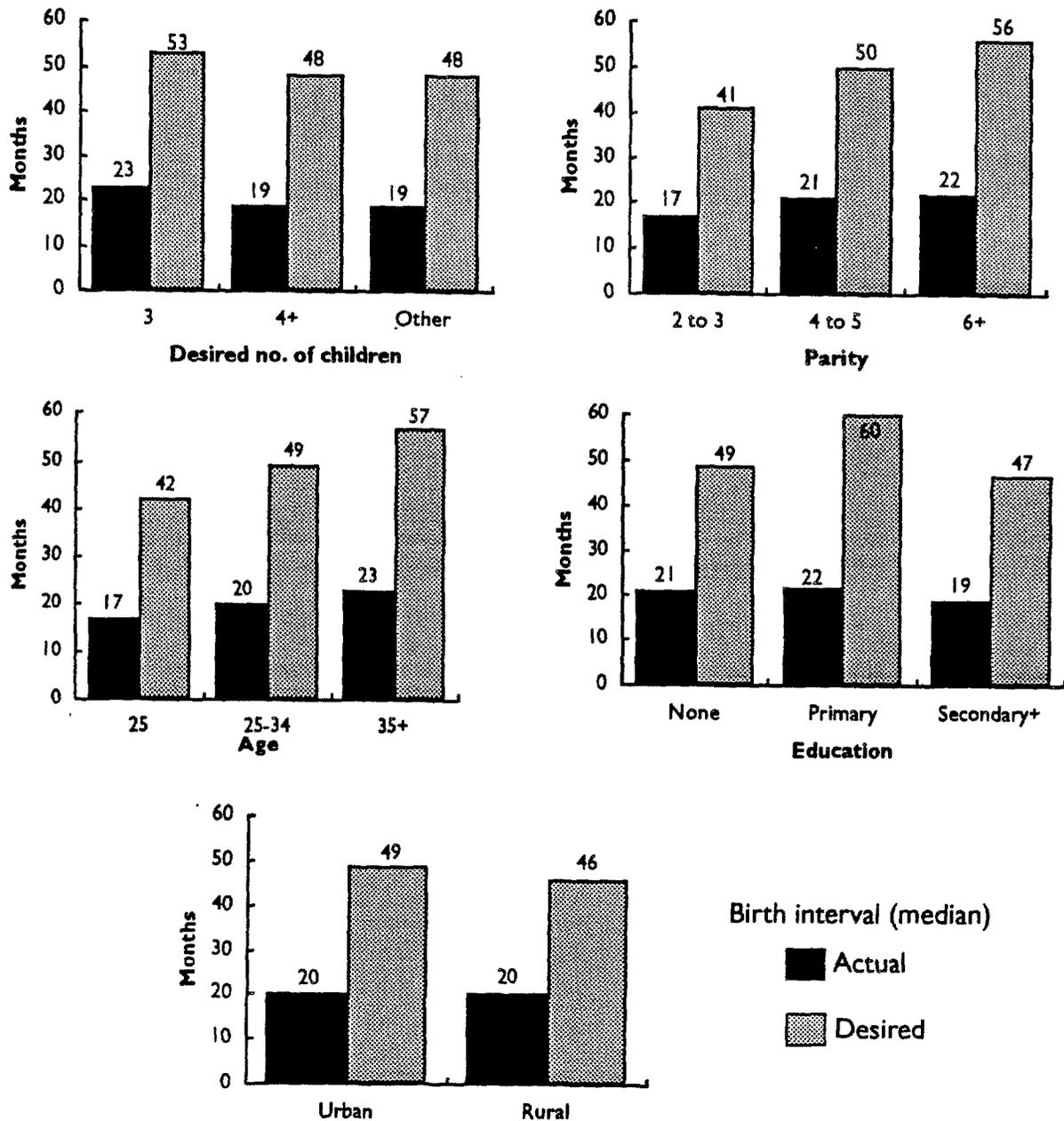


Figure 13.

