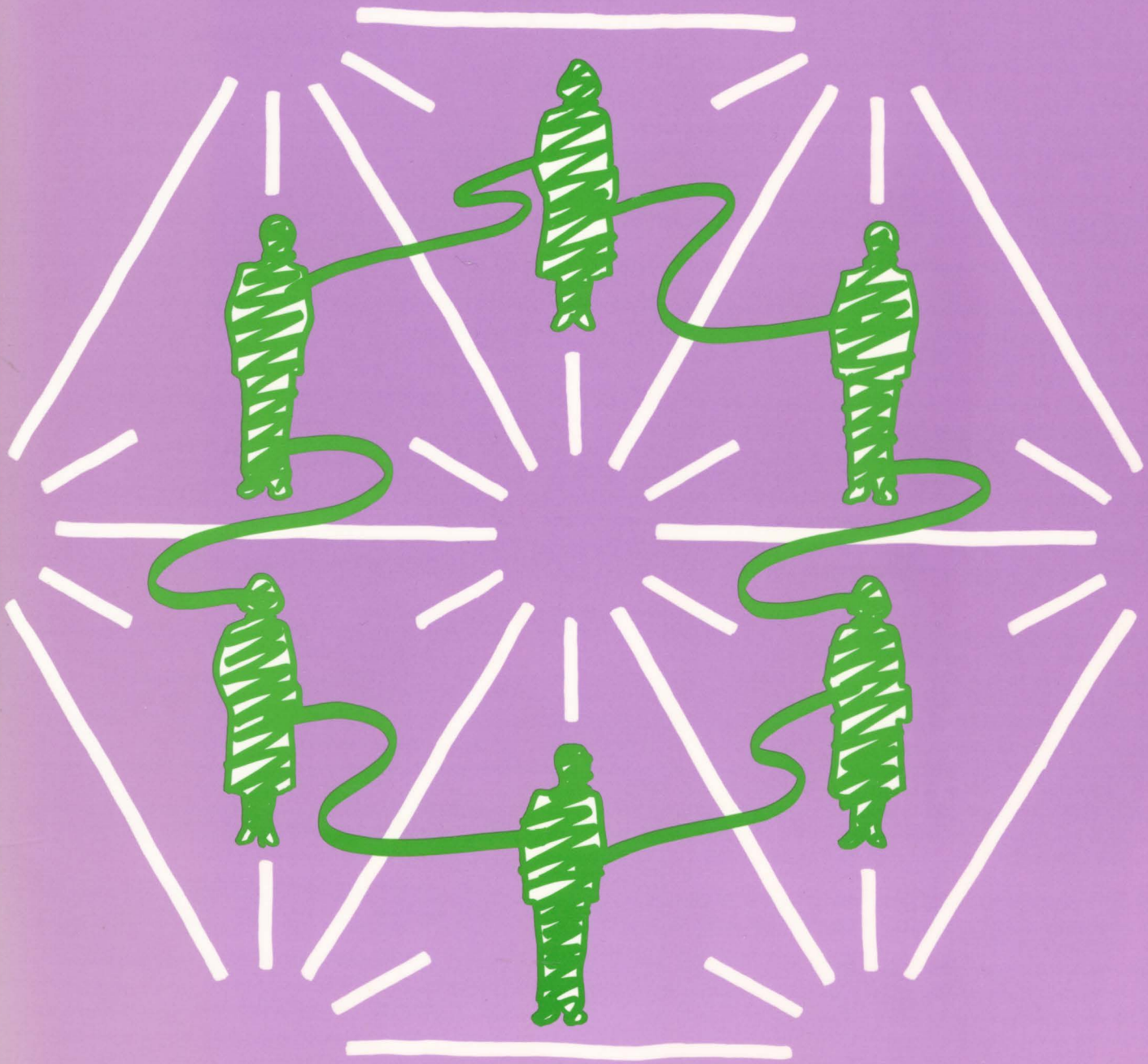
Adolescent Reproductive Behaviour

Evidence from Developing Countries

Volume II



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Adolescent Reproductive Behaviour

Evidence from Developing Countries Volume II

United Nations New York, 1989

NOTE

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The term "country" as used in the text of this publication also refers, as appropriate, to territories or areas.

The designations "more developed" and "less developed" regions are intended for statistical convenience and do not necessarily express a judgement about the stage reached by a particular country or area in the development process.

Symbols of United Nations documents are composed of capital letters combined with figures. Mention of such a symbol indicates a reference to a United Nations document.

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PREFACE

At the International Conference on Population held at Mexico City in 1984, the international community expressed its concern over problems related to youth in general and adolescent reproductive behaviour in particular. Of the several recommendations relating to young people that were adopted, the most relevant to reproduction is recommendation 29, which states that:

> "Governments are urged to ensure that adolescents, both boys and girls, receive adequate education, including family-life and sex education, with due consideration given to the role, rights and obligations of parents and changing individual and cultural values. Suitable family planning information and services should be made available to adolescents within the changing socio-cultural framework of each country." (United Nations, 1984b, p. 24).

Governmental response to this call for action requires adequate information on all aspects of adolescent reproductive behaviour. In response to this need, the Population Division of the Department of International Economic and Social Affairs of the United Nations Secretariat, with financial support from the United Nations Population Fund (UNFPA), has undertaken a global review of the factors affecting adolescent birth rates, which include sexual exposure, contraceptive use and termination of pregnancies. The findings are being presented in two reports because the problems and concerns regarding adolescents in developed and developing countries are quite different. The first volume (United Nations, 1988c) reviews the situation in developed countries. The present report (volume II) covers developing countries.

Differences among developing countries with respect to marriage prevalence and customs, sanctioned consensual unions, attitudes towards abortion and the general level of acceptance of contraception among women of any age yield very different views of whether teen-age fertility is a problem and, if so, the magnitude of the problem. A perspective on teen-age child-bearing in developing countries is difficult to reach without adequate information on each of the factors mentioned above, and this review undertakes to provide as much information as is available so that policies and programmes directed to adolescents can be formulated appropriately. Although the problems of adolescent reproductive behaviour affect young boys as well as young girls, the present volume is restricted to the study of adolescent women, not only because it is they who suffer the consequences in terms of their health but also because there is little information on adolescent men.

The United Nations Statistical Office provided support to this project through its Special Questionnaire on Adolescent Reproductive Behaviour. The co-operation of all countries that responded to the questionnaire is gratefully acknowledged, as is the support of a large number of researchers in this field who responded to our request for data on sexual exposure, contraceptive use among teenagers and maternal mortality by providing copies of relevant publications. The following institutions kindly provided special tabulations from censuses and surveys: Division of Reproductive Health, Centers for Disease Control, United States of America; Family Health International; Centro Latinoamericano de Demografía (CELADE), United Nations; The Pathfinder Fund; National Population and Family Development Board, Malaysia; Alan Guttmacher Institute; Institute for Resource Development/Westinghouse; School of Public Health, University of Michigan; International Clearinghouse for Adolescent Fertility, Center for Population Options; Center for Population and Family Health, Columbia University; and International Planned Parenthood Federation. The report was prepared by the Population Division with the help of Robert Lightbourne, Dana Schwartz, Kia Reinis, Tribani Jagdeo and Veronika Thiebach, who served as consultants at various stages of the preparation of the report. Judith Fortney and Patsy Bailey prepared the chapter on the health consequences of early child-bearing (chapter IV). Close collaboration with the World Health Organization (WHO) was maintained throughout the preparation of the report.

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Explanatory notes

The following symbols have been used in the tables throughout this publication:

Two dots (..) indicate that data are not available or are not separately reported.

An em dash (--) indicates that the amount is nil or negligible.

A hyphen (-) indicates that the item is not applicable.

A point (.) is used to indicate decimals.

A slash (/) indicates a crop year or financial year, e.g. 1980/81.

Use of a hyphen (-) between dates representing years, e.g., 1980-1982, signifies the full period involved, including the beginning and end years.

Details and percentages in tables do not necessarily add to totals because of rounding.

The following abbreviations have been used in this volume:

CELADE	Centro Latinoamericano de Demografiá
DHS	Demographic and Health Survey
IUD	Intra-uterine device
UNFPA	United Nations Population Fund
WFS	World Fertility Survey
WHO	World Health Organization

INTRODUCTION

Adolescent pregnancy and sexual behaviour are much publicized concerns throughout the developed countries, particularly in the United States of America. A great deal has been written on this topic, and concerns range from the levels of teen-age pregnancy, abortion and child-bearing to whether the problem is essentially a health issue or an economic question (Trussell, 1988). The debate continues as to the best strategies to ameliorate the situation.

Although teen-age fertility rates were declining throughout the late 1960s and early 1970s, adolescent reproductive behaviour also emerged as a major concern in many developing countries. In contrast to the fertility decline that has occurred among older women in most countries for the most part achieved through use of fertility control, reductions in fertility among younger women were mainly achieved through postponement of marriage. In many developing countries, the opportunity for further reductions through this means remains limited although adolescent fertility rates remain high. In others, very early marriage contributes to extremely high rates of child-bearing among teenagers.

Much of the concern about adolescent child-bearing has been focused on the younger adolescents. In a large number of developing countries, child marriages are still very common even though there are laws that set the minimum age for entry into marriage. Early marriage leads to the beginning of child-bearing at very young ages. Among pregnant women under 18 years of age, there are greater risks of morbidity and mortality for both mother and child. The most common problems are anaemia, retardation of foetal growth, premature birth and complications of labour. Pregnancy of a still-growing girl means an increase in nutritional requirements, not only for growth of the foetus but also for the mother herself (Friedman, 1985). While studies conducted in developed countries have shown that many of the adverse health consequences of child-bearing at very young ages can be overcome with adequate education and pre-natal care (Trussell, 1988), access to pre-natal care in the majority of developing countries is non-existent or very limited in many parts of those countries.

The increase in age at marriage, while having the effect of lowering overall birth rates, results in increased periods of potential exposure to the risk of out-of-wedlock pregnancy among individual adolescent women. Delays in age at marriage are attributed, among other factors, to increased female education and increased employment opportunities for women. These factors are associated with urbanization, with continuing rural-to-urban migration of young men and women seeking employment and schooling, and with the transmission of new ideas that influence adolescents' attitudes and behaviour, including the timing of marriage, the selection of a marriage partner and pre-marital sexual relationships (United Nations, 1988b; Cherlin and Riley, 1986). In developed countries, where most women do not marry until they are in their twenties, increased sexual freedom has contributed to hasty marriages (to legitimize pregnancies), single motherhood and a large increase in unwanted or unintended pregnancies (United Nations, 1988a). Recently, concern has been expressed about a similar trend occurring in developing countries, particularly among unmarried, urban, educated girls (Cherlin and Riley, 1986; Darabi, Phillibert and Rosenfield, 1979; Prada, Singh and Wulf, 1988a; Senderowitz and Paxman, 1985).

Women with unwanted pregnancies often choose to end them by abortion. In countries where abortion is legal (mostly developed countries) and where data are available, unmarried teenagers account for a large proportion of abortions (Tietze and Henshaw, 1986); and among teenagers who become pregnant, a very high proportion choose to have an abortion rather than bring the pregnancy to term (United Nations, 1988a). Even in countries where abortion is culturally acceptable and legally available, young girls often delay seeking an abortion early enough because they lack the support or resources. They frequently arrive too late for simple interventions, such as vacuum aspiration or dilation and curettage, so that more complicated procedures are required. Where legal abortion is not available, there is considerable evidence that young women nevertheless resort to illegal procedures, often in appalling circumstances, potentially putting their lives or prospects of future reproduction in peril (World Health Organization, 1986a).

The aim of this report is to provide information relating to the various issues of adolescent fertility in developing countries that have been highlighted above. An analysis of social and economic factors that cause adolescent fertility, although equally important for the formulation of policies and programmes directed to adolescents, is not attempted here. Differences in observed levels of adolescent birth rates in developing countries are discussed and explained in terms of proximate determinants of teen-age fertility, such as exposure to sexual intercourse, prevalence of marriage, contraceptive use and abortion. Policy initiatives relating to these factors are discussed in the conclusions. In this framework of analysis, fertility rates among teenagers are seen as resulting from interactions between sexual exposure (including exposure within marriage), pregnancy, abortion and contraceptive use. These factors are taken up in separate chapters, and estimates of prevalence are sought for as many countries as possible, with emphasis on similarities and differences between countries. Residential and educational differences are presented wherever data permit. Levels and trends in adolescent birth rates are reviewed in chapter I. The two important determinants of pregnancy, namely, sexual exposure and contraceptive use, are taken up in chapters II and III, respectively. The incidence of abortion, levels of maternal mortality and infant mortality rates among babies of young mothers are discussed in chapter IV under the broad heading of health consequences of early child-bearing.

The terms "adolescents" and "teenagers" are used interchangeably throughout this report. The concept of adolescence has been variously defined as "the state or process of growing up" or "the period of life from puberty to maturity", depending upon the subject-matter being studied. This gives an inkling of the difficulty of identifying a specific period of life as the adolescent period. Moreover, variations in social and cultural settings between countries and biological differences concerning age of physical maturation render different connotations to the meaning of adolescence in different societies. In many developing countries, young women achieve adult status soon after regular menstruation is established. In these countries, women tend to marry soon after attaining physical maturity, and the period of adolescence can be very brief or non-existent. On the other hand, in developed countries and in an increasing number of developing countries, the age of menarche has declined because of improving nutritional conditions (Chui, 1978). Comparisons between countries, particularly those between

developed and developing countries, must therefore be made in the context that the age groups frequently used to define the adolescent period (15-19 years) cannot be completely representative of all countries' practical definition of adolescence because meanings differ according to cultural and social settings.

In this study, for an operational definition of adolescence, the age criterion selected is 13-19 years. This definition thus covers a narrower range than the 10-19 years range used in other studies of adolescence. There are several reasons for choosing an age definition of adolescence. Among them are the ease of identifying the adolescents in any population and the facility with which demographic information, as compiled in this report, can be obtained. 1/ Most importantly, an age definition facilitates the formulation of programmes directed to adolescents. A limitation of this report is that only adolescent women are studied. Considering, however, that it is primarily women who bear the costs of adolescent pregnancy in terms of health risks and child-rearing responsibilities, this should not be seen as a serious limitation. Lack of data is one reason for this constraint. However, for some issues, contraceptive use, for example, estimates of male contraceptive practice such as the use of condom and withdrawal, are available, and these have been included in this report.

Note

1/ Wherever possible, data are presented for single years of age from 13 to 19 years. When presented in combined form, the groups are under 17 and 17-19 years or 15-19 years. The group under 17 is presented separately whenever possible since this group is at the greatest health risk.

Chapter I

LEVELS AND TRENDS IN ADOLESCENT FERTILITY

Recent reviews of adolescent child-bearing throughout the world have shown that high levels of child-bearing persist among adolescents in most developing countries. In Africa, the rate of adolescent child-bearing is about four times that of teenagers in Europe or Northern America. Teen-age rates in Latin America and the Caribbean, although somewhat lower than those experienced by teenagers in Africa, are higher than those in Asia (United Nations, 1988a). In Asia, considerable variation among countries was noted. At one extreme is Bangladesh and other South Asian countries, where fertility rates are extremely high, while the other extreme is found in East Asian countries, where adolescent child-bearing is uncommon. Teen-age rates in East Asian countries are lower than those experienced by teenagers in the United States of America and some in Eastern European countries and as low as those in some Western European countries.

Variations in the levels of adolescent fertility in developing countries can be attributed largely to differences in the age at which women marry and the extent to which young married couples use contraception (Liskin and others, 1985). Variations in these two factors, more commonly referred to in the literature as proximate determinants, are strongly related to levels of education, degree of urbanization and opportunities for gainful employment among teenagers. The particular mix of all of these factors determines the level of adolescent child-bearing in a given country (Senderowitz and Paxman, 1985). In a large number of countries in Latin America and the Caribbean and in Asia, and in some countries of Africa, the age at which women marry has been steadily increasing, and more and more women are educated beyond primary schooling. The result of these changes has been a decline in the rates of teen-age fertility in a large number of developing countries over the past two decades (United Nations, 1987a; 1988a; and 1988b). Indeed, these declines have been noted earlier in several global reviews of adolescent fertility (Senderowitz and Paxman, 1985; Liskin and others, 1985; and United Nations, 1988a).

For obvious reasons, the health, social and economic consequences of child-bearing are more serious in the early teen-age years than among older teenagers (Friedman, 1985). Data show that from one fourth to one third of teen-age child-bearing occurs before age 18, on average, in countries of Africa, Latin American and the Caribbean, and South Asia (United Nations, 1988a). This distinction between older and younger adolescents is important for health reasons and also due to the fact that in many countries, young people attain the age of majority at age 18.

In this chapter, levels and trends in adolescent fertility are first presented for as many countries as data permit. 1/ Wherever possible, a distinction is made between younger and older adolescents. This chapter sets the stage for those following, in which the sexual exposure, the contraceptive use and the social and economic characteristics of adolescents who bear children are discussed.

A. Levels of adolescent fertility

Levels of adolescent fertility, measured as the number of births per 1,000 women aged 15-19 years, are generally high in countries of Africa than in those in Asia or Latin America and the Caribbean. In Africa and Asia, however, the range is quite considerable: in the former region, from 36.9 per 1,000 in Mauritius to 216 per 1,000 in Côte d'Ivoire (more than five times as high); in the latter, from an extremely low value of 7 per 1,000 in the Republic of Korea to 239 per 1,000 in Bangladesh. In Latin American and the Caribbean, there is much less variation: adolescent fertility rates range from 49 per 1,000 in Martinique to 138 per 1,000 in Honduras (figure I). 2/

In most countries of Africa, rates are above 100 per 1,000 women aged 15-19 years, except in some small countries, such as Burundi, Cape Verde, Mauritius and Réunion, and in most Northern African countries (Algeria, Egypt, Morocco and Tunisia). Very high rates of adolescent child-bearing were recorded in Côte d'Ivoire, the Gambia, Liberia, Mali and Sierra Leone (in Western Africa); the Libyan Arab Jamahiriya (in Northern Africa); Cameroon and the Central African Republic (in Middle Africa); and Malawi (in Eastern Africa). All these countries had age-specific fertility rates of more than 150 per 1,000 women aged 15-19 years (figure II).

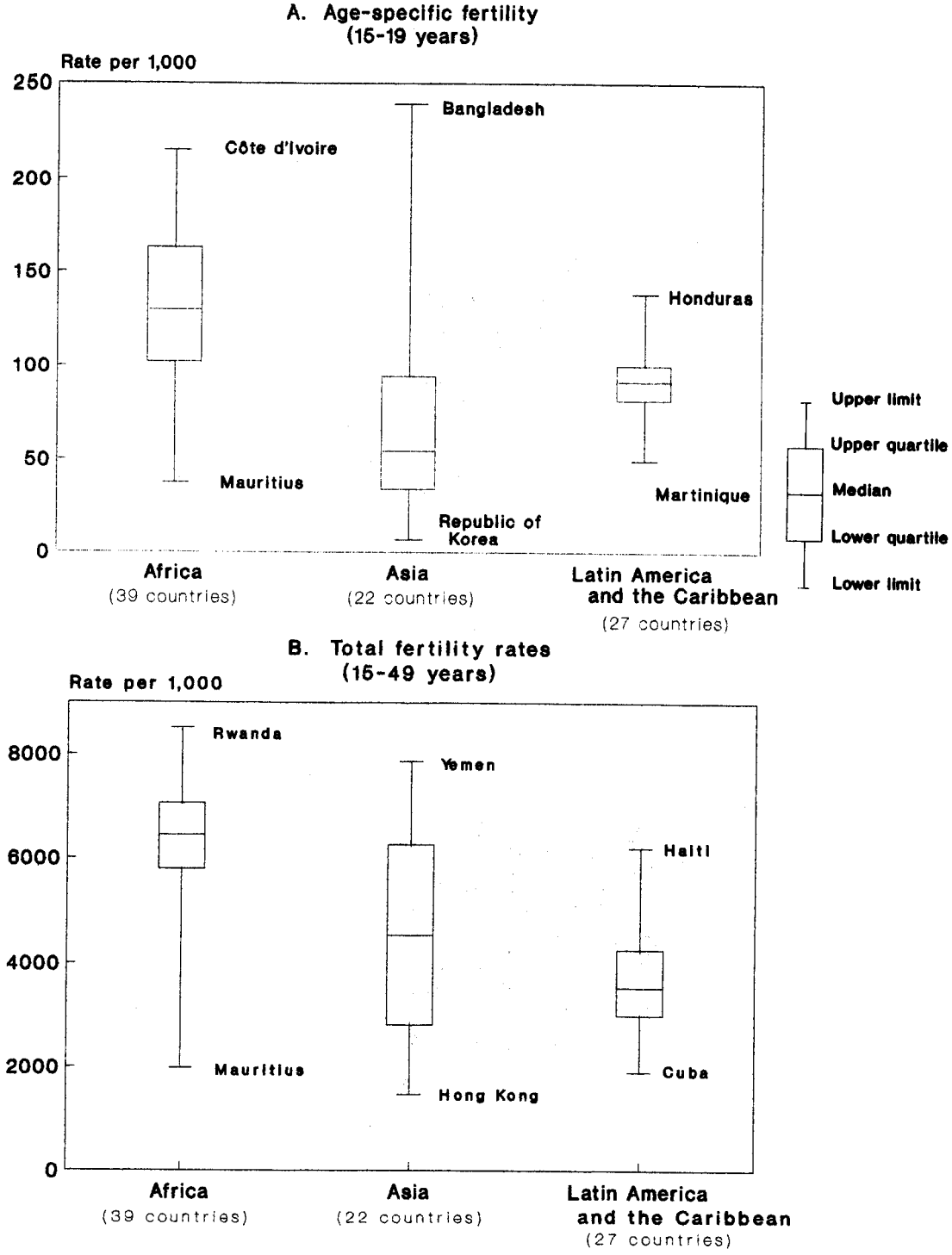
In contrast, adolescent fertility rates in the majority of Asian countries ranged between 30 and 100 per 1,000 women aged 15-19 years. China, Hong Kong, the Republic of Korea and Singapore had extremely low rates; in fact, their rates are lower than those experienced by teenagers in some European countries (particularly in Eastern and Southern Europe), Canada, the United States, the Union of Soviet Socialist Republics, Australia and New Zealand (United Nations, 1988c). The highest rates for Asian countries were in Bangladesh and Yemen, both more than 150 per 1,000 women aged 15-19 years. Among the Asian subregions, adolescent rates were highest in Southern Asia (figure III).

As can be seen in figure I, there is little variation between adolescent fertility levels among countries in Latin America and the Caribbean. Although no country has an age-specific rate below 50 per 1,000, none has rates above 150 per 1,000. Fertility rates were, for the most part, clustered between 50 and 100 per 1,000. On average, countries in Central America had higher rates than other countries in the region (figure IV).

During the teen-age years, rates of child-bearing vary considerably between the younger and the older groups. Young adolescents are often still attending school and are likely to be unmarried or sexually uninitiated. The older adolescents may have attained "adult" status in that they are likely to be working or married and are much more like those aged 20-24 years in this respect. It is therefore desirable to distinguish between child-bearing among girls aged 15 years and under, those aged 15-17 and those aged 18-19.

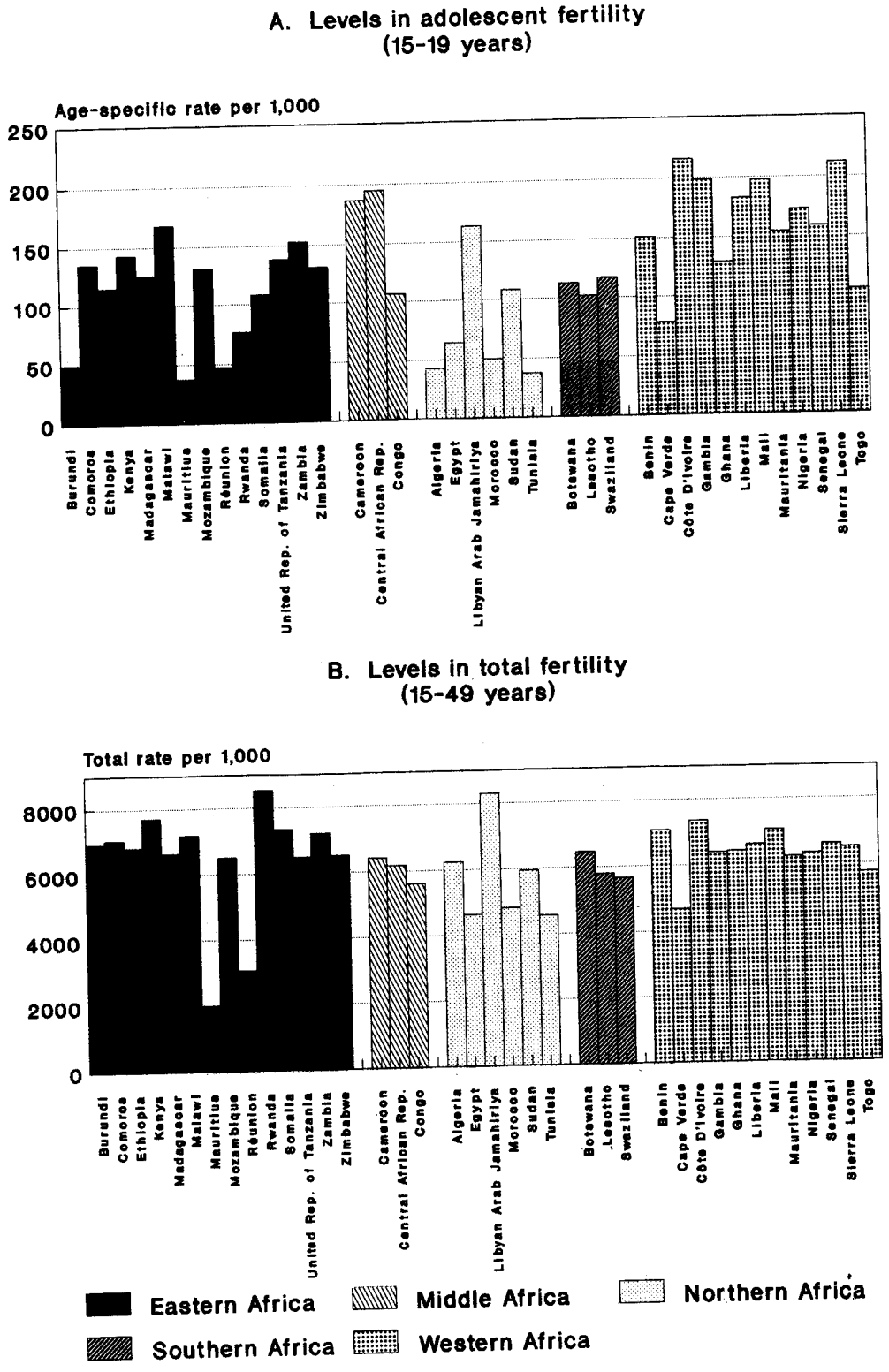
Birth history data from the World Fertility Survey (WFS) enable us to view at the teen-age experience of a recent cohort in its entirety. The teen-age experience of a group of women aged 20-24 years at the time of the survey is presented in figure V. Adolescents in countries of Africa (excluding Tunisia) were more likely to become mothers during their teen-age years than their counterparts in Latin America and the Caribbean and in Asia. In Mauritania and Nigeria, nearly one fifth of women aged 20-24 at the time of the survey

Figure I. Schematic display of the five-number summaries of the distribution of countries according to age-specific fertility rates and total fertility rates, by region



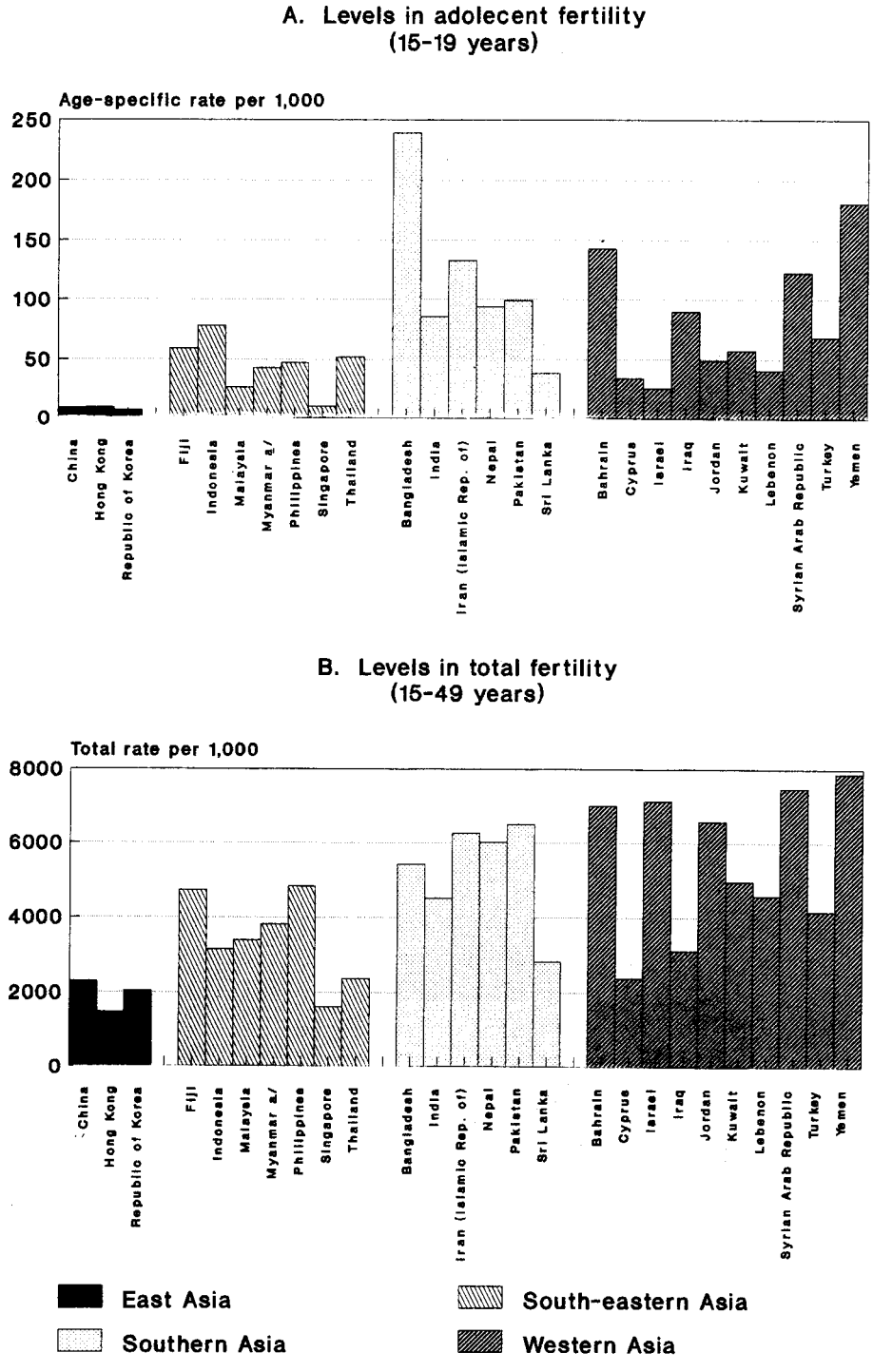
Sources: Annex tables A.1 and A.2.

Figure II. Age-specific fertility rates and total fertility rates for countries in the African region, most recent estimates



Sources: Annex tables A.1 and A.2.

Figure III. Age-specific fertility rates and total fertility rates for countries in the Asian region, most recent estimates

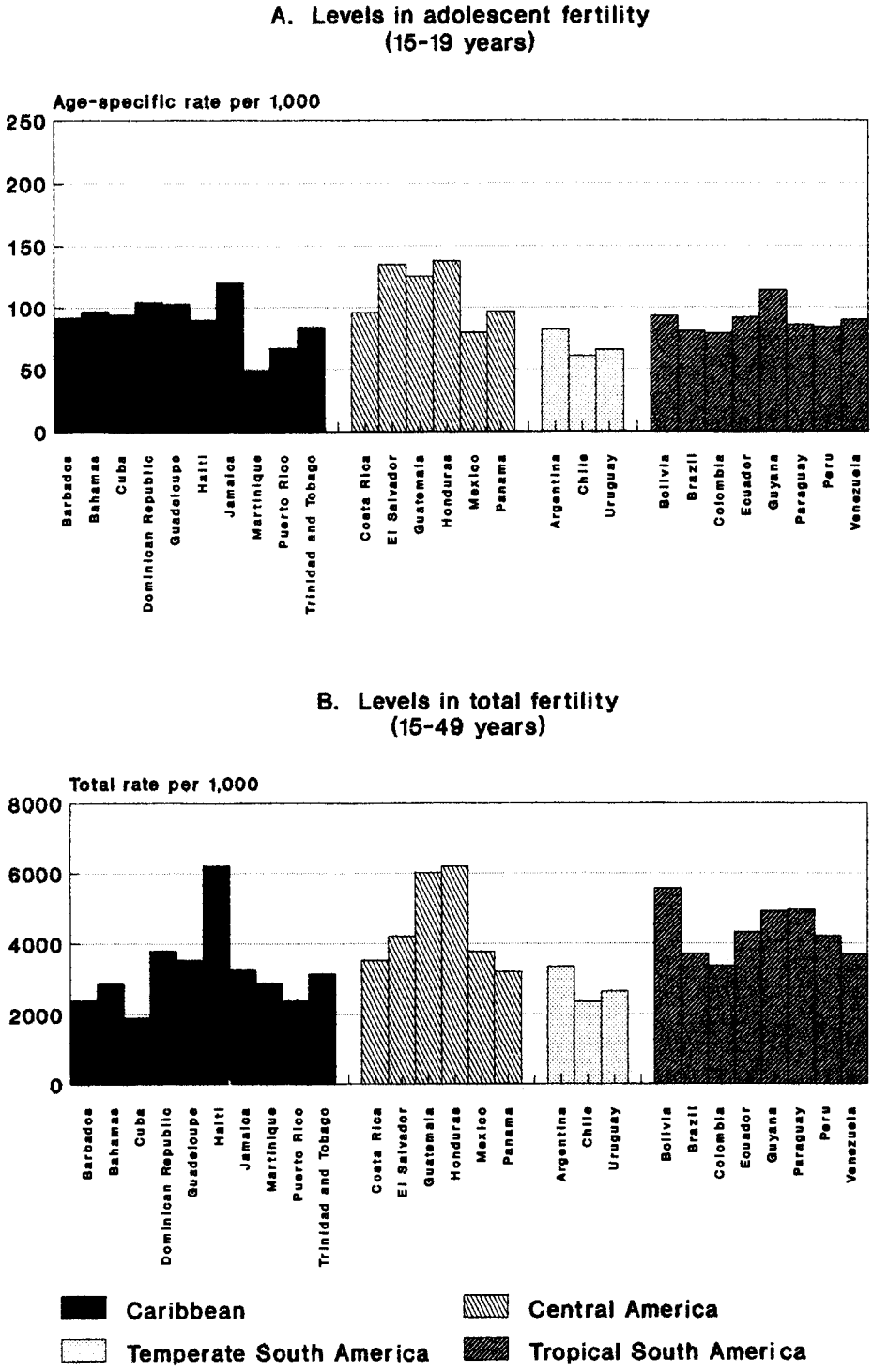


Sources: Annex tables A.1 and A.2.

Note: In this figure, estimates for Fiji, a country in Oceania, are included in South-eastern Asia.

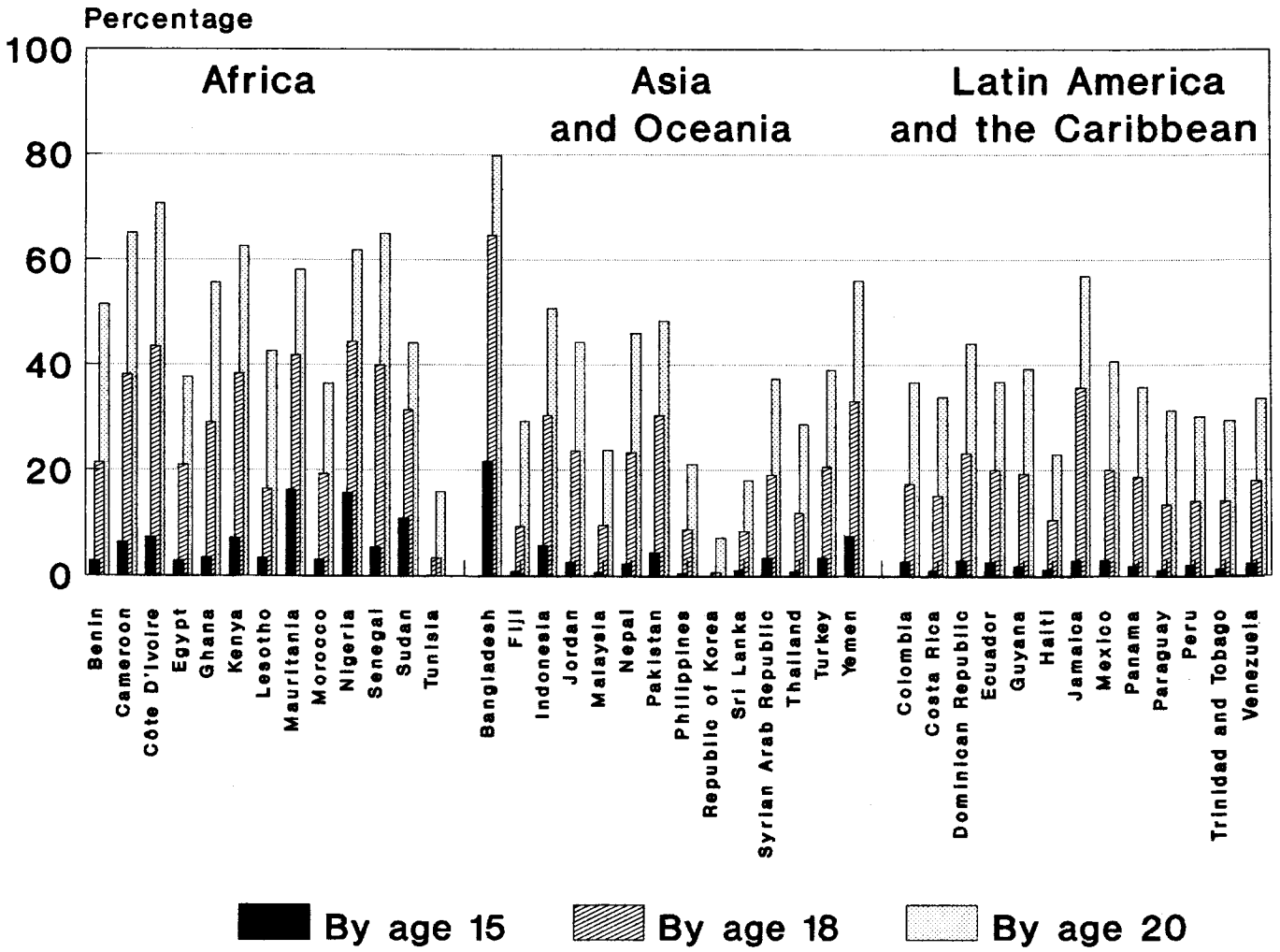
a/ Formerly called Burma.

Figure IV. Age-specific fertility rates and total fertility rates for countries in the Latin American and Caribbean region, most recent estimates



Sources: Annex tables A.1 and A.2.

Figure V. Proportion who had a birth by age 15, 18 or 20 among all women aged 20-24 at the time of the survey, by region and country



Source: World Fertility Survey standard recode tapes.

had at least one child before age 15. By age 18 more than 40 per cent of the women had become mothers in Côte d'Ivoire, Mauritania and Nigeria. By age 20 only about one third of women in Cameroon, Côte d'Ivoire, Kenya and Nigeria Senegal were childless. Tunisia is an exception in that there is scarcely any child-bearing among women under age 15, and fewer than 10 per cent of women had the first child before age 18 years.

In the Asian countries, rates of child-bearing vary widely. At one extreme in Bangladesh, where more than one fifth of adolescents had had a birth before age 15, nearly two thirds before age 18 and 80 per cent by age 20. This is the highest percentage among all countries examined in this study. At the other extreme is the Republic of Korea, where fewer than 10 per cent of the women had had a child before age 20. In fact, fertility levels among teenagers in the Republic of Korea are lower than those found in a number of developed countries.

Smaller variations in the tempo and incidence of child-bearing were observed among adolescents in Latin America and the Caribbean. In most countries of that region, fewer than 20 per cent of women became mothers before age 18 and fewer than 40 per cent before age 20. In other words, more than half the cohort aged 20-24 were childless at the end of their teen-age years. The exception to the prevailing pattern in this region is Jamaica, where levels of child-bearing were relatively higher, particularly among those aged 15-17 years.

Are the high rates of teen-age child-bearing observed among many developing countries an independent "teen-age " phenomenon, or are they linked to the high rates of child-bearing among older women past the adolescent ages? A comparison of the distribution of total fertility 3/ rates among countries with those of adolescent rates is shown in figure I (upper and lower panels). Whereas adolescents in Asia have the lowest fertility rates compared with those in Africa and Latin America and the Caribbean, rates among adult women were lowest among countries in Latin America and the Caribbean, compared with Africa and Asia. Rates of child-bearing among adult women were indeed high for most countries and varied much more within and across regions (except for Africa) than was the case among teen-age women alone. The larger variation in total fertility rates among countries in comparison with that of age-specific fertility rates of teen-age women is probably because total fertility rates are influenced not only by age at marriage but also by the proportions currently married in each age group and by the extent to which contraception is practised, whereas teen-age rates are mostly influenced by age at marriage. The increasing concern about adolescent fertility among the countries of Latin America and the Caribbean is due to the relatively high rates of teen-age child-bearing in those countries, compared with the rates in countries of Africa and Asia (and with rates of child-bearing among older women).