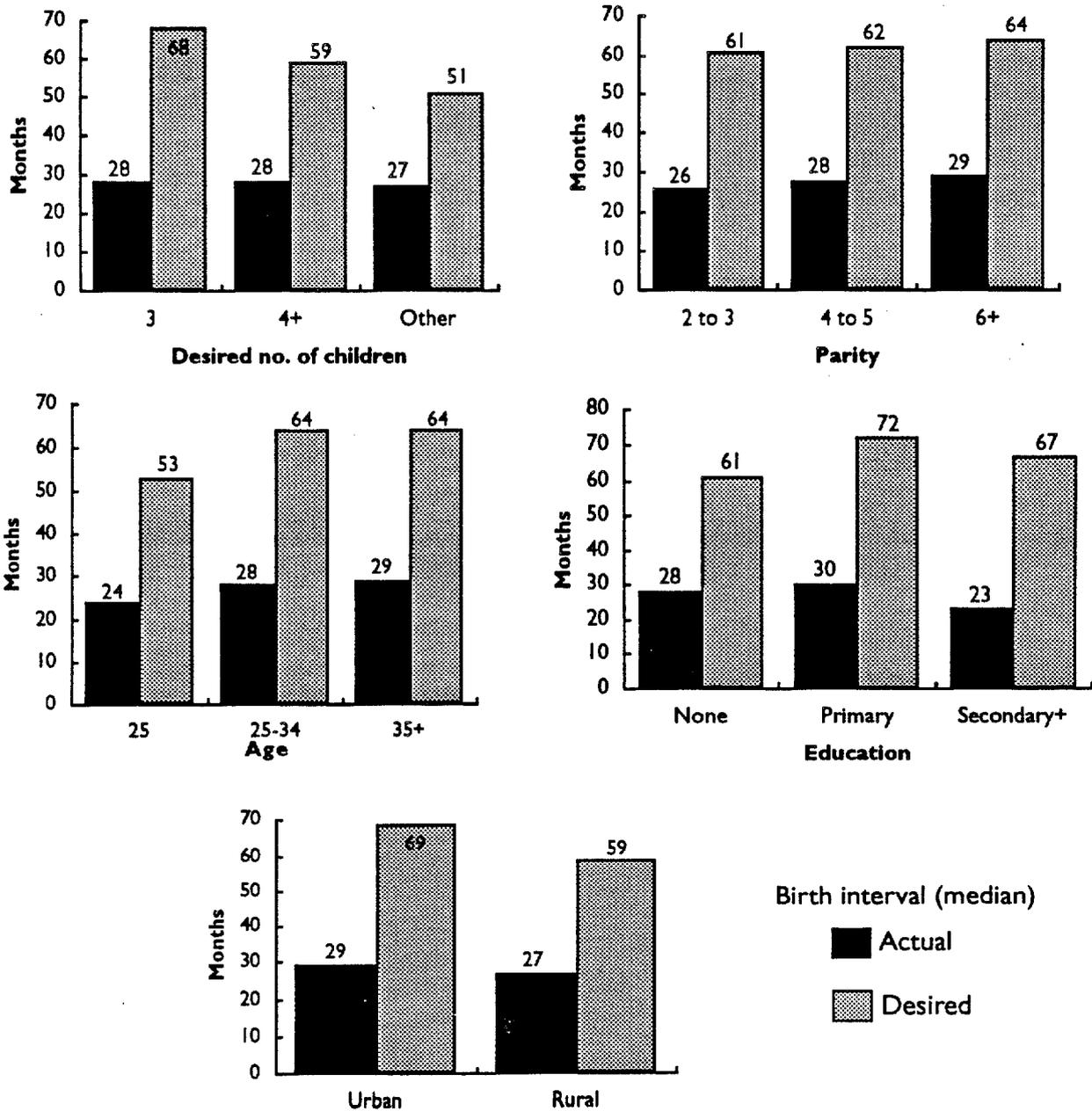
Actual and Desired Preceding Birth Interval Among Women Who Wanted Their Last Birth Later by Selected Socio-Demographic Characteristics of Mothers, Jordan 1990



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Figure 14.

Actual and Desired Preceding Birth Interval Among Women Who Wanted Their Last Birth Later by Selected Socio-Demographic Characteristics of Mothers, Morocco 1992