B. Trends in adolescent fertility

Any comparison of fertility trends in developing regions is difficult, since the availability and quality of data vary considerably between these countries. The criteria used for inclusion of fertility estimates in the study are described in the annex to this publication, but suffice it to say that because of the different nature and quality of data, extreme caution

should be exercised in their interpretation. The aim is to look at general trends rather than at precise levels. In this section, Africa, Latin America and the Caribbean, and Asia are discussed separately.

Among the countries of Africa, three groups can be identified from the available data: (a) countries with high rates (above 100 per 1,000 women aged 15-19) that have remained with little change (less than 20 per cent since the 1970s); (b) countries that had high rates (above 100 per 1,000 women aged 15-19) in the early 1970s but had experienced declines exceeding 20 per cent since 1970; and (c) countries with fairly low rates of child-bearing (below 100 per 1,000 women aged 15-19) among adolescents throughout the 1970s and early 1980s (figures VI-VIII and table 1). Countries in the first group are Kenya, Madagascar, Malawi and Mozambique in Eastern Africa; Botswana in Southern Africa; and Ghana, Liberia and Senegal in Western Africa. All these countries have not only high adolescent rates but also high total fertility rates exceeding six children per woman, which have more or less remained unchanged during this period with less than 10 per cent declines. Countries in the second group, Algeria, Egypt and Morocco, experienced relatively large declines in adolescent fertility rates. It is interesting to note that while differences between these two groups of countries were small in terms of total fertility rates (among all women), they were relatively larger in terms of adolescent rates. All the countries in the third group, Mauritius, Réunion and Tunisia, have for some time experienced a relatively high age at marriage and high levels of contraceptive use among married couples (United Nations, forthcoming (b)).

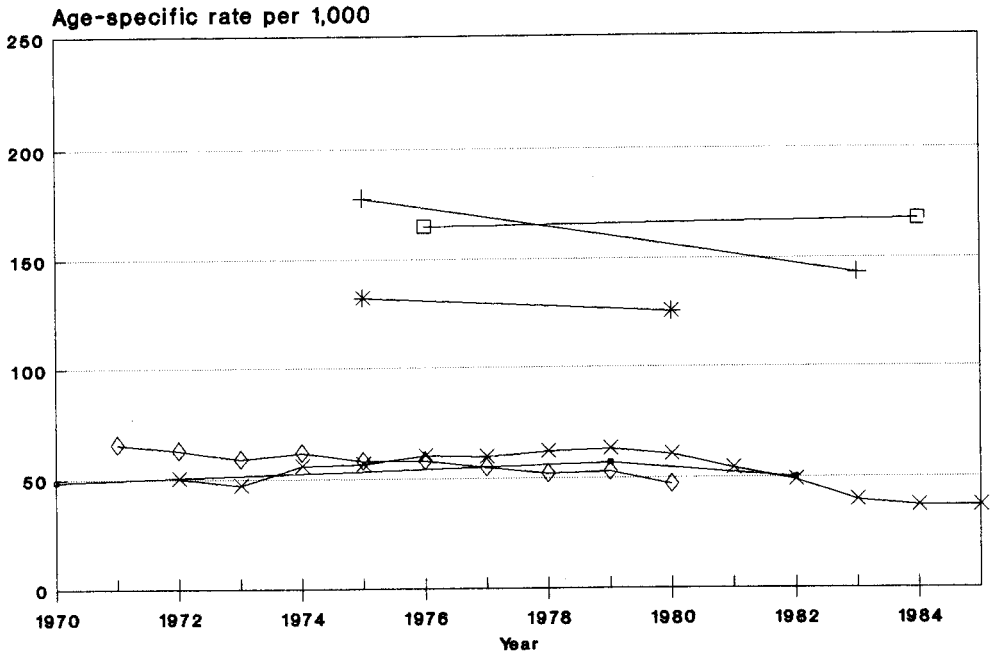
Data on trends in adolescent fertility rates were available for more countries in the Latin American and the Caribbean (25 countries) than in the African region (16 countries). A convenient grouping of countries in the former region to show characteristics of trends in adolescent fertility rates was not possible because rates are fairly homogenous in level (see upper panel of figure I), and in most countries little change occurred during the period 1970-1985. Among teenagers in the Caribbean, fertility rates have remained more or less at the same levels as in the early 1970s (for example, in Jamaica) or have increased (as in Guadeloupe and Haiti). In Cuba, a sharp decline began in 1976, but since 1981 this trend has reversed at a slight increase (figure IX). In Puerto Rico, adolescent fertility rates had been constant for some time, but they began to decline after 1981. Currently, Puerto Rico has the second lowest teen-age rate (after Cuba) in the Caribbean subregion.

Adolescent fertility rates in Central America and Tropical South America either declined slightly or remained unchanged from 1970 to the early 1980s (figures X-XII). In most countries, the rate fluctuated between 100 and 150 per 1,000 women aged 15-19 during the 1970s. In the early 1980s, however, adolescent rates began to decline in most countries in Tropical South America and in Mexico and Panama in Central America. El Salvador, Guatemala and Honduras have the highest rates in the two subregions, while Bolivia, Brazil, Colombia Mexico and Peru have the lowest. In the three countries of Temperate South America, teen-age fertility rates remained unchanged at fairly low levels.

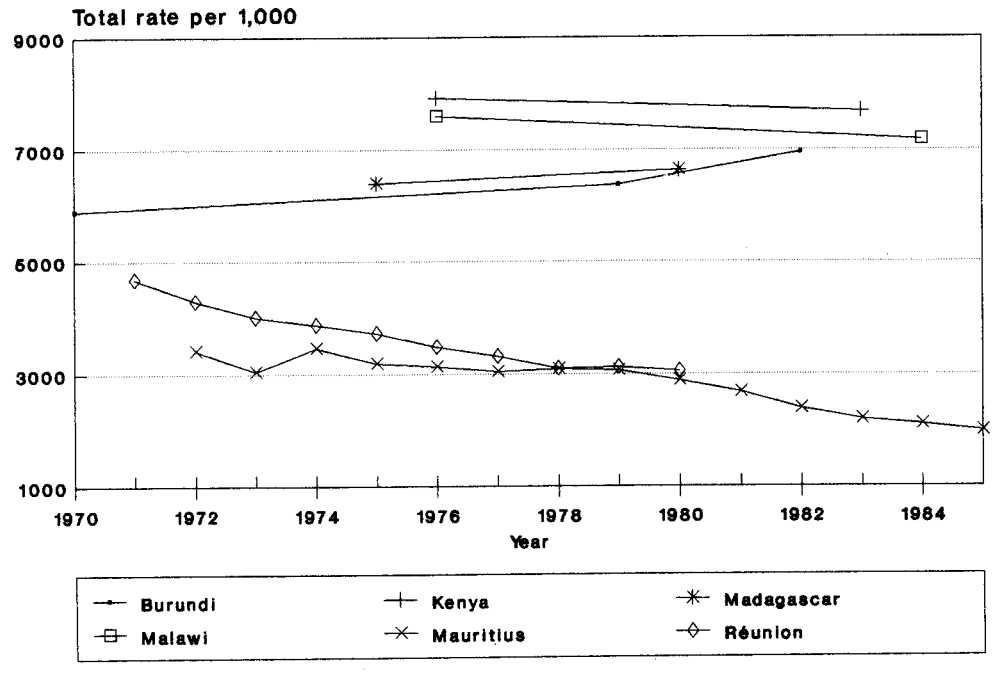
In most countries throughout South Asia, the fertility trend observed among adolescent women is similar to that found among women of all ages. Where declines in fertility occurred, the percentage decline in total

Figure VI. Teen-age fertility rates and total fertility rates, countries in Eastern Africa, 1970-1985

A. Trends in adolescent fertility (15-19 years)

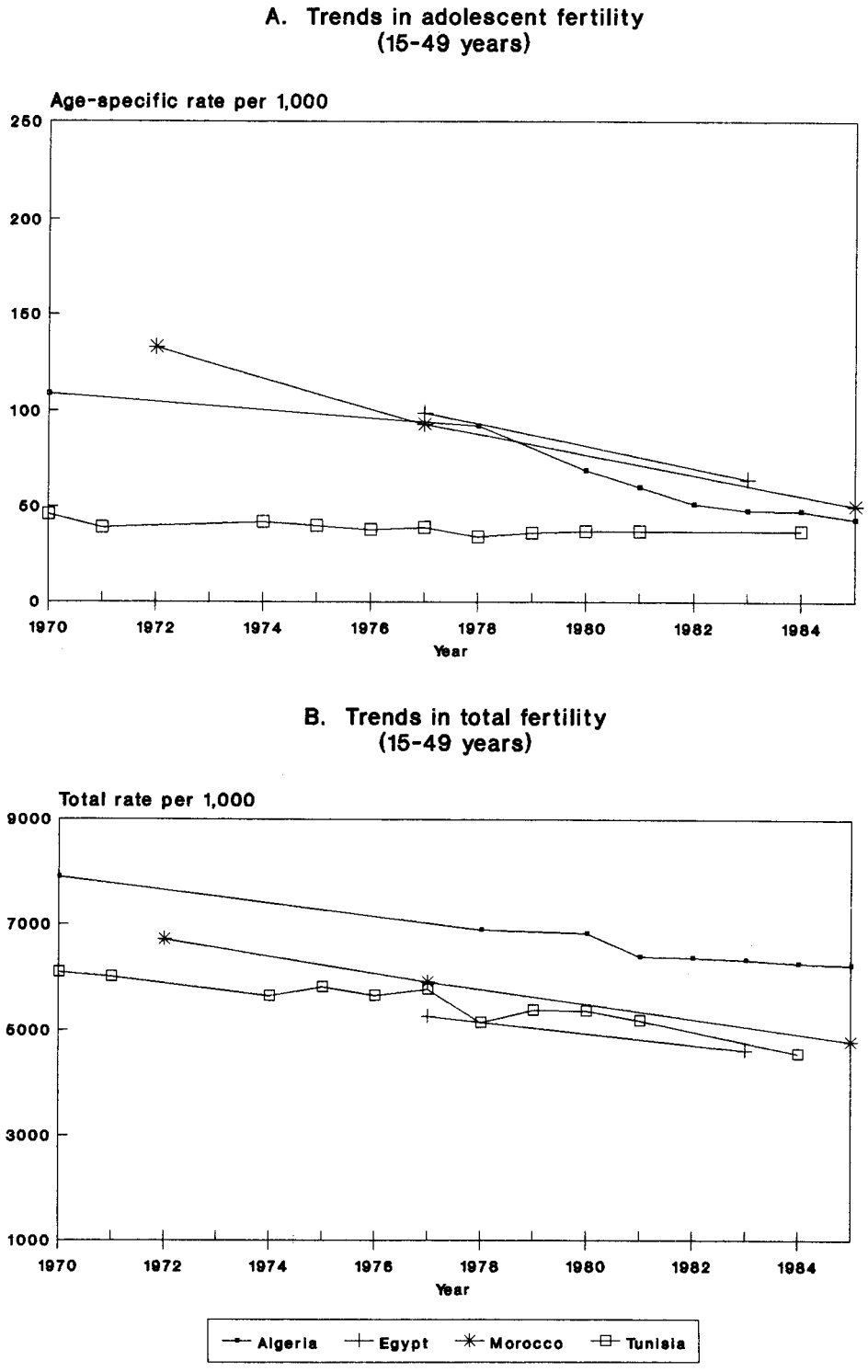


B. Trends in total fertility (15-49 years)



Sources: Annex tables A.1 and A.2.

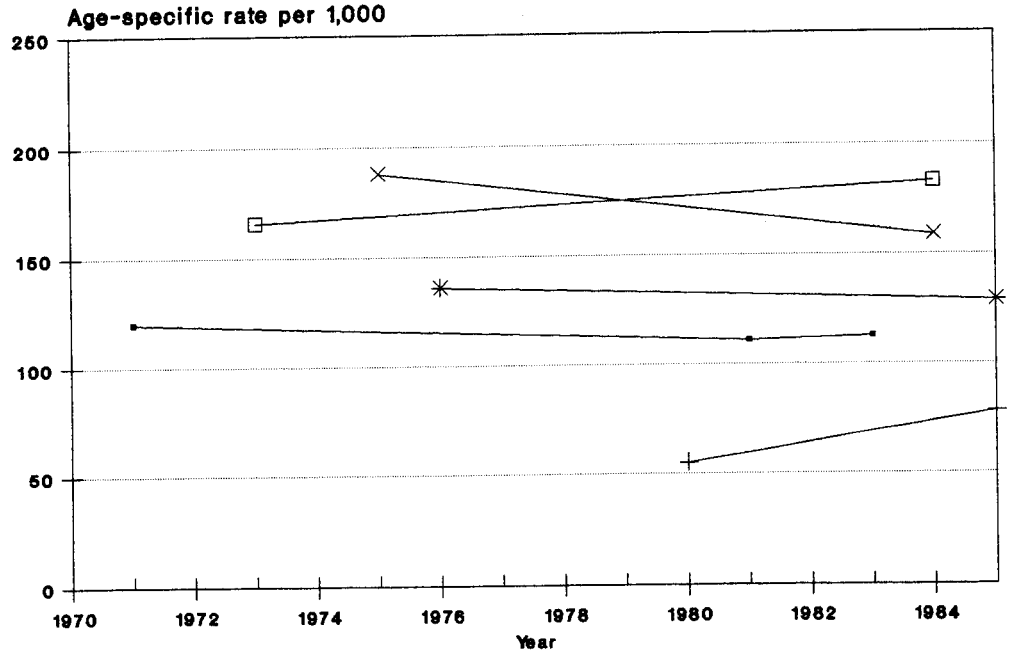
Figure VII. Teen-age fertility rates and total fertility rates, countries in Northern Africa, 1970-1985



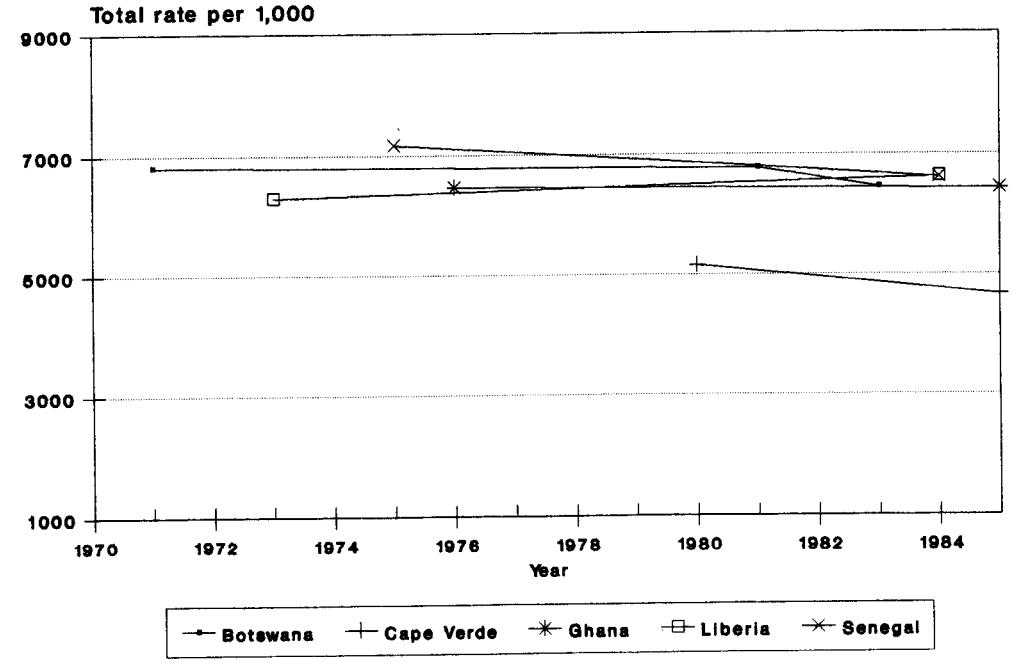
Sources: Annex tables A.1 and A.2.

Figure VIII. Teen-age fertility rates and total fertility rates, countries in Southern and Western Africa, 1970-1985

A. Trends in adolescent fertility (15-19 years)



B. Trends in total fertility (15-49 years)



Sources: Annex tables A.1 and A.2.

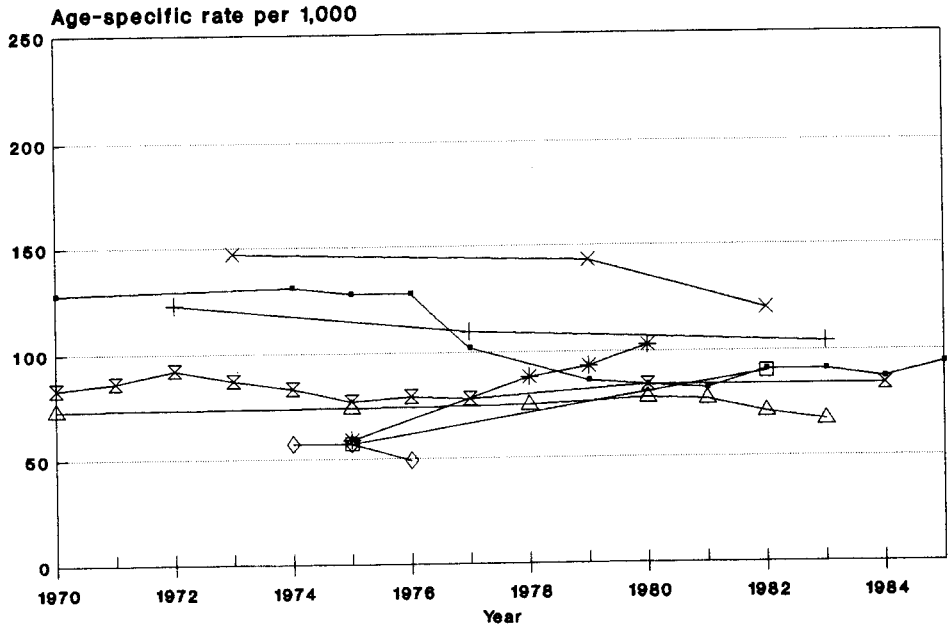
Table 1. Age-specific fertility rates (15-19 years), total fertility rates (15-49 years) and percentage change in rates from 1970 to the most recent period, selected countries of Africa

Subregion and country	Adolescent rates (15-19 years)					Total rates (15-49 years)		
	Beginning date	Rate (per 1,000)	End date	Rate (per 1,000)	Percentage change	Rate at beginning date (per 1,000)	Rate at end date (per 1,000)	Percentage change
Eastern Africa								
Burundi	1970-1971	49.0	1981-1984	50.0	2.0	5895	6950	17.9
Kenya	1972-1978	178.0	1983-1984	143.0	-19.7	7930	7690	-3.0
Malawi	1976-1977	165.0	1984	168.0	1.8	7601	7180	-5.5
Mauritius	1972	50.3	1985	36.9	-26.6	3420	1983	-42.0
Madagascar	1975	132.0	1980	125.2	-5.2	6390	6629	3.7
Mozambique	1965-1970	121.0	1975-1980	131.0	8.3	6725	6490	-3.5
Réunion	1971	66.0	1980	47.0	-28.8	4675	3050	-34.8
Zimbabwe	1982	91.0	1984	131.0	44.0	5619	6520	16.0
Northern Africa								
Algeria	1970	109.0	1985	43.0	-60.6	7893	6234	-21.0
Egypt	1975-1979	99.0	1983-1984	64.0	-35.4	5260	4617	-12.2
Morocco	1970-1975	133.0	1983-1987	50.0	-62.4	6710	4800	-28.5
Tunisia	1970	46.0	1984	37.0	-19.6	6090	4559	-25.1
Southern Africa								
Botswana	1971	120.0	1983-1984	113.0	-5.8	6810	6455	-5.2
Western Africa								
Ghana	1974-1979	136.0	1983-1988	129.0	-5.1	6435	6435	0.0
Liberia	1973	166.0	1982-1986	183.0	10.2	6296	6625	5.2
Senegal	1973-1978	188.0	1982-1986	159.0	-15.4	7160	6615	-7.6

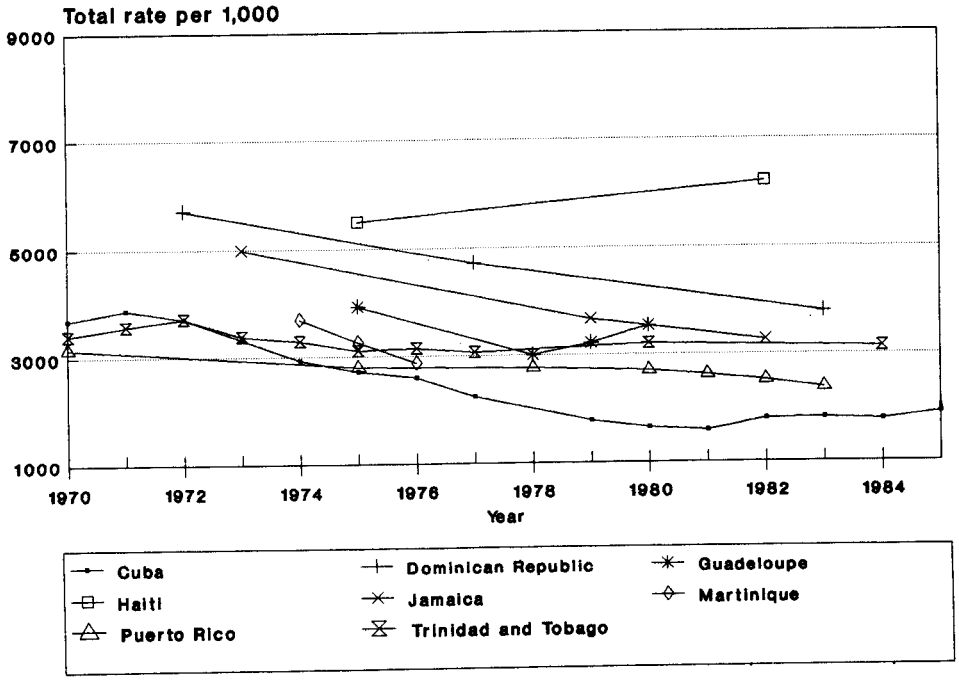
Sources: Annex tables A.1 and A.2.

Figure IX. Teen-age fertility rates and total fertility rates, countries in the Caribbean, 1970-1985

A. Trends in adolescent fertility (15-19 years)

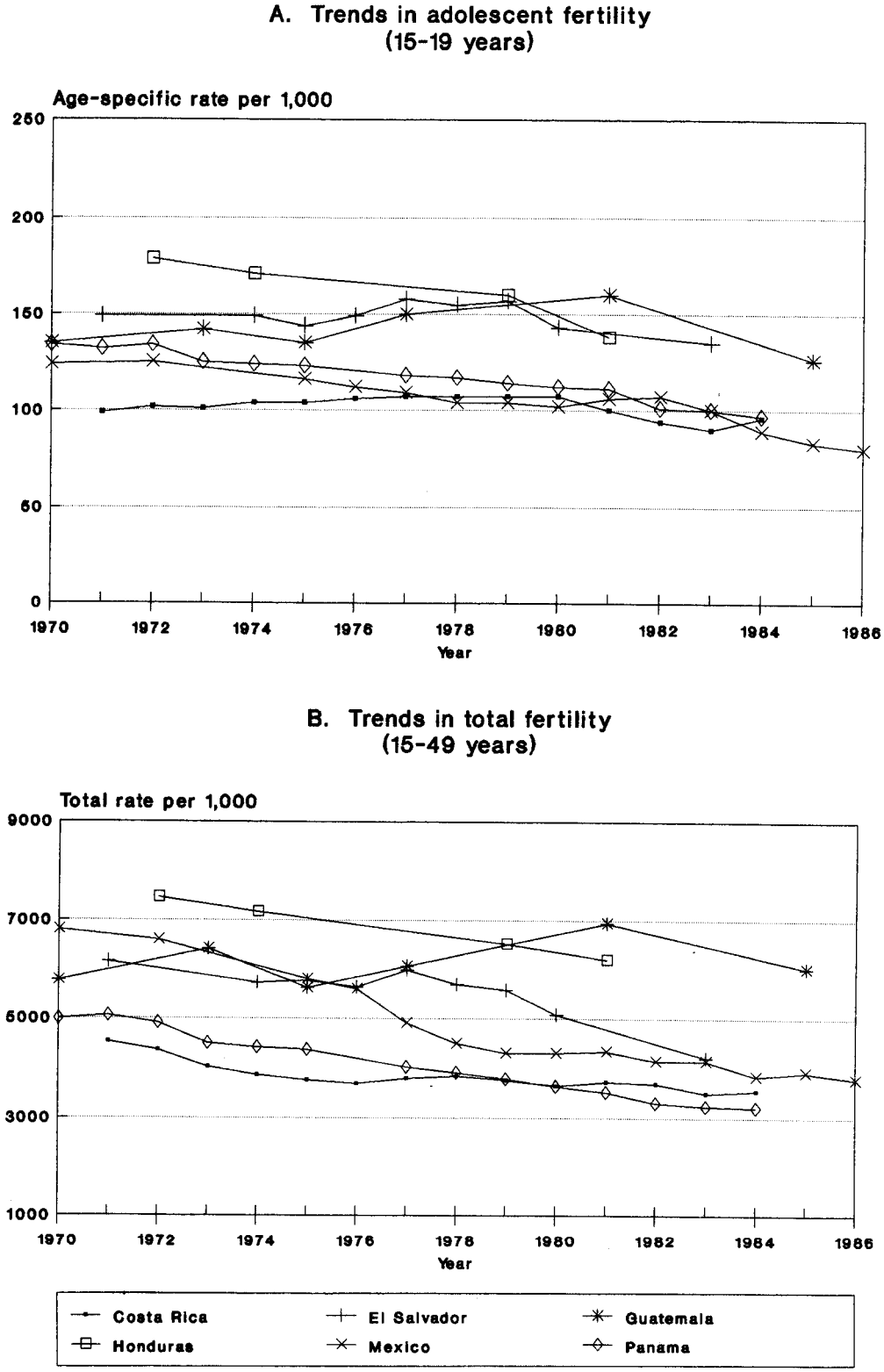


B. Trends in total fertility (15-49 years)



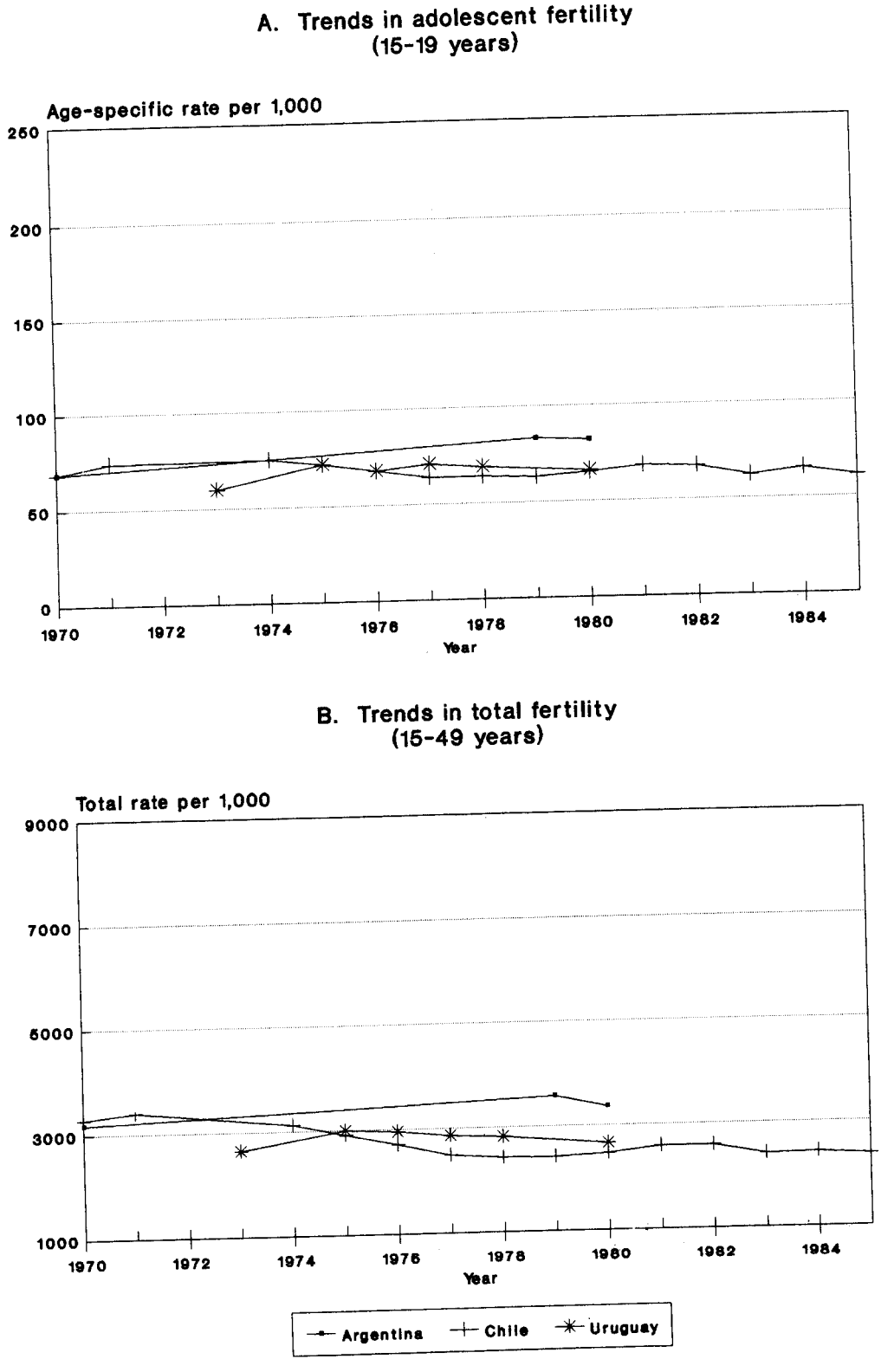
Sources: Annex tables A.1 and A.2.

Figure X. Teen-age fertility rates and total fertility rates, countries in Central America, 1970-1986



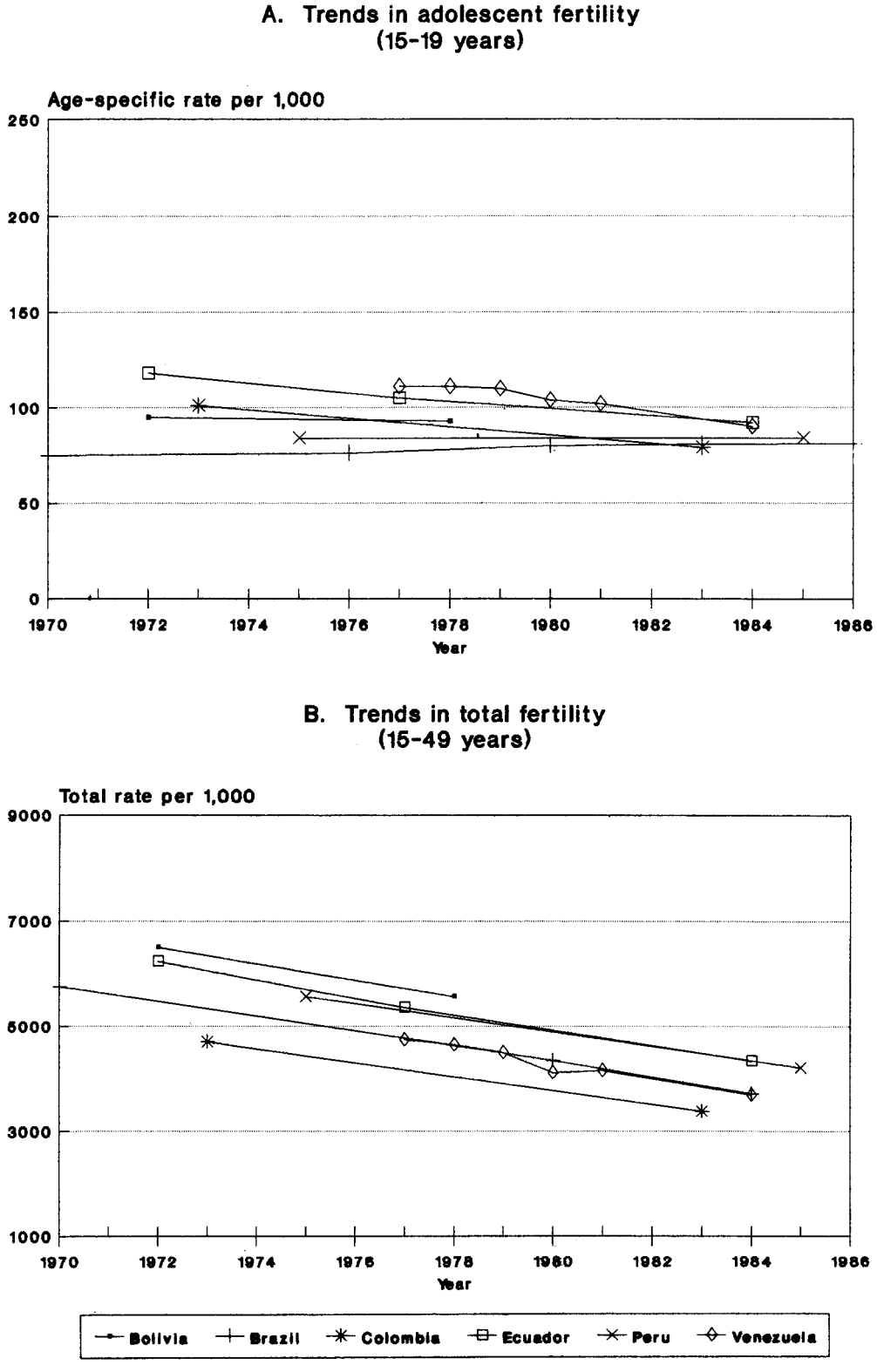
Sources: Annex tables A.1 and A.2.

Figure XI. Teen-age fertility rates and total fertility rates, countries in Temperate South America, 1970-1985



Sources: Annex tables A.1 and A.2.

Figure XII. Teen-age fertility rates and total fertility rates, countries in Tropical South America, 1970-1986



Sources: Annex tables A.1 and A.2.

fertility rates was larger than declines experienced in adolescent fertility rates (table 2). In the Caribbean, it can be seen that even in Guadeloupe and in Haiti, where adolescent fertility has increased, the total fertility rates also increased over the same period. For Caribbean countries, however, the ranking according to levels of fertility is different for all women than for teenagers. For example, in Haiti, all women have the highest fertility, but the highest fertility for teen-age women is found in Jamaica. Cuba has extremely low total fertility rates, yet the fertility rates of teenagers in Cuba are higher than those in a number of other Caribbean countries.

Trends in adolescent fertility rates among countries in Asia differed according to the subregions (see figures XIII-XVI and table 3). In countries of East Asia and South-eastern Asia, in particular, most of the decline in teen-age rates due to increases in age at marriage occurred during the period from the mid-1960s to the late 1960s, and further reductions have been minimal (figures XIII-XIV). Teen-age fertility rates in those countries were stable at somewhat low levels during the 1970s and 1980s. In Indonesia, adolescent fertility rates were 127 per 1,000 women around 1973 but have converged to the level experienced by other countries in this subregion, namely, to 78 per 1,000 women aged 15-19 around 1985. In Southern Asian countries (Bangladesh, India and Nepal), the rates were relatively high (above 50 per 1,000) (figure XV), with extremely high rates experienced in Bangladesh. The observed slight increase in fertility rates among Bangladeshi teenagers cannot be confirmed until more data are available, since age-reporting in Bangladesh is known to be deficient. Adolescent fertility rates in Kuwait and Jordan have declined precipitously from about 1976 up to the most recent period for which data are available (figure XVI). It is likely that a large part of this decline can be attributed to an increase in age at marriage. Rates for Yemen remained at extremely high levels between 1978 and 1981, while those for Cyprus and Israel remained fairly stable at low levels.

Although teen-age fertility rates in the countries of East Asia and South Eastern Asia remained fairly unchanged through the 1970s and early 1980s, total fertility rates declined sharply to fairly low levels in China, Hong Kong and Singapore from the early to late 1970s, and a more gradual decline occurred in the remaining countries. This finding implies that changes in total fertility rates can be attributed to the fact that older women (20 years and over) were limiting their family size. In Southern Asian countries, however, both adolescent and adult rates remained more or less unchanged. In Pakistan, adolescent fertility rates declined whereas total fertility rates remained constant.

C. Residential and educational differences in adolescent child-bearing

Teen-age fertility has become a salient concern in developing countries at a time when both age at marriage is rising and more and more young women remain in school for longer periods. In the literature dealing with adolescent child-bearing in developing countries, it is seen mainly as a problem of unmarried, urban women. Cherlin and Riley (1986, p. 4) assert that in Africa, "it appears that substantial proportions of these students are sexually active and that their rates of pregnancy are relatively high. Moreover, the difficulty of combining schooling and child-bearing appears to have led to a heavy reliance on potentially illegal abortions." However,

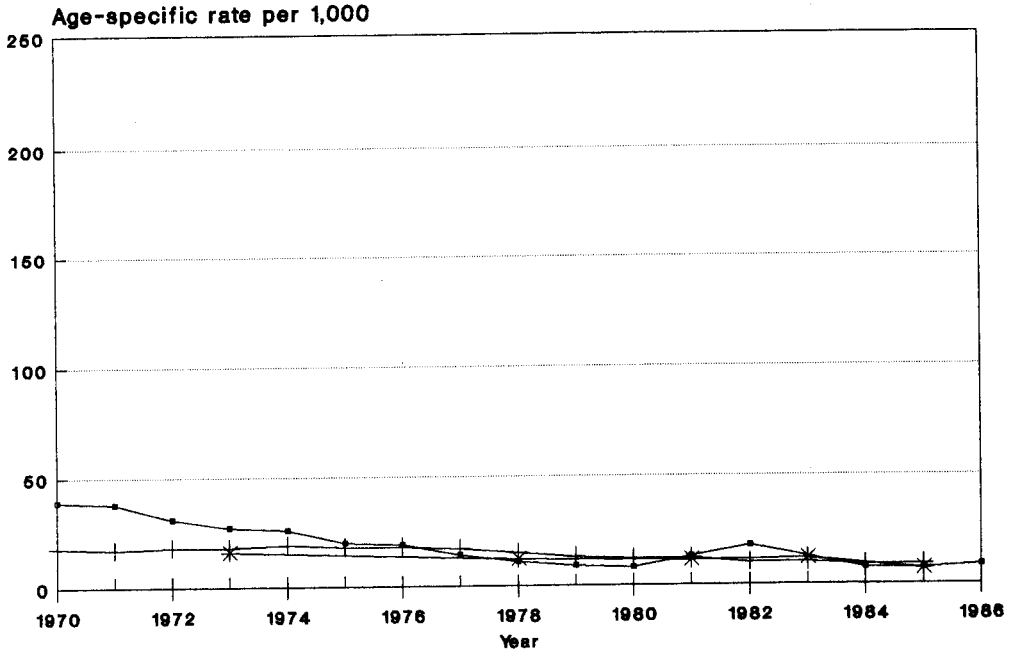
Table 2. Age-specific fertility rates (15-19 years), total fertility rates (15-49 years) and percentage change in rates from 1970 to the most recent periods, selected countries of Latin America and the Caribbean

Subregion and country	Adolescent rates (15-19 years)					Total rates (15-49 years)		
	Beginning date	Rate (per 1,000)	End date	Rate (per 1,000)	Percentage change	Rate at beginning date (per 1,000)	Rate at end date (per 1,000)	Percentage change
Caribbean								
Barbados	1968-1970	75.0	1980-1981	91.7	22.3	2470	2400	-2.8
Bahamas	1975	63.5	1980	97.0	52.8	2536	2874	13.3
Cuba	1970	128.0	1985	94.0	-26.6	3697	1904	-48.5
Dominican Republic	1970-1974	123.0	1981-1986	104.0	-15.4	5710	3800	-33.5
Guadeloupe	1975	59.0	1980	103.0	74.6	3929	3540	-9.9
Haiti	1973-1977	57.0	1982-1983	90.0	57.9	5505	6210	12.8
Jamaica	1971-1976	147.0	1977-1982	143.0	-2.7	4995	3669	-26.5
Martinique	1974-1976	57.0	1976	49.0	-14.0	3694	2876	-22.1
Puerto Rico	1970	73.0	1983	67.0	-8.2	3160	2384	-24.6
Trinidad and Tobago	1970	83.0	1982-1987	84.0	1.2	3410	3140	-7.9
Central America								
Costa Rica	1971	99.0	1984	96.0	-3.0	4530	3539	-21.9
Guatemala	1970	135.0	1985	126.0	-6.7	5771	6015	4.2
Honduras	1972	179.0	1981	138.0	-22.9	7456	6201	-16.8
Mexico	1970	124.0	1986	80.0	-35.5	6800	3775	-44.5
El Salvador	1971	149.0	1982-1985	135.0	-9.4	6158	4216	-31.5
Panama	1970	134.0	1984	97.0	-27.6	4986	3211	-35.6
Temperate South America								
Argentina	1970	69.0	1980	82.0	18.8	3174	3351	5.6
Chile	1970	69.0	1983	61.0	-11.6	3277	2368	-27.7
Uruguay	1973	60.0	1979	66.0	10.0	2645	2656	0.4
Tropical South America								
Bolivia	1970-1975	95.0	1976-1980	93.0	-2.1	6501	5565	-14.4
Brazil	1970	75.0	1986	81.0	8.0	5760	3715	-35.5
Colombia	1971-1975	101.0	1981-1986	79.0	-21.8	4695	3375	-28.1
Ecuador	1970-1974	118.0	1982-1987	92.0	-22.0	6230	4335	-30.4
Peru	1973-1978	84.0	1984-1986	84.0	0.0	5570	4218	-24.3
Venezuela	1977	111.0	1984	90.0	-18.9	4740	3692	-22.1

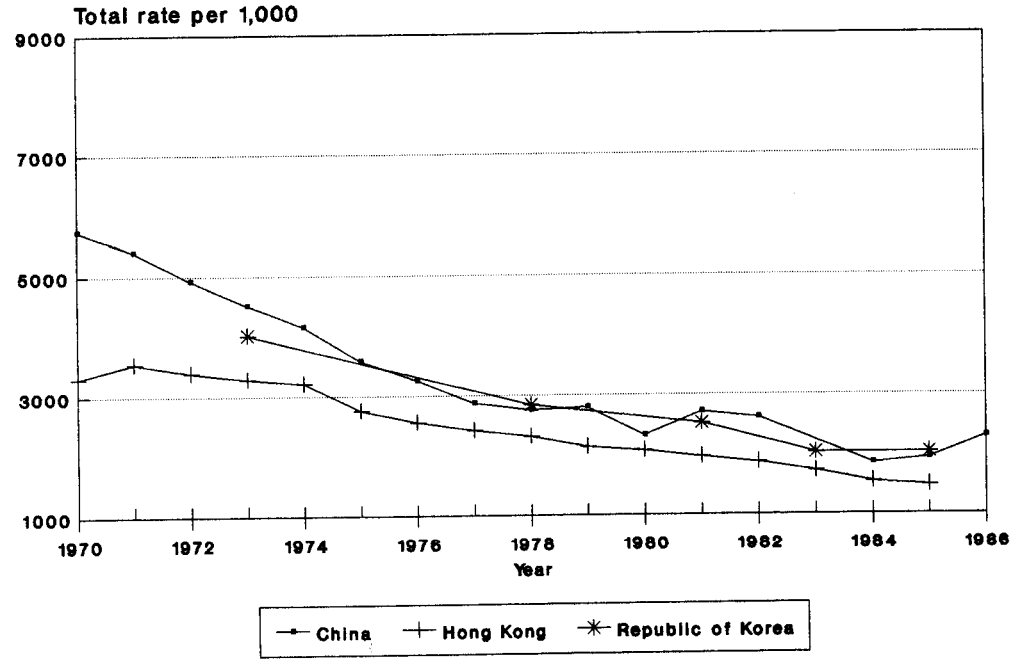
Sources: Annex tables A.1 and A.2.