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VII. FAMILY PLANNING AND CONTRACEPTIVE USE

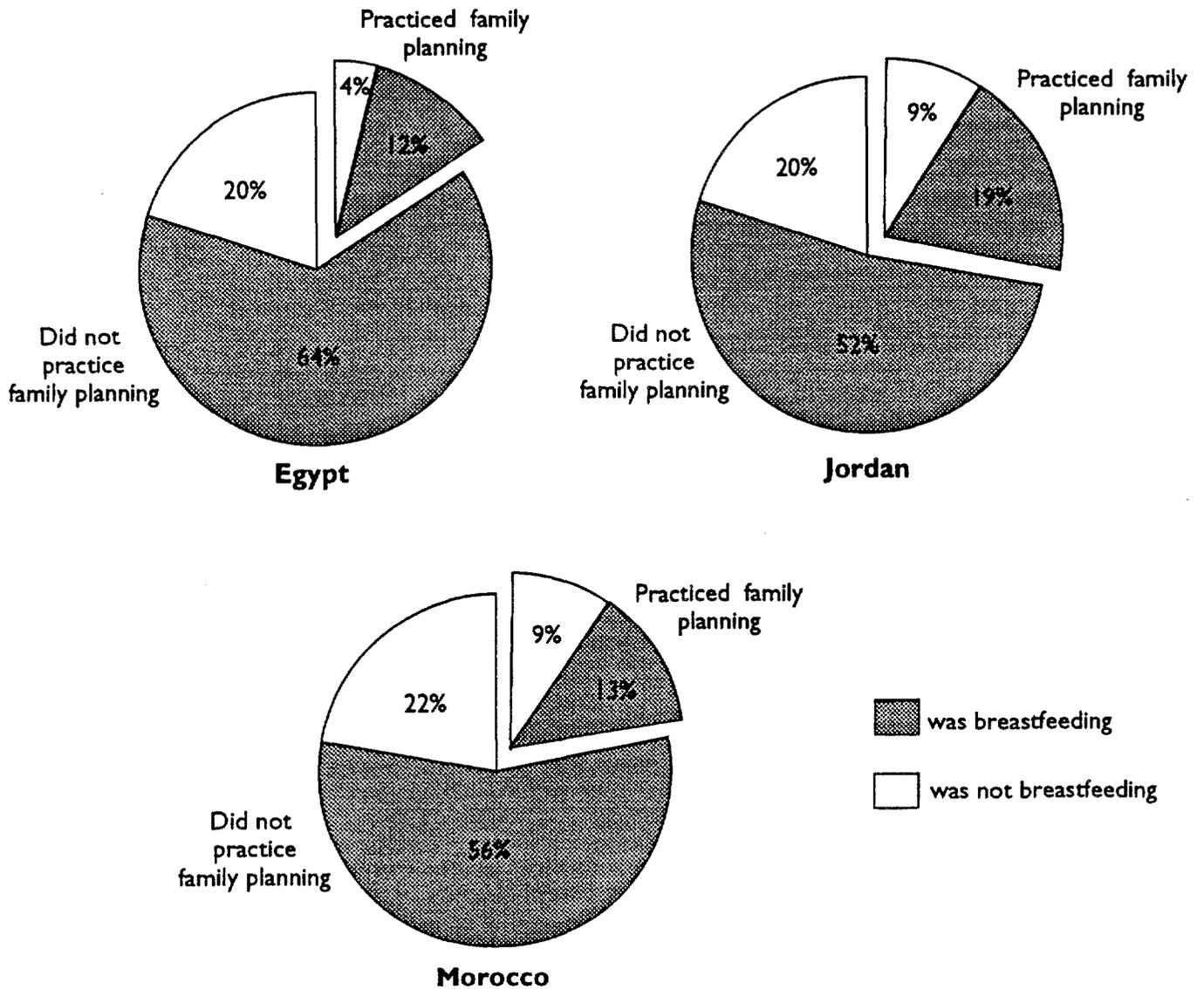
As Figure 15 shows, close to three-fourths of women with short birth intervals were not practicing family planning three months prior to the pregnancy that resulted in the short-interval birth. However, about the same proportion of women were breastfeeding at that time.

Table A11 in the Appendix provides detailed data on family planning and breastfeeding practices by selected socio-demographic characteristics of mothers with short birth intervals. The data show that family planning practice three months prior to the pregnancy that resulted in a short-interval birth differed by urban-rural residence, desired family size and education. The patterns of family planning practice among women with a short birth interval generally were similar to those for all women: contraceptive use was higher among women in urban areas than in rural areas; those who desired smaller families were more likely to practice family planning; and contraceptive use was higher among women with at least a secondary education.

However, this raises important questions about why the differentials in family planning practice are not reflected in the patterns of birth spacing. Is it because of breastfeeding patterns? Is it the effectiveness of the methods? Is it because of high discontinuation rates? Is it related to the quality of family planning services? Despite their similarities, countries in the Near East are quite diverse in many social, demographic and reproductive health aspects. This diversity calls for research related to each country's unique situation.

Figure 15.

Percent Distribution of Women with Short Birth Interval by Family Planning and Breastfeeding Practice Three Months Prior to the Pregnancy that resulted in Their Last Birth



VIII. CONCLUSION

This study, based on the results of recent DHS in Egypt, Morocco, Jordan, Tunisia and Yemen, shows that closely-spaced births are prevalent among women in the Near East. About one-third of mothers with at least two births at the time of the survey and at least one within the five years prior to the survey had their last birth less than two years after the preceding birth. The proportion of women with short-interval births in the five countries ranged from a low of 22 percent in Morocco to a high of 44 percent in Jordan.

The study shows that current socio-demographic trends in the region are not conducive to lowering the risk of a short-interval birth. Although the desire for small families is increasing in the region, the reproductive behavior of women who desire smaller families is not significantly different from that of women who want larger families. This study also shows that women living in rural and urban areas have similar reproductive behaviors in regard to birth spacing.