Figure XIII. Teen-age fertility rates and total fertility rates, countries in East Asia, 1970-1986

A. Trends in adolescent fertility (15-19 years)



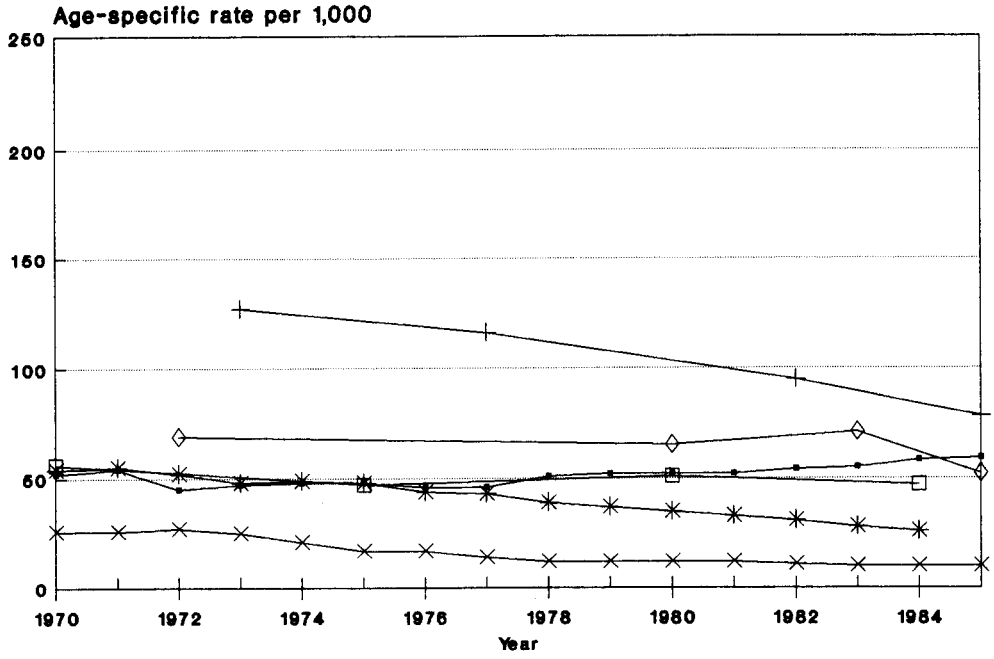
B. Trends in total fertility (15-49 years)



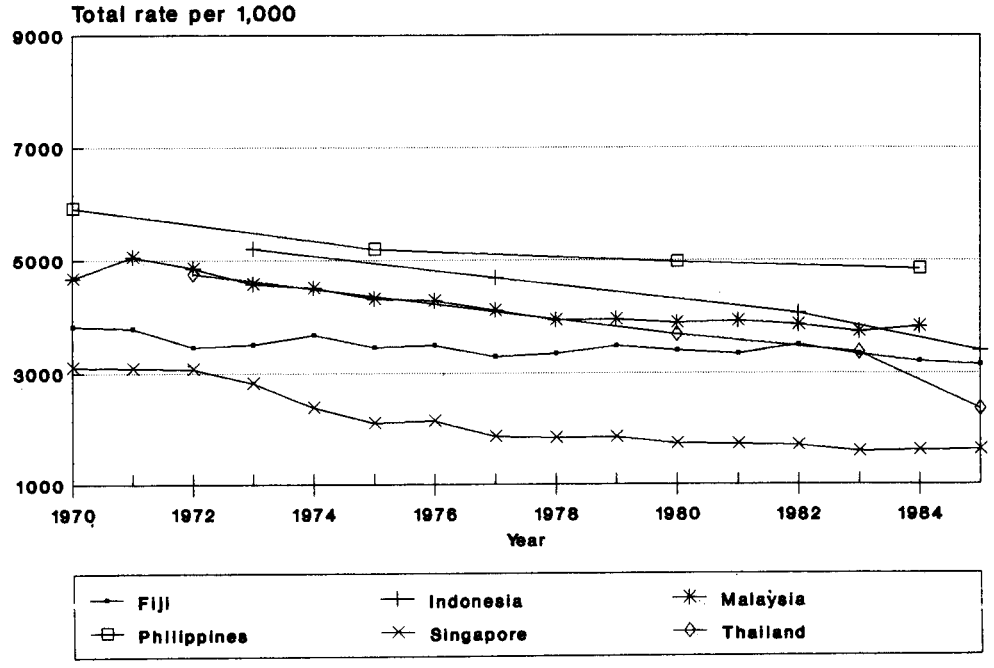
Sources: Annex tables A.1 and A.2.

Figure XIV. Teen-age fertility rates and total fertility rates, countries in South-eastern Asia, 1970-1985

A. Trends in adolescent fertility (15-19 years)



B. Trends in total fertility (15-49 years)

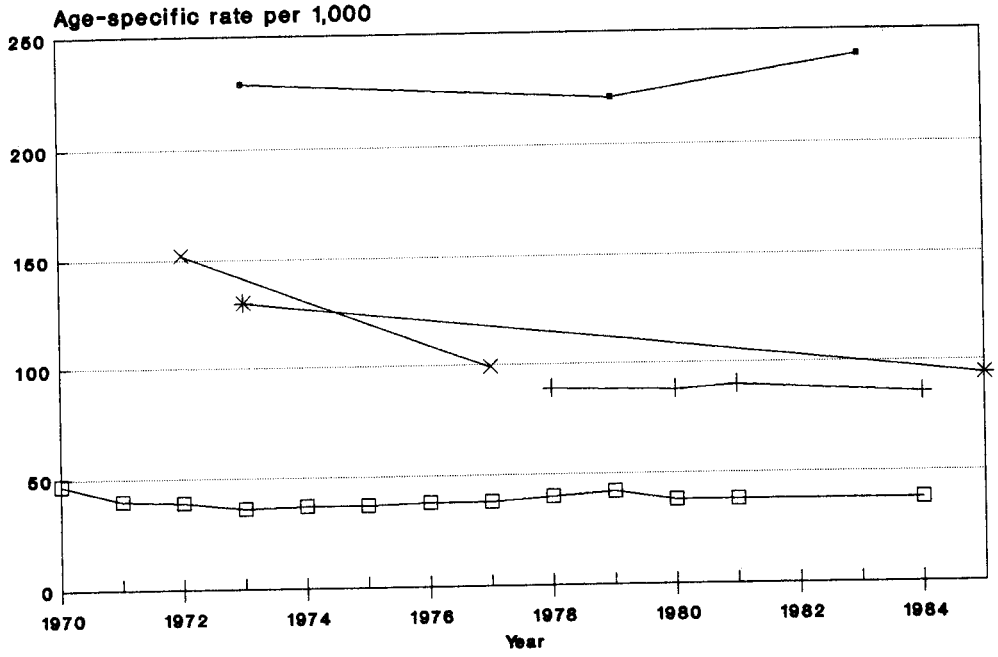


Sources: Annex tables A.1 and A.2.

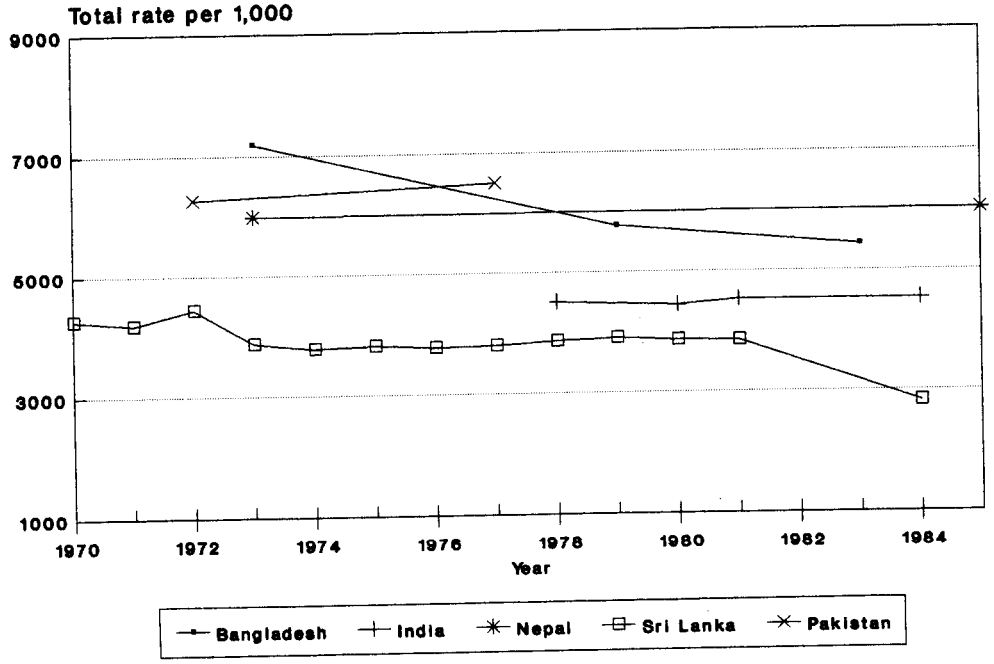
Note: In this figure, rates for Fiji, a country in Oceania, are included in South-eastern Asia.

Figure XV. Teen-age fertility rates and total fertility rates, countries in Southern Asia, 1970-1985

A. Trends in adolescent fertility (15-19 years)



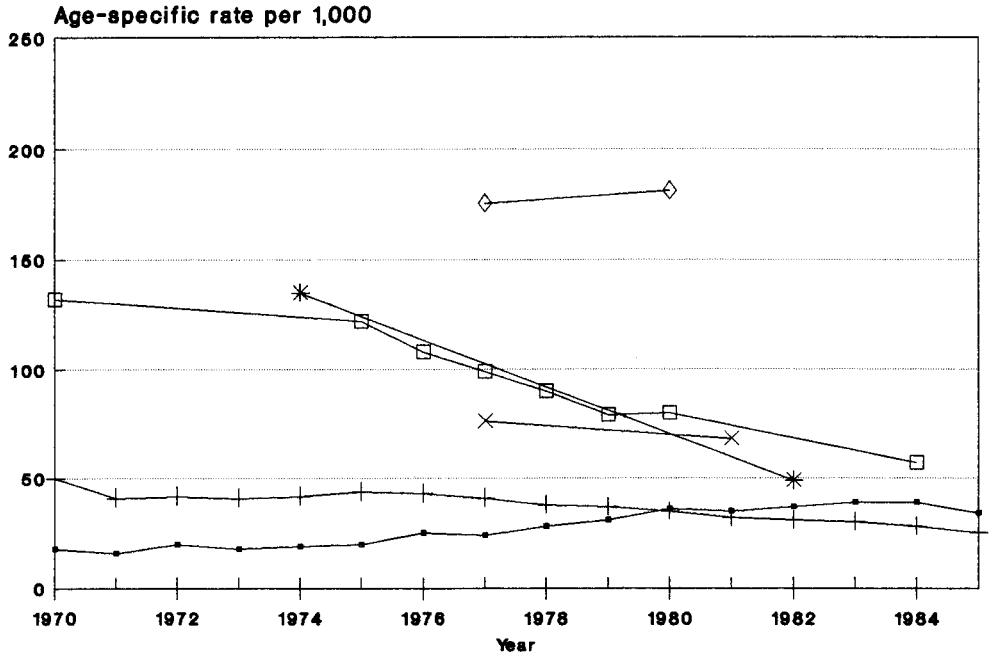
B. Trends in total fertility (15-49 years)



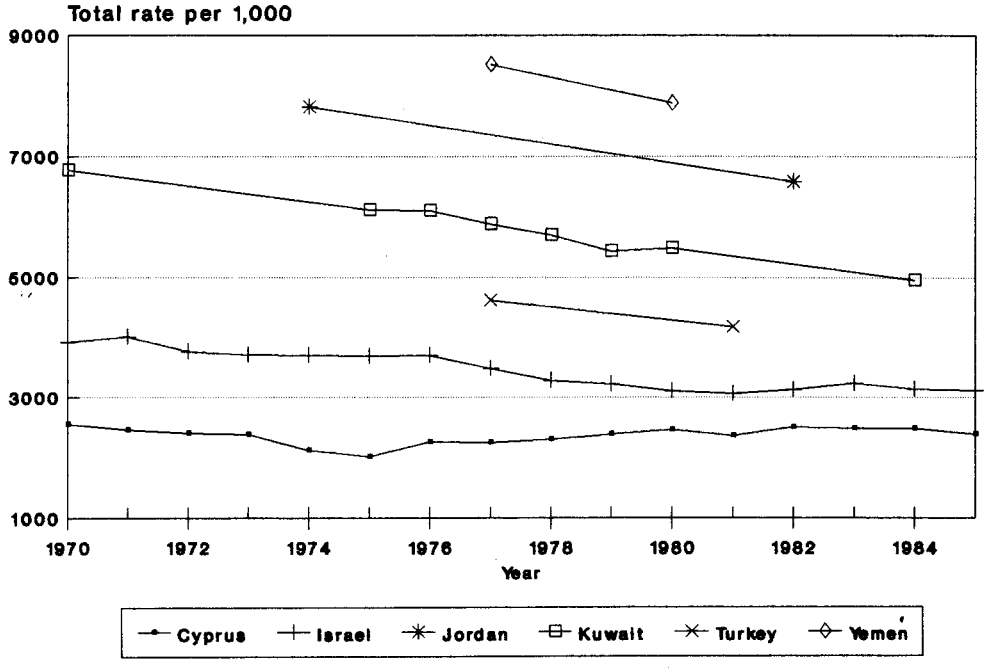
Sources: Annex tables A.1 and A.2.

Figure XVI. Teen-age fertility rates and total fertility rates, countries in Western Asia, 1970-1985

A. Trends in adolescent fertitity
(15-19 years)



B. Trends in total fertility
(15-49 years)



Sources: Annex tables A.1 and A.2.

Table 3. Age-specific fertility rates (15-19 years), total fertility rates (15-49 years) and percentage change in rates from 1970 to most recent period, selected countries of Asia and Oceania

Subregion and country	Adolescent rates (15-19 years)					Total rates (15-49 years)		
	Beginning date	Rate (per 1,000)	End date	Rate (per 1,000)	Percentage change	Rate at beginning date (per 1,000)	Rate at end date (per 1,000)	Percentage change
East Asia								
China	1970	39.0	1986	8.7	-77.7	5746	2291	-60.1
Hong Kong	1970	18.0	1985	9.0	-50.0	3308	1471	-55.5
Republic of Korea	1966-1970	18.0	1985	7.0	-61.1	4546	2027	-55.4
South Asia								
South-eastern Asia								
Indonesia	1967-1970	155.0	1980-1985	95.0	-38.7	5605	4055	-27.7
Malaysia	1970	54.0	1984	26.0	-51.9	4669	3810	-18.4
Philippines	1970	56.0	1984	47.0	-16.1	5915	4835	-18.3
Singapore	1970	26.0	1985	10.0	-61.5	3101	1619	-47.8
Thailand	1970-1974	69.0	1982-1984	71.0	2.9	4750	3360	-29.3
Southern Asia								
Bangladesh	1973-1974	229.0	1983	239.0	4.4	7185	5424	-24.5
India	1978	89.0	1984	85.8	-3.6	4498	4516	0.4
Nepal	1971-1975	130.0	1985-1986	94.0	-27.7	5985	6025	0.7
Pakistan	1970-1975	152.0	1975-1980	99.0	-34.9	6265	6500	3.8
Sri Lanka	1970	47.0	1982-1987	38.0	-19.1	4265	2815	-34.0
Western Asia								
Cyprus	1970	18.0	1985	34.0	88.9	2552	2381	-6.7
Iraq	1972	129.0	1974	89.9	-30.3	7175	7127	-0.7
Israel	1970	50.0	1985	25.0	-50.0	3915	3116	-20.4
Jordan	1972-1976	135.0	1981-1983	49.0	-63.7	7815	6585	-15.7
Kuwait	1970	132.0	1984	57.0	-56.8	6778	4952	-26.9
Turkey	1974-1979	76.0	1978-1983	68.0	-10.5	4615	4168	-9.7
Yemen	1976-1978	170.0	1980-1981	181.0	6.5	8150	7875	-3.4
Oceania								
Fiji	1970	52.0	1985	59.0	13.5	3811	3147	-17.4

Sources: Annex tables A.1 and A.2.

since in many developing countries a large proportion of adolescents do not complete secondary school, problems may be limited to urban areas in some countries. In the next section, residential and educational differences in adolescent child-bearing are examined.

1. Residence

Information on urban/rural differentials in adolescent child-bearing is available from the World Fertility Survey conducted in 35 countries of Africa, Latin America and the Caribbean, Asia and Oceania. The data in table 4 show the teen-age experience of a cohort aged 20-24 years. These young women had already completed their teen-age years by the time of the survey and their experience is not truncated by the date of the interview. However, their experience covers the period from 5 to 10 years before the survey date.

Urban/rural differences in the proportion of women aged 20-24 years who had borne a child by the end of their teen-age years were more pronounced in Latin America and the Caribbean than in countries of Africa or Asia and Oceania. In Latin America and the Caribbean, 8 out of 13 countries have urban/rural differentials of more than 15 percentage points, whereas in Africa there are 4 out of 11, and in Asia, 3 out of 12 with such large differences. For example, in the urban areas of Venezuela and Jamaica, nearly one third and one half, respectively, of women aged 20-24 years had become mothers during their teen-age years, whereas in the rural areas, more than half in Venezuela and two thirds in Jamaica had done so.

The large differentials in levels of teen-age child-bearing between urban and rural areas are more a result of differences among the younger teenagers than to differences among the older ones. For example, in Panama, 18.5 per cent more women in rural areas had had a child by age 18, compared with urban areas, but only about 1 per cent more rural women, compared with urban women, had had a child between ages 18 and 19 years. The postponement of marriage among very young teenagers in urban areas probably accounts for most of these differences.

2. Education

Educational attainment has very strong effects on the level of fertility among all women; women with higher levels of education generally have lower completed fertility than those with little or no education. A study comparing data across 38 developing countries found that, at current fertility rates averaged over all countries, women with seven or more years of education will bear 3.9 children, while those with no schooling will bear nearly 80 per cent more, 6.9 children on average (United Nations, 1987a). Studies of teen-age child-bearing patterns have also found a negative relationship between fertility and educational attainment.

Data from the World Fertility Survey show that educational attainment is, indeed, strongly related to child-bearing among adolescents (table 5). Even after controlling for urban/rural residence, the effect of level of educational attainment on adolescent child-bearing remained significant. In most countries, more than half the women with no education had had a child by the time they were aged 20 years. 4/ In most countries of Africa, and in the Dominican Republic, Ecuador and Mexico, more than two thirds of teen-age women with no education had had a child by age 20. Among those with seven or more

Table 4. Proportion of women aged 20-24 years who have had a live-birth by ages 15, 18, and 20, according to urban and rural residence, by region and country

Region and country	Year	By age 15			By age 18			By age 20		
		Urban (1)	Rural (2)	Difference (2)-(1)	Urban (3)	Rural (4)	Difference (4)-(3)	Urban (5)	Rural (6)	Difference (6)-(5)
Africa										
Benin	1982	5.9	3.1	-2.8	15.6	24.2	8.6	45.1	54.6	9.5
Cameroon	1978	7.9	6.6	-1.3	32.8	39.8	7.0	57.7	67.4	9.7
Côte D'Ivoire	1980	7.8	7.5	-0.3	41.3	45.4	4.1	67.1	73.7	6.6
Egypt	1980	1.2	4.2	3.0	11.3	29.5	18.2	24.5	49.4	24.9
Ghana	1979-1980	0.5	3.5	3.0	23.9	32.0	8.1	44.8	61.8	17.0
Kenya	1977-1978	4.5	7.9	3.4	31.3	40.0	8.7	56.0	64.3	8.3
Mauritania	1981	16.2	14.4	-1.8	41.0	37.5	-3.5	56.5	52.5	-4.0
Morocco	1979-1980	2.7	3.7	1.0	12.9	24.1	11.2	24.1	45.5	21.4
Nigeria	1981-1982	12.7	16.9	4.2	34.1	48.0	13.9	54.6	64.2	9.6
Senegal	1978	5.1	5.8	0.7	26.3	48.6	22.3	49.2	74.9	25.7
Sudan	1978-1979	8.5	12.0	3.5	24.0	34.9	10.9	37.1	47.6	10.5
Latin America and Caribbean										
Columbia	1976	2.6	4.1	1.5	14.8	23.2	8.4	31.2	49.2	18.0
Costa Rica	1976	1.0	1.9	0.9	10.0	21.7	11.7	24.4	46.2	21.8
Dominican Republic	1975	2.9	2.7	-0.2	21.8	25.4	3.6	37.7	53.4	15.7
Ecuador	1979	2.5	3.5	1.0	16.2	25.0	8.8	31.4	44.0	12.6
Guyana	1977	1.7	2.1	0.4	16.7	20.7	4.0	33.7	42.5	8.8
Haiti	1977	1.1	0.8	-0.3	12.0	9.3	-2.7	22.5	23.5	1.0
Jamaica	1975-1976	2.8	2.4	-0.4	29.1	41.7	12.6	48.2	65.0	16.8
Mexico	1976	2.9	5.7	2.8	14.3	30.5	16.2	33.9	53.3	19.4
Panama	1975-1976	1.8	3.8	2.0	12.0	30.5	18.5	28.7	48.3	19.6
Paraguay	1979	1.0	1.2	0.2	9.4	17.3	7.9	24.5	37.9	13.4
Peru	1977-1978	0.8	4.9	4.1	10.4	24.1	13.7	24.9	44.0	19.1
Trinidad and Tobago	1977	1.2	1.9	0.7	13.3	15.1	1.8	29.4	28.8	-0.6
Venezuela	1977	2.2	4.8	2.6	15.7	33.6	17.9	30.3	56.0	25.7
Asia and Oceania										
Bangladesh	1975-1976	21.2	21.6	0.4	54.4	65.6	11.2	70.3	80.7	10.4
Fiji	1974	0.6	0.9	0.3	9.3	9.4	0.1	24.3	32.6	8.3
Indonesia	1976	2.6	6.5	3.9	18.5	33.4	14.9	34.0	55.1	21.1
Jordan	1976	1.5	4.9	3.4	19.1	34.0	14.9	37.2	60.6	23.4
Malaysia	1974	0.2	0.9	0.7	5.2	12.9	7.7	15.6	30.5	14.9
Pakistan	1975	2.5	5.1	2.6	24.5	32.9	8.4	40.4	51.5	11.1
Philippines	1978	0.0	0.6	0.6	4.8	11.4	6.6	13.6	26.1	12.5
Sri Lanka	1975	0.9	1.0	0.1	8.4	8.2	-0.2	16.2	17.9	1.7
Syrian Arab Republic	1978	2.8	3.8	1.0	16.7	21.7	5.0	32.8	42.4	9.6
Thailand	1975	0.4	0.8	0.4	7.3	12.9	5.6	15.8	31.7	15.9
Turkey	1978	1.6	6.3	4.7	18.5	28.9	10.4	38.2	51.2	13.0
Yemen	1979	8.9	7.3	-1.6	33.7	32.9	-0.8	50.8	56.4	5.6

Source: World Fertility Survey standard recode tapes.

Table 5. Percentage of women aged 20-24 years who had had a live-birth by age 18 and 20, according to number of years of schooling completed, by region and country

Region and country	Year	By age 18				By age 20			
		No education (1)	1-3 years (2)	4-6 years (3)	7+ years (4)	No education (5)	1-3 years (6)	4-6 years (7)	7+ years (8)
Africa									
Benin	1982	24.1	3.4	19.1	6.9	56.0	41.3	42.6	23.3
Cameroon	1978	44.2	48.7	35.5	20.9	65.9	76.6	68.8	46.6
Côte D'Ivoire	1980	42.6	47.7	52.3	36.5	71.4	80.0	74.2	55.2
Ghana	1979-1980	36.2	44.2	39.3	21.9	66.0	67.5	65.5	46.7
Kenya	1977-1978	48.2	48.4	44.4	24.4	73.2	68.1	69.5	49.0
Lesotho	1977	26.5	24.6	21.2	5.2	50.6	47.0	49.6	22.7
Morocco	1979-1980	23.4	20.6	9.2	3.1	43.4	44.1	20.5	6.9
Nigeria	1981-1982	55.3	57.6	24.7	6.6	74.1	73.5	47.6	18.0
Senegal	1978	44.8	39.1	32.5	8.5	70.8	65.2	55.0	29.9
Sudan	1978-1979	40.8	33.1	12.7	17.0	55.1	41.9	23.4	45.3
Latin America and Caribbean									
Columbia	1976	29.3	28.5	15.8	5.4	58.6	55.7	34.8	15.0
Costa Rica	1976	a/	28.9	22.2	4.3	a/	55.6	45.2	16.1
Dominican Republic	1975	37.7	33.5	29.8	6.7	72.1	59.9	54.0	17.2
Ecuador	1979	45.5	32.7	25.8	8.3	66.3	55.3	44.9	21.1
Guyana	1977	a/	a/	35.7	15.0	a/	a/	60.0	34.1
Jamaica	1975-1976	a/	a/	43.7	34.5	a/	a/	60.9	56.7
Mexico	1976	43.0	32.0	17.3	6.1	67.8	56.0	42.6	17.7
Panama	1975-1976	a/	45.6	27.5	10.5	a/	67.7	51.4	22.6
Paraguay	1979	42.4	28.7	10.8	5.5	57.6	53.6	31.8	15.8
Peru	1977-1978	27.4	27.5	8.0	3.8	51.7	48.1	18.1	14.9
Trinidad and Tobago	1977	a/	a/	30.6	13.2	a/	a/	44.7	28.5
Venezuela	1977	38.0	40.1	24.9	6.3	56.0	60.1	45.7	16.7
Asia									
Jordan	1976	35.8	34.8	36.2	8.4	60.2	60.5	59.4	21.6
Malaysia	1974	17.7	15.8	12.2	2.3	36.0	36.5	30.4	9.4
Pakistan	1975	35.5	7.4	19.2	6.9	53.9	25.0	45.8	15.6
Philippines	1978	20.3	13.8	16.8	3.1	32.2	24.7	38.5	11.1
Republic of Korea	1974	a/	2.7	1.2	0.0	a/	19.2	11.7	2.9
Syrian Arab Republic	1978	26.2	20.7	6.6	6.0	48.2	41.3	12.8	17.3
Yemen	1979	34.0	a/	a/	a/	57.8	a/	a/	a/

Source: World Fertility Survey standard recode tapes.

a/ Fewer than 20 cases.

years of schooling in most countries in Africa and Latin America and the Caribbean, from about one quarter to one third had had a child by age 20. In Asia, only in Jordan, and Latin America and the Caribbean, only in Ecuador, Guyana, Jamaica, Panama, and Trinidad and Tobago had more than 20 per cent of those aged 20-24 with more than seven years of education had a child during their teen-age years. This situation, however, prevailed in all countries of Africa except Morocco and Nigeria.

In every country, women with the highest levels of education were less likely than women with no education to have had a birth during their teen-age years. The differential was particularly large, more than 50 percentage points, in the Dominican Republic, Mexico and Nigeria. For example, in the Dominican Republic, 72 per cent of women with no education had had a birth during their teen-age years, whereas only 17 per cent of those with seven or more years of education had done so. In such countries as Cameroon, Côte d'Ivoire and Venezuela, a larger proportion of women with from one to three years of education than of those with no education had had a teen-age birth. In most other countries, however, the difference between no education and from one to three years (or some education) was not as large as that between the two extremes of educational attainment.

Fertility differences by educational levels were larger among younger teen-age women than among those women who had had a birth at 18-19 years of age. Among younger teenagers, the differential between the highest and lowest educational categories ranged from more than 50 percentage points in Mexico and Nigeria to under 20 per cent in Cameroon, Côte d'Ivoire, Ghana, the Republic of Korea, the Sudan and Trinidad and Tobago. Among the older teenagers, the corresponding difference ranged from more than 25 in Panama to less than 5 percentage points in Cameroon, Kenya, Paraguay, the Philippines, Senegal, and Trinidad and Tobago. Teenagers with higher levels of education are more likely to delay entry into union, hence their older age at child-bearing, whereas those with no education enter into union at a much earlier age and begin child-bearing at earlier ages.

D. Discussion

Adolescent fertility rates are at extremely high levels in some countries in sub-Saharan Africa, Southern Asia and Western Asia, at moderately high levels in a large number of countries in Latin America and the Caribbean and in South-eastern Asia, and at extremely low levels in countries of East Asia. Although a large number of countries experienced declines in adolescent fertility in the late 1960s and early 1970s, brought about by increases in age at marriage, teen-age fertility rates in many countries remained unchanged or declined very little over the next decade from 1970s to early 1980s. Most countries in Latin America and the Caribbean and in South-eastern Asia fall in this group. In most sub-Saharan African countries, adolescent fertility rates were high throughout the period. In many countries included in this study, adolescent women began child-bearing at very young ages (under 18 years). This situation was particularly true of adolescents in countries of Africa and South Asia.

Adolescent fertility rates were, in general, the highest in countries of Africa and the lowest in those in Asia. Total fertility rates among women of all ages (15-49) were also the highest in Africa, but the lowest in Latin America and the Caribbean. The relatively high levels of teen-age

child-bearing in Latin American and Caribbean countries, compared with women of all ages, account for the increased attention to adolescent fertility in these countries. A comparison of trends in adolescent fertility rates and in total fertility rates in Latin American and Caribbean countries shows larger declines in total fertility rates than in the fertility of adolescent women.

Like adult women, teenagers in rural areas and those with little or no education are more likely to have children than those who live in urban areas and those with seven or more years of education. Urban/rural and educational differences in fertility among adolescents aged less than 18 are larger than those observed among older adolescents (18-19 years). Differences in age at marriage, a topic discussed in a later chapter, probably account for most of the fertility differentials since age at marriage is generally higher among urban women and the more educated women. The question arises whether a young woman's educational opportunities are curtailed by the birth of a child or whether adolescent women who have little or no education embark on early marriage and child-bearing, as older women do. Further research is needed to answer this question.

Even though adolescent fertility rates constitute only 10-15 per cent of total fertility rates, the young-age structure found in developing country populations results in a large number of births among this age group. In the eight most populous developing countries alone, namely, Bangladesh, Brazil, China, India, Indonesia, Mexico, Nigeria and Pakistan, about 8.5 million babies are born to adolescents every year. The sheer magnitude of these numbers is cause for concern about adolescent fertility rates, particularly because a large proportion of adolescent births in these countries (excluding China) occur to girls under age 18.

Levels of concern over such issues as marriage, child-bearing outside marriage, the curtailment of opportunities for young people which restrict their options, pregnancy prevention, sex education and sexual activity, or the availability of abortion, differ from country to country and between cultures. However, there is clear evidence of Governments' concern about adolescent fertility. In the United Nations Sixth Population Inquiry among Governments, a survey of governmental views and policies, Governments were asked about their level of concern about adolescent fertility. Of the 54 countries that responded to questions relating to this subject, 44 indicated their concern about adolescent fertility and 17 out of 21 countries with adolescent age-specific fertility rates (15-19) of more than 100 responded that adolescent fertility was a major concern. There is also similar concern that adolescent fertility will interfere with education. In countries with fertility rates of more than 100, 15 out of 16 indicated their concern that adolescent fertility would hinder education. Each of the three regions reported high levels of concern that adolescent fertility could interfere with education.

Notes

1/ The availability of data and definitions are discussed in the annex. In this chapter, because of the lack of data for teenagers under 15 years, age-specific fertility rates for adolescents refer only to the 15-19 age group.

2/ Age-specific fertility rates are summarized using the five-number summary for each region. The five-number summary is displayed schematically in the following way: the upper and lower quartiles are located at the levels of the horizontal sides of the rectangle in the display; the value of the median is indicated by the horizontal line inside the rectangle; the overall range of the distribution is represented by the vertical lines that flow towards the rectangle; the end-points represent the lowest and highest values of the distribution. Data were available for 39 countries in Africa, 27 countries in Latin America and the Caribbean, and 22 countries in Asia.

3/ Total fertility rates are defined as the number of births a woman would have by the time she reaches the end of her child-bearing period given the prevailing rates of child-bearing.

4/ Exceptions are Malaysia, Morocco, the Philippines, and the Syrian Arab Republic.

Chapter II

SEXUAL EXPOSURE

In the context of adolescent reproductive behaviour, a woman's entry into a union, or the establishment of a relationship (emotional and sexual), is a very important event. Entry into a union represents not only a major change in the composition of her family but usually the beginning of regular exposure to the risk of child-bearing. Women still marry at very young ages in many developing countries (United Nations, 1985; and forthcoming (b)). In sub-Saharan Africa, and in some countries in South Asia, from one third to two thirds of teen-age women are married or have been married. At the other extreme are the countries of East Asia (China, Hong Kong and the Republic of Korea), where the proportions of teenagers who have ever married are extremely low and comparable to the proportions found in developed countries (United Nations, 1988b). The postponement of marriage is becoming popular among women in developing as well as developed countries. An analysis of World Fertility Survey data shows that the proportions marrying before age 20 have declined in most of the less developed regions. Declines were particularly marked in Northern Africa and in Asia, small in countries of Latin America and the Caribbean, and non-existent in most sub-Saharan African countries (United Nations, 1987a).

Marriage (or any type of union) has long been used by demographers as a determinant of exposure to sexual relations, and the age at entry into first union is often viewed as the age of initiation into sexual intercourse. More recently, researchers agree that this is no longer a reasonable assumption for many societies. Analysing data from 28 World Fertility Survey countries, Hobcraft (1985) found that in nearly one third of all countries at least one tenth of recently married women had experienced a first birth before their first union. In another study, reporting on data from five comparable surveys carried out in Brazil, Costa Rica, Guatemala, Mexico City and Panama, Morris (1987) found that a significant proportion of women aged 15-24 years had had pre-marital conceptions, and that in many cases marital unions had probably been precipitated by a pre-marital pregnancy.

The measurement of exposure among adolescent women presents a particular problem because the teen-age years are precisely those during which the transition into a condition of sexual exposure usually occurs. Marriage remains a condition that implies regular sexual relations, but before marriage, relationships develop that involve varying degrees of sexual activity. In general, however, exposure to pregnancy is probably lower in these latter situations than within marriage or when a couple is living together. In this chapter, data on the proportions of teenagers in a union are reviewed. These data can be considered minimum estimates of the proportions of teenagers who are exposed to pregnancy. Available information on the proportions of non-married teenagers who are sexually experienced is also presented. These estimates, together with the estimates of teenagers in union, provide more realistic estimates of exposure to pregnancy.

A. Entry into union

1. Marriage

A comparison of available data among countries shows that higher proportions of teenagers are married in Africa than in Latin America and the Caribbean or in Asia and Oceania (figure XVII). The range of proportions married is broadest in Asia, where the highest proportion observed in Bangladesh exceeds the highest proportion observed in a country of Africa, namely, Ethiopia. On the other hand, very little variation was observed among the Latin American and Caribbean countries. Proportions married among teenagers are relatively low for a large number of countries in Latin America and the Caribbean and in Asia, although in some countries between one third and one half of that group are married. In Asia, for example, the median proportion married is 15 per cent, and in Latin America and the Caribbean, 16 per cent, which means that in roughly half the countries in these regions, fewer than 15 per cent of the teenagers are married. The proportion is even lower than that found in some Southern and Eastern European countries (United Nations, 1988c).

In Africa, more than half the teenagers in Burkina Faso, Ethiopia, Mali and Mozambique were ever married (figure XVIII). The proportion is generally higher in Western Africa, where in nearly all countries, except Cape Verde and Ghana, more than one third of women aged 15-19 years were ever married. In Algeria and Tunisia in Northern Africa and South Africa in Southern Africa, fewer than 10 per cent of the teenagers were ever married. In 13 out of the 37 African countries included, however, more than one fourth of teenagers aged 15-19 years were ever married.

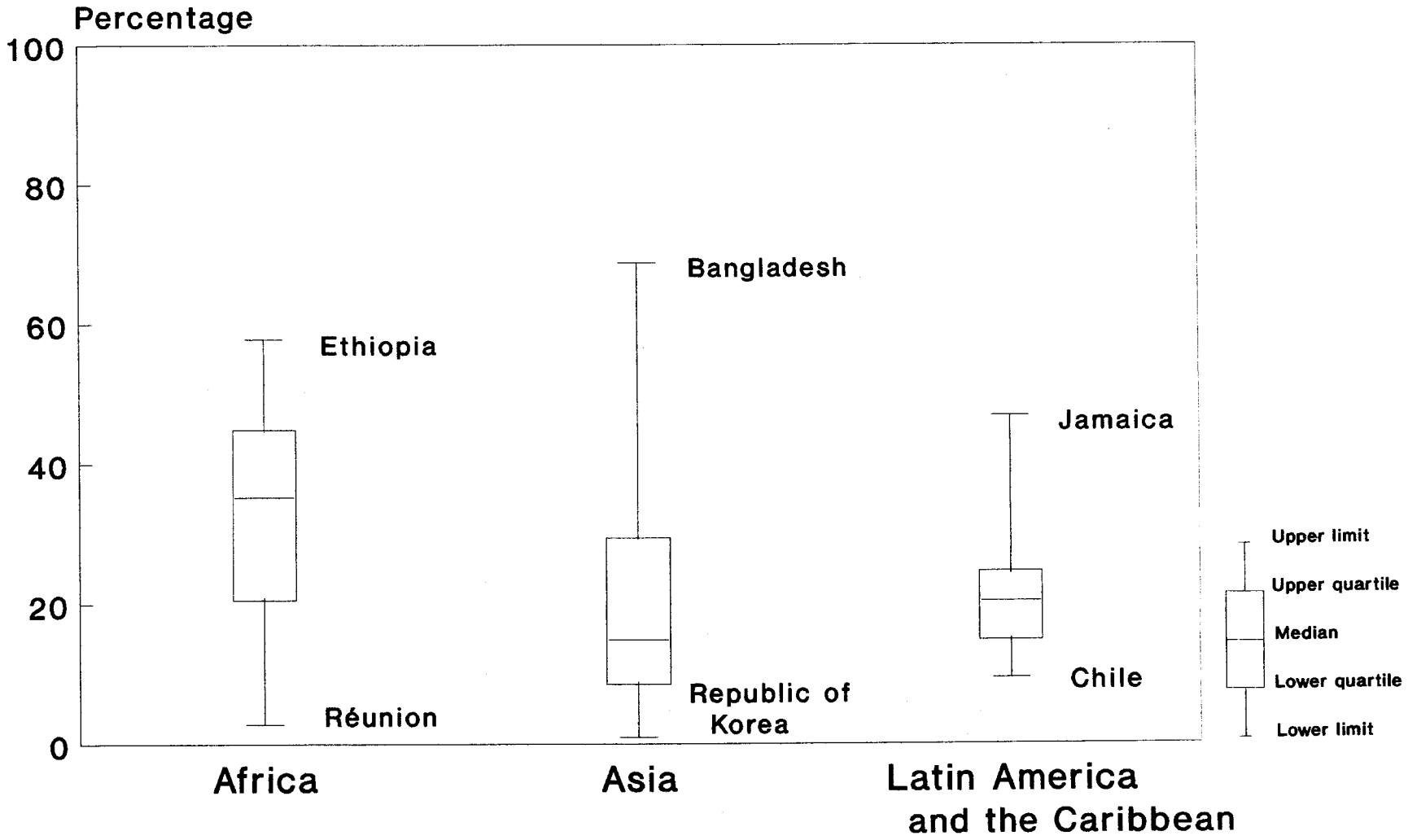
Among the four subregions of Latin American and the Caribbean, Central America had the highest proportions married (figure XIX). In four out of five countries in Central America, more than one fifth of adolescent women were ever married. However, there was relatively small variation in the proportion married among the Latin American and Caribbean countries.

Very large differences are observed in Asia (figure XX). On the one hand, some countries in Southern Asia have the highest proportion of teenagers married in the world; on the other hand, some countries in East Asia have the lowest, even including those in developed countries. Some Arab countries of Western Asia, namely, Iraq, United Arab Emirates and Yemen, also have high proportions ever married among teenagers.