Age and parity are correlated with birth interval. Young women just beginning their families are at the highest risk of having closely-spaced births. Although the decline in fertility rates observed in the region will correspond with a decrease in high-order births, this change does not ensure that young, low-parity mothers will increase their spacing between births.

This study also shows that increasing women's education is not directly related to reducing the prevalence of short-interval births in the region. Of all educational groups, women with a secondary or higher education were more likely to have a short-interval birth, except in Tunisia.

About half of the mothers whose preceding birth interval was less than two years wanted to have the birth when it occurred, indicating the need for strengthening the birth-spacing programs in the region with a strong IEC component pertaining to the risks of closely-spaced births.

While half of the women with a short birth interval did not want the last birth when it occurred, only a quarter or less of women with a short birth interval were practicing family planning three months prior to the pregnancy that resulted in the last birth. However, the majority of women with short birth intervals were breastfeeding three months prior to the pregnancy. This paper suggests a need for additional data to better understand the reasons behind unmet need for family planning. Further research is also needed on why the differentials in contraceptive use among women with short birth intervals by rural-urban residence, education and desired family size are not reflected in the patterns of birth spacing.

Finally, the study shows that there is a large gap between desired and actual birth intervals. Mothers who wanted their last birth later, on average, would have liked to postpone the birth for at least two years. This gap is consistent among mothers with different socio-demographic characteristics--place of residence, age, parity, education and desired number of children.

APPENDIX

Data Tables

Table A1
Percent Distribution of Ever-Married Women Age 15-49 Years (EMW), by Number of Births During Five Years Prior to DHS Surveys

Country and Survey Year	No birth (%)	One birth (%)	Two births (%)	Three or more births (%)	Total EMW (number of women surveyed)
Egypt 1992	42	33	20	5	9,864
Egypt 1988	40	30	23	7	8,911
Jordan 1990	32	26	27	14	6,461
Morocco 1992	40	34	22	4	5,639
Morocco 1987	37	32	25	6	5,982
Tunisia 1988	36	31	26	7	4,184
Yemen 1991	27	30	31	12	5,687

Note: EMW= Ever married women aged 15-49 years.

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Table A2
Percent distribution of EMW1+(PARITY2+) by the length of their preceding birth interval

Country	<12 months %	13-17 months %	18-23 months %	24+ months %	EMW1+(PARITY2+) (number of women surveyed)
Egypt 1992	2	11	15	73	4,710
Egypt 1988	2	12	15	70	4,485
Jordan 1990	2	21	21	56	3,869
Morocco 1992	1	8	13	78	2,798
Morocco 1987	2	9	15	74	3,174
Tunisia 1888	2	14	16	67	2,261
Yemen 1991	4	14	18	64	3,715

Note: EMW1+(PARITY2+)=Ever-married women (15-49), who had at least two births at the time of the survey, one or more of which occurred in the five years period preceding the survey.

Table A3

Percent of EMW1+(PARITY 2+) whose last births occurred less than two years after a preceding birth, by selected socio-demographic characteristics of mothers at the time of survey

Socio-demographic characteristics of mothers	% of EMW1+(PARITY 2+) whose last births were closely spaced				
	Egypt	Jordan	Morocco	Tunisia	Yemen
Total	27	44	22	33	36
Rural	29	44	23	34	36
Urban	25	44	21	31	34
Desired # of children: <3	27	44	24	34	36
4+	26	46	21	31	35
Other response	28	41	26	32	37
No education	27	34	22	30	35
Primary	24	40	21	38	23
Secondary+	31	50	28	28	40
Age: < 25	43	70	43	45	41
25-34	28	47	24	26	32
35+	17	26	14	20	32
Parity 2-3	33	61	28	39	39
4-5	23	42	18	28	33
6+	22	35	19	27	35

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Table A4
Percent distribution of EMW1+(PARITY2+) by the length of their preceding birth interval
and selected socio-demographic characteristics

EGYPT 1992

Socio-demographic characteristics of mothers	<12 months %	13-17 months %	18-23 months %	24+ months %	EMW1+(PARITY2+) (number of women surveyed)
Total	2	11	15	73	4,710
Urban	1	11	12	76	1,820
Rural	2	10	16	71	2,980
Parity 2-3	2	15	16	66	1,992
4-5	1	9	12	77	1,343
6+	1	6	14	78	1,374
Age: <25	3	20	20	57	697
25-34	2	11	15	72	2,628
35+	1	5	11	83	1,384
No education	2	9	16	73	2,453
Primary	1	9	13	76	1,208
Secondary+	2	16	13	69	1,048
Desired # of children <3	1	12	14	73	2,773
4+	1	9	15	74	1,009
Other responses	2	8	17	72	927

Table A4

Percent distribution of EMW1+(PARITY2+) by the length of their preceding birth interval and selected socio-demographic characteristics

JORDAN 1990

Socio-demographic characteristics of mothers	<12 months %	13-17 months %	18-23 months %	24+ months %	EMW1+(PARITY2+) (number of women surveyed)
Total	2	21	21	56	3,869
Urban	2	22	19	56	2,739
Rural	2	19	24	56	1,130
Parity 2-3	3	33	25	39	1,078
4-5	2	18	22	58	933
6+	1	16	18	65	1,858
Age: 25<	4	40	27	29	611
25-34	2	22	23	53	1,987
35+	1	11	14	74	1,270
No education	1	14	20	66	859
Primary	2	17	21	60	895
Secondary+	2	26	21	50	2,115
Desired # of children <3	2	21	20	56	606
4+	2	23	21	54	2,107
other responses	2	18	21	59	1,156

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Table A4
Percent distribution of EMW1+(PARITY2+) by the length of their preceding birth interval
and selected socio-demographic characteristics

MOROCCO 1992

Socio-demographic characteristics of mothers	<12 months %	13-17 months %	18-23 months %	24+ months %	EMW1+(PARITY2+) (number of women surveyed)
Total	1	8	13	78	2,798
Urban	1	9	11	79	1,007
Rural	1	8	14	77	1,791
Parity 2-3	2	11	16	71	988
4-5	1	7	11	82	778
6+	1	7	11	81	1,032
Age: <25	3	15	25	57	312
25-34	1	9	13	76	1,420
35+	1	5	9	86	1,066
No education	1	7	13	78	2,318
Primary	1	10	11	79	280
Secondary+	1	13	14	72	200
Desired # of children: <3	1	10	12	76	967
4+	1	7	12	79	1,689
other responses	4	4	18	74	142

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Table A4

Percent distribution of EMW1+(PARITY2+) by the length of the preceding birth interval and selected socio-demographic characteristics

TUNISIA 1988

Socio-demographic characteristics of mothers	<12 months	13-17 months	18-23 months	24+ months	EMW1+(PARITY 2+) (number of women surveyed)
Total	2	14	16	67	2,261
Urban	2	15	15	69	1,193
Rural	3	14	18	66	1,068
Parity 2-3	2	18	18	61	965
4-5	2	12	14	72	663
6+	3	10	14	73	633
Age: <25	3	21	21	55	845
25-34	2	11	13	74	1,150
35+	2	7	11	80	266
No education	3	12	16	70	1,280
Primary	2	19	18	62	752
Secondary+	4	13	12	72	229
Desired number of children: <3	2	15	17	66	958
4+	3	13	16	69	1,137
Other responses	3	14	15	68	166

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Table A4
Percent distribution of EMW1+(PARITY2+) by the length of their preceding birth interval
and selected socio-demographic characteristics

YEMEN 1991/92

Socio-demographic characteristics of mothers	<12 months	13-17 months	18-23 months	24+ months	EMW1+(PARITY2+) (number of women surveyed)
Total	4	13	18	64	3,715
Urban	4	13	17	65	611
Rural	5	13	18	64	3,104
Parity 2-3	4	16	20	60	918
4-5	4	11	18	67	898
6+	5	13	17	65	1,899
Age: <25	4	15	21	59	1,432
25-34	4	12	16	68	1,539
35+	6	13	13	68	744
No education	4	13	18	65	3,421
Primary	1	13	9	77	33
Secondary+	6	16	19	60	261
Desired number of children: <3	4	15	17	64	536
4+	5	12	17	65	2,077
Other responses	3	15	18	63	1,102

Table A5
Wantedness of last birth among EMW1+(PARITY2+) and EMWSIB

	EMW1+(PARITY2+)			EMWSIB		
	Wanted then	Wanted later	Wanted no more	Wanted then	Wanted later	Wanted no more
Egypt 1992	52	10	38	47	21	32
Egypt 1988	51	16	33	49	24	26
Jordan 1990	58	13	29	52	20	28
Morocco 1992	57	16	27	49	25	26
Morocco 1987	55	23	21	50	31	18
Tunisia 1988	57	23	20	50	31	18
Yemen 1991	question not included in survey					

Note: EMWSIB = Ever-married women with *short-interval births (sib)*; defined in this paper as EMW1+(PARITY2+) whose last birth followed the preceding birth by less than two years.