2. Consensual unions and other non-formal unions

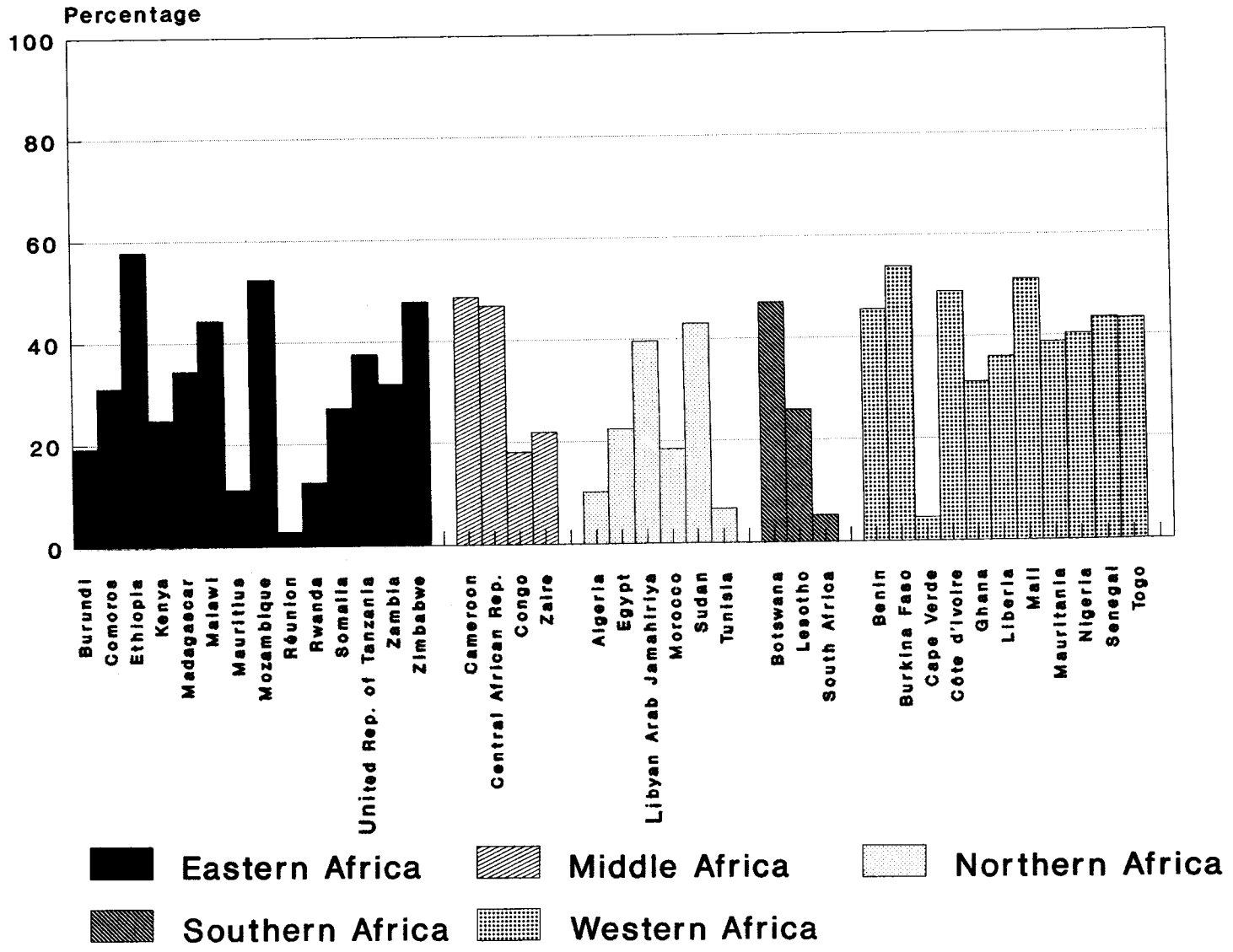
Legal unions are those performed in conformity with prevailing legal requirements and are classified as "marriages". Consensual unions cover a range of other types of socially accepted arrangements. 1/ Consensual unions are widespread in Latin America and the Caribbean. In comparison with former region, although consensual unions are known to be prevalent also in countries of Africa and in Haiti in the Caribbean, these types of unions are much more diverse because of the complex and varying marriage forms and family formation processes that exist (Côte d'Ivoire, 1984; Haiti, 1981). Monogamous and polygamous unions overlap with such diverse marriage types as civil

Figure XVII. Schematic display of the five number summaries of the distribution of countries according to proportions ever married, by region



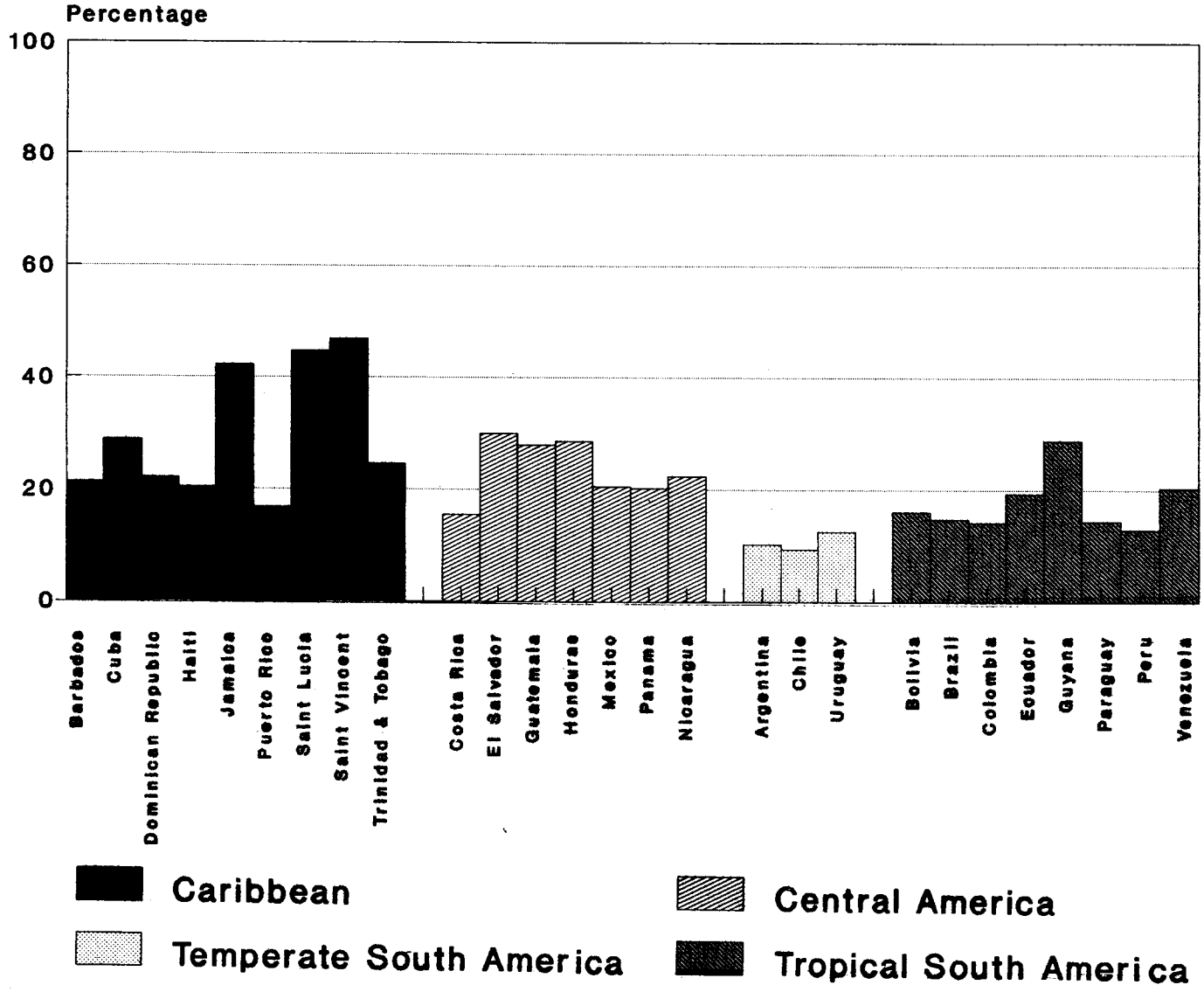
Source: United Nations (forthcoming (b)).

Figure XVIII. Proportion of teenagers aged 15-19 who were ever married, countries of Africa



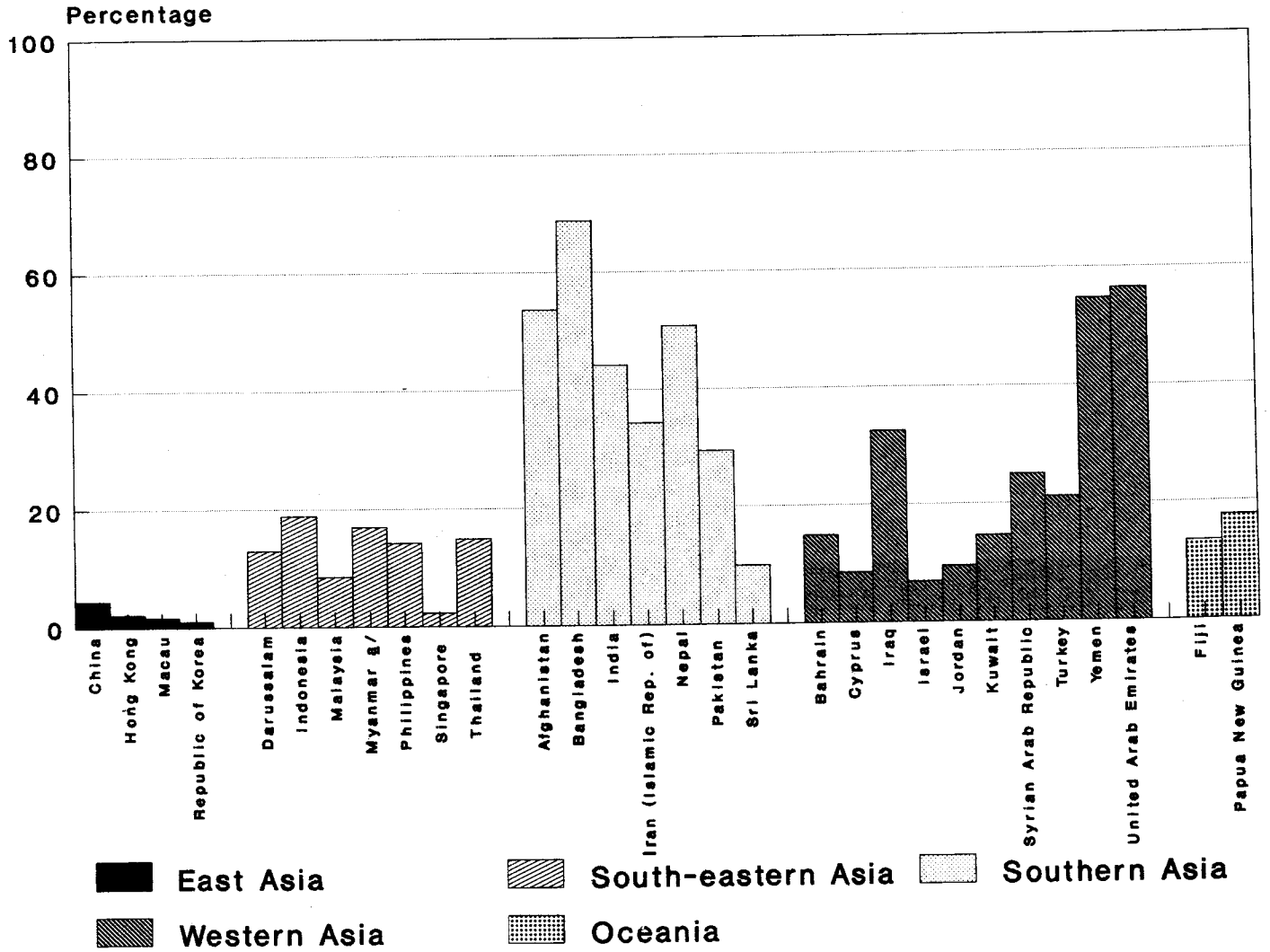
Source: United Nations (forthcoming (b)).

Figure XIX. Proportion of teenagers aged 15-19 who were ever married, countries in Latin America and the Caribbean



Source: United Nations (forthcoming (b)).

Figure XX. Proportion of teenagers aged 15-19 who were ever married, countries in Asia and Oceania



Source: United Nations (forthcoming (b)).

a/ Formerly called Burma.

unions, religious and customary marriages, and "free unions". 2/ Consensual and other non-marital unions are not as prevalent in Asia as in the other two regions.

The previous section included every possible kind of union within the category of marriage in order to capture maximum exposure to sexual relations. In this section, non-marital unions among adolescents are discussed. It is important to make this distinction because although it can be safely assumed that regular sexual relations take place within a marriage, this assumption cannot be made for a visiting relationship, for example, where sexual relations are less regular. Secondly, consensual unions are believed to be less stable than legal unions. One study based on World Fertility Survey data found that in Colombia, Panama and Peru, dissolution of first unions was more likely among women who entered unions at very young ages, women with very little education and women who began conjugal life in a consensual union (Goldman, 1981). Thirdly, because consensual unions are less stable, exposure time for women in these unions is reduced. Indeed, some studies have noted differences in levels of child-bearing between legal unions and consensual unions. Among groups of women in Latin America and the Caribbean, where contraceptive use has been low, the completed fertility of legally married women has been shown to be consistently higher than that of women in consensual unions, primarily because of their greater exposure to the risk of conception (United Nations, 1988a). On the other hand, estimates of period-specific fertility rates for Guyana (non-Indian women) and Jamaica, based on World Fertility Survey data, show that fertility is higher among women in consensual unions. This does not, however, appear to hold for teenagers. Legally married teenagers in these countries tended to have higher fertility rates than teenagers in consensual or visiting unions (Lightbourne and Singh, 1982). Similar findings have been reported for other Latin American and Caribbean countries (United Nations, 1983).

Estimates of proportions of teen-age women in countries in Latin America and the Caribbean in various forms of unions are presented in table 6. Non-formal unions are more prevalent in Caribbean and Central American countries than in the rest of the region. In Barbados, Cuba, the Dominican Republic, Jamaica, and Trinidad and Tobago, more than half of all ever-married women aged 15-19 were in a consensual or visiting union. More than half of the adolescent women in Colombia, El Salvador, Guatemala, Honduras, Nicaragua, Panama and Peru are in a consensual union. Visiting unions are extremely prevalent among teenagers in Jamaica and in Trinidad and Tobago (61 and 48 per cent, respectively, of all ever-married women aged 15-19). On an overall basis, excluding Temperate South America, most countries had quite a sizeable proportion of teenagers in non-formal unions.

B. Proportions married among older and younger teenagers

In nearly all countries, there are laws establishing the minimum legal age at marriage. 3/ As can be seen in table 7, the minimum legal age at marriage for females ranges from 12 in certain Latin American countries to 20 in China; and for males it ranges from 14 to 22 years in these same countries. In many developing countries, however, the existence of the law and its observance are two different things. 4/ In many countries, the population still conforms to traditional marriage norms, which in some cases favour the marriage of young girls as soon as puberty is attained (United Nations, 1988b).

Table 6. Marital status among adolescent women aged 15-19 years, according to type of union, countries in Latin America and the Caribbean, by subregion

Subregion and country	Year	Percentage of total ever-married	Percentage a/ of ever-married who are:		
			Married	In a union	In a visiting union
Caribbean					
Barbados	1980	21.2	3.8	22.6	40.6
Cuba	1981	28.8	41.0	52.8	..
Dominican Republic	1986	22.0	11.8	65.5	..
Haiti	1983	20.3	8.9	30.5	..
Jamaica	1983	56.5	0.7	15.2	60.9
Puerto Rico	1980	16.8	84.5	11.3	..
Saint Lucia	1980	44.5	1.3	12.8	21.8
Saint Vincent and the Grenedines	1980	46.8	2.6	8.3	18.6
Trinidad and Tobago	1987	24.6	22.0	13.0	47.6
Central America					
Costa Rica	1984	15.5	61.3	36.1	..
El Salvador	1985	30.0	14.7	65.0	..
Guatemala	1981	27.9	42.7	53.0	..
Honduras	1983	28.6	31.5	51.4	..
Mexico	1980	20.5	68.3	26.3	..
Nicaragua	1971	22.4	40.2	55.4	..
Panama	1980	20.2	21.8	67.8	..
Temperate South America					
Argentina	1980	10.3	67.0	31.1	..
Chile	1982	9.4	82.8	13.8	..
Uruguay	1975	12.5	79.2	16.8	..
Tropical South America					
Brazil	1986	14.8	59.5	31.1	..
Colombia	1986	14.2	28.9	57.7	..
Ecuador	1987	19.3	42.0	48.7	..
Guyana	1975	28.0	61.1	14.3	38.2
Paraguay	1982	14.4	66.7	31.9	..
Peru	1986	12.9	26.4	65.1	..
Venezuela	1981	20.3	54.7	36.9	..

Source: World Fertility Survey standard recode tapes, and special tabulations from Centro Latinoamericano de Demographia.

a/ Percentages across groups do not add up to 100 because of the existence of other types not shown.

Table 7. Minimum legal age at marriage, by region and country

Country or area	Year reported	Age of groom	Age of bride	Country or area	Year reported	Age of groom	Age of bride
			Africa				
Algeria	1980	18	16	Mauritius	1983	18	15
Cameroon	1980	18	15	Niger	1979	18	16
Côte d'Ivoire	1982	21	18	Nigeria a/	1979	9-16	9-16
Egypt	1983	18	16	Réunion	1983	18	15
Ethiopia a/	1976	18-20	12-15	Senegal	1980	20	16
Gabon	1979	18	15	Somalia	1980	..	16
Ghana a/	1979	None to 21	None to 21	South Africa	1980	18	16
Guinea	1979	18	17	Swaziland	1980	18	16
Kenya a/	1979	15-18	9-18	Tunisia	1983	20	17
Lesotho	1980	18	16	Uganda	1980	18	16
Liberia	1980	16	16	United Republic			
Madagascar	1979	17	14	of Tanzania	1980	18	15
Mali b/	1980	18	15	Zambia	1979	16	16
			Americas				
Argentina	1984	16	14	Honduras	1983	14	12
Barbados	1980	16	16	Jamaica	1964	16	16
Bolivia	1986	16	14	Martinique	1983	18	15
Brazil	1984	18	16	Mexico	1983	16	14
Canada a/	1976	14-16	12-16	Netherlands			
Chile	1984	14	12	Antilles	1983	18	15
Colombia	1984	16	14	Nicaragua	1977	15	14
Costa Rica	1983	15	15	Panama	1984	18	16
Cuba	1983	18	18	Paraguay	1984	14	12
Dominican Republic	1983	16	15	Peru	1984	16	14
Ecuador	1984	14	12	Puerto Rico	1983	18	16
El Salvador	1983	16	14	Trinidad and			
Greenland	1982	21	18	Tobago a/	1978	16-18	12-14
Guadeloupe	1983	18	15	United States			
Guatemala	1983	16	14	of America a/	1979	14-18	13-17
Guyana	1984	16	14	Venezuela	1984	14	12
			Asia				
Afghanistan	1979	18	16	Lebanon a/c/	1975	16-18	12-18
Bangladesh	1982	22	18	Malaysia d/	1983	16	14
China	1984	22	20	Nepal	1977	18	16
Cyprus	1983	18	16	Pakistan	1982	21	16
Democratic Yemen	1986	18	16	Philippines e/	1983	16	14
Hong Kong	1983	16	16	Republic of Korea	1979	18	16
India	1978	21	18	Singapore	1979	16-18	16-18
Indonesia	1977	19	16	Sri Lanka a/	1979	16-18	12-16
Iran (Islamic				Thailand	1977	17	17
Republic of)	1986	15	13	Turkey	1983	17	15
Iraq	1983	18	18	Viet Nam	1986	20	18
Israel	1983	..	16	Yemen	1979	18	16
Jordan	1983	18	17				

Table 7 (continued)

Country or area	Year reported	Age of groom	Age of bride	Country or area	Year reported	Age of groom	Age of bride
			Oceania				
Fiji	1980	18	16	Tonga	1980	15	15
Papua New Guinea	1980	18	16				

Sources: United Nations (1988b), table 1; and for Lebanon, Dib (1975), table 1.

Note: This table is based on secondary sources. It covers the most recent information available. The legal age may require parental or judicial consent.

a/ Varies according to major administrative divisions, religious groups, or ethnic groups.

b/ The minimum age for women is reported to have been raised to 18 years.

c/ According to Dib (1975, table 1), the reported minimum ages (in years) are:

	Men	Women		Men	Women
Sunni	18	17	Armenian	18	15
Shiite	..	..	Syriac	18	14
Druze	18	17	Protestant	18	16
Catholic	16	14	Jews	18	12 ½
Greek Orthodox	18	18			

d/ Non-Muslim civil marriages and Christian marriages only.

e/ Refers to non-Muslim populations. The 1977 Muslim Marriage Law sets the legal minimum age at 15 for boys and the age of puberty for girls.

More than one third of women under 18 years of age were married in some countries of Africa 5/ (Cameroon, Côte d'Ivoire Mauritania and Senegal, mostly in Western Africa) and in some Asian countries (Bangladesh, Nepal and Yemen, mainly Southern Asian countries) (figure XXI). In Latin America and the Caribbean, only Guyana were more than one fourth of teenagers under the age of 18 years married at the time of the 1975 survey. The variation in proportions married among the younger teenagers and the broad group of teenagers aged 15-19 years was extremely high among countries in Asia and Oceania, with smaller variation among countries in Africa and little variation among those in Latin America and the Caribbean. Within-country variations in proportions married are often marked, as for example, in the difference between north-eastern and southern Brazil.

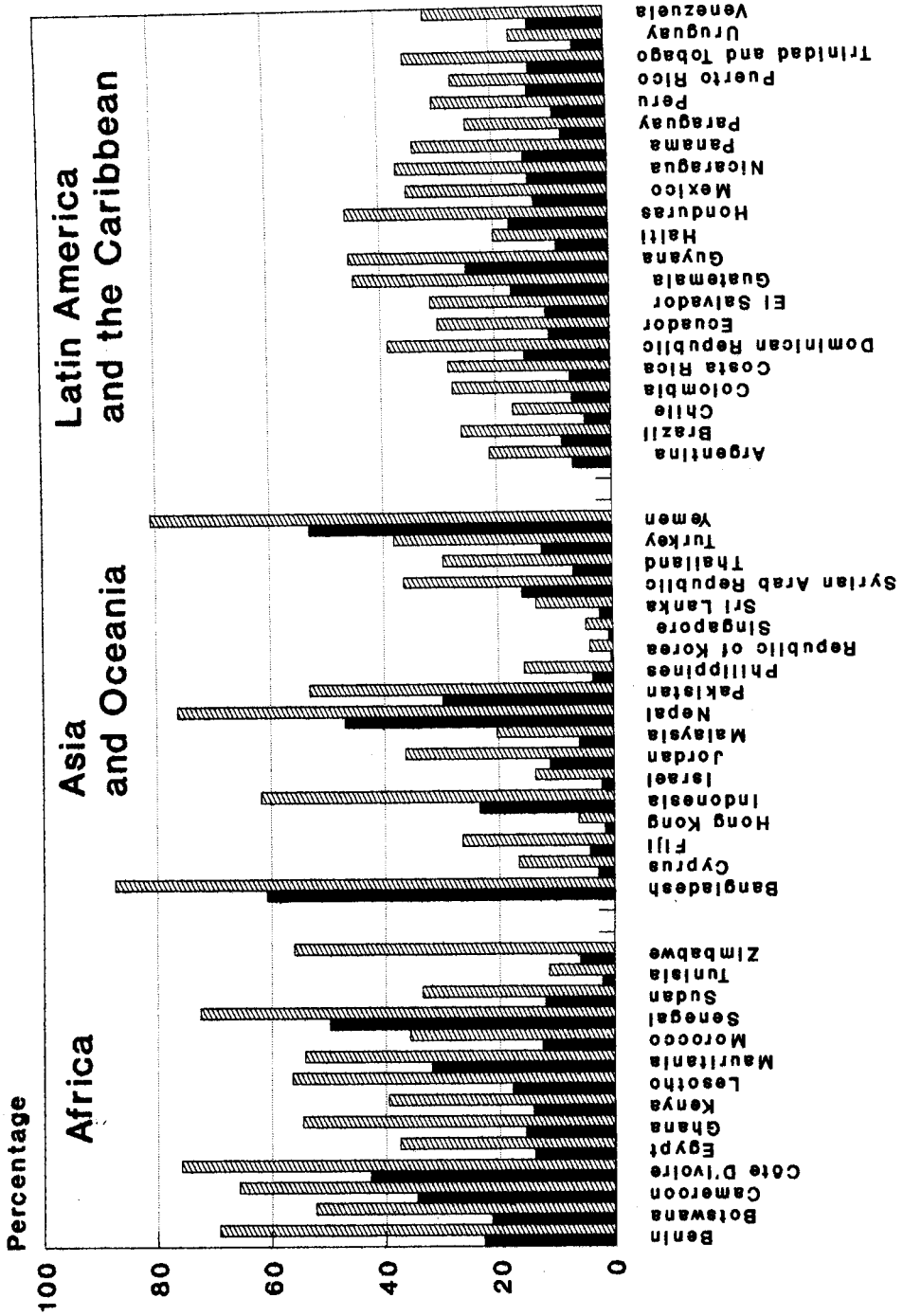
C. Sexual exposure among unmarried teenagers

The preceding section presented minimum estimates of exposure to sexual activity, based on the proportions in unions. This section seeks estimates of sexual exposure among unmarried women, in order to provide a range of estimates of sexual exposure among all teenagers. The sexual behaviour of unmarried teenagers is extremely difficult to measure because of the sensitive nature of the topic. 6/ Even in developed countries where child-bearing among unmarried women (and therefore sexual activity) is becoming more common, such information is difficult to gather among adolescent women (United Nations, 1988c). Direct questioning of unmarried women in developing countries about their sexual experience is even more difficult. However, in a number of surveys, women of all ages were asked about their first sexual experience, and this information was then related to the date of marriage (if any) in order to assess levels of pre-marital sexual activity. 7/

In some cultures, mainly in countries of Africa, marriage is characterized by the performance of prescribed rites, which may include lengthy negotiations, and by the payment of bride wealth, which is often made over a long period of time (Rwabushaija, 1987; Cherlin and Riley, 1986). In such cases, it is difficult to establish a marriage date and hence to assess the extent of sexual exposure among the unmarried.

Data obtained through direct questioning about pre-marital sexual exposure and about sexual experience among unmarried women are available for only a handful of countries. Even in these countries, comparisons can be made only for those Latin American and Caribbean countries which carried out Young Adult Reproductive Behaviour Surveys. Another source of comparable information is the Demographic and Health Survey (DHS), which was carried out in other regions as well. At the time of writing this report, however, DHS data on this topic were available only for three countries. In addition, a number of small surveys have canvassed special populations, such as secondary school students or young people in urban areas. When nationally representative estimates were unavailable, these data were included in this report if they were of reasonable quality. However, generalizations of findings of such surveys to the national population should not be made, because the population sampled in each survey is not representative of the whole. Nevertheless, the data are presented in this chapter in order to provide a broader perspective and to exploit every piece of information on a topic about which very little is known.

Figure XXI. Proportion married by ages 18 and 20 among all women aged 20-24 at the time of the survey, by region and country



Source: World Fertility Survey standard recode tapes.

Table 8. Proportion of adolescent women reported to have experienced sexual intercourse, according to age, selected countries by region

Region and country or area	Survey date	Marital status at first intercourse	Proportion who ever had intercourse by age							Sample characteristics	
			14	15	16	17	18	19	20	Age range	Area/ other
Africa											
Gambia	1985-1986	All	8.6	18.8	34	37.8	48.6	63	89.4	15-24	N,H
Kenya	1981	NM	<16 a/ >	<..... 29 ..... >					..	18-25	S
Liberia	1984	NM	<..... 46.1 ..... >				<..... 89.4 b/ >			14-21	U,S,H
Nigeria	1982	NM	..	17	28	34	51	63	80	15-24	U,S,NS
Sierra Leone	1979	NM	..	45.7	56.2	70.9	77.5	84.6	..	12-25	S
Uganda	1970-1971	NM	..	..	..	<..... 69 ..... >				17-20	U,S,NS
United Republic of Tanzania	1986	NM	<27 c/ >	<..... 34 ...>		<..... 63 .....>			..	12-24	U,S,NS
Zimbabwe	1985-1986	All	3	3.8	12.1	17.4	37.9	43.9		15-24	N,H
Latin America and the Caribbean											
Brazil	1986	All	..	6.5	11.3	23	24.6	34.6	..	15-19	N,H
Brazil	1986	Pre-mar	..	<..... 13.9 ..... >					..	15-24	N,H
Colombia	1986	All	..	7.4	13.4	18.1	26.3	37.6	..	15-19	N,H
Costa Rica	1986	NM	..	2.3	3.5	5.7	12.1	12.5	29.3	15-19	N,H
Costa Rica	1986	Pre-mar	..	3.8	8.6	14.3	26.9	33.1	40.4	15-19	N,H
Guatemala City	1986	Pre-mar	..	<..... 12.4 ..... >					..	15-19	U,H
Guatemala City	1986	NM	..	<..... 4.5 ..... >					..	15-19	U,H
Honduras	1987	All	..	10.2	18.0	31.6	40.3	52.8	..	15-19	N,H
Jamaica	1987	All	15.3	27	36.3	64.6	76.5	80	87.2	15-19	N,H
Mexico City	1985	NM	..	3.7	4.6	5.3	10.3	13	19.4	15-19	U,H
Mexico City	1985	Pre-mar	..	6	8	11	17.4	23.5	29.1	15-19	U,H
Nicaragua	1984	NM	<..... 9 e/ ..... >							13-21	U,S
Panama	1984	Pre-mar	..	<..... 14.2 ..... >					..	15-19	N,H
Peru	1984-1985	All	<.. 32 d/ ..... >						..	11-19	S
Peru	1986	All	..	4.4	10.8	16.4	24.7	35.9	..	15-19	N,H
Asia											
Hong Kong	1986	NM	<..... 3.5 f/ ..... >							13-20	U,S
Hong Kong	1986	All	..	..	..	..	<..... 18.9 g/ >			18-27	U,H
Israel	1974	NM	..	..	<.... 16.1 ...>		..	..	..	14-17	S
Philippines	1982	All	..	<..... 12 h/ .....>						15-19	N,H
Philippines	1982	Pre-mar	..	<..... 39 h/ .....>							
Republic of Korea	1980	NM	<..... 3.5 i/ .....>							12-21	S
Thailand	1984	NM	<..... 5.3 j/ .....>						..	>=19	U,S

Sources: Brazil (all), Colombia and Peru (1986): special tabulations provided by the Alan Guttmacher Institute; Gambia, Honduras and Zimbabwe: special tabulations provided by Family Health International; Kenya: Igaga (1981); Liberia: Woods and others (1985); Nigeria: Nichols and others (1986); Sierra Leone: Sierra Leone, n. Uganda: Kisekka (1976); United Republic of Tanzania: Kamuzora (1987); Brazil, pre-marital: Morris (1987); Costa Rica: Sosa (1987); Guatemala: Morris (1987); Jamaica: Powell and Jackson (1988); Mexico City: Morris and others (19 Nicaragua: data obtained from Asociación Demográfica Nicaraguense; Panama: Morris (1987); Peru, 1984-1985: Loli (1986); Hong Kong: Lui (1983); Israel: Lancet and others (1978); Philippines, all: Population Center Foundation (1986); pre-marital: Mejia-Raymundo (1984); Republic of Korea: data from survey supported by World Health Organization; Thailand: Porapakkham, Vorapongsathorn and Pramanpol (1986).

Notes: For marital status: All = proportion of all teenagers who had experienced sexual intercourse; Pre-mar = proportion of those who had experienced pre-marital sexual intercourse; NM = proportion of never-married women who had experienced sexual intercourse.

For coverage (area/other): N - National; H - Household; U - Urban; S - Students; NS - Not Students

a/ ages 10-14.
b/ ages 18-21.
c/ ages 13-14.
d/ ages 11-19.
e/ ages 13-21.
f/ ages 13-20.
g/ ages 18-26.
h/ ages 15-24.
i/ ages 12-21.
j/ ages ≤19.

The proportion of single adolescents who reported ever having had sex is presented in table 8 and in figure XXII. 8/ Again, the caveat should be made that comparisons between countries are inadvisable because some estimates are based only on urban samples whereas others cover the entire country and because the age range differs in many surveys. In some cases, data are presented for never-married women only whereas in others, they are for married women who claim to have had pre-marital sexual intercourse. Of course, estimates of pre-marital sex among currently married women are bound to be higher than those based only on the experience of unmarried women because it is more likely that women who have definite plans to marry may engage in pre-marital intercourse.

The proportion of single adolescents who are sexually experienced increases steeply with age in Africa (and in Jamaica in the Caribbean), and increases more gradually in the other countries of Latin America and the Caribbean. In Jamaica, Nigeria and Sierra Leone, more than four out of five single women aged 20 years are sexually experienced. In Mexico (City) and Costa Rica, from about one fifth to one fourth of single adolescents are sexually experienced by age 20.

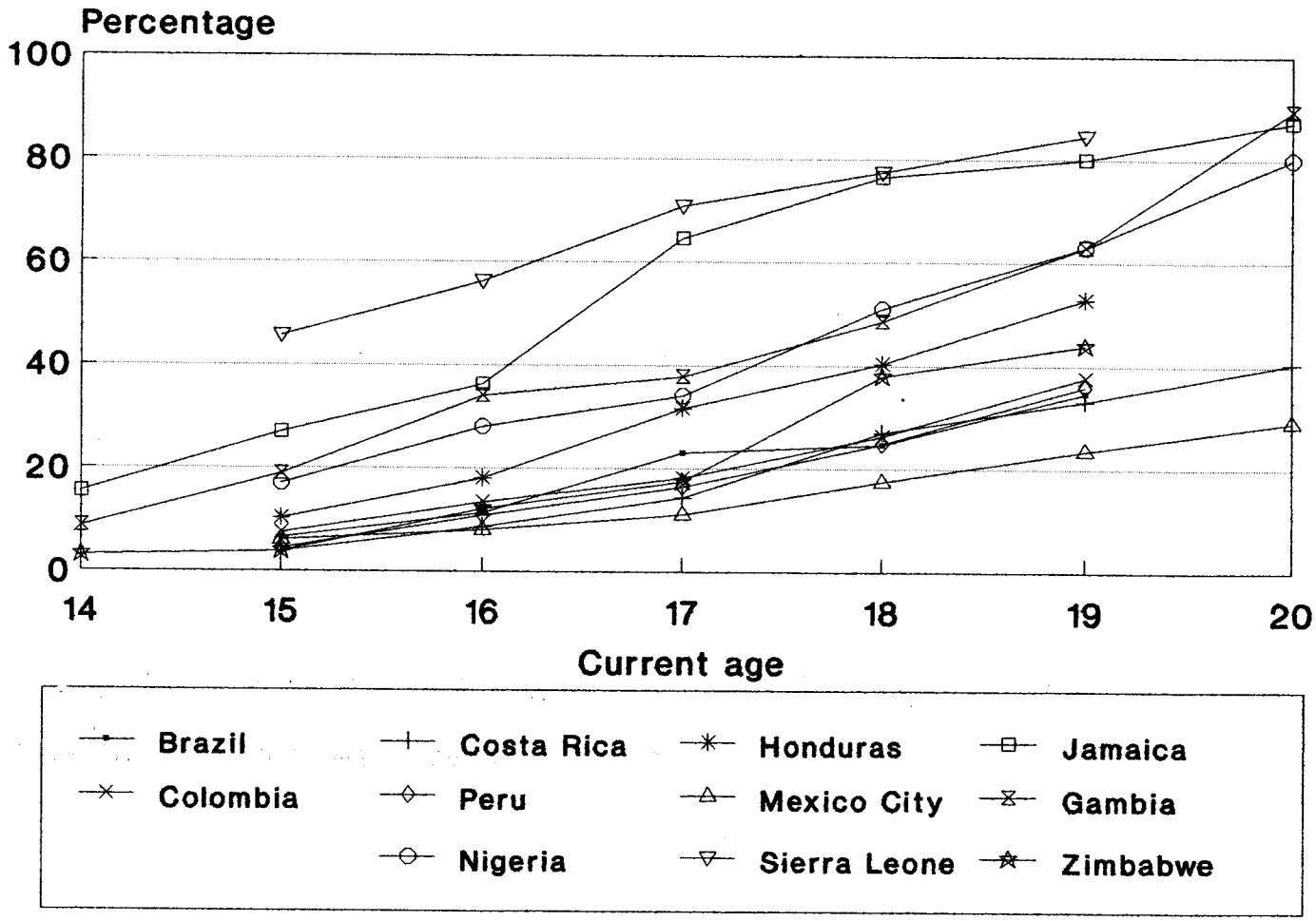
It is not possible to get estimates by single years of age for many countries but some additional information is available (table 8) for broad teen-age groups. Again, the countries in Latin America and the Caribbean and in Asia had lower proportions of single teenagers who were sexually experienced (mainly fewer then 25 per cent), whereas considerably higher proportions were sexually experienced in countries of Africa.

Data are available on the teen-age sexual experience of the cohort aged 20-24 years for all marital statuses in Brazil, Colombia and Peru, and for those who were sexually experienced of all marital statuses in the Gambia and Honduras. The results are presented in table 9 and figure XXIII. In Brazil, Colombia and Peru, about half of those aged 20-24 years had experienced sexual intercourse by age 20 and about a third by age 17. In the Gambia and Honduras, where the sample was restricted to those aged 20-24 years who were sexually experienced, more than half had had their first experience before age 17 and nearly one third by age 15.

When asked about their first pre-marital sexual experience, more than half of a sample aged 15-24 years said that it had taken place before age 17, and about one third said it occurred before age 15. As can be seen in table 10, the similarity of answers across the seven countries (Guatemala and Mexico, however, were urban surveys) is remarkable. In Jamaica, the first pre-marital sexual experience was found to occur even earlier.

Data on pre-marital sexual exposure can also be obtained indirectly from information collected in the WFS pregnancy histories. 9/ These data are presented in tables 11 and 12. Given the all-inclusive definition of union adopted by the WFS, it is not surprising that in most of the countries, particularly the Latin American and Caribbean countries, the percentage of first births to unmarried women is low (table 11). Even so, in Colombia, Costa Rica and Kenya more than 10 per cent of all first births among women aged 20-24 years at the time of the survey had been to women who had never been in any union. In Cameroon, Côte d'Ivoire, Ecuador and Paraguay, between 5 and 10 per cent of first births had been to unmarried women.

Figure XXII. Proportion of teenagers who had ever had sex, by age, selected countries



Source: Table 8.

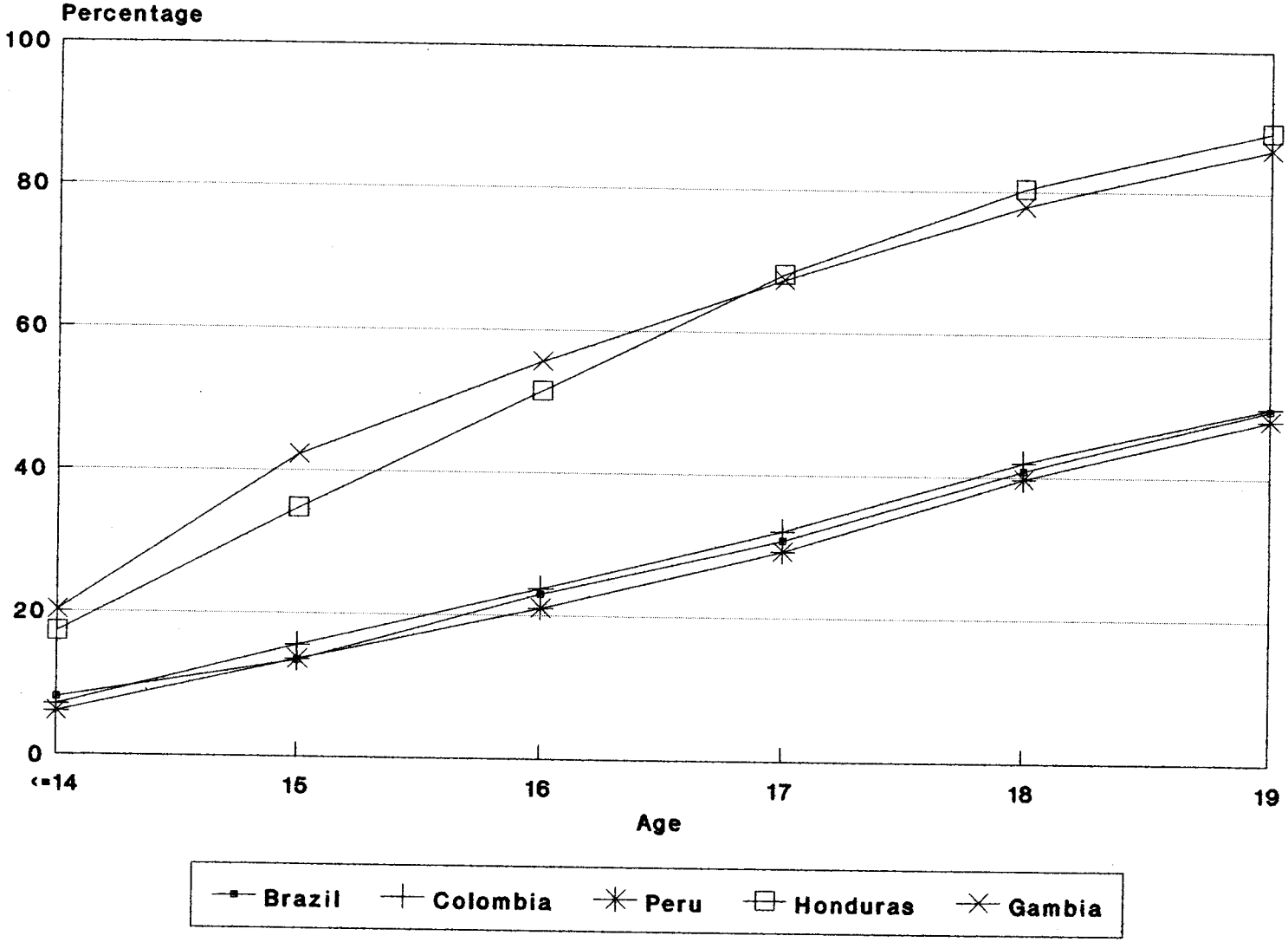
Table 9. Proportion of women who had had intercourse by age 14, 15, 16, 17, 18 and 19 years, selected countries

Country	Survey date	Percentage who had had intercourse by age: 14	15	16	17	18	19
Brazil	1986	8.0	13.4	23.0	30.8	40.8	49.5
Colombia	1986	7.0	15.6	23.8	32.1	42.0	49.8
Gambia a/	1985-1986	20.2	42.2	55.5	67.3	77.9	86.1
Honduras a/	1987	17.2	34.7	51.4	68.1	80.3	88.5
Peru	1986	6.0	13.6	21.0	29.3	39.7	48.0

Source: See table 8.

a/ Women who had had sexual experience.

Figure XXIII. Proportion of all women aged 20-24 who were sexually experienced by age 15, 16, 17, 18 or 19, selected countries



Source: Table 9.

Table 10. Age at first intercourse among sexually experienced adolescents, selected countries

Country or area	Survey date	Marital status at first intercourse	Age at first intercourse (Percentage)						
			≤14	15	16	17	18	19	20-24
Brazil	1986	PM	17.4	17.0	17.3	13.3	12.0	9.2	12.1
Costa Rica	1986	PM	17.3	17.0	14.0	17.0	13.3	10.5	10.9
Gambia	1985-1986	All	19.7	22.0	13.0	12.1	10.6	8.2	12.6
Guatemala City	1986	PM	17.4	14.2	14.8	20.0	14.8	9.0	9.6
Honduras	1987	All	17.2	17.5	16.7	16.7	12.2	8.2	11.4
Israel	1974	NM	4.8	15.9	29.5	37.5	a/	a/	a/
Jamaica	1987	PM	30.2	18.3	19.2	14.2	9.9	4.8	3.5
Mexico City	1985	PM	12.7	10.9	16.0	20.1	16.0	11.2	13.0
Nicaragua	1984	NM	14.0 b/						
Nicaragua	1984	NM	<... 32.0 ...><	... 32.0 ...><	..... 22 c/ ....>				
Panama	1984	PM	13.0	16.2	17.2	13.3	12.0	9.2	12.1
Paraguay	1987	PM	14.7	16.9	15.5	15.3	12.8	6.9	17.9
Peru	1984-1985	NM	14.8 d/<.. 30.3 ..><	... 45.2 ...><	... 9.7 ...>				

Source: See table 8.

Note: All = proportion of those who have experienced sexual intercouse regardless of marital status; PM = proportion of those who have experienced pre-marital sexual intercourse; NM = proportion of never-married women who have experienced sexual intercourse.

a/ Ages 18 and over not covered in the survey.
b/ Combined age categories: <12 years and 12-13 years.
c/ Combined age categories: >17 years.
d/ Combined age categories: <10 years; 11-12 years; 13-14 years.

Table 11. Percentage of all first births to never-married women aged 20-24 years and percentage pre-maritally conceived, selected countries, by region

Region and country	Percentage of first births to never-married women	Percentage of first births pre-maritally conceived. a/
Africa		
Benin	1.9	33.0
Cameroon	6.6	33.0
Côte D'Ivoire	7.9	39.0
Ghana	2.3	18.0
Kenya	10.6	49.0
Morocco	0.0	16.0
Nigeria	0.7	31.0
Senegal	3.5	14.0
Latin America and the Caribbean		
Colombia	10.0	25.0
Costa Rica	11.4	37.0
Dominican Republic	1.0	6.0
Ecuador	7.7	28.0
Guyana	0.0	6.0
Haiti	0.0	1.0
Jamaica	1.5	24.0
Mexico	3.3	20.0
Panama	2.2	25.0
Paraguay	6.9	23.0
Trinidad and Tobago	0.2	5.0
Venezuela	1.2	14.0

Source: World Fertility Survey standard recode tapes.

Note: Restricted to those countries which had all-women samples in the survey.

a/ Including births to never-married women.

Table 12. Percentage of women 20-24 years who had had a pre-marital conception leading to a live-birth during their teen-age years, by region and country

Region and country	Total percentage	Region and country	Total percentage	Region and country	Total percentage
Africa		Asia and Oceania		Latin America and the Caribbean	
Benin	22.5	Bangladesh	1.8	Peru	20.7
Cameroon	24.3	Fiji	8.9	Colombia	11.7
Côte d'Ivoire	31.2	Indonesia	7.0	Costa Rica	14.9
Egypt	0.3	Jordan	3.7	Dominican Republic	2.9
Ghana	12.4	Malaysia	5.7	Ecuador	13.2
Kenya	34.5	Nepal	1.2	Guyana	3.1
Lesotho	9.4	Pakistan	0.0	Haiti	0.3
Mauritania	5.1	Philippines	4.4	Jamaica	15.6
Morocco	7.9	Republic of Korea	5.8	Mexico	9.3
Nigeria	21.1	Sri Lanka	3.7	Panama	11.5
Senegal	9.3	Syrian Arab Republic	0.4	Paraguay	8.7
Sudan	4.8	Thailand	8.3	Trinidad and Tobago	1.9
Tunisia	0.9	Turkey	13.2	Venezuela	6.7
		Yemen	1.8		

Source: World Fertility Survey standard recode tapes.

When pre-maritally conceived births are included in the estimates, at least one in three first births in Benin, Cameroon, Costa Rica, Côte d'Ivoire and Kenya, and one in four in Colombia, Ecuador and Panama, either had been to unmarried women or had been pre-maritally conceived. Again, the level of pre-marital and non-marital conceptions was low in the Caribbean, because the WFS definition of unions covered a broad range of relationships, including non-cohabiting unions.

Table 12 shows the percentage of women aged 20-24 who had had a pre-marital conception that led to a live birth during their teen-age years. Teenagers in sub-Saharan African countries were the most likely to have had such a pre-marital conception. In Benin, Cameroon, Côte d'Ivoire, Kenya and Nigeria, between one fifth and one third of women had had pre-marital conceptions during their teen-age years. In Asia and Oceania, on an overall basis, women had very low levels of teen-age pre-marital conceptions. An exception was Turkey, where the experience was more like that found in countries of Latin American and the Caribbean. Teenagers in countries of sub-Saharan Africa had the highest incidence of pre-marital conceptions.

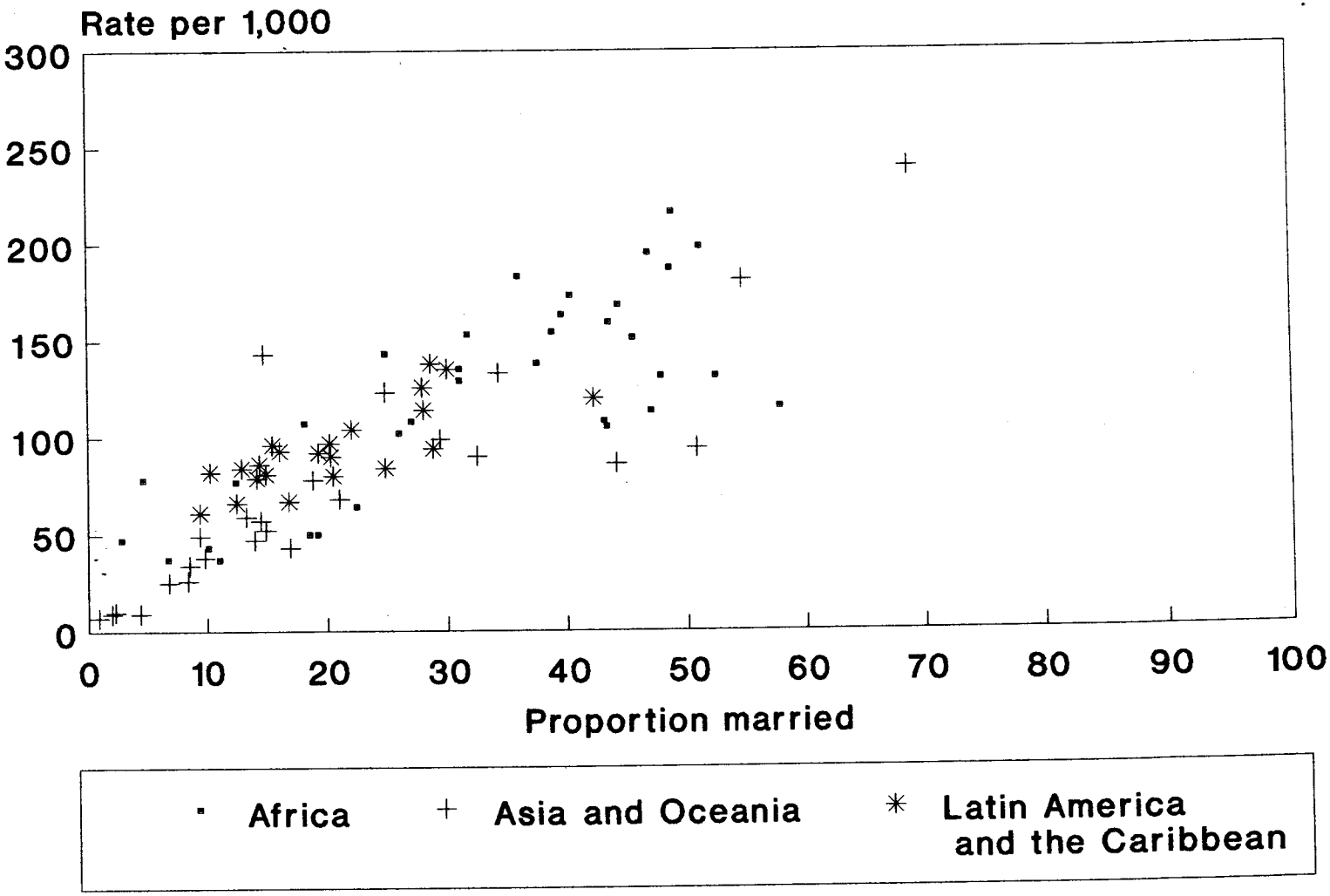
D. Frequency of sexual intercourse

Data on frequency of sexual intercourse among non-married adolescents have been collected in only a few instances and often are not comparable across countries. Some surveys report the average frequency per month, while others present a distribution of ranges of frequencies. In a number of surveys, estimates of frequency have to be gleaned from reported proportions having had intercourse in the past one or three months among the sexually active population. In the Young Adult Reproductive Surveys carried out in Costa Rica, Mexico City, Panama and Paraguay, about one quarter of the adolescents aged 15-24 years who were sexually experienced, but not in any union, said they had had intercourse in the past month. In Brazil, the percentage was about 50. These estimates only confirm that sexual intercourse among the unmarried is not uncommon, though often sporadic in nature.

E. Exposure and fertility

The proportion of those aged 15-19 years who are in union is strongly related to fertility rates among this age group (figure XXIV), particularly in countries where low proportions of teenagers are in union ($r^2 = 0.69$). In countries where a high proportion of teenagers are in union, the variation in teen-age fertility rates is greater. Two possible explanations of the relationship between proportions in union and fertility can be advanced. One is that married teenagers are more likely to become pregnant in the first place, because of their increased exposure, and thereafter are more likely to carry the pregnancy to term. The other possible explanation is that unmarried pregnant teenagers are likely to legitimize their pregnancy by marriage, during pregnancy or soon after the birth. This possibility is borne out by the data presented in the foregoing section. Quite a high proportion of first births to teen-age women were pre-maritally conceived (table 11). Data from the Young Adult Reproductive Surveys conducted in Latin America confirm this finding. Reporting on the results from these surveys, Morris asserts that "a significant proportion of women 15-24 years of age have had premarital conceptions. Marital unions in many cases have probably been precipitated by a premarital pregnancy." (Morris, 1987, p. 3). This assertion is further

Figure XXIV. Proportion of teenagers aged 15-19 who were ever married, according to age-specific fertility rate, by region



Sources: Annex table A.1 and United Nations (forthcoming (b)).

strengthened by data that show that when adolescent women who had had pre-marital sexual intercourse were asked about their first sexual partners, a majority claimed that their first sexual partners had been their fiancés or "boy-friends" (Jamaica, 1988; Sosa, 1987; Morris and others, 1987).

F. Residential and educational differences in exposure

Of all the socio-economic characteristics, residence and education appear to have the strongest relationship with age at marriage and fertility. Urban women are expected to marry later than rural women for a variety of reasons. Urban areas are associated with better educational and employment opportunities for women, and urban women are more likely to be exposed to ideas and norms that discourage early marriage (United Nations, 1987a). Positive relationships between the number of years of schooling and age at marriage have been found in a number of countries (Smith, 1983).

1. Residence

(a) Marriage

There are significant urban/rural differences in the propensity to marry. Teenagers living in urban areas are likely to marry at a later age than rural women (table 13, columns (10)-(12)). In almost all countries, the proportion of women aged 20-24 who were married before age 20 was lower in urban than in rural areas. The exceptions are Guyana, Mauritania, and Trinidad and Tobago, where slightly more urban than rural women had married by age 20. In Africa, the proportion of rural women married by age 20 ranged from 62.5 per cent in the Sudan to 89.6 per cent in Senegal, whereas the proportions among urban women ranged from 37 per cent in Morocco to 73 per cent in Mauritania. Large urban/rural differences (of more than 20 percentage points) were observed in Cameroon, Morocco and Senegal.

In Asia and Oceania, the proportion of those aged 20-24 years who had married by age 20 ranged from nearly all (94.3 per cent) in rural Bangladesh to just over one in 10 in rural Republic of Korea. However, the largest urban/rural differentials were found in Indonesia, Jordan and Malaysia. In Latin America and the Caribbean, the proportion married by age 20 in rural areas ranged from over three fourths in Jamaica to nearly one half in Paraguay; among urban women, the highest proportion was, again, in Jamaica (76 per cent) and the lowest, in Costa Rica. Although five countries in Latin America and the Caribbean (Peru, Costa Rica, Mexico, Panama and Venezuela) had large urban/rural differentials, there was little or no difference in the propensity to marry between urban and rural women in Guyana, Haiti, Jamaica, and Trinidad and Tobago.

In nearly all developing countries, urban/rural differentials are most pronounced among very young women (table 13, columns (1)-(9)). In Africa and in Asia and Oceania, large differentials (more than 10 percentage points) were found among teenagers under age 15 and those aged 15-17; in Latin America, large differentials were observed among teenagers aged 15-17. There were, however, only small residential differences in the proportion of women aged 18-19 years who had married. Rural teenagers marry at very young ages in many countries and contribute most to the urban/rural differentials among all teenagers.

Table 13. Percentage of women aged 20-24 years who had married at ages under 15, 15-17, 18-19, and under 20, according to residence, by region and country

Region and country	Under 15 years			15-17 years			18-19 years			Under 20 years		
	Urban (1)	Rural (2)	Difference (3)	Urban (4)	Rural (5)	Difference (6)	Urban (7)	Rural (8)	Difference (9)	Urban (10)	Rural (11)	Difference (12)
Africa												
Benin	2.9	11.2	8.3	28.0	36.0	8.0	31.3	31.0	-0.3	62.2	78.2	16.0
Cameroon	8.1	25.4	17.3	34.2	42.1	7.9	21.9	19.0	-2.9	64.2	86.5	22.3
Ghana	6.8	10.8	4.0	32.2	42.0	9.8	22.5	25.8	3.3	61.5	78.6	17.1
Côte D'Ivoire	16.6	20.1	3.5	40.9	42.6	1.7	19.3	19.3	0.0	76.8	82.0	5.2
Kenya	12.0	13.5	1.5	22.2	34.2	12.0	20.0	19.8	-0.2	54.2	67.5	13.3
Morocco	5.9	14.5	8.6	17.2	31.1	13.9	13.9	19.1	5.2	37.0	64.7	27.7
Nigeria	22.7	37.8	15.1	25.0	15.1	-9.9	13.7	15.9	2.2	61.4	68.8	7.4
Senegal	15.5	35.6	20.1	20.9	42.1	21.2	20.2	11.9	-8.3	56.6	89.6	33.0
Mauritania	43.1	35.1	-8.0	20.9	24.3	3.4	9.0	10.6	1.6	73.0	70.0	-3.0
Sudan	18.5	29.6	11.1	16.7	22.4	5.7	9.2	10.5	1.3	44.4	62.5	18.1
Latin America and the Caribbean												
Peru	3.0	11.2	8.2	15.7	24.5	8.8	12.9	17.3	4.4	31.6	53.0	21.4
Colombia	4.4	11.6	7.2	18.4	22.3	3.9	15.6	17.9	2.3	38.4	51.8	13.4
Costa Rica	2.0	6.3	4.3	12.4	28.0	15.6	15.6	17.7	2.1	30.0	52.0	22.0
Dominican Republic	11.6	15.5	3.9	24.9	36.7	11.8	16.9	19.7	2.8	53.4	71.9	18.5
Ecuador	4.1	8.7	4.6	19.5	26.5	7.0	17.0	17.8	0.8	40.6	53.0	12.4
Guyana	10.9	7.1	-3.8	34.8	33.4	-1.4	16.4	20.8	4.4	62.1	61.3	-0.8
Haiti	9.5	7.5	-2.0	21.5	21.1	-0.4	16.5	19.3	2.8	47.5	47.9	0.4
Jamaica	11.8	14.8	3.0	44.1	47.7	3.6	20.1	15.4	-4.7	76.0	77.9	1.9
Mexico	4.7	13.6	8.9	20.2	32.4	12.2	19.0	18.8	-0.2	43.9	64.8	20.9
Panama	4.3	13.7	9.4	13.7	27.0	13.3	19.0	20.3	1.3	37.0	61.0	24.0
Paraguay	3.8	4.9	1.1	15.7	26.1	10.4	13.8	17.3	3.5	33.3	48.3	15.0
Trinidad and Tobago	8.4	9.2	0.8	29.2	26.8	-2.4	19.9	17.7	-2.2	57.5	53.7	-3.8
Venezuela	6.1	12.8	6.7	18.3	38.4	20.1	16.7	19.2	2.5	41.1	70.4	29.3
Asia and Oceania												
Bangladesh	56.0	75.5	19.5	21.2	16.0	-5.2	5.2	2.8	-2.4	82.4	94.3	11.9
Fiji	2.3	3.5	1.2	19.0	22.6	3.6	22.3	26.6	4.3	43.6	52.7	9.1
Indonesia	12.2	28.0	15.8	21.6	37.4	15.8	13.7	12.4	-1.3	47.5	77.8	30.3
Jordan	6.3	18.9	12.6	26.5	39.3	12.8	14.7	12.7	-2.0	47.5	70.9	23.4
Malaysia	1.8	5.6	3.8	9.4	20.3	10.9	11.6	18.7	7.1	22.8	44.6	21.8
Pakistan	18.1	28.1	10.0	24.4	34.3	9.9	15.4	11.7	-3.7	57.9	74.1	16.2
Philippines	1.1	3.3	2.2	9.0	17.0	8.0	10.5	15.8	5.3	20.6	36.1	15.5
Republic of Korea	0.0	0.2	0.2	1.4	4.2	2.8	6.4	11.5	5.1	7.8	15.9	8.1
Sri Lanka	3.4	3.9	0.5	10.0	12.5	2.5	10.5	10.6	0.1	23.9	27.0	3.1
Syrian Arab Republic	10.7	13.5	2.8	19.6	27.0	7.4	14.0	15.6	1.6	44.3	56.1	11.8
Thailand	1.7	3.8	2.1	13.2	23.7	10.5	11.6	17.8	6.2	26.5	45.3	18.8

Source: World Fertility Survey standard recode tapes.

(b) Exposure among unmarried teenagers

It is difficult to measure urban/rural differences in sexual exposure among unmarried teenagers. Surveys that yielded such information were either conducted solely in urban areas, or else breakdowns by residence cannot be made because of small sample sizes. Nevertheless, some indirect estimates can be made from information on pre-marital conceptions available in pregnancy histories of teenagers in urban and rural areas (table 14). There is little urban/rural difference in the proportion of women aged 20-24 years who had had a pre-marital conception leading to a live birth during their teen-age years. The largest differences (more than 5 per cent) were found in Colombia, Jamaica, Lesotho, Morocco, Senegal and Turkey. If pre-marital sexual exposure can be measured by the incidence of pre-marital conceptions, there appears to be no systematic difference between urban and rural teenagers. However, there might be residential differences in the availability of contraception and the extent to which it is used and in the extent to which abortion is practised. All these factors would affect the probability of conception and birth.

(c) Exposure and fertility

Among all teenagers (both married and unmarried), large residential differences in the level of child-bearing were observed (see chapter I and table 15, columns (1)-(3)). A large part of these differentials could probably be explained by urban/rural differences in marriage patterns and sexual exposure. In order to take into account differences in marital status by residence, child-bearing percentages among the ever-married only were compared (table 15, columns (4)-(6)). Residential differentials persist, although they are smaller, in the proportion of married women aged 20-24 years who had had a birth while they were teenagers. Rural teenagers are more likely than urban teenagers to marry at very young ages, but even among those who are married, rural teenagers are more likely than urban adolescents to have children (figure XXV). There are a few exceptions to this observation. In Guyana, Jamaica, Mauritania, Paraguay, Sri Lanka, and Trinidad and Tobago, urban/rural differentials increase after marital status is controlled. In all six countries except Mauritania, rural teenagers continue to be more likely to have children than their urban counterparts.

2. Education

(a) Marriage

In all three regions, adolescents with little or no education were likely to marry at younger ages than those with seven or more years of education 10/ (table 16). There was little or no difference between women with no education and those with from one to three years of education in the proportion who had married before age 20, and in some countries (10 in all), those with from one to three years of education were more likely to have married before age 20 than those with no education. Large educational differences (differences in percentage points of over 30 between the highest and lowest education categories) occurred in all countries except Côte d'Ivoire, Ghana, Guyana, Haiti, Jamaica, Lesotho, Malaysia, the Philippines, and Trinidad and Tobago. Educational differences in the proportions who had married during their

Table 14. Percentage of women aged 20-24 years who had had a pre-marital conception leading to a live birth during their teen-age years, according to residence, by region and country

Region and country	Total percentage (1)	Urban (2)	Rural (3)	Difference (3)-(2)
Africa				
Benin	22.5	20.4	23.4	3.0
Cameroon	24.3	23.6	24.6	1.0
Ghana	12.4	9.9	13.9	4.0
Côte D'Ivoire	31.2	31.0	31.3	0.3
Kenya	34.5	32.7	34.9	2.2
Morocco	7.9	4.1	10.8	6.7
Nigeria	21.1	25.0	20.6	-4.4
Senegal	9.3	15.2	5.7	-9.5
Egypt	0.3	0.5	0.3	-0.2
Lesotho	9.4	16.1	9.0	-7.1
Mauritania	5.1	4.4	6.2	1.8
Sudan	4.8	3.0	5.3	2.3
Tunisia	0.9	0.0	1.4	1.4
Latin America and the Caribbean				
Peru	20.7	21.0	19.9	-1.1
Colombia	11.7	10.0	15.6	5.6
Costa Rica	14.9	13.6	16.6	3.0
Dominican Republic	2.9	3.8	1.5	-2.3
Ecuador	13.2	16.5	15.1	-1.4
Guyana	3.1	3.6	2.9	-0.7
Haiti	0.3	0.0	0.3	0.3
Jamaica	15.6	11.2	19.6	8.4
Mexico	9.3	9.4	9.2	-0.2
Panama	11.5	11.1	12.4	1.3
Paraguay	8.7	9.0	8.6	-0.4
Trinidad and Tobago	1.9	1.6	1.9	0.3
Venezuela	6.7	6.6	7.2	0.6
Asia and Oceania				
Bangladesh	1.8	2.6	1.7	-0.9
Fiji	8.9	6.1	10.6	4.5
Indonesia	7.0	10.4	6.5	-3.9
Jordan	3.7	2.1	6.8	4.7
Malaysia	5.7	7.0	5.2	-1.8
Pakistan	0.0	0.0	0.0	0.0
Philippines	4.4	5.2	4.0	-1.2
Republic of Korea	5.8	5.3	6.4	1.1
Sri Lanka	3.7	3.6	3.5	-0.1
Syrian Arab Republic	0.4	0.0	0.9	0.9
Thailand	8.3	7.9	8.4	0.5
Turkey	13.2	10.3	16.5	6.2
Yemen	1.8	3.1	1.6	-1.5

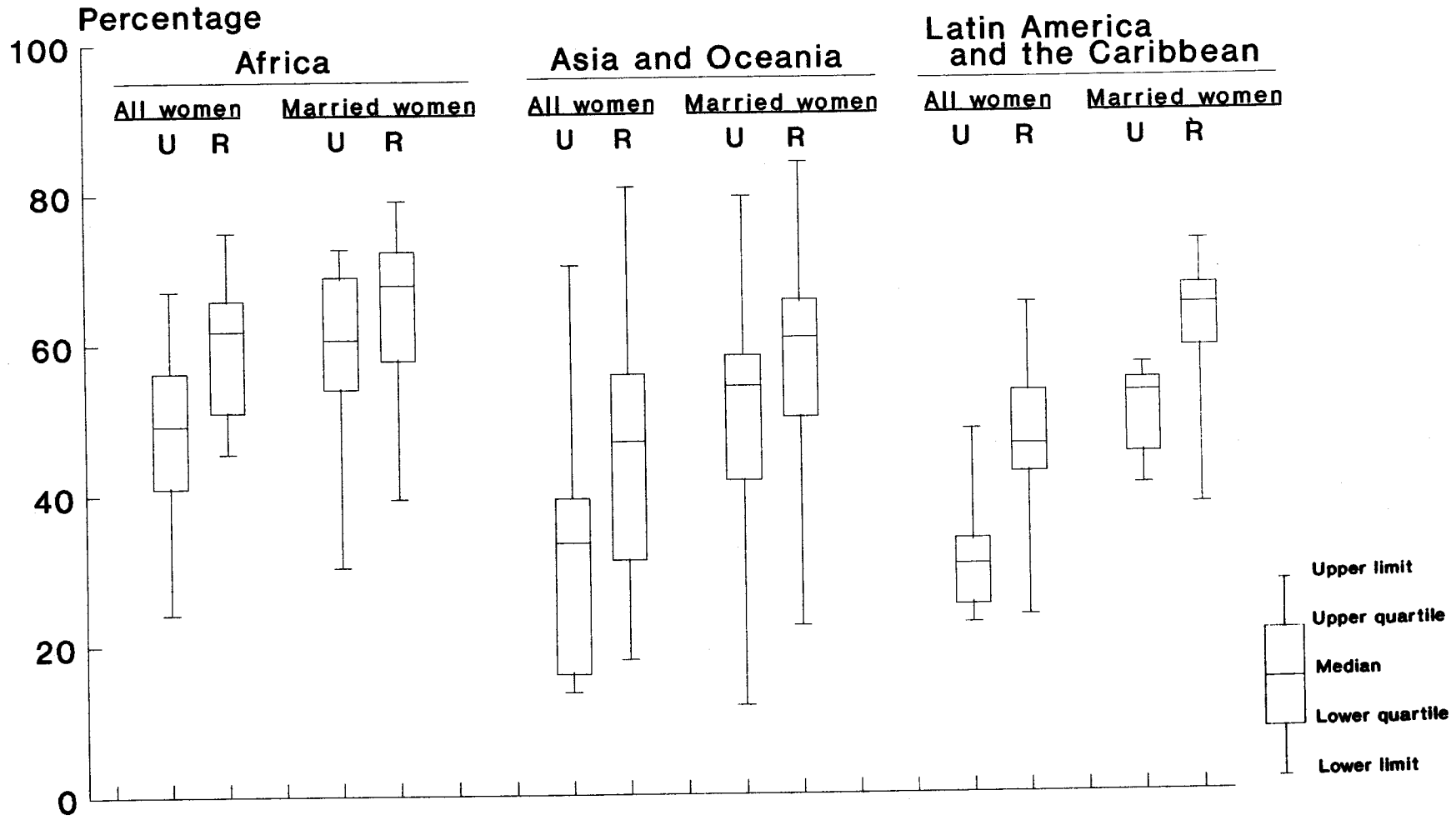
Source: World Fertility Survey standard recode tapes.

Table 15. Percentage of women aged 20-24 years who had had a live-birth during their teen-age years, according to residence and marital status, by region and country

Region and country	All women			Ever-married women		
	Urban	Rural	Difference	Urban	Rural	Difference
Africa						
Benin	45.1	54.6	9.5	55.8	56.3	0.5
Cameroon	57.7	67.4	9.7	65.3	69.2	3.9
Egypt	24.5	49.4	24.9	48.9	63.0	14.1
Ghana	44.8	61.8	17.0	57.6	67.4	9.8
Côte D'Ivoire	67.1	73.7	6.6	71.0	75.6	4.6
Kenya	56.0	64.3	8.3	66.9	74.0	7.1
Morocco	24.1	45.5	21.4	52.2	59.2	7.0
Senegal	49.2	74.9	25.7	64.6	79.1	14.5
Mauritania	56.5	52.5	-4.0	72.3	70.7	-1.6
Sudan	37.1	47.6	10.5	72.7	68.2	-4.5
Latin America and the Caribbean						
Peru	24.9	44.0	19.1	54.2	67.0	12.8
Colombia	31.2	49.2	18.0	54.8	67.3	12.5
Costa Rica	24.4	46.2	21.8	45.1	66.8	21.7
Dominican Republic	37.7	53.4	15.7	56.3	62.9	6.6
Ecuador	31.4	44.0	12.6	56.8	64.7	7.9
Guyana	33.7	42.5	8.8	44.1	59.0	14.9
Haiti	22.5	23.5	1.0	40.8	38.1	-2.7
Jamaica	48.2	65.0	16.8	54.5	73.2	18.7
Mexico	33.9	53.3	19.4	55.0	68.4	13.4
Panama	28.7	48.3	19.6	46.9	62.4	15.5
Paraguay	24.5	37.9	13.4	44.9	56.7	11.8
Trinidad and Tobago	29.4	28.8	-0.6	41.3	43.9	2.6
Venezuela	30.3	56.0	25.7	53.1	68.7	15.6
Asia and Oceania						
Bangladesh	70.3	80.7	10.4	79.4	83.9	4.5
Fiji	24.3	32.6	8.3	38.7	48.1	9.4
Indonesia	34.0	55.1	21.1	58.2	64.5	6.3
Jordan	37.2	60.6	23.4	63.6	77.9	14.3
Malaysia	15.6	30.5	14.9	37.5	51.3	13.8
Pakistan	40.4	51.5	11.1	57.6	63.4	5.8
Philippines	13.6	26.1	12.5	44.3	55.4	11.1
Sri Lanka	16.2	17.9	1.7	42.0	46.6	4.6
Syrian Arab Republic	32.8	42.4	9.6	58.2	65.6	7.4
Thailand	15.8	31.7	15.9	41.6	50.0	8.4
Turkey	38.2	51.2	13.0	54.1	66.2	12.1
Yemen	50.8	56.4	5.6	62.3	60.6	-1.7

Source: World Fertility Survey standard recode tapes.

Figure XXV. Distribution of proportion of all women aged 20-24 who had a birth during their teen-age years and proportion of ever-married women who had a birth during their teen-age years, according to residence, by region



Source: World Fertility Survey standard recode tapes.
Note: U = urban; R = rural.

Table 16. Percentage of women aged 20-24 years who had married at ages 15-17, 18-19 and under 20 years, according to number of years of schooling completed, by region and country

Region and country	15-17 years					18-19 years					By age 20				
	No education	1-3 years	4-6 years	7+ years	Difference	No education	1-3 years	4-6 years	7+ years	Difference	No education	1-3 years	4-6 years	7+ years	Difference
Africa															
Benin	37.4	17.2	26.5	9.6	27.8	32.5	55.2	25.0	13.7	18.8	79.9	75.8	61.8	24.7	55.2
Cameroon	42.5	45.8	42.3	25.3	17.2	14.5	17.2	25.5	21.7	-7.2	94.0	85.5	77.0	51.4	42.6
Ghana	46.5	48.8	43.0	32.1	14.4	21.3	16.3	25.2	26.9	-5.6	83.0	79.1	78.5	64.3	18.7
Côte D'Ivoire	44.3	38.5	39.9	29.3	15.0	19.2	26.2	18.5	17.1	2.1	83.1	87.8	75.3	57.8	25.3
Kenya	37.1	45.5	37.2	21.4	15.7	17.2	20.7	18.3	22.7	-5.5	79.7	80.9	70.8	46.0	33.7
Morocco	30.4	23.5	12.6	6.2	24.2	18.1	14.7	14.6	13.1	5.0	61.9	52.9	31.2	20.8	41.1
Senegal	39.1	30.4	22.5	5.7	33.4	13.6	21.7	18.8	22.9	-9.3	85.5	78.2	53.8	32.9	52.6
Lesotho	35.3	40.5	41.3	20.8	14.5	29.4	27.1	30.7	30.9	-1.5	78.4	81.1	80.0	53.1	25.3
Latin America and the Caribbean															
Colombia	22.7	30.3	19.0	9.3	13.4	26.7	15.9	19.0	11.4	15.3	69.4	56.8	42.7	22.2	47.2
Costa Rica	a/	28.9	26.3	9.6	19.3	a/	18.9	17.8	14.5	4.4	a/	61.1	48.7	24.8	36.3
Dominican Republic	45.9	36.8	40.4	11.8	34.1	16.4	21.4	19.1	15.1	1.3	88.5	81.3	73.0	29.0	59.5
Ecuador	35.1	33.2	28.7	12.8	22.3	14.3	15.7	19.1	17.1	-2.8	71.5	58.1	55.5	31.8	39.7
Guyana	a/	a/	50.0	31.0	19.0	a/	a/	12.9	20.9	-8.0	a/	a/	74.3	59.2	15.1
Haiti	23.8	16.9	17.8	20.2	3.6	19.9	18.1	16.0	13.0	6.9	53.4	45.7	41.5	35.0	18.4
Jamaica	a/	a/	35.9	47.1	-11.2	a/	a/	28.1	16.4	11.7	a/	a/	82.8	76.6	6.2
Mexico	33.3	33.9	27.5	10.7	22.6	13.9	20.2	23.0	14.9	-1.0	76.3	66.1	55.6	26.4	49.9
Panama	a/	39.7	27.5	10.7	29.0	a/	14.7	23.6	18.1	-3.4	a/	70.6	64.5	31.9	38.7
Paraguay	24.2	34.8	21.5	12.4	11.8	15.2	14.4	18.9	12.1	3.1	66.7	58.6	48.5	25.4	41.3
Trinidad and Tobago	a/	a/	27.0	28.5	-1.5	a/	a/	17.4	19.1	-1.7	a/	a/	59.7	56.0	3.7
Venezuela	28.0	41.3	29.4	9.5	18.5	28.0	21.3	18.4	14.1	13.9	72.0	80.1	57.2	25.8	46.2
Asia															
Bangladesh	14.2	21.3	21.8	25.3	-11.1	2.6	1.4	5.2	7.4	-4.8	96.5	98.6	92.5	58.0	38.5
Jordan	42.4	33.3	39.7	13.3	29.1	13.3	19.1	16.1	9.0	4.3	74.8	73.8	69.2	24.5	50.3
Malaysia	22.9	25.9	20.6	4.4	18.5	17.2	17.9	16.0	15.4	1.8	50.0	51.1	41.0	20.6	29.4
Pakistan	34.6	31.1	23.7	11.1	23.5	12.7	27.6	10.3	11.1	1.6	77.3	69.0	42.3	26.5	50.8
Philippines	20.7	35.3	20.7	8.0	12.7	11.5	14.7	19.6	11.1	0.4	41.4	59.6	44.1	19.7	21.7
Republic of Korea	a/	19.4	6.1	0.8	18.6	a/	27.8	16.3	7.7	20.1	a/	47.2	22.4	8.5	38.7
Syrian Arab Republic	29.1	20.5	27.3	13.0	16.1	16.3	20.4	16.9	11.7	4.6	63.2	63.6	56.8	26.8	36.4

Source: World Fertility Survey standard recode tapes.

a/ Fewer than 20 cases.

Table 17. Percentage of women aged 20-24 years who had had a pre-marital conception leading to a live birth during their teen-age years, according to number of years of education completed, by region and country

Region and country	Total percentage	Education: No education	1-3 years	4-6 years	7+ years
Africa					
Benin	22.5	23.3	10.3	20.6	20.5
Cameroon	24.3	16.7	35.3	29.2	27.1
Ghana	12.4	12.5	11.6	14.0	12.0
Côte d'Ivoire	31.2	27.6	40.0	41.6	35.0
Kenya	34.5	31.0	29.0	37.6	37.1
Morocco	7.9	10.1	5.9	2.6	0.8
Senegal	9.3	6.0	17.4	22.5	20.0
Egypt	0.3	0.5	0.0	0.3	0.0
Leostho	9.4	12.2	7.5	7.8	11.7
Mauritania	5.1	5.5	4.5	12.5	4.3
Tunisia	0.9	1.5	0.0	0.5	0.0
Latin America and the Caribbean					
Peru	20.7	19.7	21.4	22.1	19.6
Colombia	11.7	16.0	19.7	10.6	4.2
Costa Rica	14.9	a/	21.1	20.4	7.3
Dominican Republic	2.9	0.0	3.8	5.0	1.1
Ecuador	13.2	28.6	23.0	13.4	7.8
Guyana	3.1	a/	a/	12.7	2.3
Haiti	0.3	0.0	1.6	0.0	0.0
Jamaica	15.6	a/	a/	23.4	14.5
Mexico	9.3	10.9	11.5	10.0	6.5
Panama	11.5	a/	17.6	13.0	10.1
Paraguay	8.7	15.2	11.6	9.7	5.5
Trinidad and Tobago	1.9	a/	a/	7.0	1.6
Venezuela	6.7	14.0	10.0	7.5	4.6
Asia and Oceania					
Bangladesh	1.8	2.0	0.0	1.1	3.8
Fiji	8.9	3.4	5.6	9.2	10.1
Indonesia	7.0	7.5	6.3	7.8	4.1
Jordan	3.7	8.9	6.1	2.6	0.5
Malaysia	5.7	9.0	4.3	6.1	3.5
Nepal	1.2	1.3	0.0	0.0	0.0
Philippines	4.4	2.5	6.3	3.5	5.3
Republic of Korea	5.8	a/	8.6	6.9	2.4
Sri Lanka	3.7	6.5	4.9	4.1	1.8
Thailand	8.3	14.7	0.0	8.0	7.5

Source: World Fertility Survey standard recode tapes.

a/ Fewer than 20 cases.

teen-age years were most pronounced among the very young teenagers (under 18 years), whereas much smaller differences were observed among those aged 18-19 years (table 16).

(b) Exposure among unmarried teenagers

Educational differences in the proportion of women aged 20-24 years who had had a pre-marital conception leading to a live birth during their teen-age years were not as large as differences in proportions married (table 17). In 14 out of 34 countries, the proportion of pre-marital conceptions was higher among the more educated teenagers. In Cameroon, for example, 27 per cent of women with seven or more years of schooling had had a pre-marital birth, whereas 17 per cent of those with no education had had the same experience. In Peru, women at the two extremes of the educational scale were just as likely to have had a pre-marital conception.

(c) Exposure and fertility

Chapter I presented data showing strong educational differences in levels of child-bearing among all teenagers, married and unmarried (reproduced in table 18, columns (1)-(4)). These differentials might be caused by different marriage patterns and degrees of sexual exposure between the lesser and the more educated teenagers. In table 18 it can be seen that among ever-married women differences in child-bearing between those with little or no education and those with seven or more years of education remained as large as the differences observed among all women. In fact, in nearly half the countries, educational differences in child-bearing increased when only married women were considered. In other words, among unmarried women, more educated women were more likely to have had a birth.

G. Discussion

Estimates of exposure to pregnancy show that even when minimum estimates of exposure are taken into account, the proportions ever married and the proportions "exposed" are high for countries in Southern and Western Asia and in sub-Saharan Africa. At the other extreme are the countries of East Asia, where proportions married among teenagers are even lower than those in the developed countries. Where prevalence of marriage is high, large proportions of teenagers are marrying at extremely young ages even though laws governing the minimum legal age at marriages exist.

In many countries in the Caribbean and in sub-Saharan Africa, one finds a variety of types of unions. Non-legal unions are popular among young and old alike, but are more frequent among young women, since these unions are usually first unions, which may or may not be legalized after a period of time. Some of these types of unions (particularly those in the Caribbean), by the very nature of their informality, tend to be unstable.