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Table A6
Wantedness of last births among EMW1+(PARITY2+) by selected socio-demographic characteristics of mother

EGYPT 1992

Socio-demographic characteristics of mothers	Wanted then %	Wanted later %	Wanted no more %	EMW1+(PARITY2+) (number of women surveyed)
Total	52	10	38	4,710
Urban	48	11	41	1,820
Rural	55	10	36	2,890
Parity 2-3	68	17	16	1,992
4-5	51	7	42	1,343
6+	31	4	66	1,347
Age: <25	69	18	14	697
25-34	55	12	33	2,628
35+	38	3	58	1,384
No education	53	9	39	2,453
Primary	45	7	48	1,208
Secondary+	59	18	23	1,048
Desired # of children: <3	48	12	40	2,773
4+	54	9	36	1,009
other responses	63	6	31	927

Table A6
Wantedness of last births among EMW1+(PARITY2+) by selected socio-demographic characteristics of mother

JORDAN 1990

Socio-demographic characteristics of mother	Wanted then %	Wanted later %	Wanted no more %	EMW1+(PARITY2+) (number of women surveyed)
Total	58	13	29	3,869
Urban	57	13	29	2,739
Rural	59	12	28	1,130
Parity 2-3	69	18	13	1,078
4-5	63	15	23	933
6+	49	10	41	1,858
Age: <25	63	19	17	611
25-34	62	15	23	1,987
35+	50	7	43	1,270
No education	57	7	35	859
Primary	59	8	33	895
Secondary+	58	18	24	2,115
Desired # of children: <3	49	14	36	606
4+	55	15	30	2,107
other responses	68	8	23	1,156

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Table A6
Wantedness of last births among EMW1+(PARITY2+) by selected socio-demographic characteristics of mother

MOROCCO 1992

Socio-demographic characteristics of mother	Wanted then %	Wanted later %	Wanted no more %	EMW1+(PARITY2+) (number of women surveyed)
Total	57	16	27	2,798
Urban	54	17	29	1,007
Rural	59	16	25	1,791
Parity 2-3	70	21	10	988
4-5	60	16	24	778
6+	43	12	44	1,032
Age: <25	66	27	8	312
25-34	62	18	20	1,420
35+	49	10	41	1,066
No education	58	15	27	2,318
Primary	51	19	30	280
Secondary+	59	22	19	200
Desired # of children: <3	51	19	30	967
4+	59	15	26	1,689
other responses	80	7	13	142

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Table A7
Wantedness of last births among (EMWSIB) by selected socio-demographic characteristics of mother

EGYPT 1992

Socio-demographic characteristics of mother	Wanted then %	Wanted later %	Wanted no more %	EMWSIB (number of women surveyed)
Total	46	21	32	1,271
Urban	37	27	36	442
Rural	52	18	30	829
Parity 2-3	52	33	15	667
4-5	49	11	40	305
6+	32	7	61	299
Age: <25	58	28	13	300
25-34	45	23	33	731
35+	37	9	54	240
No education	52	16	31	657
Primary	42	15	44	287
Secondary+	39	37	23	327
Desired # of children: <3	40	26	34	753
4+	54	18	28	260
other responses	59	11	30	258

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Table A7
Wantedness of last births among (EMWSIB) by selected socio-demographic characteristics of mother

JORDAN 1990

Socio-demographic characteristics of mother	Wanted then %	Wanted later %	Wanted no more %	EMWSIB (number of women surveyed)
Total	52	20	28	1,702
Urban	51	20	29	1,202
Rural	54	20	26	500
Parity 2-3	60	23	17	655
4-5	52	22	26	393
6+	44	16	40	655
Age: <25	59	21	20	431
25-34	52	21	27	938
35+	43	15	42	334
No education	53	13	33	293
Primary	58	11	31	358
Secondary+	50	25	25	1,052
Desired # of children: <3	48	19	34	270
4+	48	23	28	961
Other responses	62	15	23	472

Table A7
Wantedness of last births among EMWSIB by selected socio-demographic characteristics of mother

MOROCCO 1992

Socio-demographic characteristics of mother	Wanted then %	Wanted later %	Wanted no more %	EMWSIB (number of women surveyed)
Total	49	25	26	623
Urban	41	27	32	213
Rural	53	25	23	410
Parity 2-3	58	29	12	282
4-5	44	30	27	142
6+	38	18	44	199
Age: <25	60	31	9	134
25-34	49	26	25	337
35+	37	20	43	152
No education	51	23	26	507
Primary	43	32	25	60
Secondary+	29	43	29	56
Desired # of children: <3	42	29	29	231
4+	50	25	25	355
Other responses	84	5	11	37

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Table A8
Actual and Desired Length of Preceding Birth Interval Among EMW1+(PARITY2+) who
wanted their last birth later

Country	Median (months) Birth-interval		EMW1+(PARITY2+) Number of women surveyed
	Actual	Desired	
Egypt 1992	22	48	474
Jordan 1990	20	48	499
Morocco 1992	28	62	439

Table A9
Actual and Desired Length of Preceding Birth Interval Among EMW1+(PARITY2+) who
wanted their last birth later by selected socio-demographic characteristics of mothers at the
time of the survey