Among unmarried teenagers, estimates of exposure to pregnancy are based on data from a few surveys of sexual experience. Although these findings are of unknown reliability, some generalizations can be made. Unmarried adolescents in sub-Saharan Africa are more likely to be sexually experienced than those in Latin America and the Caribbean or Asia and Oceania. There is very little evidence of sexual activity among unmarried teenagers in Asia and Oceania, but

Table 18. Percentage of women aged 20-24 years who had had a live-birth before age 20, according to number of years of schooling and marital status, by region and country

Region and country	Year	All women: No education (1)	All women: 1-3 years (2)	All women: 4-6 years (3)	All women: 7+ years (4)	All women: Difference (5)	Ever-married women: No education (6)	Ever-married women: 1-3 years (7)	Ever-married women: 4-6 years (8)	Ever-married women: 7+ years (9)	Ever-married women: Difference (10)
Africa											
Benin	1982	56.0	41.3	42.6	23.3	32.7	57.7	42.9	49.2	37.4	20.3
Cameroon	1978	65.9	76.6	68.8	46.6	19.3	66.6	76.1	72.8	37.2	29.4
Ghana	1979/1980	66.0	67.5	65.5	46.7	19.3	69.0	70.0	70.9	38.6	30.4
Côte D'Ivoire	1980	71.4	80.0	74.2	55.2	16.2	73.2	81.4	76.5	29.2	44.0
Kenya	1977/1978	73.2	68.1	69.5	49.0	24.2	77.3	72.5	76.7	39.3	38.0
Morocco	1979/1980	43.4	44.1	20.5	6.9	36.5	58.9	75.0	50.0	21.3	37.6
Senegal	1978	70.8	65.2	55.0	29.9	40.9	77.0	68.2	71.5	41.2	35.8
Lesotho	1977	50.6	47.0	49.6	22.7	27.9	60.5	52.2	56.4	39.0	21.5
Sudan	1978/1979	55.1	41.9	23.4	45.3	9.8	71.4	72.3	69.5	35.3	36.1
Latin America and the Caribbean											
Colombia	1976	58.6	55.7	34.8	15.0	43.6	75.4	70.5	53.8	31.8	43.6
Costa Rica	1976	a/	55.6	45.2	16.1	39.5	a/	70.6	64.1	34.1	36.5
Dominican Republic	1975	72.1	59.9	54.0	17.2	54.9	77.1	65.5	64.0	28.6	48.5
Ecuador	1979	66.3	55.3	44.9	21.1	45.2	78.3	74.0	64.1	34.3	44.0
Guyana	1977	a/	a/	60.0	34.1	25.9	a/	a/	69.5	33.9	35.6
Jamaica	1975/1976	a/	a/	60.9	56.7	4.2	a/	a/	64.4	32.0	32.4
Mexico	1976	67.8	56.0	42.6	17.7	50.1	78.8	68.8	61.0	31.6	47.2
Panama	1975/1976	a/	67.7	51.4	22.6	45.1	a/	78.9	65.0	27.3	51.6
Paraguay	1979	57.6	53.6	31.8	15.8	41.8	69.2	68.9	50.6	29.6	39.6
Peru	1977/1978	51.7	48.1	18.1	14.9	36.8	69.6	71.2	63.3	34.5	35.1
Trinidad and Tobago	1977	a/	a/	44.7	28.5	16.2	a/	a/	58.6	29.2	29.4
Venezuela	1977	56.0	60.1	45.7	16.7	39.3	62.8	65.7	63.4	31.9	30.9
Asia and Oceania											
Jordan	1976	60.2	60.5	59.4	21.6	38.6	75.4	79.3	76.8	41.6	33.8
Malaysia	1974	36.0	36.5	30.4	9.4	26.6	56.5	55.6	52.4	26.2	30.3
Pakistan	1975	53.9	25.0	45.8	15.6	38.2	64.2	57.3	54.2	26.7	37.5
Philippines	1978	32.2	24.7	38.5	11.1	21.2	50.4	77.5	57.6	35.9	14.5
Republic of Korea	1974	a/	19.2	11.7	2.9	16.3	a/	30.4	20.3	15.7	14.7
Syrian Arab Republic	1978	48.2	41.3	12.8	17.3	30.9	68.8	68.8	61.8	33.6	35.2

Source: World Fertility Survey standard recode tapes.

a/ Fewer than 20 cases.

in the countries studied here, more than half of single teenagers in sub-Saharan Africa, and about 10-15 per cent of those in Latin America and the Caribbean, were sexually experienced.

When questioned about their first sexual partner, the majority of sexually experienced teenagers said he was their fiancé or boy-friend. Teenagers appear more likely to have sexual intercourse if they feel they are in love with the partner, or if they are "going steady" with or engaged to be married to their partner. Data presented in this chapter show that a large proportion of first births were pre-maritally conceived. In the countries in Northern and Western Europe, "forced" marriages were common before improvements in contraceptive technology and increased availability of these methods helped reduce the prevalence of such marriages. Of course, not all pre-marital pregnancies are unintended. In the context of developing countries, however, it should be borne in mind that not all cultures sanction out-of-wedlock births.

Teen-age differentials in sexual exposure according to education and residence are similar to those found among adult women: urban teenagers and teenagers with higher education marry later than rural teenagers and those with little or no education. Residential and educational differences in levels of teen-age child-bearing remain, even after differences in marriage patterns are taken into account.

It was not possible to test the hypothesis that urban teenagers, because of their better educational opportunities, are more exposed to modern ideas and experience greater freedom from family authority, and consequently they are more likely to enter into sexual relationships (leading possibly to unwanted births and "forced" marriage). Nevertheless, urban/rural differentials and educational differentials in the proportion of pre-marital conceptions show that although fewer urban and more educated teenagers marry early, they are just as likely, if not more likely, than their rural counterparts, to have had a pre-marital pregnancy.

One of the crucial factors influencing the relationship between sexual activity rates and pregnancy rates among adolescents is contraceptive prevalence. This topic is taken up in chapter III.

Notes

1/ These unions are classified by various names, such as "consensual union," "(unmarried) cohabitation," "common law union," "free union," "living together," depending upon the regional and cultural context.

2/ More recently, fertility surveys and censuses in countries of Africa have included a separate category for women in informal unions. For example, in Botswana, the Family Health Survey conducted in 1984 found that 43.7 per cent of women aged 15-19 years were living in an informal union whereas only 3.2 per cent were legally married (Manyeneng and others, 1985). In Zimbabwe (Zimbabwe, 1985), although a larger percentage of teen-age women were in legal unions (26.6) than in non-legal (16.2), the percentage in non-legal unions was not negligible. A 1986 survey in Liberia found 22 per cent of women "living together", compared with 9.7 per cent who were married (Chieh-Johnson and others, 1988).

3/ Parental control plays an important role in determining age at marriage, because of both parental authority and the legal requirements of parental consent under a certain age (United Nations, 1988b).

4/ In some countries, exceptions to the law can be granted, for example, in the case of a pregnancy.

5/ It is possible that age at first union means the age at which couples become betrothed and not when they begin to live together, particularly among countries in Africa and in Asia and Oceania.

6/ Only recently have national surveys (for example, the Demographic and Health Surveys) included questions on the date of initiation of intercourse and frequency of intercourse (Institute for Resource Development, 1986). Some World Fertility Survey questionnaires included questions on frequency of intercourse, but these data have remained unused for the most part because the quality of the information obtained was judged to be limited (Cleland and Kalule-Sabiti, 1984).

7/ Where such procedures are employed to obtain an estimate of pre-marital sexual activity, accuracy in reporting of dates (date of first union and date of first intercourse) is of paramount importance. In most developing countries, such accuracy is not possible. Of course, in countries where pre-marital sexual activity is frowned upon, there is a strong tendency, on the part of the respondent, to adjust the relevant dates to conform to the norms.

8/ Because data are available for far more countries in Latin America and the Caribbean than in Africa or Asia, many observations presented here reflect more heavily the behaviour in Latin American and Caribbean countries and should not be generalized to countries in other regions. On the other hand, it should not be assumed that sexual activity among unmarried teenagers is of negligible magnitude simply because data are not available for some countries.

9/ The validity of estimates of pre-marital conceptions and pre-marital births from this source depends to a large extent upon the accuracy of reporting of dates of births and of marriage. In a number of countries included in the World Fertility Survey programme, the quality of reporting of dates of events was found to be poor (United Nations, 1987a). Therefore, some caution must be exercised in interpreting these results. In some cases, dates have been imputed where they were not supplied by the respondent. This practice also may have some effect on the results.

10/ Four categories of education were used in the analysis: no education; from one to three years of education; from four to six years of education; and seven or more years of education.

Chapter III

CONTRACEPTIVE USE

In many developing countries, contraceptive prevalence 1/ among currently married women of reproductive ages has been growing rapidly but has not yet reached the levels of use that exist in developed countries. The overall level of prevalence is moderate or low in the majority of countries, and even in those countries of Latin America and the Caribbean and of Asia where the prevalence level among all currently married women is high, 50 per cent or more, it is still usually the case that teen-age women, married or unmarried, are less likely to be using contraception than older women.

In Africa, only seven countries have prevalence levels of over 20 per cent, while in Latin America and the Caribbean, most countries have at least a moderate level of contraceptive use. In the latter region, the highest prevalence levels are between 60 and 70 per cent, and almost all countries, except Haiti, have prevalence levels of over 20 per cent. The range of prevalence levels in Asia is wide. The highest levels were found mainly in East Asia and South-eastern Asia, where most countries have prevalence levels ranging from 60 to 70 per cent. On the other hand, some countries in Southern and Western Asia had levels of contraceptive use below 10 per cent (United Nations, 1989). The level of use in most countries was higher among women in their thirties and, typically, lowest among teen-age women and women in their forties (United Nations, 1987a).

Such considerations as desired family size and child-spacing influence contraceptive prevalence among married women at the individual level, while at the macro level, laws and regulations and social policies that determine access to contraception are important factors. For the most part, laws and regulations on contraceptives affect adult women and adolescents alike in terms of the types of contraception that are permitted for distribution or prescription. However, some laws relate specifically to teen-age women. In some countries, unmarried women are not permitted access to contraception and married women may require the consent of their spouses. In others, a minimum eligibility age may be specified for certain kinds of services (Paxman and Zuckerman, 1987; Roemer, 1985; Paxman, 1984). In the United Nations Sixth Population Inquiry among Governments, of those countries which expressed concern about adolescent fertility, 12 out of 18 countries of Africa and 6 out of 10 countries in Asia provide contraceptives to adolescents regardless of their marital status. In comparison, 18 out of 21 countries in Latin America and the Caribbean provide contraceptives to any adolescent regardless of marital status.

Differences between adolescents and adult women in maturity, knowledge and experience affect behavioural patterns as they relate to contraceptive acceptance and use. Most adolescents' understanding of sexuality and human reproduction is usually incomplete and confused. In response to the United Nations Sixth Inquiry among Governments, among countries that indicated concern about adolescent fertility, only 22 per cent of the countries of Africa and 33 per cent of those in Latin America and the Caribbean indicated that contraceptive education was part of the state school curriculum. In Asia and Oceania, however, 70 per cent of the countries responded that they included contraceptive education in their schools. In countries where sex

education is part of the school curriculum, young people learn about birth control mainly from teachers. In other countries, however, a large proportion of adolescents still obtain information from friends, books and magazines (Siedlecky, 1979; Lui, 1983; Porapakkham, Vorapongsathorn and Pramanpol, 1986; Morris and others, 1987), and a large number do not discuss sex or contraception with their parents or partners.

Aside from external social and policy influences affecting an adolescent's contraceptive behaviour, individual-level factors are also important. These include whether the sexual encounter is planned, whether it occurs within a stable relationship and whether either partner has previous contraceptive experience. In the context of developing countries, where contraceptive use among women of all ages is low and is used largely for limiting child-bearing rather than for child-spacing, the contraceptive use appears to be minimal among young newly married women. Among unmarried sexually active teenagers, the individual factors mentioned above still play an important role.

As young persons become more sexually experienced, they are more likely to begin using some form of contraception, if pregnancy is not desired and if access to contraception is socially permitted. Data on contraceptive use at first intercourse and on subsequent behaviour show that although a vast majority of young people in developing countries are unprotected at their first sexual encounter, many use contraception at a later stage. Moreover, the type of contraception used may change over time, from less to more reliable methods (United Nations, 1988c; Senderowitz and Paxman, 1985).

This chapter reviews available information on contraceptive knowledge and prevalence among teenagers in developing countries. Because of the paucity of national data on single women, survey data drawn from samples of subnational population groups 2/ have also been utilized.

A. Contraceptive knowledge

Data from the World Fertility Survey show that in almost every country, teenagers are quite knowledgeable about contraception. In all countries of Latin America and the Caribbean, excluding Haiti, more than 70 per cent of teenagers knew about modern methods 3/ of contraception, whereas in Africa, only in Kenya and Morocco did knowledge exceed 70 per cent. In most of the other countries of Africa, levels of knowledge were between 20 and 50 per cent. The surveys also revealed that in most countries older teenagers (18-19 years) were only slightly more knowledgeable about methods of contraception than the younger adolescents (15-17 years). Obviously, knowledge of various methods of contraception does not imply that respondents actually know how to use these methods. For example, in the Young Adult Reproductive Surveys carried out in Latin American countries, only from about one fifth to one fourth of women aged 15-24 years could correctly identify the fertile period of the month (Morris, 1987), and, among the sexually experienced, about one quarter of those who did not use any contraception at first intercourse said it was because they had no knowledge of contraception.

Are unmarried teenagers less likely to be knowledgeable about contraception than married teenagers? In countries where contraception is available only to married women, or where knowledge about contraception is generally low, it is unlikely that unmarried women will be knowledgeable about

modern methods of contraception. On the other hand, in countries where sex education has been included in the school curriculum, differences between married and unmarried adolescents in levels of knowledge are not expected because contraceptive knowledge is acquired by all. In a number of World Fertility Survey countries, unmarried women were asked about their knowledge of contraceptive methods (table 19). In all Latin American and Caribbean countries for which such data were available, knowledge of modern methods among unmarried women was similar to or lower than that found among ever-married women. In Benin, Cameroon and Nigeria, in the African region, only sexually experienced teenagers were asked about their knowledge of contraceptive methods; in these three countries (and Senegal), knowledge of modern methods was higher among single women than among married ones. In other countries of Africa, unmarried women were less knowledgeable about contraception than their married counterparts.

B. Contraceptive prevalence

Contraceptive prevalence among currently married women of all ages is high in some developing countries, particularly those in Latin America and the Caribbean, while levels of current 4/ use among adolescent women who are currently married are still very low in some of these countries (table 20 and figure XXVI). The main reason for this difference is that in most developing countries contraceptive use by currently married women is for purposes of limiting rather than spacing births. At the one extreme are the countries of Africa, where the level of use is low among both adult women and young women, while at the other extreme are some Latin American and Asian countries (including Brazil and Thailand), where levels of use are high among adult women and also relatively high among adolescent women. In between are such countries as Ecuador, for example, where contraceptive prevalence was 44 per cent among all currently married women in 1987, but was only 15 per cent among currently married adolescents. High levels of contraceptive use, particularly among very young married women, could mean that a large proportion of teenagers are protected against unwanted pregnancies. Unfortunately, while countries that have high prevalence among married teenagers also have low proportions married, countries with low prevalence generally have higher proportions married.

Contraceptive use among unmarried teenagers is more difficult to assess. Most fertility surveys ask questions about contraceptive use only of married women and a few include sexually active or sexually experienced unmarried teenagers. As was seen in the previous chapter, it is very difficult to get teenagers to admit to sexual activity, especially where such behaviour is not considered socially acceptable outside of marriage. Nevertheless, surveys that focus only on teenagers managed to elicit information on both sexual activity and contraceptive use. Table 21 shows that contraceptive prevalence among sexually experienced, unmarried teenagers is surprisingly high. Two important qualifications should be borne in mind:

(a) In the countries with women aged over 20 years in the sample, overall use is likely to be higher than for those aged 15-19 since those aged 20-24 years are more likely to use contraception;

Table 19. Proportion of adolescents aged 15-19 years who had knowledge of a modern method of contraception, according to age and marital status, by region and country

Region and country	15-17 years	18-19 years	Total percentage	Never married	Ever married
Africa					
Benin	11.4	13.3	12.7	28.3 a/	6.8
Cameroon	24.2	34.1	29.1	32.5 a/	26.7
Ghana	47.9	61.6	53.3	51.6	57.1
Côte D'Ivoire	26.7	26.5	26.6	33.7	21.1
Kenya	65.5	83.4	72.8	68.4	84.3
Morocco	74.0	83.0	77.4	77.9	75.7
Nigeria	16.2	24.9	20.2	53.3 a/	13.7
Senegal	19.2	29.5	23.3	32.1	17.2
Egypt b/	..	..	..	..	79.6
Lesotho b/	..	..	..	..	41.1
Mauritania b/	..	..	..	..	5.5
Sudan b/	..	..	..	..	49.2
Tunisia b/	..	..	..	..	90.0
Latin America and the Caribbean					
Peru b/	..	..	..	..	75.5
Colombia	80.8	88.8	83.8	82.6	90.2
Dominican Republic	95.3	97.5	96.2	96.2	96.1
Ecuador	81.7	85.1	83.9	..	..
Guyana c/	89.5	94.2	92.4	..	..
Haiti	53.7	73.3	62.0	57.1	87.0
Jamaica c/	97.2	99.5	98.7	..	..
Mexico d/	72.0	85.6	80.2	78.6	80.3
Paraguay	75.6	84.6	78.9	76.1	92.3
Trinidad and Tobago c/	95.7	98.0	97.0	..	..
Venezuela	90.8	93.6	91.8	90.3	97.7
Asia and Oceania b/					
Bangladesh	..	..	..	..	73.6
Fiji	..	..	..	..	99.1
Indonesia	..	..	..	..	67.5
Jordan	..	..	..	..	94.8
Malaysia	..	..	..	..	85.3
Nepal	..	..	..	..	17.1
Pakistan	..	..	..	..	62.5
Philippines	..	..	..	..	91.4
Republic of Korea	..	..	..	..	87.3
Sri Lanka	..	..	..	..	80.0
Syrian Arab Republic	..	..	..	..	71.9
Thailand	..	..	..	..	93.2
Turkey	..	..	..	..	83.5
Yemen	..	..	..	..	17.5

Source: World Fertility Survey standard recode tapes.

Notes: In Benin, Cameroon and Nigeria, never-married women were asked about knowledge of contraceptive methods only if they had sexual experience.

a/ Single, sexually experienced only.

b/ Ever-married women only.

c/ Omiting girls attending school.

d/ Only those who are not attending school and had a baby.

Table 20. Contraceptive prevalence among currently married women aged 15-19 years and of all ages, and proportion of teenage women currently married, by region and country

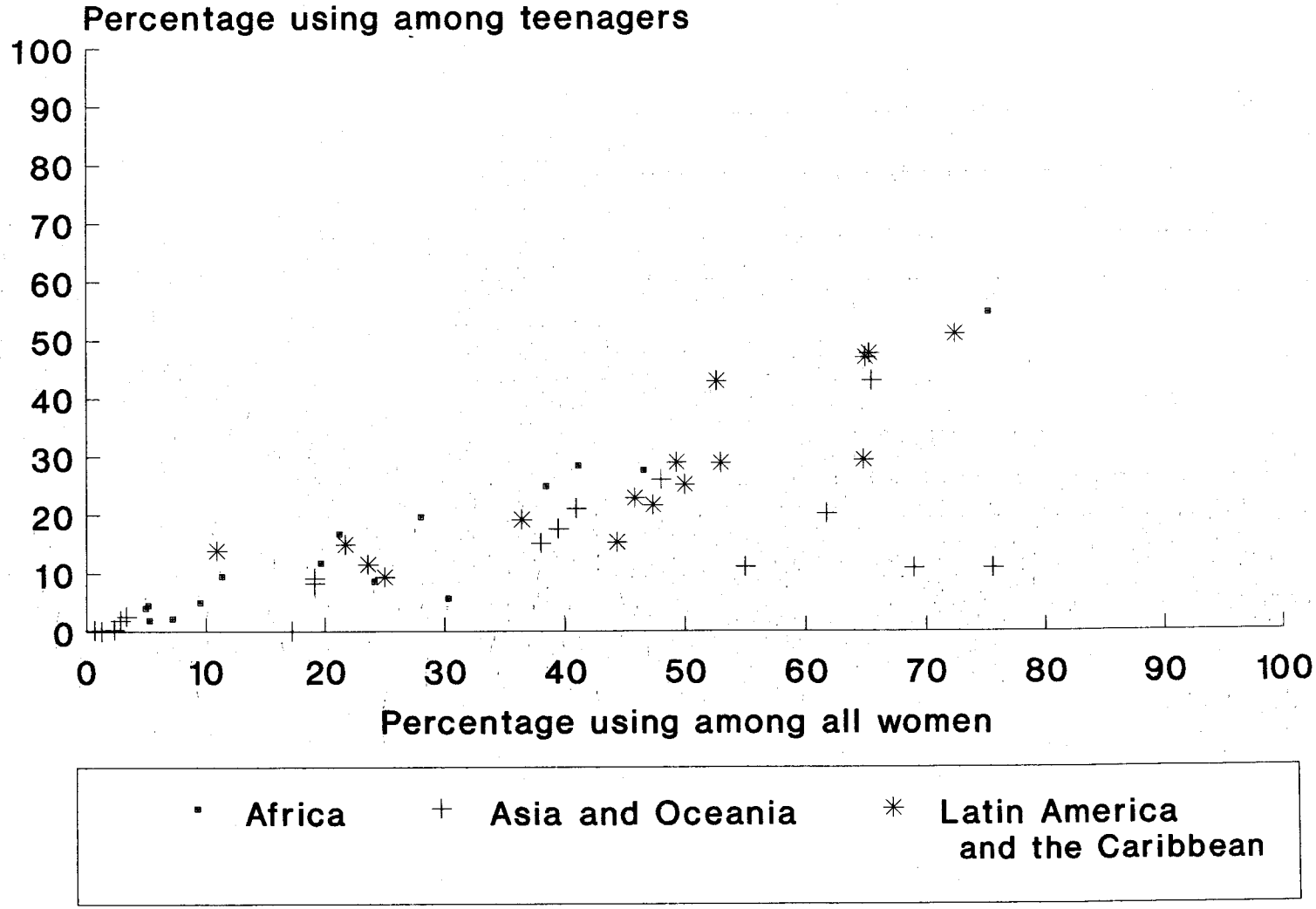
Region and country	Year	Currently married women: Percentage using contraception (15-19)	Currently married women: Percentage using contraception (all ages)	Currently married women: Proportion of teenagers currently married
Africa				
Benin	1982	11.7	19.6	43.4
Botswana	1984	19.7	28.0	46.9
Cameroon	1978	2.6	3.4	47.7
Côte D'Ivoire	1980-1981	1.9	2.9	54.0
Egypt	1984	5.6	30.3	95.5 b/
Ghana	1979-1980	4.9	9.5	26.8
Kenya	1984	2.2	7.2	25.6
Lesotho	1977	1.9	5.3	..
Mauritania	1981	0.2	0.7	..
Mauritius	1985	54.7	75.3	..
Morocco	1983-1984	16.7	21.2	..
Nigeria	1981-1982	4.5	5.2	40.6
Senegal	1986	9.4	11.3	56.5
Somalia (urban)	1983	4.0	..	27.0
Sudan	1978-1979	4.0	5.0	20.0
Tunisia	1983	28.4	41.1	97.0 a/
Zaire (urban)	1982-1984	19-34	..	..
Zimbabwe	1984	24.9	38.4	42.8
Latin America and the Caribbean				
Barbados	1980-1981	27.6	46.5	51.7
Bolivia	1983	11.5	23.6	87.8
Brazil	1986	47.7	65.3	15.0
Colombia	1986	29.4	64.8	12.3
Costa Rica	1981	47.0	65.0	15.0
Dominican Republic	1983	25.2	50.0	17.0
Ecuador	1987	15.3	44.3	17.5
El Salvador	1985	21.7	47.3	30.0
Guatemala	1987	9.3	25.0 b/	18.7
Guyana	1975	14.9	21.7	31.8
Haiti	1983	13.9	10.9	14.2
Honduras	1984	..	35.0	29.0
Jamaica	1983	51.0	72.5	..
Mexico	1987	28.9	53.0	..
Panama	1984	..	54.0	20.0
Paraguay	1987	19.2	36.4	14.6
Peru	1987	22.9	45.8	12.9
Trinidad and Tobago	1987	42.4	52.7	20.3
Venezuela	1977	29.0	49.3	15.8
Asia and Oceania				
Bangladesh	1983	9.1	19.1	66.8
China				
Hebei	1987	10.8	75.6	0.7
Shaanxi	1987	10.8	69.0	1.1
Shanghai	1987	0.0	17.2	0.0
Fiji	1974	21.1	40.9	..
India	1980	..	60.3	..
Indonesia	1987	26.0	48.0	19.0
Jordan	1983	8.5	24.1	..
Malaysia	1984	..	51.0	9.0
Nepal	1976	0.3	2.4	..
Philippines	1983	17.6	39.4	..
Republic of Korea	1979	11.0	55.0 b/	..
Sri Lanka	1987	20.2	61.7	7.3
Syrian Arab Republic	1978	8.3	19.1	..
Thailand	1987	43.0	65.5	16.4
Turkey	1978	15.1	38.0	..
Yemen	1979	0.0	1.3	..

Source: United Nations Population Division Contraceptive Use Data Bank. Data are from most recent surveys, including Demographic and Health Surveys and Contraceptive Prevalence Surveys.

a/ Currently married women among ever-married women.

b/ Currently married women aged 15-44.

Figure XXVI. Proportion of currently married teenagers aged 15-19 using contraception by proportion among all currently married women using contraception, by region



Source: See table 20.

Table 21. Contraceptive prevalence among unmarried women aged 15-19 years, selected countries, by region

Region and country	Year	Age group	Sample characteristics	Ever used / current use	Prevalence (percentage)	Method used				
						Pill	Intra-uterine device	Condom	Rhythm	Withdrawal
Africa										
Gambia	1985-1986	14-19	All, SA	Current use	30	35	15	21	..	..
Liberia	1984	14-17	S,SA,U	Current use	26	72	6	13	..	..
Liberia	1984	18-21	S,SA,U	Current use	43	75	13	2	..	..
Nigeria	1984	14-25	S/NS,SA,U	Current use	31	62	..	21	<-------11------->	
United Republic of Tanzania	1986	15-24	U,SA	Current use	40	53	5	3	25	3
Uganda	1970-1971	17-19	S,M/F,SA,U	Current use	46	..	..	..	..	..
Zimbabwe	1985-1986	14-19	SA	Current use	19	84	..	13	..	3
Latin America and the Caribbean										
Brazil	1986	15-19	SA	Current use	29	..	..	..	..	..
Costa Rica	1986	15-24	SA,U	Current use	55	..	..	..	..	..
Honduras	1987	15-19	SExp	Current use	16	54 a/	10	4	12	17
Jamaica	1987	15-24	SA	Current use	70	47 b/	2	38	1	5
Mexico (D.F.)	1985	15-24	SA,U	Current use	75	19	11	3	42	6
Panama	1984	15-19	SA	Current use	43	..	..	..	..	..
Paraguay	1987	15-24	SA,U	Current use	60	..	..	..	..	..
Peru	1985	11-19	M/F,SExp,U	Ever used	30	20 c/	6	42	16	6
Asia										
Thailand	1984	<19	S,SA,U	Current use	71	20 d/	..	21	16	10

Sources: See sources for table 8 in chapter II.

Note: S = Students; NS = Non-students; M/F = both males and females; SA = sexually active; U = urban; SExp = sexually experienced.

a/ Method used by all (married and unmarried) sexually active women.

b/ Contraceptive method used at most recent intercourse occuring within the past month.

c/ Among all single women who ever used contraception.

d/ Ever used.

(b) It is likely that surveys underestimate the number of sexually active adolescents and are more likely to include only those in long-term relationships among whom contraceptive prevalence is likely to be higher than among all sexually experienced women.

In Liberia, Uganda and the United Republic of Tanzania (where older teenagers were surveyed), about 40 per cent of sexually active 5/ teenagers said they were using contraception. All three samples, however, are urban, and in Uganda and Liberia, only students were interviewed. The lowest prevalence among the six African countries was found in Zimbabwe (also an urban sample), where about one fifth of sexually active adolescents said they were using contraception.

Comparisons between Latin American and Caribbean countries are somewhat easier because the Young Adult Reproductive Health surveys are comparable with each other. The highest levels of contraceptive use among single sexually active adolescents were found in Jamaica (70 per cent) and in Mexico City (75 per cent). The lowest level was found in Honduras, where only 16 per cent of sexually active adolescents were using contraception. In Thailand, the only Asian country for which such data were available, 71 per cent of sexually active students were using some form of contraception. The student population is expected to have much higher than average use because they are more knowledgeable about contraception and have greater incentives to avoid pregnancy.

When asked about ever-use of contraception, never-married women in several countries of Africa reported higher prevalence than that of ever-married women (table 22). In Benin and Nigeria, for example, 14 and 22 per cent, respectively, of single women who had experienced sexual intercourse at least once said they had used a modern method at some time in the past, whereas only 0.8 and 1.2 per cent, respectively, of ever-married women in these ages reported use. The fact that only sexually experienced single women were asked about contraceptive use probably accounts for the high prevalence observed in these countries. In Latin America and the Caribbean, contraceptive prevalence among ever-married women was somewhat higher than that among single women. Levels of contraceptive use among single women is low (ranging from 0 to 7.1 per cent). The highest level was found among unmarried women in Mexico. Again, in Mexico, prevalence is relatively high because only unmarried teenagers who had had a birth were interviewed.

Only small differences in ever-use of contraception were observed between older (18-19 years) and younger (under 18 years) teenagers. In only 9 out of 38 countries was the difference in prevalence between older and younger teenagers more than 10 per cent (figure XXVII).

C. Type of contraception used

In most countries of Latin America and the Caribbean, the pill is the predominant method used by currently married teenagers. In Brazil, for example, 87 per cent of those currently using a method were using the pill (table 23). In Barbados, Costa Rica, the Dominican Republic, El Salvador, Guyana, Jamaica, Paraguay and Venezuela, more than half of the current users of contraception were using the pill. The intra-uterine device (IUD) is less popular, but, even so, more than a third of contraceptive users in Ecuador and

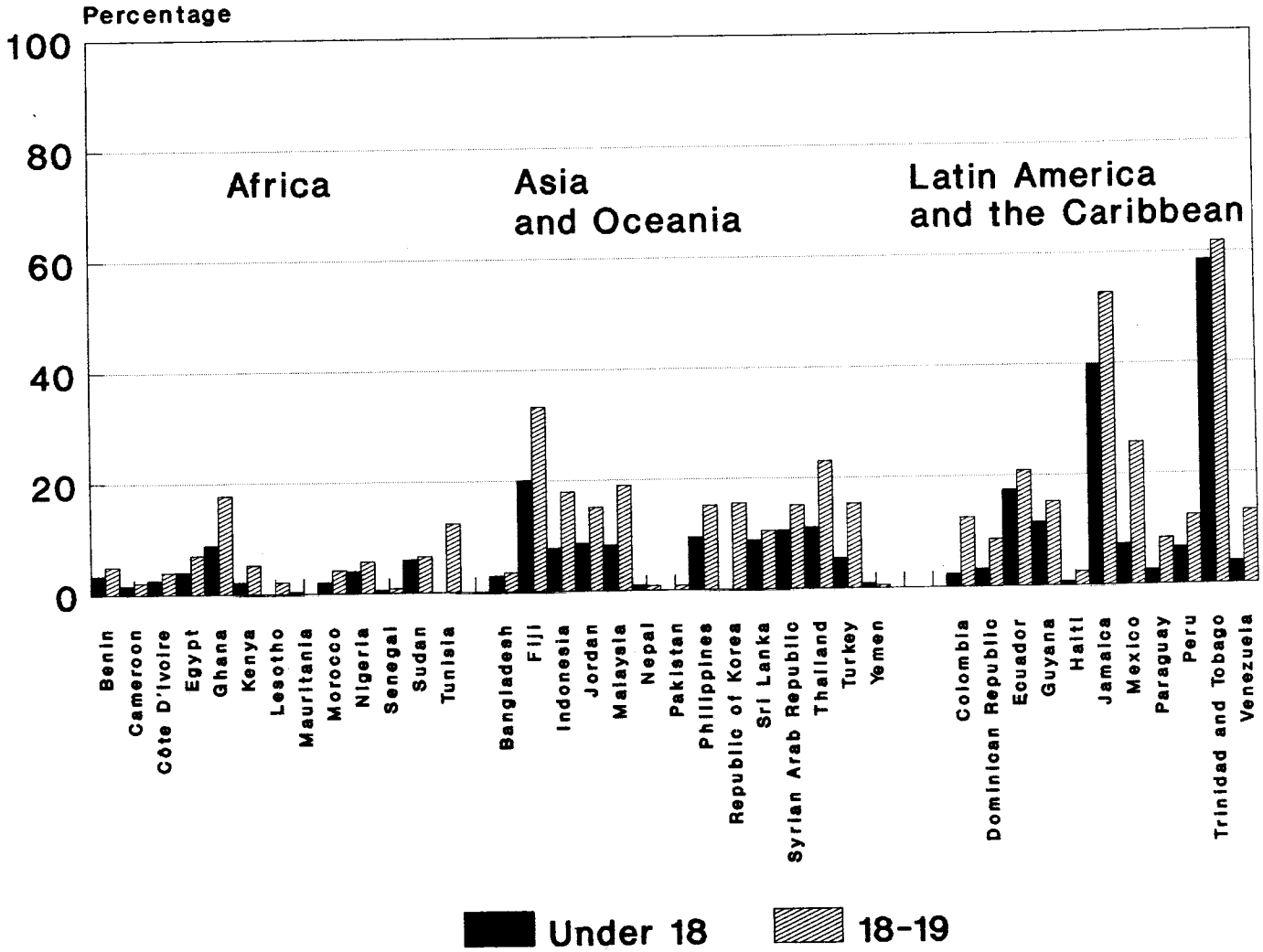
Table 22. Proportion of adolescents aged 15-19 years who had ever used a modern method of contraception, according to marital status, selected countries, by region

Region and country	Never married	Ever married
Africa		
Benin	14.1	0.8
Cameroon	1.2	2.2
Ghana	12.0	12.7
Côte D'Ivoire	4.1	2.3
Kenya	2.9	4.5
Nigeria	22.2	1.2
Senegal	0.3	0.9
Latin America and the Caribbean		
Colombia	1.1	34.4
Dominican Republic	0.0	18.5
Haiti	0.0	8.9
Mexico	7.1	18.7
Paraguay	0.8	23.7
Venezuela	0.8	32.6

Source: World Fertility Survey standard recode tapes.

Note: In Benin, Cameroon and Nigeria, never-married women were asked about use of contraceptive methods only if they were sexually experienced.

Figure XXVII. Proportion of adolescents aged under 18 and 18-19 years who had ever used a modern contraceptive method



Source: World Fertility Survey standard recode tapes.

Table 23. Contraceptive prevalence among currently married women aged 15-19 years, according to type of method used, selected countries, by region

Region and country	Year	Proportion using contraception	Type of method used a/					
			Pill	Intra-uterine device	Condom	Rhythm	Withdrawal	Douche
Africa								
Benin	1982	11.7	0.0	0.0	..	0.4	0.8	0.8
Cameroon	1978	2.6	15.4	7.7	15.4	46.2	3.8	3.9
Côte d'Ivoire	1980-1981	1.9	21.1	0.0	..	31.6	0.0	15.8
Egypt	1984	5.6	65.0	20.0	..	..	..	..
Ghana	1979-1980	4.9	16.3	0.0	16.3	0.0	0.0	6.1
Kenya	1984	2.2	18.2	9.1	18.2	36.4	0.0	0.0
Lesotho	1977	1.9	15.8	0.0	0.0	15.8	73.7	..
Mauritania	1981	0.2	0.0	..	..	100.0	0.0	..
Mauritius	1985	54.7	46.8	4.2	6.2	14.1	25.0	..
Nigeria	1981-1982	4.5	4.4	0.0	0.0	6.7	31.1	..
Senegal	1986	9.4	2.1	0.0	0.0	..	..	..
Latin America and the Caribbean								
Barbados	1980-1981	27.6	60.1	7.6	14.0	..	..	..
Brazil	1986	47.7	86.6	1.0	3.4	3.8	2.9	..
Colombia	1986	29.4	45.2	16.3	..	..	14.6	..
Costa Rica	1981	47.0	51.1	8.5	19.1	4.3	8.5	..
Dominican Republic	1983	25.2	72.2	4.0	4.4	5.6	11.1	..
Ecuador	1987	15.3	28.8	35.9	0.0	17.6	7.2	..
El Salvador	1985	21.7	60.4	20.3	8.8	5.5	0.0	..
Guatemala	1987	9.3	39.8	18.3	0.0	16.1	..	..
Guyana	1975	14.9	61.1	11.4	4.0	4.0	15.4	0.0
Haiti	1983	13.9	0.0	..	0.0	20.1	79.9	..
Jamaica	1983	51.0	53.5	2.0	52.2	7.1	15.5	..
Mexico	1987	28.9	29.1	38.8	0.0	0.0	0.0	0.0
Paraguay	1987	19.2	56.3	6.3	3.1	12.5	6.3	3.1
Peru	1987	22.9	20.1	10.0	..	43.2	10.0	..
Trinidad and Tobago	1987	42.4	42.5	3.3	18.6	3.3	25.5	..
Venezuela	1977	29.0	56.6	8.3	3.4	11.7	14.8	4.8
Asia and Oceania								
Fiji	1974	21.1	31.8	1.9	44.5	4.3	8.5	0.0
Jordan	1983	8.5	65.9	3.5	7.1	3.5	15.3	0.0
Nepal	1976	0.3	0.0	0.0	100.0	..	..	..
Philippines	1983	17.6	18.2	4.5	11.4	22.7	36.4	2.3
Republic of Korea	1979	11.4	40.3	..	19.3	..	..	..
Sri Lanka	1987	20.2	35.6	5.4	4.0	24.8	16.8	..
Syrian Arab Repulic	1978	8.3	62.7	0.0	2.4	19.3	6.0	0.0
Thailand	1987	43.0	57.4	16.3	2.8	4.4	1.6	..
Turkey	1978	15.1	25.2	1.5	0.9	0.6	6.5	0.6

Source: United Nations Population Division Contraceptive Use Databank. Data are from most recent surveys, including Demographic and Health Surveys and Contraceptive Prevalence surveys.

a/ As a percentage of users. Proportions do not add to 100 as more than one method may be used.

Mexico were using this method. The condom and the less effective methods, such as rhythm and withdrawal, are popular among currently married teen-age women in the Caribbean countries. In Haiti, 80 per cent of users rely upon withdrawal, while in Trinidad and Tobago, one fourth were doing so. Rhythm is a popular method of contraception in Haiti and Peru. It is possible that young women who rely upon the less effective methods are those involved in more informal relationships (visiting relationships for example), in which sexual encounters are less regular.

In Africa, where the level of contraceptive use among currently married teenagers is low, most currently married teenagers are using the less reliable methods. Most currently married teenagers in Lesotho practise withdrawal as a method of contraception, and more than one third in Cameroon, Kenya and Mauritania rely upon the rhythm method. In Asia and Oceania, there is greater reliance upon the pill. In Jordan, Sri Lanka, the Syrian Arab Republic and Thailand, more than one third of users prefer the pill. In Nepal, the Philippines and the Republic of Korea, the less effective methods are popular.

Data on contraceptive use among unmarried, sexually experienced teenagers show that the pill is the most popular method in most countries. In all but the Gambia, Jamaica, Mexico, Peru and Thailand, more than 50 per cent of contraceptive users relied upon this method. The condom is the next most popular method in most countries of Africa and in Jamaica, Peru and Thailand. Non-clinical methods, such as withdrawal and rhythm, are also frequently used by unmarried adolescents in these countries (table 21).

D. Contraceptive use at first intercourse

Contraceptive use at first intercourse ranged from a low of 3 per cent in Honduras to a high of 41 per cent in Jamaica. In the two countries of Africa for which data were available, prevalence was only 9 per cent in the Gambia and 12 per cent in Zimbabwe (table 24). In Jamaica and Mexico, more than one fifth of adolescents had used contraception at first intercourse but prevalence was somewhat lower in the remaining countries in Latin America and the Caribbean (Brazil, Costa Rica, Honduras, Panama and Paraguay). In all countries, the level of use at first intercourse was much lower than the level of current use. In four (Brazil, Costa Rica, Honduras and Panama) out of nine countries, the pill was the leading method used at first intercourse, while in another four countries (Costa Rica, the Gambia, Jamaica and Zimbabwe), the leading method was the condom. In Paraguay and Mexico, 44 and 28 per cent of adolescents, respectively, claimed to have used the rhythm method at first intercourse. Compared with the methods currently used (table 21), the methods used at first intercourse were the more traditional and less reliable methods. However, teenagers do move on to use the more effective ones subsequently. This later shift to the use of more effective methods has also been observed among teenagers in developed countries (United Nations, 1988a).

E. Discussion

A large majority of the teenagers in most countries claim to have knowledge of effective methods of contraception. Even among those not yet married, knowledge is quite extensive. Nevertheless, the true extent of this knowledge is probably not sufficient for effective use. This is particularly

Table 24. Contraceptive use at first intercourse, selected countries

Country	Year	Age group	Sample characteristics	Prevalence (percentage)	Type of method used a/			
					Pill	Condom	Rhythm	Withdrawal
Brazil	1986	15-24	Pre-mar	15	44	4	22	26
Costa Rica	1986	12-24	Pre-mar,U	15	39	39	7	12
Gambia	1985-1986	14-19	All	10	33	46	3	3
Honduras	1987	15-19	All	4	56	23	12	7
Jamaica	1987	15-24	Pre-mar	41	11	79	1	9
Mexico (D.F.)	1985	15-24	Pre-mar,U	22	9	21	44	9
Panama	1984	15-24	Pre-mar	11	56	17	10	7
Paraguay	1987	12-24	Pre-mar,U	14	17	11	28	12
Zimbabwe	1985-1986	14-19	All	7	45	45	2	2

Source: Morris (1987); and for Gambia, Honduras and Zimbabwe, special tabulations from Family Health International.

Note: All = Women of all marital statuses; Pre-mar = first intercourse was pre-marital; U = urban.

a/ As a percentage of users. Percentages across do not add up to 100% because of other available methods not shown.

true with respect to the rhythm method, where even though a large number of adolescents claimed knowledge of it, only a small proportion could actually identify the fertile period of the month. Of course, such detailed knowledge is not as crucial when using more effective contraceptive methods.

Contraceptive prevalence among currently married teenagers is lower than that among married women of all ages. This conclusion can be understood in the light of the fact that in developing countries, contraception is used mainly for limiting rather than for spacing births. Among unmarried sexually experienced women, use of contraception was high, from about 70 per cent in some countries to about 20 per cent in others.

Among teenagers who use contraception (both married and single), the pill is the most commonly reported method in most countries of Latin America and the Caribbean, and Asia and Oceania. In Africa, married teenagers rely more upon the condom and the less effective methods (rhythm and withdrawal). Contraceptive use at first intercourse is lower than current use among unmarried teenagers. Teenagers are frequently unprepared for their first sexual encounter and, therefore, are probably unprepared to use an effective means of pregnancy prevention. Nevertheless, among those who had used a method at first intercourse, the pill was the leading method used in four out of nine countries, while the less effective methods were the most popular in other countries.

Notes

1/ Contraceptive prevalence is the percentage of exposed women in a defined population who are using contraceptive methods. In this chapter, the base population is sometimes all adolescents, sometimes unmarried adolescents and sometimes sexually experienced, unmarried adolescents. While contraceptive prevalence measures the level of use, the complement of the ratio does not necessarily constitute non-use. Pregnant women, women experiencing post-partum amenorrhoea and women who desire a pregnancy all fall into this category of non-use.

2/ Surveys are considered to provide the best available estimates of contraceptive prevalence since they inquire about use of all methods, including those that do not require supplies or medical services. Statistics from service providers are inadequate for the purposes here because some family planning agencies withhold services from unmarried adolescents, and unmarried adolescents themselves may avoid getting their supplies from clinics.

3/ Modern methods are those which are also referred to as clinic and supply methods, which include hormonal pills, intra-uterine devices (IUDs), injectables, male and female sterilization, condoms; and scientific vaginal methods, such as diaphragm, cervical cap, spermicidal foams, jellies and creams. Among the traditional methods are withdrawal and rhythm.

4/ In this section, the more widely used "current use" measure (the use of contraception around the time of the interview), is employed as an indicator of prevalence of contraceptive use. In most surveys, "current use" refers to use at the time of the survey ("now") or within a specified period of time ("within the last month"). This measure might be ambiguous in the case of methods that can be used irregularly (condom, withdrawal or douche) and that are also more likely to be used by adolescents.

5/ In most cases, current sexual activity is determined by whether the respondent had sexual relations in the past month (sometimes the reference period is the past three months).

Chapter IV

HEALTH CONSEQUENCES OF EARLY CHILD-BEARING*

Many of the world's cultures encourage early marriage and early fertility, often as early as possible. The status of women is both a determinant and a consequence of this norm; early marriage and fertility usually terminate education, prevent gainful employment and in some cultures may retard the development of self-esteem. The child of a very young mother also often bears the brunt of the mother's youthful inexperience. Consequently, these children tend to be at higher risk of dying than those of older mothers.

In many countries, early fertility is usually within marriage; indeed, the underlying reason for early marriage is often to prevent pregnancy out of wedlock. But in other cultures (most notably the United States of America, where teen-age fertility is as high as in many developing countries), most early fertility occurs to unmarried women, but many consequences remain the same.

In addition to the social and economic consequences, early fertility often jeopardizes the life and health of both the mother and the child. Teen-age mothers are more likely to suffer complications of pregnancy and delivery than women in their twenties, and they are more likely to die as a consequence of their pregnancy. The infants born to them are more likely to be of low birth weight and are more likely to die as infants or in early childhood. Whether these sequelae are a biological consequence or can be attributed to the social characteristics of younger mothers is a subject for debate, and it is discussed later.

Maternal mortality is inherently difficult to study because even where it is high, it is still an event of limited occurrence requiring a large population base in order to evaluate it. Levels of maternal mortality tend to be highest where no vital registration exists, and even in countries with good vital registration, maternal mortality is almost universally underreported (Grubb and others, 1988; Rochat and others, 1988; Ziskin, Gregory and Kreitzer, 1979).

Additional difficulties caused by the unsuitable age groups adopted in the statistics confront the researcher who wishes to study teen-age maternal mortality. In World Health Statistics, WHO publishes cause-specific mortality rates, including "maternal deaths", for many countries, but the age groups provided (5-14 and 15-24) cannot be used to evaluate teen-age mortality. An important study of mortality in Latin America (Puffer and Griffith, 1967) unfortunately uses the same age groups. Furthermore, in most countries for which data are provided to WHO, the actual numbers of deaths are very small. In Latin America and the Caribbean, for example, El Salvador reported only 133 maternal deaths, of which 37 were to women aged 15-24. Few developing countries outside Latin America and the Caribbean report cause-of-death statistics to WHO, and even in that region underreporting appears to be a significant problem.

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* Has been published as WHO document.

Because of these deficiencies in registration data, it is necessary to rely upon special studies of maternal mortality, the great majority of which fail to provide the woman's age in sufficient detail. While many studies provide the proportion of all maternal deaths that occur to teenagers, few give age-specific maternal mortality ratios (deaths to mothers of a specified age per 100,000 births to mothers of that age). In fact, of the more than 100 studies reviewed, only 15 provide this information. This situation exists, at least in part, because the small numbers in most studies do not provide reliable statistics. Nevertheless, there have been several good studies based on large samples which shed considerable light on the issue.

Research on the relationship between early fertility among teenagers and its health consequences for their infants and children suffers from problems similar to those encountered in the study of maternal mortality and morbidity among adolescent women. Although infant mortality is a more frequent event than maternal mortality, an infant death is still of limited occurrence in most countries, and therefore fairly large samples are required in order to arrive at reliable estimates.

Statistical comparability of different studies is hampered by aggregation of years of age. Aggregation can also obliterate major risk differentials. Because women under 20 are often grouped together, it is usually very difficult to show that the experience of women aged 18 or 19 may be significantly different from that of much younger women.

Much of the published literature on pregnancy outcomes, such as perinatal mortality and birth weight, to adolescent women is obtained from developed countries, particularly the United Kingdom of Great Britain and Northern Ireland, and the United States; and generalization to developing countries may be problematical. Less industrialized societies often value early fertility differently. Unlike the United States, where early fertility is concentrated in socially and economically disadvantaged subpopulations, early marriage and fertility may occur in the more privileged sectors of society in some developing countries. Poor pregnancy outcomes, such as stillbirths, may be the result of poor obstetrical management and lack of adequate health facilities rather than a woman's age per se (Geronimus, 1987).

Another issue to be considered when comparing early fertility in developed countries with that in developing countries is the biological differences. The age of menarche has declined in developed countries apparently because of improved nutritional status. If the age of menarche is later in many developing countries, then it would be necessary when comparing the fertility of adolescents in the two groups of countries to take this biological difference into consideration (Gyepi-Garbrah, 1985).

Geronimus (1987) points out that the proximate determinants of infant mortality in a developed country setting may be quite different from those operating in developing countries. The later age of menarche will be an indicator of the difference in nutritional status of women. It is widely recognized that childhood and adult malnutrition is prevalent in many developing countries and is associated, inter alia, with low pregnancy weight, inadequate weight gain during pregnancy and cephalo-pelvic disproportion. The

prevalence of sexually transmitted diseases also varies across cultures. Furthermore, environmental factors in developing countries may have a stronger effect on child survival than in developed countries. Access to adequate medical care is often less accessible and harder to afford.

It is difficult to establish definitively the relationship between young maternal age and excessive infant mortality. Historically, the high infant mortality rates among teen-age mothers have been attributed to young maternal age per se. Nortman's report on the relationships among parental age, birth order and pregnancy outcomes has played an important role in support of "biological processes as the chief determinants of the age pattern of reproductive risk" (Nortman, 1974, p. 5). Demographers studying the results of the World Fertility Survey have concluded that there are four primary risk factors to consider when studying infant mortality: teen-age births; first births; high-order births (parity equal to seven or more); and closely spaced births (intervals less than two years) (Bongaarts, 1987). With the advent of sophisticated analysis techniques which allow the data analyst to control for other variables, the argument for biology, once nearly universally accepted, has become a subject for debate: what is the relative importance of environmental factors versus biology? The relationship is made more complex by the fact that the bio-demographic variables, such as birth weight, birth order, maternal hypertension and labour force participation, interact with one another. Moreover, these bio-demographic variables are associated with many of the environmental factors, such as poverty, low levels of education and poor access to health care. Some studies in developed countries have recently suggested that the effect of maternal age is minimal, except among very young teenagers (Makinson, 1985; Geronimus, 1987). In developing countries, there is ample evidence that infant mortality is higher when the mother is a teenager, but research is needed to clarify the role of environmental factors.

In this chapter, the available information on teen-age maternal mortality and morbidity is reviewed first, followed by a review of knowledge about mortality of children to adolescent mothers. Because of the paucity of data on morbidity of children in general, and of children of adolescent mothers in particular, morbidity among children of adolescent mothers is not addressed in this report. This issue can be studied in the near future, however, when the answers to questions on child morbidity that have recently been included in several national demographic surveys are made available.

A. Health consequences to teen-age mothers

1. Mortality and cause of death

(a) Mortality

In some developing countries, pregnancy and its complications can be a leading cause of death among teenagers: in Bangladesh, about 40 per cent of deaths among teen-age mothers can be attributed to maternal causes (Khan and others, 1986; Koenig and others, 1988), and similar incidence is observed elsewhere (table 25). On the other hand, in Brazil, where teen-age fertility is relatively low, complications of pregnancy and delivery account for only 6 per cent of deaths to teen-age girls (Siqueira and Tanaka, 1986). In developed countries, such deaths account for less than 1 per cent.

Table 25. Percentage of deaths of teenagers due to pregnancy, delivery or puerperal complications, selected countries

Country	Period	Percentage
Bangladesh, Matlab Thana	1976-1985	42
Bangladesh, Jamalpur District	1982-1983	37
Indonesia, Bali Province	1980-1982	43
Egypt, Menoufia Governorate	1981-1983	26

Sources: Matlab Thana: Koenig and others (1988);
Jamalpur District: Khan, Jahan and Begum (1986);
Bali Province and Menoufia Governate: Fortney and others (1988).

Data from studies in several countries consistently show a higher risk of maternal death among teen-age girls compared with women aged 20-24 years. The difference in risk is sometimes as great or larger for teenagers as it is for older women (see figure XXVIII). When the available statistics permit comparison of young teenagers (10-14 years) with older (15-19), one finds the risk is far greater among the very young. Table 26 gives such data for Cuba and Puerto Rico. A study of 22,000 births in Northern Nigeria found the maternal mortality ratio to be higher among those under 16 than among any other age group (Harrison and others, 1985a). Because of small numbers, statistics are rarely available by single years of age. If they were, it would have been possible to examine the trend of the risk of maternal mortality as the woman gets older. For example, during the period 1968-1970, in Matlab Thana, Bangladesh, adolescents aged 10-14 years had a maternal mortality ratio 4.7 times as high as that of women aged 20-24 years, while among the older teenagers (15-19) it was only twice as high (table 26) (Chen and others, 1974).

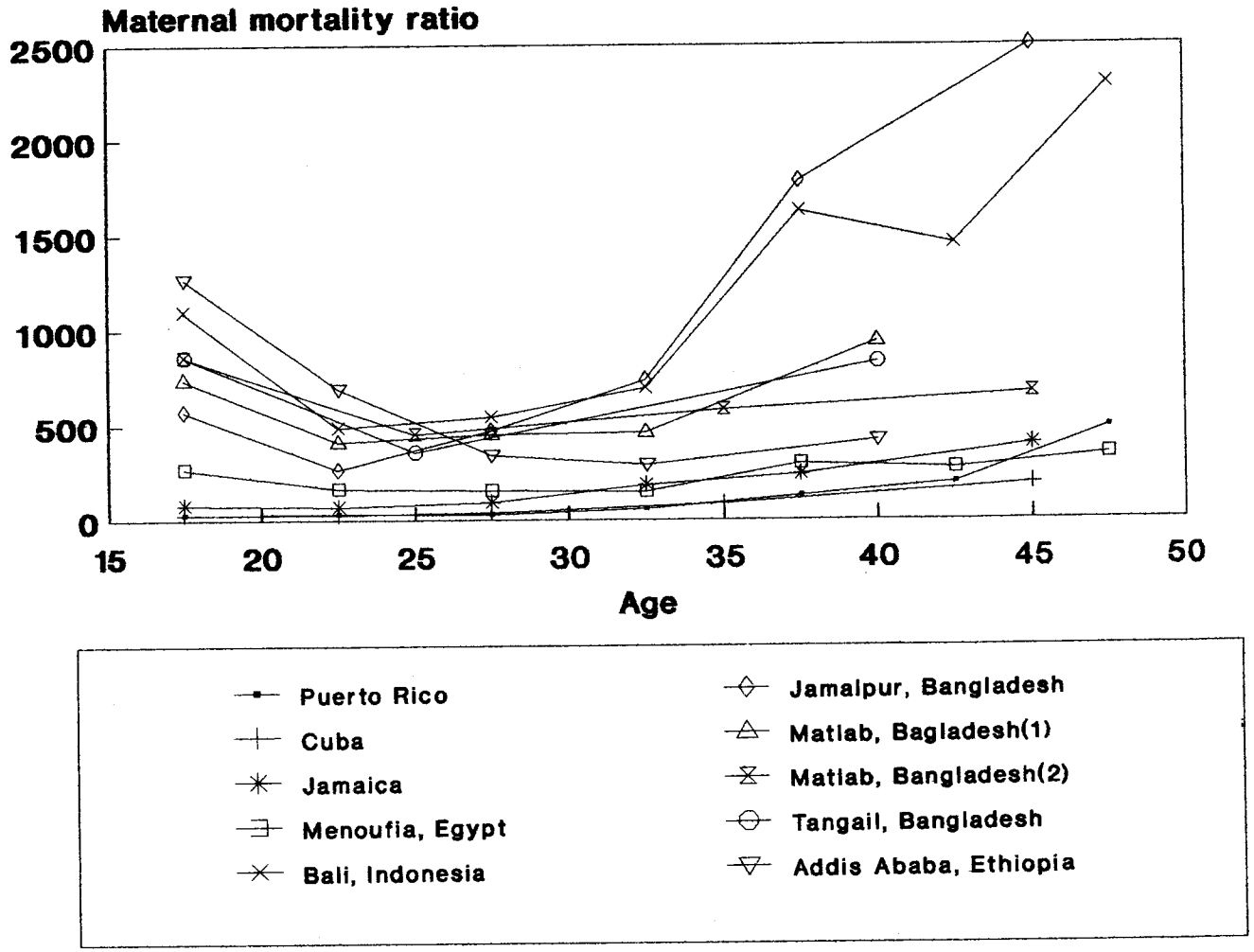
Table 26 shows the maternal mortality ratios (maternal deaths per 100,000 live births) for teenagers and young women in selected countries. The table also shows the relative risk of maternal death among teenagers compared with young women aged 20-24. This relative risk is calculated by dividing the maternal mortality ratio for teenagers (under 20 or 15-19) by the maternal mortality ratio for women aged 20-24.

In the United States, the relative risks have a very small range, varying only between 1.0 (no difference) and 1.3 (a 30 per cent increased risk for women under 20). In the developing countries, however, the relative risk is greater and varies from 1.8 to 4.7.

(b) Cause of death

The causes of maternal deaths among teenagers and among older women are different. This is true whether one compares proportional mortality or the cause-specific maternal mortality ratios. In Matlab, during the 10 years from 1976 to 1985, the leading cause of maternal death among adolescents aged 15-19 years was toxaemia/eclampsia, which accounted for 18 per cent of all teen-age maternal deaths; it was closely followed by injuries and violence (17 per cent) and then by abortion (16 per cent) (table 27). The corresponding proportions among mothers dying at age 20-34, on the other hand, were 13 per cent, 7 per cent and 15 per cent, consecutively. Official statistics from Brazil show that toxaemia/eclampsia was also the leading cause of maternal death in that country, accounting for half (9/18) of the deaths of those aged 10-14 years and 47 per cent of deaths of women aged 15-19 (table 28; data are not shown for the 10-14 groups in this table). Next in importance were deaths from puerperal infection and haemorrhage, but deaths from violence were not included, and the reported number of deaths related to abortion was small (Siqueira and Tanaka, 1986). Since table 28 does not include information for women over age 20, it is not possible to tell to what extent teenagers are at higher risk. Although the cause-specific ratios for Brazilian teenagers can be compared with those of Bangladeshi teenagers in table 29, it should be

Figure XXVIII. Age-specific maternal mortality ratios per 100,000 live births, selected countries



Sources: Alauddin (1986); Chen and others (1974); Farnot (1985); Fortney and others (1988); Khan, Jahan and Begum (1986); Koenig and others (1988); Speckhard and others (1986); Swedish Save the Children Federation (1984); Walker and others (1986).

Table 26. Maternal mortality per 100,000 live births for teenagers and their risk in relation to women aged 20-24, selected countries

Region and country	Age group	Period	Number of deaths a/	Maternal mortality ratio	Relative risk
		A. Population-based			
Africa					
Egypt					
Menoufia	15-19	1981-1983	17	268	1.6
Ethiopia					
Addis Ababa	15-19	1981-1983	8	1270	1.8
Americas					
Caribbean					
Jamaica	<20	1981-1983	..	790	1.1
Cuba	<15	1980-1983	3	55	1.4
	15-19		56	29	0.7
Puerto Rico	<15	1978-1979	1	151	4.7
	15-19		7	26	0.8
Northern America					
United States of America	<20	1978	47	9	1.3
Blacks b/	<20	1939-1941	..	629	1.2
	<20	1949-1951	..	150	1.2
	<20	1959-1961	..	53	1.0
Whites b/	<20	1939-1941	..	268	1.3
	<20	1949-1951	..	47	1.3
	<20	1959-1961	..	15	1.0
Asia					
Bangladesh					
Matlab Thana	10-14	1968-1970	9	1768	4.7
	15-19		29	742	2.0
Matlab Thana	15-19	1976-1985	94	743	1.8
Jamalpur District	<20	1982-1983	10	573	2.1
Tangail District	15-19	1982-1983	80	860	3.5
Indonesia					
Bali	15-19	1980-1982	19	1100	2.3

Table 26 (continued)

Region and country	Age group	Period	Number of deaths a/	Maternal mortality ratio	Relative risk
		B. Hospital-based			
Africa					
South Africa					
Cape Town:					
Blacks	<20	1978-1983	2	41	0.8
Coloreds	<20	1978-1983	14	30	1.4
Uganda					
Mbale	<20	1971-1980	51	75	0.9
Asia					
Thailand					
Bangkok	15-19	<1980	29	75.0	1.2
India					
Calcutta	<20	1974-1980	7	344.6	0.4

Source: Egypt: Van Coerverden de Groot (1986); Ethiopia: Fortney and others (1988); Jamaica: Farnot (1985); Cuba: Speckhard and others (1986); Puerto Rico: Chen and others (1974); United States of America: Shapiro, Schlesinger and Nesbitt (1968); and for blacks, Walker and others (1986); Bangladesh, Matlab Thana, 1968-1970: Koenig and others (1988): 1976-1985, Khan and others (1986); Jamalpur District: Alauddin (1986); Tangail District: Fortney and othes (1988); Indonesia: Kwast, Rochat and Kidane-Miriam (1986); Cape Town, blacks: Zake (1982); Uganda: Pulpinyo (1980); Thailand: Mitra and Khara, n.d.

a/ Number of deaths to teenagers.
b/ Comparison group is women aged 20-34.

Table 27. Percentage distribution of maternal deaths by age and by cause of death, Matlab Thana, Bangladesh, 1976-1985

Cause of death	Maternal age (years)		
	15-19	20-34	35-44
Post-partum haemorrhage	14.9	20.1	23.8
Abortion	15.9	14.8	28.6
Toxaemia/eclampsia	18.1	13.4	1.2
Post-partum sepsis	5.3	7.7	6.0
Obstructed labour	6.4	6.2	7.1
Other obstetrical	11.7	16.8	9.4
Injuries and violence	17.0	7.2	4.8
Medical causes	6.4	7.6	15.5
Unspecified (unknown)	4.3	6.2	3.6
Total	100.0	100.0	100.0

Source: Adapted from Fauveau and others (1988).

Table 28. Cause-specific maternal mortality ratios per 100,000 births, adolescents aged 15-19 years, Brazil, 1980

Cause of death	Number of deaths	Percentage of total	Maternal mortality ratio
Haemorrhage	26	9.0	5.8
Abortion	17	5.9	3.8
Complications of abortion, ectopic and molar pregnancies	5	1.7	1.1
Toxaemia/eclampsia	136	47.3	30.3
Puerperal sepsis	46	16.1	10.3
Other obstetrical	36	12.5	8.0
Other causes	22	7.6	4.9
Total	288	100.0	64.3

Source: Adapted from Siqueira and Tanaka (1986).

Note: Information was not provided for prolonged labour nor deaths due to violence.

Table 29. Cause-specific maternal mortality ratios per 100,000 births, by age group, Matlab Thana, Bangladesh, 1976-1985

Cause of death	Maternal age (years)			Ratio
	15-19	20-34	35-44	15-19: 20-34
Post-partum haemorrhage	110	90	230	1.2
Abortion	120	60	270	2.0
Toxaemia/eclampsia	130	60	10	2.2
Post-partum sepsis	40	30	60	1.3
Obstructed labour	50	30	70	1.7
Other obstetrical	80	70	90	1.1
Injuries and violence	120	30	50	4.0
Medical causes	50	30	150	0.6
Unspecified (unknown)	30	30	30	1.0

Source: Adapted from Fauveau and others (1988).

remembered that the Brazilian figures are registration statistics, which are likely to be considerably underreported, and the Bangladeshi figures are from a population-based community survey in which substantial underreporting is unlikely.

Cause-specific maternal mortality ratios for Matlab Thana, Bangladesh, show that deaths from toxaemia/eclampsia and abortion are twice as high among teenagers as among women aged 20-34, and deaths from injuries and violence are four times as high (Fauveau and others, 1988). A similar pattern was found among the white population of the United States (Nortman, 1974); the maternal deaths from sepsis per 100,000 live births were twice as high among women under age 20 as among women aged 20-24, and were almost twice as high for toxaemia and haemorrhage.

The contribution made by illegal, induced abortion to adolescent maternal mortality is documented in a few studies. It is difficult to assess its prevalence, however, because resort to this method in a particular society is affected by the extent to which pregnancies are wanted and by the availability of safe (though illegal) abortion. Illegal induced abortions are also often seriously underreported. A recent study in Benin City, Nigeria, found that complications of induced abortion accounted for 72 per cent of the deaths among young women aged under 19 years (Unuigbe, Oronsaye and Orhue, 1988). A similar pattern was reported by Kwast, Rochat and Kidane-Mariam (1986), for Addis Ababa, Ethiopia.

2. Morbidity

In general, there are even fewer data on morbidity than on mortality. Only one recent study on ectopic pregnancy (Lawson and others, 1988) provided age-specific morbidity rates with an appropriate denominator (the number of births). Other studies that provided data by age usually gave only the percentage of cases of a particular morbidity in each age category. For example, 67 per cent of women hospitalized for incomplete abortion were under 20 (Adetoro, 1986). Although one can make some assumptions about morbidity from cause-of-death information, this should be done with caution as it cannot be safely assumed that death-to-case ratios are the same for all age groups. Lawson and colleagues (1988) report that death-to-case ratios for ectopic pregnancy in the United States are higher for teenagers than for women aged 20-24 (1.2 times higher among white women and 1.9 times higher among black women); age-specific rates of ectopic pregnancy, however, are lower for the younger women. As concerns abortions, on the other hand, it is reported (Khan, Jahan and Begum, 1986) that in Jamalpur District, Bangladesh, the death-to-case ratio is lower among younger women (below 25) compared with older ones (1.3 and 1.7 respectively).

(a) Vesicovaginal fistula

In a study on vesicovaginal fistula among 80 Nigerian children under 13 years of age, 60 per cent of the cases were reported to be due to prolonged labour (Tahzib, 1985). Of the remainder, 15 per cent were due to the Gishiri cut, 15 per cent to accidents or congenital anomalies and 10 per cent to infection. Vesicovaginal fistula is not rare in Northern Nigeria, and 65 per cent of the cases occur during the first labour (Murphy, 1981). In a study of

1,443 women requesting repair of a fistula at Ahmadu Bello University Hospital in Northern Nigeria, 33 per cent were under 16 years of age, and 52 per cent were primiparous. In 84 per cent of these cases, the cause was obstructed labour. Younger patients tended to have more severe injuries, including rectovaginal fistulae, third-degree tears and vaginal fibrosis.

(b) Toxaemia and anaemia

Citing data from the United States Obstetrical Statistical Comparative Study, covering half a million hospitalized pregnancies and deliveries from 1960 to 1969, Nortman (1974) shows higher rates of toxaemia and anaemia among the 15-19 age group than among those aged 20-24 years. This finding was true for both first and second deliveries. Other complications of pregnancy and delivery did not show a high risk for teenagers. No similar information is available for developing countries.

(c) Cephalopelvic disproportion and prolonged labour

Very early child-bearing that occurs before complete physical maturity is attained may result in cephalopelvic disproportion leading to obstructed labour and its sequelae, including vesicovaginal fistula. Harrison and colleagues (1985b) report that nutritional supplements for pregnant primigravidae aged 13-16 in Northern Nigeria resulted in growth during pregnancy and therefore in reduced rates of obstructed labour. A study of teenagers in the United States also reports growth during pregnancy even among multigravidae: Scholl and colleagues (1988) report a mean of 1.68 mm growth in knee height for primigravidae aged 12-15, 0.997 mm for multigravidae aged 15-18, but only 0.096 mm for mature control cases (women aged 18-29). Harrison and colleagues (1985b) also note that the bony birth canal does not reach its mature size until from two to three years after growth in height has ceased.

In a study conducted in Kasongo, Zaire, teenagers were overrepresented among booked patients who experienced "life-threatening" fetopelvic disproportion and "abnormally" prolonged labour (Van Lerberge and others, 1984). Teenagers accounted for 34 per cent of all births, but were 42 per cent of all women with life-threatening fetopelvic disproportion and 48 per cent of women with abnormally prolonged labour.

3. Abortion

A significant proportion of maternal morbidity is associated with abortion. In some hospitals, more than one fourth of the beds in the obstetrical-gynaecological wards are occupied by abortion patients, who typically are sicker than delivery patients and require a relatively greater proportion of the available resources. In the nine countries included in the International Fertility Research Programme on Abortion in Latin America, conducted by Family Health International in 1980, between 10 and 20 per cent of all women hospitalized for abortion were teenagers. Of the teenagers, the majority (62 per cent) were aged 18-19, 31 per cent were aged 16-17 and 7 per cent were 15 or younger. Fewer than one third were currently married, but an additional third were in a consensual union. Complications included retained products of conception, sepsis and haemorrhage.

Many questions about teen-age abortions remain. In the United States, about 44 per cent of pregnancies to teenagers aged 15-19 end in abortion -- the vast majority under safe conditions with minimal morbidity (Henshaw, 1987). In developing countries far less is known. A study of women hospitalized for delivery of a second pregnancy in Accra, Ghana, found that about one fourth of the women under 20 had had their first pregnancy terminated by an illegal induced abortion (Janowitz and others, 1984). There is, unfortunately, no way of knowing what proportion of illegally induced abortions are treated in hospital. Nor can it be reasonably assumed that all complications are treated by medical personnel. But there can be little doubt that illegal induced abortion is a major cause of maternal morbidity to teenagers as well as to older women in many developing (and some developed) countries.

B. Mortality among children of adolescent mothers

1. Infant mortality and mortality of children

What are the health consequences for infants and children born to adolescent mothers? A simple examination of the bivariate descriptive statistics indicates higher levels of mortality among these infants and children. The classic relationship between maternal age and child mortality is such that children of the youngest and the oldest mothers are at highest risk. This pattern is readily observed for infant mortality and its components: neonatal (first 28 days), and post-neonatal mortality (from exact age one month to one year) but less visible for child mortality (between ages one and five). Table 30 shows the relationships between infant and/or child mortality and mother's age at birth for eight developing countries.

Perhaps a clearer way of presenting the impact of maternal age on mortality is by showing the mortality rates for infants or children born to mothers aged 15-19 years as a ratio of those of an older age group, such as those aged 20-29 years. Table 31 shows such relative risks. Age group 20-29 is the reference because the infants of these women are known to have the best chance of survival. Although in every country the risk of infant mortality is higher among teen-age mothers than among mothers aged 20-29 years, this relationship is not always true for toddler mortality (between ages one and two) or mortality of children between ages two and five. The relative risks among infants tend to be lowest in countries in Latin America and the Caribbean, ranging from 110 per cent in the Dominican Republic to 138 per cent in Trinidad and Tobago. With regard to child mortality, however, the pattern varies. In Jamaica and Panama, children of teen-age mothers have twice the risk of dying as children of mothers aged 20-29, whereas in Costa Rica, Guyana, and Trinidad and Tobago, they are from 30 to 60 per cent less likely to die.

A higher risk of infant mortality of 50 per cent or more among children of teen-age mothers is also evident in several Asian countries: Bangladesh; Malaysia; Pakistan; Republic of Korea; and Thailand. On the other hand,

Table 30. Infant and child mortality rates for selected countries, by age of mother, selected countries

Country and mother's age at birth	Period	Mortality rates		
		Infant	Child 1-5 years	Child 0-5 years
Brazil	1976-1986			
<20		103	12	114
20-24		77	14	90.0
25-29		88	12	99.0
≥30		88	16	102.0
Burundi	1977-1987			
<20		137.9	128.9	249
20-29		86.8	108	185.4
30-34		81.4	99.1	172.4
≥35		69.1	103.4	165.3
Colombia	1976-1986			
<20		46.5	15.2	61
20-29		36.7	11.7	47.9
30-34		45.3	11.6	56.4
≥35		33.6	17	50.1
Ecuador	1977-1987			
<20		61.9	19.2	79.9
20-29		63.3	30.7	92
30-34		63.4	15	77.4
≥35		81.9	-29.8	-109.3
Honduras	1975-1985			
<20		83.2	33.5	114
20-24		50.2	21.8	70.9
25-34		45.5	24.3	68.7
≥35		46.5	18.6	64.2
Liberia	1976-1986			
<20		177	110	267
20-24		155	97	237
25-29		136	78	203
≥30		142	78	209
Sri Lanka	1977-1987			
<20		34.4	14.2	48.1
20-29		33.3	8.7	41.7
30-34		24.7	12.2	36.7
≥35		39.9	9.7	49.3
Thailand	1977-1987			
<20		40	14	53
20-29		33	9	42
30-34		37	10	47
≥35		69	22	89

Source: All surveys are Demographic and Health Surveys conducted with technical assistance from the Institute for Resource Development at Westinghouse, except for the Epidemiology and Health Survey from Honduras.

Table 31. Relative risks of infant (under one year), toddler (between ages one and two) and child (between ages two and five) mortality, according to age of mother, by region and country

Region and country	Period	Relative risks a/		
		For infant	For toddler	For child
Africa				
Benin	1981-1982	1.19	1.19	1.14
Cameroon	1978	1.2	1.36	0.87
Egypt	1980	1.33	1.24	0.98
Ghana	1979	1.33	1.04	1.38
Côte d'Ivoire	1980-1981	1.38	1.08	1.15
Kenya	1977-1978	1.34	1.05	1.21
Lesotho	1977	1.01	1.12	1.28
Mauritania	1981-1982	1.31	0.81	0.98
Morocco	1980	1.4	0.97	1.39
Nigeria	1981-1982	1.5	1.09	0.98
Senegal	1978	1.29	1.23	1.01
Sudan (N)	1978-1979	1.64	1.46	1.16
Tunisia	1978	1.34	0.67	0.77
Yemen	1979	1.28	1.23	1.01
Latin America and the Caribbean				
Colombia	1976	1.33	1.36	1.13
Costa Rica	1976	1.27	1.37	0.41
Dominican Republic	1975	1.1	0.87	1.39
Ecuador	1979-1980	1.36	1.08	0.91
Guyana	1975	1.18	1.76	0.65
Haiti	1977	(1.3)	(1.06)	(1.48)
Jamaica	1975-1976	1.11	1.5	2.25
Mexico	1976-1977	1.29	1.19	1.21
Panama	1975-1976	1.19	0.82	2
Paraguay	1979	1.23	0.76	1.31
Peru	1977-1978	1.14	0.98	1.09
Trinidad and Tobago	1977	1.38	0.76	0.7
Venezuela	1977	1.31	0.96	1.01
Asia and Oceania				
Bangladesh	1975-1976	1.54	0.96	0.89
Fiji	1974	1.17	1.12	0.22
Indonesia	1976	1.42	1.18	1.14
Jordan	1976	1.31	1.29	1.51
Malaysia	1974-1975	1.56	0.82	1.3
Nepal	1976	1.37	1.13	1.03
Pakistan	1975	1.5	1.01	1.11
Philippines	1978	1.05	1.27	0.9
Republic of Korea	1974	(1.87)	(1.11)	(1.29)
Sri Lanka	1975	1.25	1.35	1.06
Syrian Arab Republic	1978	1.36	1.04	0.78
Thailand	1975	1.53	0.43	0.77
Turkey	1978	1.42	1.48	0.64

Source: Rutstein (1984), p. 30.

a/ Ratio of level of mortality for infants, toddlers, and children of mothers under 20 at birth to those whose mothers were 20-29; figures in parentheses based on <500 births.

contrary to the experience of some other parts of the world, young maternal age does not appear to be as significant a risk factor for child mortality in these countries as it is for infant mortality. Only in Jordan is the relative risk higher among children than among infants.

In Africa, the increased risk of infant mortality ranges from virtually zero in Lesotho to 64 per cent among infants of teen-age mothers in the Sudan. Child mortality again appears to be less affected by young maternal age than infant mortality. The ratios range from 77 and 87 per cent in Tunisia and Cameroon, respectively, to 139 per cent in Morocco. Young maternal age had no impact on child mortality in five countries.

Many of these surveys were conducted from 10 to 15 years ago. Although the absolute rates are likely to have declined, the relative risks have probably not changed significantly.

As mentioned above, when comparing results of bio-demographic factors associated with infant and child mortality, it is important to control simultaneously for several key family variables (maternal age at birth, birth order and birth interval). Most of the analyses that include these important controls come from the World Fertility Survey.

A summary of the results from 34 developing countries concerning the effects of maternal age on child mortality are shown in table 32. Besides controlling for the variables mentioned above, Hobcraft also controlled for the spacing and survival of the previous birth as well as the subsequent birth, sex of the child and mother's level of education (Hobcraft, 1987). Table 32, which is based on averages of the relative risks and mortality estimates for the 34 countries, shows that neonatal mortality in the case of teen-age mothers (15-19) has an excess of 24 per cent (RR = 1.24) compared with that among births to mothers aged 25-34 when the other variables are controlled for. Infants who survive the neonatal period are 37 per cent more likely to die before completing one year than infants in the reference group. Toddlers aged from one to two years and children aged from two to five are also at increased risks if born to adolescent mothers. Children born to older mothers (35+) show no independent increased risk.

Early mortality (foetal mortality, i.e., deaths before the twenty-eighth week of gestation; stillbirths, i.e., deaths at 28 weeks or more up to time of delivery; perinatal mortality, i.e., deaths between the twenty-eighth week of gestation and seven days after birth; and neonatal mortality) is more likely to be attributed to biological or genetic factors. With maturation, environmental or exogenous factors play a greater role in survival. Foetal loss or stillbirths have been found to be more frequent among teenagers than older women (Hasbun and Fernandez, 1984) but in general findings are inconclusive, especially when other factors, such as birth order, are controlled for. However, two groups of adolescents and their children are consistently found to be at increased risk: very young adolescents; and multiparous adolescents (McAnarney, 1987; Nortman, 1974). Table 33 shows the magnitude of the difference between mortality rates of all children under five to mothers younger than 18, mothers 18 or 19, and mothers 20-24. There is a clear inverse association between age of mother and probability of a child's death.

Table 32. Average relative risks for 34 developing countries of neonatal, post-neonatal, toddler and child mortality, by age of mother

	Baseline mortality rate	Age of mother		
		15-19	20-24	>=35
Relative risks				
Neonatal	29	1.24	0.99	1.07
Post-neonatal	25	1.37	1.12	0.98
Toddler	15	1.57	1.15	0.98
Child	16	1.33	1.01	1.01
Infant mortality				
Rate	53	69	56	54
Relative risk		1.30	1.06	1.02
Mortality at ages 1-5				
Rate	31	44	33	31
Relative risk		1.42	1.06	1.00
Mortality under age 5				
Rate	82	110	87	83
Relative risk		1.34	1.06	1.02

Source: Hobcraft (1987). Adapted from table 1. Reference group of women 25-34 years of age.

Table 33. Death rates by age five and relative risks, according to age of mother, selected developing countries, by region

Region and country	Deaths per 1000 by age 5 with mother aged:			Relative risk a/ with mother aged:	
	<18	18-19	20-24	<18	18-19
Africa					
Cameroon	225	199	193	1.17	1.03
Côte d'Ivoire	268	221	189	1.42	1.17
Kenya	195	160	132	1.48	1.21
Lesotho	(199)	178	167	(1.19)	1.07
Morocco	208	173	147	1.41	1.18
Senegal	296	268	262	1.13	1.02
Latin America and the Caribbean					
Colombia	122	120	96	1.27	1.25
Costa Rica	(117)	78	90	(1.67)	1.11
Jamaica	67	64	44	1.52	1.45
Panama	90	48	52	1.73	0.92
Peru	181	164	152	1.19	1.08
Trinidad and Tobago	(70)	37	45	(1.56)	0.82
Asia					
Bangladesh	275	211	200	1.37	1.05
Jordan	133	100	81	1.64	1.23
Malaysia	89	64	55	1.62	1.16
Republic of Korea	..	(95)	78	..	(1.22)
Sri Lanka	123	82	95	1.64	1.09
Thailand	(108)	129	103	(1.05)	1.25

Source: Hobcraft (1987). Adapted from table 31.

a/ Reference group of women aged 20-24; relative risk = 1.00.

Neonatal deaths are commonly caused by congenital malformations, prematurity, abnormal birth weight and delivery complications. In developed countries, about three fourths of infant deaths occur during the first month of life and most of those deaths occur during the first week. In contrast, half or fewer of the deaths occur in the first month in developing countries.

2. Correlates of neonatal mortality

(a) Low birth weight and prematurity

A major cause of excessive mortality and morbidity is small size at birth. A large proportion of infants in developing countries are born weighing less than 2,500 grams, and about two thirds of neonatal deaths occur among these infants. In fact, low birth weight is the single most important determinant of neonatal mortality. Thus, prevention of neonatal mortality depends largely upon preventing low birth weight, which is far more cost-effective than providing neonatal intensive care units. Low birth weight also affects post-neonatal mortality but to a lesser extent.

The J- or U-shaped relationship between perinatal or neonatal mortality and maternal age is more pronounced for neonatal death than for foetal death or stillbirth (Barros and others, 1984; Geronimus, 1986; Friede and others, 1987; McAnarney, 1987; Nortman, 1974). The strength of this relationship is attributed to the above-mentioned high incidence of low birth weight and prematurity that have been frequently documented among the offspring of adolescent mothers.

Many other risk factors besides maternal age are associated with low birth weight, including a history of sexually transmitted diseases, infant gender, maternal weight before pregnancy, low socio-economic status, gestational age and length of interval since previous pregnancy. Since age is positively associated with parity, it is important that parity should be controlled. Furthermore, for very young adolescents, age may have indirect effects due to abnormal height, weight, nutrition or behavioural patterns.

Puffer and Serrano (1975) studied three important determinants of infant mortality, namely, birth weight, maternal age and birth order, in several locations in North and South America. They showed that low birth weight (defined as 2,500 grams or less) occurred more frequently among mothers under age 20 and was highly correlated with prematurity. At all study locations the highest proportion of infants with low birth weight were born to women under age 20.

Puffer and Serrano suggest that the increased frequency of premature births among teen-age mothers may be partially explained by biological factors that compromise their reproductive health status, such as inadequate physical development or poor nutritional state. Furthermore, teen-age mothers often live in unfavourable social and economic conditions which negatively affect the utilization of health care services, such as pre-natal and post-partum care.

In a review of the determinants of low birth weight, the majority of studies found no independent effect of maternal age on the risk of intra-uterine growth retardation (Kramer, 1987). Studies from Guatemala and India also reported no independent effects. The results from studies that met methodological standards and focused specifically on young adolescents also showed no independent effect on low birth weight, gestational age or intra-uterine growth retardation.

Such problems as low birth weight, intra-uterine growth retardation and prematurity, which are associated with adolescence, can be addressed through adequate pre-natal care. Evidence from both developed and developing countries suggests that pre-natal care, when early and consistent, is associated with lower incidence of low birth weight. Other risk conditions that can potentially be alleviated are poor nutrition, inadequate weight gain, substance abuse (alcohol, tobacco, narcotics etc.), genital infections, malaria, parasites and immunization against neonatal tetanus.

In 1982, only 32 per cent of women under 15 years of age in the United States initiated pre-natal care in the first trimester, compared with 79 per cent of women aged 25-29. Hospital statistics in Colombia show that among women having their first birth, the older mothers are more likely to have received pre-natal attention. Meanwhile, 4 out of 10 women aged 12-15 who received pre-natal care at hospitals failed to return to the hospital for delivery. Evidently, among those who returned, if a problem had been detected during pregnancy, chances are high that the professional who attended the birth was informed (Prada, Singh and Wulf, 1988a).

Teenagers who are enrolled in good pre-natal care programmes can have children with birth weights comparable to those of older mothers. Such programmes have been shown to have more impact on the pregnancy outcomes of the very young adolescents than those of older adolescents or adults (Anderson and others, 1984). Evidence of the positive impact of pre-natal visits on birth weight has also been observed in international settings. The results of a study covering Chile, Egypt, Honduras, Singapore, Sweden and Thailand show that the number of pre-natal visits was significantly related to birth weight, and the relationship persists after controlling for variables known to influence birth weight (Donaldson and Billy, 1984). A study of Nigerian adolescents also highlights the positive effect that adequate pre-natal attention can have in attenuating these risks (Efiong and Banjoko, 1975). Mothers under age 17 who received adequate care were more likely to give birth to babies with normal weight than mothers of the same ages who did not have adequate pre-natal care (the percentages of babies with normal weight were 87 and 76, respectively). Increases in the incidence of low birth weight among very young mothers in Jamaica and the United Republic of Tanzania have also been achieved through adequate care (Roopnarinesingh, 1970; Arkutu, 1978).