EGYPT 1992

Socio-demographic characteristics of mother	Median (months) Birth-interval		EMW1+(PARITY2+) Number of women surveyed
	Actual	Desired	
Total	22	48	474
Urban	21	48	200
Rural	23	48	273
Parity 2-3	21	47	333
4-5	28	53	92
6+	25	48	49
Age: <25	19	45	123
25-34	23	49	306
35+	25	51	45
No education	24	48	208
Primary	23	49	79
Secondary+	20	48	187
Desired # of children: 3>	22	48	329
4+	24	49	91
other responses	23	48	53

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Table A9
Actual and Desired Length of Preceding Birth Interval Among EMW1+(PARITY2+) who
wanted their last birth later by selected socio-demographic characteristics of mothers at the
time of the survey

JORDAN 1990

Socio-demographic characteristics of mother	Median (months) Birth-interval		EMW1+(PARITY2+) Number of women surveyed
	Actual	Desired	
Total	20	48	499
Urban	20	49	358
Rural	20	46	141
Parity 2-3	17	41	190
4-5	21	50	135
6+	22	56	174
Age: <25	17	42	116
25-34	20	49	291
35+	23	57	92
No education	21	49	59
Primary	22	60	68
Secondary+	19	47	372
Desired # of children: 3>	23	53	86
4+	19	48	317
other responses	19	48	96

Table A9
Actual and Desired Length of Preceding Birth Interval Among EMW1+(PARITY2+) who
wanted their last birth later by selected socio-demographic characteristics of mothers at the
time of the survey

MOROCCO 1992

Socio-demographic characteristics of mothers	Median (months)		EMW1+(PARITY2+) Number of women surveyed
	Birth-intervals		
	Actual	Desired	
Total	28	62	439
Urban	29	69	156
Rural	27	59	283
Parity 2-3	26	61	199
4-5	28	62	120
6+	29	64	120
Age: <25	24	53	81
25-34	28	63	251
35+	29	64	107
No education	28	61	348
Primary	29	71	49
Secondary+	23	67	42
Desired # of children: 3>	27	67	179
4+	28	59	250
other responses	27	51	10

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Table A10
Percent Distribution of Women with Short Birth Intervals by Family Planning and Breastfeeding Practice Three Months Prior to the Pregnancy that Resulted in their Last Birth

	Egypt	Jordan	Morocco
Total	100% (993)	100 % (1527)	100% (527)
Practiced family planning	16	28	22
was breastfeeding	12	19	13
was not breastfeeding	4	9	9
Did not practice family planning	84	72	78
was breastfeeding	64	52	56
was not breastfeeding	20	20	22

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Table A11
Percent Distribution of Women with Short Birth Intervals by Family Planning and Breastfeeding Practice Three Months Prior to the Pregnancy that Resulted in their Last Birth, by Selected Socio-demographic Characteristics: Egypt 1992

Rural-Urban Residence

	Total	Urban	Rural
Total	100% (993)	100 % (316)	100% (677)
Practiced family planning	16	21	13
was breastfeeding	12	15	10
was not breastfeeding	4	6	3
Did not practice family planning	84	79	87
was breastfeeding	64	59	67
was not breastfeeding	20	20	20

Parity

	Total	2-3	4-5	6+
Total	100% (993)	100 % (542)	100% (217)	100%(234)
Practiced family planning	16	16	15	15
was breastfeeding	12	13	9	12
was not breastfeeding	4	3	6	3
Did not practice family planning	84	84	85	85
was breastfeeding	64	65	61	65
was not breastfeeding	20	19	24	20

60

Age

Egypt

	Total	Less than 25 years	25 to 34	35 or older
Total	100% (993)	100 % (286)	100% (550)	100%(158)
Practiced family planning	16	11	18	17
was breastfeeding	12	9	13	13
was not breastfeeding	4	2	4	4
Did not practice family planning	84	89	82	83
was breastfeeding	64	65	64	62
was not breastfeeding	20	24	18	21

Education

	Total	No education	Primary education	Secondary education
Total	100% (993)	100 % (533)	100% (211)	100%(249)
Practiced family planning	16	9	22	26
was breastfeeding	12	8	14	20
was not breastfeeding	4	1	8	6
Did not practice family planning	84	91	78	74
was breastfeeding	64	71	57	54
was not breastfeeding	20	20	21	20

Desired number of children

	Total	Three or fewer	Four or more	Other responses
Total	100% (993)	100 % (570)	100% (217)	100%(677)
Practiced family planning	16	19	16	7
was breastfeeding	12	14	13	5
was not breastfeeding	4	5	3	3
Did not practice family planning	84	81	84	93
was breastfeeding	64	59	67	75
was not breastfeeding	20	22	18	18

Table A11
Percent Distribution of Women with Short Birth Intervals by Family Planning and Breastfeeding Practice Three Months Prior to the Pregnancy that Resulted in Having their Last Birth, by Selected Socio-demographic Characteristics: Jordan 1990

Urban-Rural Residence

	Total	Urban	Rural
Total	100% (1527)	100 % (1067)	100% (459)
Practiced family planning	28	32	20
was breastfeeding	19	22	14
was not breastfeeding	9	10	6
Did not practice family planning	72	68	80
was breastfeeding	52	50	57
was not breastfeeding	20	18	23

Parity

	Total	2-3	4-5	6+
Total	100% (1527)	100 % (623)	100% (349)	100%(556)
Practiced family planning	28	29	26	28
was breastfeeding	19	20	15	21
was not breastfeeding	9	9	11	7
Did not practice family planning	72	71	74	72
was breastfeeding	52	53	54	50
was not breastfeeding	20	18	20	22

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Age**Jordan**

	Total	Less than 25 years	25 to 34	35 or older
Total	100% (1527)	100 % (422)	100% (856)	100%(249)
Practiced family planning	28	26	31	21
was breastfeeding	19	19	20	16
was not breastfeeding	9	7	11	5
Did not practice family planning	72	74	69	79
was breastfeeding	52	55	50	54
was not breastfeeding	20	19	19	25

Education

	Total	No education	Primary education	Secondary education
Total	100% (1527)	100 % (251)	100% (309)	100%(967)
Practiced family planning	28	14	24	33
was breastfeeding	19	12	17	21
was not breastfeeding	9	1	6	12
Did not practice family planning	72	86	76	67
was breastfeeding	52	60	52	50
was not breastfeeding	20	27	25	16

Desired number of children

	Total	Three or fewer	Four or more	Other responses
Total	100% (1527)	100 % (245)	100% (869)	100%(412)
Practiced family planning	28	34	30	22
was breastfeeding	19	21	20	17
was not breastfeeding	9	13	10	5
Did not practice family planning	72	66	50	78
was breastfeeding	52	50	51	56
was not breastfeeding	20	16	19	23

Table A11
Percent Distribution of Women with Short Birth Intervals by Family Planning and Breastfeeding Practice Three Months Prior to the Pregnancy that Resulted in their Last Birth, by Selected Socio-demographic Characteristics: Morocco 1992

Urban-Rural Residence

	Total	Urban	Rural
Total	100% (527)	100 % (166)	100% (361)
Practiced family planning	22	39	14
was breastfeeding	13	20	10
was not breastfeeding	9	19	4
Did not practice family planning	78	61	86
was breastfeeding	56	38	65
was not breastfeeding	22	23	21

Parity

	Total	2-3	4-5	6+
Total	100% (527)	100 % (249)	100% (112)	100%(166)
Practiced family planning	22	27	18	17
was breastfeeding	13	16	10	12
was not breastfeeding	9	11	8	5
Did not practice family planning	78	73	82	83
was breastfeeding	56	52	63	57
was not breastfeeding	22	21	19	26

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Age**Morocco**

	Total	Less than 25 years	25 to 34	35 or older
Total	100% (527)	100 % (130)	100% (282)	100%(115)
Practiced family planning	22	25	22	20
was breastfeeding	13	18	12	11
was not breastfeeding	9	7	10	9
Did not practice family planning	78	75	78	80
was breastfeeding	56	48	60	54
was not breastfeeding	22	27	18	26

Education

	Total	No education	Primary education	Secondary education
Total	100% (527)	100 % (437)	100% (44)	100%(46)
Practiced family planning	22	17	39	59
was breastfeeding	13	12	16	28
was not breastfeeding	9	5	23	31
Did not practice family planning	78	83	61	41
was breastfeeding	56	61	36	24
was not breastfeeding	22	22	25	17

Desired number of children

	Total	Three or fewer	Four or more	Other responses
Total	100% (527)	100 % (190)	100% (305)	100%(32)
Practiced family planning	22	29	20	3
was breastfeeding	13	15	13	3
was not breastfeeding	9	14	7	0
Did not practice family planning	78	71	80	97
was breastfeeding	56	47	60	75
was not breastfeeding	22	24	20	22

REFERENCES

Bongaarts, John. 1994. *Population Policy Options in the Developing World*. Working Papers, Research Division, No. 59. New York: The Population Council.

Cross, Harry E., Virginia H. Poole, Ruth E. Levine and Richard M. Cornelius. 1991. "Contraceptive Source and the For-Profit Private Sector in Third World Family Planning." Paper presented at the annual meetings of the Population Association of America, Washington, D.C.

Hobcraft, J.N., J.W. McDonald, and S. Rutstein. "Childspacing Effects on Infant and Early Child Mortality." *Population Index* 49 (4).

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