(b) Birth order and spacing

Regardless of maternal age, first births are generally recognized as higher risk than the birth orders from two to six. The risk rises again from birth order seven onward. In a review by Edstrom (1981), evidence was gathered to show the higher risks of low birth weight and prematurity among first births of adolescent mothers, compared with first births of women in

their twenties. The risk was found to be much greater in developing than in developed countries. Most births to teenagers are first births, but second or third order births of teen-age mothers form a very high risk group because they imply short intervals between births. Infants born after intervals of less than two years are often premature or low birth weight. In Colombia, Costa Rica, Jordan, Morocco, Panama, and Trinidad and Tobago, as many as 70 per cent of second or higher order births born to teenagers are closely spaced. A mother's physical and emotional resources are drained with additional small children, with obvious harmful effects on giving care. Another explanation for poor survival chances among children born after short intervals is competition with older siblings, especially for the family's food supply, once that child is weaned. A small study of adolescent girls attending a post-natal clinic in Yaoundé, Cameroon, showed that of 259 pregnant women aged 13-19 years, 61 were having their second or third pregnancy. About a third of previous pregnancies had poor outcomes, and a third of the current 259 pregnancies ended in foetal death or infant death (Lovel, 1988). These studies provide evidence of the lowered chance of survival among children of adolescent mothers if they are a second or third birth. Nortman (1974) found similar associations.

3. Post-neonatal mortality

The risk of post-neonatal mortality is also generally higher among the offspring of teen-age mothers (see table 32), but the association is less persistent than in the case of neonatal mortality. Again, it is important in the assessment of the relationships, to control simultaneously for low birth weight, birth order, economic status and pre-natal care.

In developed countries, the primary causes of post-neonatal mortality are sudden infant death syndrome (36 per cent), congenital anomalies (18 per cent), infections (14 per cent), injuries (9 per cent) and perinatal conditions (6 per cent) (Friede and others, 1987). Some of these causes of death are more easily prevented with medical care for the infant and close maternal supervision than the causes of neonatal death. In most developing countries, on the other hand, the primary causes of post-neonatal death are diarrhoeal diseases, acute respiratory infections and immuno-preventable diseases. All are aggravated by malnutrition and are strongly associated with poor but preventable environmental conditions. Improved socio-economic conditions including better education, especially for women, will be necessary for the prevention of these diseases. Teaching better parenting skills and preventive health care to adolescent mothers may also prove to be beneficial.

C. Discussion

There is compelling evidence that teenagers experience greater maternal mortality than women over the age of 20. Some kinds of morbidity (cephalopelvic disproportion leading to prolonged labour and its sequelae, toxaemia and eclampsia) are also more common among teenagers, while others are less common. The elevated risks are probably due to a combination of biological and social factors. For example, the fact that abortion morbidity and mortality are higher among teenagers in those countries where abortion is illegal, but is lower where safe and legal abortion is available, is almost entirely a reflection of social, economic and legal factors. But the fact

that teenagers experience high rates of obstructed labour is both biological (immature skeletal development) and social (social pressure for early marriage and early pregnancy in some countries). Thus, prevention of maternal morbidity and mortality among these young women will require social and health care interventions. Delay of marriage and pregnancy could be highly desirable, but improved nutrition of pregnant teenagers (and of young girls before pregnancy) would reduce the risk of obstructed labour, and medically supervised deliveries would reduce the sequelae of obstructed labours that do occur.

Many demographers have estimated the impact on infant mortality if there were no births to women under age 20 or to women over age 35. Pampel and Pillai (1986) have shown that teen-age fertility in developed countries has only modest effects on infant mortality, and that the size of the gross national product and level of women's education were more powerful predictors of infant mortality. Trussell and Pebley (1984) report that if births were restricted to the "prime" years of 20-34 in developing countries, the potential reduction in infant mortality rates would be only 5 per cent. This issue remains controversial.

The verdict is not yet final concerning why children born to adolescent mothers are less likely to survive than those born to mothers in their twenties. There are several hypotheses, all of which probably account for some portion of the excess mortality. Very young teenagers may not be sufficiently developed physically to maintain a pregnancy or until normal delivery. Due to the disproportionately large number of teen-age mothers who live in poverty and are poorly educated, teenagers may not know how to take care of a child properly or even if they know, may be unable to provide the care needed. Teenagers are also less likely to receive pre-natal care, and if they do, they begin late in pregnancy. Lastly, births to teenagers are usually first births, and first births are usually associated with elevated risks. It is encouraging to note, however, that such factors as low birth weights or neonatal tetanus are prevented by providing adequate pre-natal care, including massive immunization campaigns.

In the experience of developed countries, it is challenging to find that the effect of maternal age is often eliminated once the many confounding variables are controlled. Will the effect of maternal age on infant mortality in developing countries also diminish as it has in so many analyses from developed countries? Or, as the WFS results suggest, will maternal age remain one of the most important independent demographic variables affecting the probability of survival of infants and young children? With more rigorous study methodologies, investigators can clarify the importance of biological factors as well as that of socio-economic determinants.

Chapter V

SUMMARY AND CONCLUSIONS

The aim of this report is to present evidence relating to adolescent reproductive behaviour in as many developing countries as possible so that the problem can be more clearly defined. Because data on the factors relating to adolescent reproductive behaviour are virtually non-existent in many of the countries where Governments have identified child-bearing among adolescents as a major concern, a global review was undertaken so that the experience of countries with the necessary information could be drawn upon in designing policies and programmes for adolescents as well as in planning further research initiatives. To this end, this review has provided information on levels and trends in adolescent birth rates for as many countries as possible, drawing upon data from censuses and surveys and vital registration systems.

The framework of analysis is one in which adolescent birth rates are seen as the consequence of interacting factors, such as the extent of exposure to child-bearing and contraceptive use. The extent of sexual exposure among unmarried adolescents, the degree to which contraception is used and the availability and accessibility of abortion to teenagers are all crucial factors in the observed teen-age birth rates. Over the past decade, changes have taken place in each of these factors, brought about by changes in attitudes and norms, such as those towards marriage and child-bearing, and in policies and laws, such as those which affect contraceptive services for adolescents and the availability of abortion. For each country, the observed level of birth rates among adolescents is brought about by a particular mix of these factors. In order to gain some insight into the reasons for the observed differences in adolescent birth rates among developing countries, indicators of the prevalence of each of these factors that affect the birth rate were compared. The results are summarized below.

The rate of child-bearing among adolescents in developing countries varies greatly from extremely high levels among adolescents in some countries to others that are even lower than those experienced in developed countries. During the past decade, adolescent fertility rates declined substantially in some developing countries and moderately in others, but remained more or less unchanged at high levels in most sub-Saharan African countries. In 14 out of 39 countries of Africa, teen-age fertility rates were more than 150 births per 1,000 women. High adolescent fertility rates were also observed in Bangladesh and Yemen in Asia. Moderate levels of adolescent child-bearing occurred in most of the other countries of Africa, in those of Southern Asia and in most of those in Latin American and the Caribbean. Low levels of adolescent fertility (fewer than 50 births per 1,000 women) are found in countries of Northern Africa, East Asia and South-eastern Asia, and in the non-Arab countries of Western Asia. Further breakdowns in the pattern of child-bearing within the adolescent group show that a large proportion of young girls begin child-bearing at very early ages (under 18 years and even under 15 years), particularly in those countries which have a high overall rate of adolescent child-bearing.

Adolescent fertility rates in sub-Saharan African countries have remained more or less unchanged since 1970. Data on fertility trends in this region are scarce, and this generalization is based on information from only a few countries. Substantial declines in adolescent fertility rates occurred in Algeria, Egypt and Morocco in Northern Africa. It is likely that in these three Northern African countries, declines in teen-age fertility were brought about by increases in age at marriage. Teenagers in Tunisia had low rates of child-bearing throughout the 1970s and early 1980s.

In Latin America and the Caribbean, adolescent fertility rates have remained at moderate levels or have declined slowly since the 1970s. In some countries, however, fertility rates began to decline only in the early 1980s. Examples are Guatemala, Honduras, Jamaica, Mexico, and Panama. The rates in these countries are still at moderately high levels. In countries in East Asia and South-eastern Asia, adolescent fertility rates also were more or less unchanged throughout the 1970s. In the countries of South-eastern Asia, fertility reduction among adolescents was realized in the late 1960s and in the 1970s, and by the early 1980s fertility rates among adolescents were at fairly low levels. This is also true in the non-Arab countries of Western Asia. Trends in adolescent fertility in the countries of Southern Asia and in the Arab countries of Western Asia were mixed. In some (Sri Lanka, for example), teen-age rates were at fairly low levels in the 1970s and 1980s; in others (Kuwait and Jordan), substantial declines occurred; and in some other countries, adolescent fertility rates remained at very high levels.

Large residential and educational differences in teen-age child-bearing are observed. Teenagers in rural areas and those with little or no education are more likely to have children than those who live in urban areas and those with seven or more years of education. Among married teenagers, those in rural areas and those with little or no education are more likely to have children than those in urban areas and those with seven or more years of education. However, pre-marital conceptions are just as likely (if not more likely) to occur among urban teenagers and teenagers with higher education than among their rural or their less educated counterparts.

The more difficult task was to provide information on the extent of sexual exposure among adolescents. Even though data on marital status have been collected regularly in censuses and surveys, the definitions of marriage used in these sources can vary widely regarding types of marriage and the date of consummation of marriage. While information on such details may not be crucial for exposure analysis among older women, information on types of unions among adolescents is important because of the variation in the impact of different types of unions on their reproductive behaviour.

In most countries in sub-Saharan Africa and a number of countries in Latin America and the Caribbean and in Asia, women still marry at very young ages. More than one third of women under age 18 were married in Cameroon, Cote d'Ivoire, Mauritania and Senegal in Africa, and in Bangladesh, Nepal and Yemen in Asia. Elsewhere, particularly in countries in East Asia, teenagers marry at much older ages. Proportions married among teenagers in East Asia are even lower than those in many of the developed countries.

Adolescent fertility rates in developing countries are thus at various levels, from very high rates of child-bearing in some countries to low rates in others. In those countries where adolescent birth rates are at very high levels, problems relating to adolescent fertility drive mainly from the extremely young ages at marriage and child-bearing that still exist among adolescents. Policy intervention that seeks to increase age at marriage is necessary to bring about a decrease in fertility, particularly at very young ages. Most countries have laws governing the minimum legal age at marriage, but it appears that many countries with such laws still have significant proportions married below the legal minimum. Other policy actions, such as support for continued education for young women and measures to increase their job opportunities, are known to be more effective in influencing age at marriage.

The problem of adolescent fertility takes on a different dimension in other developing countries that have undergone rapid modernization. Expansion of education and increased secondary school enrolment, increasing opportunities for salaried employment, rapid urbanization with the attendant movement of young people from rural to urban areas in search of education and employment opportunities and increases in age at marriage are all characteristics of these countries. Birth rates in these countries have been declining, but in more recent years, adolescent fertility has stabilized at moderately high levels in a number of countries. Counteracting forces may be at work. Declines in fertility in a society are brought about by increases in age at marriage, which may be offset by the increasing prevalence of pre-marital pregnancies and births among the group of young women in that society with more modern views. There is some evidence of this emerging trend in the data presented in this report, but certainly further research is needed to identify appropriate policy response. Lessons may be learned from the developed countries where much more research has been undertaken on the different solutions to the problem, having in mind that approaches suited for developed countries may not be suited for developing countries, and new initiatives may have to be sought.

Information on non-marital sexual exposure is even more difficult to obtain. Few surveys have collected information on this topic systematically to permit cross-national comparisons. Data from the series of Demographic and Health Surveys, which will be available soon, should provide a more complete picture. The distinction between marital and non-marital exposure is important so that a more accurate picture of the extent of sexual exposure among adolescents can be made.

Available data on pre-marital sexual experience show that teenagers in Africa are more likely to be sexually experienced than those in Latin America and the Caribbean, who in turn are more likely to be sexually experienced than unmarried Asian teenagers. All in all, sexual experience among unmarried 19-year-olds ranged from about one in four teenagers in most countries of Latin America and the Caribbean to more than two out of three unmarried teenagers in most countries of Africa. The observed differences should be interpreted with caution because the samples on which the estimates are based are not comparable across countries. Furthermore, differences in the complexity of the marriage process in countries of Africa render different connotations to pre-marital sexual activity. Because data on sexual experience of unmarried teenagers were available only for a few countries,

indirect methods were used to obtain these estimates. Evidence of pre-marital sexual activity among adolescents, namely, the incidence of pre-maritally conceived births among married adolescents, shows that the incidence of pre-marital sexual activity in many countries is not negligible.

One of the crucial factors influencing the relation between sexual exposure and pregnancy is contraceptive use. A large majority of adolescents claim to have knowledge of effective methods of contraception although further probing shows that not all of those who claimed knowledge had sufficient knowledge for effective use. Contraceptive prevalence among currently married adolescent women is extremely low in most countries of Africa and Asia. Among currently married teenagers in Latin American and Caribbean countries, prevalence is higher but does not reach the levels experienced among women of all ages. On the other hand, contraceptive use among unmarried teenagers in this region is surprisingly high. Prevalence ranged from 70 per cent in some countries to about 20 per cent in others. Reliance upon the pill was most frequently reported among Latin American and Caribbean teenagers while most of those in Africa used less effective methods.

In all the developing countries, teenagers experience greater maternal mortality and morbidity than women over age 20, for a combination of biological and social reasons. Prevention of maternal mortality and morbidity among young women, therefore, will require social and health care interventions, including delays in marriage, improved nutrition of pregnant teenagers and medically supervised deliveries. Children born to adolescent mothers are less likely to survive than those born to mothers who are over age 20. Again, reasons are both socio-economic and biological. Women who begin child-bearing at early ages are more likely to be poorer and less educated than those who postpone child-bearing to later ages. Adequate pre-natal care and massive immunization campaigns can reduce the risk of such factors as low birth weight or neonatal tetanus.

Responses to the problem of adolescent fertility in developed countries focus on sex education and contraception for adolescents. Contraceptive use among large proportions of currently married women in most developing countries is at very low levels mainly because in most of these countries, contraception is used for limiting rather than spacing purposes. Moreover, some countries have laws governing the availability and accessibility of contraception to unmarried women and sometimes even to married women. While knowledge of effective contraceptive methods is quite high among both married and unmarried female teenagers, the methods they use tend to be those which are most easily accessible but least effective.

Sex education for young people is provided through schools' curricula in some countries, but the content often does not include education about pregnancy prevention because of opposition by those who believe that such knowledge fosters sexual activity. Moreover, in most developing countries, the majority of girls do not reach secondary schools where sex education is usually given.

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Annex

SURVEY DATA AND FERTILITY MEASURES USED

A. Adolescent fertility rates

The measure of fertility used in this report is the age-specific fertility rate of women aged 15-19 years (table A.1). This rate, defined as the number of births per 1,000 adolescent women aged 15-19, is the number of births to women aged 15-19 in a given year divided by the number of women aged 15-19 in that given year. This is a standard measure of fertility which is published regularly by government statistical offices in countries where registration data are considered to be reliable and the coverage of registration complete. The age-specific fertility rate is also almost always reported in fertility survey reports either through information gathered in birth histories or indirectly through questions on births in the past year or on children ever born. Since the mid-1970s, a large number of countries have conducted fertility surveys, thus providing, for the first time in many countries, estimates of fertility that can be used for comparative analysis (United Nations, forthcoming (a)). Not only are levels of adolescent fertility available but also trend information can be pieced together in many countries from results from different surveys.

Although fertility rates obtained from surveys give a fairly accurate picture of the overall level of child-bearing (table A.2), some caution is necessary in interpreting the fertility rates of adolescent women. Age-reporting among women in a large number of developing countries is known to be poor, and frequently adolescent women who have had children overstate their age. This tendency, together with the tendency to round ages to digits ending in five or zero may result in teen-age women with children claiming they are age 20 when they may be 18 or 19 years old.

In many countries, the series of fertility rates presented as trends are not from a single source, like the vital registration system, for example, but may be from a number of different surveys. Trend information in these cases should also be treated with caution, particularly where there are only two data points.

B. Exposure to sexual intercourse

Data on sexual exposure are the most problematical to compile. National fertility surveys have not traditionally included questions on sexual activity. Fears about the sensitive nature of questions on age at first intercourse and frequency of intercourse, and doubts about the quality of the responses that would result were the reasons for this reluctance. Some countries participating in the World Fertility Survey programme did include questions on frequency of sexual intercourse among currently married women in order to estimate the extent of sexual exposure within marriage, which is one of the proximate determinants of fertility. However, evaluation of the results proved them to be of limited utility for analysis of proximate determinants (Cleland and Kalule-Sabiti, 1984). The Demographic and Health Surveys in developing countries include questions on age at first intercourse and frequency of intercourse among both married and unmarried women. Careful evaluation of the data is necessary before estimates of sexual experience can

be used, but they make a useful contribution to what little is known about sexual activity among unmarried adolescents. The only other source of national data on sexual experience among young unmarried women is the series of surveys in Latin American countries that focused, either partially or fully, on the reproductive health of young adults (Morris, 1987). Data from these surveys, which provided comparable information across a number of Latin American countries, are included in this report.

For the majority of developing countries, comparable data on sexual experience among unmarried teenagers took a tremendous effort to compile. Survey reports and articles that reported estimates of sexual activity were solicited, and data on two indicators, "age at first intercourse" and "ever had sexual intercourse", were extracted from these documents. Data were included in this report only if they were believed to be fairly reliable after the coverage and sample were scrutinized. Some of the considerations that were used in coming to a decision about inclusion of material are outlined below.

1. Sample selection

The analysis of age at initiation of sex is often based on the response given by a relatively small number of persons from within a larger population that is under examination. The universe of a particular random sample may be a restricted one, limited, for instance, to students. These samples can be used, as long as it is recognized that the generalizations emerging from the study apply specifically to that group. Statements are frequently made concerning age at first intercourse in a given country which, upon further investigation, prove to be based on studies of one segment of the national population. There is considerable empirical evidence of wide variation among subgroups within a given society.

Random selection implies that a given individual in the sample has the same likelihood of reporting particular behaviour as any comparable individual in the universe. The literature on age at first intercourse is replete, however, with analyses of samples for which this essential principle does not hold. Reports based on medical clientele are a typical example. Medical studies usually involve patients of a particular medical doctor, hospital or clinic who have come to a particular source for medical services seeking reproductive health care in one form or another, e.g., childbirth, contraception, abortion or sexually transmitted disease. Even if their visit to the clinic was not related to their own sexual behaviour, such persons would be unlikely to constitute an unbiased sample, but when they appear specifically in connection with this behaviour, they certainly do not constitute an appropriate group for the analysis of adolescent behaviour more generally. The results of such studies may be valid and interesting for many purposes, but they do not provide a basis for generalizations concerning the sexual behaviour of the population at large. One important factor influencing the use of this approach may be that in many countries, unmarried minors cannot legally be approached directly through sociological surveys on topics of this nature, whereas medical research is not subject to this restriction.

2. Age at first intercourse

There are essentially two types of questions used to obtain information on age at first intercourse: a current status question, such as "Have you ever had sexual intercourse?"; or a retrospective question, such as "At what age did you first have intercourse?". The current status question is most appropriate for cross-sectional surveys of adolescents, as they are currently experiencing the transition to sexual activity, and it yields data relevant as of the date of the survey. The retrospective question can be asked of older individuals who have mostly passed the transition to sexual activity, and it yields information relevant to the period when they were adolescents. The latter survey provides a way of avoiding legal restrictions on social surveys of unmarried minors, and information based on those who have just recently achieved adult status can still be quite up-to-date. Moreover, when the sample is composed of a broad range of ages, retrospective data can be separated by cohort, providing a valuable measure of trends over time. Sometimes both types of questions are asked in cross-sectional studies of adolescents.

Whichever method is utilized, the results lend themselves most readily to generalizations and comparison across groups when presented as distributions of the proportions sexually active by age. The current status question provides data on proportions who have ever had intercourse "at" given ages, calculated simply as the number sexually experienced in an age group divided by the total number in that age group. This proportion is conventionally taken to be representative of the mid-point of the age group. However, since sexual activity tends to increase with age in a non-linear fashion, the accuracy of the results will be affected by the breadth of the age groups used. These proportions should be based on as detailed data as possible, ideally data in single years.

The retrospective question, on the other hand, provides data on the proportions who have ever had intercourse "by" given ages. This is calculated as the number who report having had intercourse before reaching a given age divided by the total number who have attained that age. The results can be shown either as the distribution of incremental fractions of persons having their first experience of intercourse during the preceding age interval or in the form of a cumulative distribution up to successive ages. When the sample includes persons who are currently of the ages in question, care must be taken to exclude from each calculation anyone who has not actually attained the relevant age, since, if intercourse has not already occurred, there is still the possibility that it will occur before the age is reached. This is essentially equivalent to a life-table procedure. Results of this type refer to exact age, that is, age at the beginning of an age interval. Although the accuracy of the results is not affected by the breadth of the age intervals used, a more complete picture is obtained when greater detail is given.

Table A.1. Adolescent fertility rates, ages 15-19, by region and country, 1970 - 1988.
(Rates per 1,000 women)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Africa																			
Eastern Africa																			
Burundi	<....49...>		..	..	..	..	..	..	..	57	..	<.....50.....>				..	..	..	..
Comoros	..	..	..	..	..	..	..	..	..	<...135...>		..	..	..	..	..	..	..	..
Ethiopia	..	..	..	..	..	..	..	..	..	..	<...115...>		..	..	..	..	..	..	..
Kenya	..	..	<.....178.....>							..	..	..	..	<...143..>		..	..	..	..
Malawi	..	..	..	..	..	..	<....165>		..	..	..	..	..	..	168	..	..	..	..
Mauritius	..	..	50.3	47.2	55.9	56.6	60.5	60	62.2	63.3	60.6	54.4	48.8	39.6	37	36.9	..	..	..
Madagascar	..	..	..	..	..	132	..	..	..	..	125.2	..	..	..	..	..	..	..	..
Mozambique	<121>a/	..	..	..	..	<.....131.....>						..	..	..	..	..	..	..	..
Réunion	..	66	63	59	62	58	58	55	52	53	47	..	..	..	..	..	..	..	..
Rwanda	..	..	..	..	..	..	..	..	<.....77.....>						..	..	..	..	..
Somalia	..	..	..	..	..	..	..	..	..	..	<...108>		..	..	..	..	..	..	..
United Republic of Tanzania	..	..	..	..	..	..	..	..	138	..	..	..	..	..	..	..	..	..	..
Zambia	..	..	..	..	..	..	..	..	..	..	153	..	..	..	..	..	..	..	..
Zimbabwe	..	..	..	..	..	..	..	..	..	..	..	..	91	..	131	..	..	..	..
Middle Africa																			
Cameroon	..	..	..	<.....187.....>						..	..	..	..	..	..	..	..	..	..
Central African Republic	..	..	..	..	..	195	..	..	..	..	..	..	..	..	..	..	..	..	..
Congo	..	..	..	..	107	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Northern Africa																			
Algeria	109	..	..	..	..	..	..	..	92	..	69	60.3	51.18	47.83	47.29	42.98	..	..	..
Egypt	..	..	..	..	..	<.....99.....>					..	..	..	<...64..>		..	..	..	..
Libyan Arab Jamahiriya	..	..	..	163	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Morocco	<.....133 .....><					.....93.....					>	..	..	<.....50.....>				..	..
Sudan	..	..	..	..	..	<.....108.....>					..	..	..	..	..	..	..	..	..
Tunisia	46	39	..	..	42	40	38	39	34	36	37	37	..	..	37	..	..	..	..
Southern Africa																			
Botswana	..	120	..	..	..	..	..	..	..	..	..	111	..	<...113..>		..	..	..	..
Western Africa																			
Benin	..	..	..	..	..	..	..	<.....151.....>					..	..	..	..	..	..	..
Cape Verde	..	..	..	..	..	..	..	..	..	..	55	..	..	..	..	78	..	..	..
Côte D'Ivoire	..	..	..	..	..	<.....216.....>						..	..	..	..	..	..	..	..
Gambia	..	..	..	199	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ghana	..	..	..	..	<.....136.....>						..	..	..	<.....129.....>					
Lesotho	..	..	<.....102.....>							..	..	..	..	..	..	..	..	..	..
Liberia	..	..	..	166	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mali	..	..	..	..	..	..	..	..	..	..	..	..	<.....183.....>				..	..	..
Mauritania	..	..	..	..	..	..	<.....154.....>					..	..	..	..	198	..	..	..
Nigeria	..	..	..	..	..	..	..	<.....173.....>				..	..	..	..	..	..	..	..
Senegal	..	..	..	<.....188.....>						..	..	..	<.....159.....>				..	..	..
Swaziland	..	..	..	..	..	..	117	..	..	..	..	..	..	..	..	..	..	..	..
Sierra Leone	..	..	..	<...212..>		..	..	..	..	..	..	..	..	..	..	..	..	..	..
Togo	..	105	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Table A.1 (continued)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Asia																			
East Asia																			
China	39	38	31	27	26	20	19	14	11	9	8	13	18	..	7.4	7.1	8.7	..	..
Hong Kong	18	17	18	18	19	18	18	17	15	13	12	12	10	10	9	9	..	..	..
Republic of Korea	<18>b/	<.....16.....>					<.....12.....>					11.1	..	11.7	..	7	..	..	..
South Asia																			
South-eastern Asia																			
Indonesia	<155>c/	<.....127.....>					<.....116.....>				<.....95.....>						..	..	..
Indonesia	..	..	..	..	..	..	..	..	..	..	..	..	..	<.....78.....>					..
Malaysia	54	55	52	48	49	48	44	43	39	37	35	33	31	28	26	..	..	..	..
Myanmar d/	..	..	..	..	..	..	..	..	..	..	..	..	..	43	..	..	..	..	..
Philippines	56	..	..	..	..	47	..	..	..	..	51	..	..	..	47	..	..	..	..
Singapore	26	26	27	25	21	17	17	14	12	12	12	12	11	10	10	10	..	..	..
Thailand	<.....69.....>					..	..	..	..	..	<...65..>		<.....71.....>			..	..	..	..
Thailand	..	..	..	..	..	..	..	..	..	..	..	..	..	<.....52.....>					..
Southern Asia																			
Bangladesh	..	..	..	<...229..>		..	..	..	..	221	..	..	..	239	..	..	..	..	..
India	..	..	..	..	..	..	..	..	89	..	88	90	..	..	85.8	..	..	..	..
Iran (Islamic Republic of)	..	..	..	<.....133.....>			..	..	..	..	..	..	..	..	..	..	..	..	..
Nepal	..	<.....130.....>					..	..	..	..	..	..	..	..	..	<..94..>		..	..
Pakistan	<.....152.....><.....99.....>											..	..	..	..	..	..	..	..
Sri Lanka	47	40	39	36	37	37	38	38	40	42	38	38	<.....38.....>						..
Western Asia																			
Bahrain	..	143	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cyprus	18	16	20	18	19	20	25	24	28	31	36	35	37	39	39	34	..	..	..
Iraq	..	..	129	..	89.9	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Israel	50	41	42	41	42	44	43	41	38	37	35	32	31	30	28	25	..	..	..
Jordan	..	..	<.....135.....>					..	..	..	..	<....49.....>			..	..	..	..	..
Kuwait	132	..	..	..	..	122	108	99	90	79	80	..	..	..	57	..	..	..	..
Lebanon	40.4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Syrian Arab Republic	..	..	..	..	<.....123.....>				..	..	..	..	..	..	..	..	..	..	..
Turkey	..	..	..	..	..	..	..	..	..	..	..	..	<...55...>		..	..	..	..	..
Turkey	..	..	..	..	<.....76.....>						..	..	..	..	..	..	..	..	..
Turkey	..	..	..	..	..	..	..	..	<.....68.....>						..	..	..	..	..
Yemen	..	..	..	..	..	..	<....170.....>			..	<...181..>		..	..	..	..	..	..	..
Oceania																			
Fiji	52	54	45	47	48	48	46	46	51	52	52	52	54	55	58	59	..	..	..

Table A.1 (continued)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Latin America and the Caribbean																			
Caribbean																			
Barbados	<75>e/	..	..	..	..	..	..	..	..	..	<...91.7>		..	..	..	..	..	..	..
Bahamas	..	..	..	..		63.5	..	..	..	..	97	..	..	..	..	..	..	..	..
Cuba	128	..	..	..	131	128	128	102	..	86	84	82	91	91	87	94	..	..	..
Dominican Republic	<.....123.....>					<.....110.....>					..	<.....104.....>						..	..
Guadeloupe	..	..	..	..	..	59	..	..	88	93	103	..	..	..	..	..	..	..	..
Haiti	..	..	..	<.....57.....>				..	..	..	..	..	<...90...>		..	..	..	..	..
Jamaica	..	<.....147.....>				<.....143.....>							..	..	..	..	..	..	..
Jamaica	..	..	..	..	..	..	..	..	..	..	..	..	120.1	..	..	..	..	..	..
Martinique	..	..	..	..	57	57	49	..	..	..	..	..	..	..	..	..	..	..	..
Puerto Rico	73	..	..	..	..	74	..	..	75	..	78	77	71	67	..	..	..	..	..
Trinidad and Tobago	83	86	92	87	83	77	79	78	84	..	..	..	<.....84.....>						..
Central America																			
Costa Rica	..	99	102	101	104	104	106	107	107	107	107	100	94	90	96	..	..	..	..
Guatemala	135	..	..	142	..	135	..	150	..	..	..	159.8	..	..	..	125.5	..	..	..
Honduras	..	..	179	..	171	..	..	..	..	160	..	138	..	..	..	..	..	..	..
Mexico	124	..	125	..	..	116	112	109	104	104	102	106	107	100	89	83	80	..	..
El Salvador	..	149	..	..	149	144	149	158	155	157	143	..	<.....135.....>					..	..
Panama	134	132	134	125	124	123	..	118	117	114	112	111	101	100	97	..	..	..	..
Temperate South America																			
Argentina	69	..	..	..	..	..	..	..	..	83	82	..	..	..	..	..	..	..	..
Chile	69	74	75	72	68	64	64	63	65	68	67	62	65	61	..	..	..	..	..
Uruguay	..	..	..	60	..	72	68	71	69	66	..	..	..	..	..	..	..	..	..
Tropical South America																			
Bolivia	<.....95.....>					<.....93.....>					..	..	..	..	..	..	..	..	..
Brazil	75	..	..	..	..	..	76	..	..	..	80	<..... 80.5.....>					81	..	..
Colombia	..	<.....101.....>				..	..	..	..	..	..	<.....79.....>						..	..
Ecuador	<.....118.....>					<.....105.....>					..	..	<.....92.....>					..	..
Guyana	..	<.....114.....>				..	..	..	..	..	..	..	..	..	..	..	..	..	..
Paraguay	..	..	..	..	..	<.....86.....>					..	..	..	..	..	..	..	..	..
Peru	..	..	..	<.....84.....>					..	..	..	..	..	..	<.....84.....>			..	..
Venezuela	..	..	..	..	..	..	..	111	111	110	104	102	..	..	90	..	..	..	..

Sources: United Nations (forthcoming (a)); primary sources include national registration data and data from fertility surveys and censuses. Only total fertility rates are reported in United Nations (forthcoming (a)), although both total and teen-age fertility rates are available in citations.

a/ 1965-1970.
b/ 1966-1970.
c/ 1967-1970.
d/ Formerly called Burma.
e/ 1968-1970.

Table A.2. Total fertility rates, ages 15-49, by region and country, 1970-1988
(Rates per 1,000 women)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Africa																			
Eastern Africa																			
Burundi	<.....5895>		..	..	..	..	..	..	..	6375	..	<.....6950.....>				..	..	..	..
Comoros	..	..	..	..	..	..	..	..	..	<....7053>		..	..	..	..	..	..	..	..
Ethiopia	..	..	..	..	..	..	..	..	..	..	<....6831>	..	..	..	..	..	..	..	..
Kenya	..	..	<.....7930.....>							..	..	..	..	<...7690>		..	..	..	..
Malawi	..	..	..	..	..	..	<....7601>		..	..	..	..	..	..	7180	..	..	..	..
Mauritius	..	..	3420	3046	3466	3189	3131	3042	3087	3068	2888	2681	2385	2189	2101	1983	..	..	..
Madagascar	..	..	..	..	..	6390	..	..	..	..	6629	..	..	..	..	..	..	..	..
Mozambique	<6725>a/	..	..	..	..	<.....6490.....>						..	..	..	..	..	..	..	..
Réunion	..	4675	4290	4005	3875	3730	3485	3310	3095	3120	3050	..	..	..	..	..	..	..	..
Rwanda	..	..	..	..	..	..	..	..	<.....8510.....>						..	..	..	..	..
Somalia	..	..	..	..	..	..	..	..	..	..	<...7345>		..	..	..	..	..	..	..
United Republic of Tanzania	..	..	..	..	..	..	..	..	6475	..	..	..	..	..	..	..	..	..	..
Zambia	..	..	..	..	..	..	..	..	..	..	7200	..	..	..	..	..	..	..	..
Zimbabwe	..	..	..	..	..	..	..	..	..	..	..	..	5619	..	6520	..	..	..	..
Middle Africa																			
Cameroon	..	..	..	<.....6405.....>						..	..	..	..	..	..	..	..	..	..
Central African Republic	..	..	..	..	..	6171	..	..	..	..	..	..	..	..	..	..	..	..	..
Congo	..	..	..	..	5602	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Northern Africa																			
Algeria	7893	..	..	..	..	..	..	..	6889	..	6825	6393.	6370.	6334.	6264.	6234.	..	..	..
Egypt	..	..	..	..	..	<.....5260.....>					..	..	..	<...4617>		..	..	..	..
Libyan Arab Jamahiriya	..	..	..	8300	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Morocco	<.....6710.....><					.....5905.....					>	..	..	<.....4800.....>					..
Sudan	..	..	..	..	..	<.....5945.....>					..	..	..	..	..	..	..	..	..
Tunisia	6090	5997	..	..	5639	5807	5657	5765	5141	5375	5365	5185	..	..	4559	..	..	..	..
Southern Africa																			
Botswana	..	6810	..	..	..	..	..	..	..	..	..	6775	..	<...6455>		..	..	..	..
Western Africa																			
Benin	..	..	..	..	..	..	..	<.....7075.....>						..	..	..	..	..	..
Cape Verde	..	..	..	..	..	..	..	..	..	..	5154	..	..	..	..	4657	..	..	..
Côte D'Ivoire	..	..	..	..	..	<.....7355.....>						..	..	..	..	..	..	..	..
Gambia	..	..	..	6400	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ghana	..	..	..	..	<.....6465.....>						..	..	..	<.....6435.....>					
Lesotho	..	..	<.....5790.....>						..	..	..	..	..	..	..	..	..	..	..
Liberia	..	..	..	6296	..	..	..	..	..	..	..	..	<.....6625.....>				..	..	..
Mali	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7070	..	..
Mauritania	..	..	..	..	..	..	<.....6240.....>						..	..	..	..	..	..	..
Nigeria	..	..	..	..	..	..	..	<.....6337.....>						..	..	..	..	..	..
Senegal	..	..	..	<.....7160.....>						..	..	..	<.....6615.....>					..	..
Swaziland	..	..	..	..	..	..	5656	..	..	..	..	..	..	..	..	..	..	..	..
Sierra Leone	..	..	..	<...6510>		..	..	..	..	..	..	..	..	..	..	..	..	..	..
Togo	..	5740	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Table A.2 (continued)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Asia and Oceania																			
East Asia																			
China	5746	5396	4920	4506	4150	3576	3254	2866	2748	2798	2316	2713	2618	..	1845	1929	2291	..	..
Hong Kong	3308	3543	3391	3285	3203	2753	2547	2419	2310	2129	2061	1962	1860	1711	1540	1471	..	..	..
Republic of Korea	<4546>b/	<.....4012.....>					<.....2842.....>					2523	..	2022	..	2027	..	..	..
South Asia																			
South-eastern Asia																			
Indonesia	<5605>c/	<.....5200.....>					<.....4680.....>				<.....4055.....>						..	..	..
Indonesia	..	..	..	..	..	..	..	..	..	..	..	..	..	<.....3390.....>					..
Malaysia	4669	5053	4845	4561	4499	4307	4270	4097	3928	3941	3886	3917	3846	3728	3810	..	..	..	..
Myanmar d/	..	..	..	..	..	..	..	..	..	..	..	..	..	4727	..	..	..	..	..
Philippines	5915	..	..	..	..	5195	..	..	..	..	4960	..	..	..	4835	..	..	..	..
Singapore	3101	3080	3069	2818	2385	2108	2150	1861	1842	1845	1739	1725	1707	1590	1610	1619	..	..	..
Thailand	<.....4750.....>					..	..	..	..	..	<...3680>		<....3360.....>			..	..	..	..
Thailand	..	..	..	..	..	..	..	..	..	..	..	..	..	<.....2365.....>					..
Southern Asia																			
Bangladesh	..	..	..	<...7185>		..	..	..	..	5765	..	..	..	5424	..	..	..	..	..
India	..	..	..	..	..	..	..	..	4498	..	4436	4516	..	..	4516	..	..	..	..
Iran (Islamic Republic of)	..	..	..	<.....6270.....>			..	..	..	..	..	..	..	..	..	..	..	..	..
Nepal	..	<.....5985.....>					..	..	..	..	..	..	..	..	..	<..6025>		..	..
Pakistan	<.....6265.....><.....6500.....>											..	..	..	..	..	..	..	..
Sri Lanka	4265	4180	4436	3866	3764	3814	3769	3792	3855	3899	3854	3847	<.....2815.....>					..	..
Western Asia																			
Bahrain	..	7015	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cyprus	2552	2455	2409	2384	2116	2015	2253	2250	2296	2383	2455	2365	2498	2483	2481	2381	..	..	..
Iraq	..	..	7175	..	7127	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Israel	3915	3999	3762	3700	3695	3683	3695	3468	3276	3214	3102	3062	3124	3233	3132	3116	..	..	..
Jordan	..	..	<.....7815.....>					..	..	..	..	<.....6585.....>			..	..	..	..	..
Kuwait	6778	..	..	..	..	6114	6107	5884	5706	5440	5495	..	..	..	4952	..	..	..	..
Lebanon	4568	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Syrian Arab Republic	..	..	..	..	<.....7480.....>					..	..	..	..	..	..	..	..	..	..
Turkey	..	..	..	..	<.....4615.....>					..	..	..	..	..	..	..	..	..	..
Turkey	..	..	..	..	..	..	..	..	<.....4168.....>						..	..	..	..	..
Turkey	..	..	..	..	..	..	..	..	..	..	..	..	<...4050>		..	..	..	..	..
Yemen	..	..	..	..	..	..	<....8510.....>			..	<...7875>		..	..	..	..	..	..	..
Oceania																			
Fiji	3811	3780	3453	3494	3665	3452	3491	3276	3339	3472	3399	3334	3494	3327	3203	3147	..	..	..

Table A.2 (continued)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Latin America and the Caribbean																			
Caribbean																			
Barbados	<2470>e/	..	..	..	..	..	..	..	..	..	<...2400>		..	..	..	..	..	..	..
Bahamas	..	..	..	..	..	2536	..	..	..	..	2874	..	..	..	..	..	..	..	..
Cuba	3697	3880	3710	3320	2930	2725	2600	2243	..	1777	1644	1586	1802	1813	1780	1904	..	..	..
Dominican Republic	<.....5710.....>					<.....4715.....>					..	<.....3800.....>						..	..
Guadeloupe	..	..	..	..	..	3929	..	..	3003	3220	3540	..	..	..	..	..	..	..	..
Haiti	..	..	..	<.....5505.....>					..	..	..	..	<...6210>		..	..	..	..	..
Jamaica	..	<.....4995.....>				<.....3669.....>							..	..	..	..	..	..	..
Jamaica	..	..	..	..	..	..	..	..	..	..	..	..	3265	..	..	..	..	..	..
Martinique	..	..	..	..	3694	3271	2876	..	..	..	..	..	..	..	..	..	..	..	..
Puerto Rico	3160	..	..	..	..	2809	..	..	2767	..	2717	2629	2524	2384	..	..	..	..	..
Trinidad and Tobago	3410	3575	3720	3385	3295	3115	3145	3060	3210	..	..	..	<.....3140.....>						..
Central America																			
Costa Rica	..	4550	4365	4025	3865	3755	3690	3790	3840	3755	3640	3729	3691	3502	3539	..	..	..	..
Guatemala	5771	..	..	6416	..	5623	..	6065	..	..	..	6938.	..	..	..	6015.	..	..	..
Honduras	..	..	7456	..	7162	..	..	..	..	6515	..	6201	..	..	..	..	..	..	..
Mexico	6800	..	6600	..	..	5800	5600	4900	4500	4300	4300	4335	4140	4140	3895	3915	3775	..	..
El Salvador	..	6158	..	..	5727	5774	5635	5980	5686	5577	5081	..	<.....4216.....>					..	..
Panama	4986	5056	4904	4497	4414	4367	..	4018	3911	3778	3633	3515	3309	3232	3211	..	..	..	..
Temperate South America																			
Argentina	3174	..	..	..	..	..	..	..	..	3567	3351	..	..	..	..	..	..	..	..
Chile	3277	3398	3120	2909	2715	2486	2428	2412	2470	2583	2580	2402	2430	2368	..	..	..	..	..
Uruguay	..	..	..	2645	..	2995	2950	2863	2813	2656	..	..	..	..	..	..	..	..	..
Tropical South America																			
Bolivia	<.....6501.....>					<.....5565.....>					..	..	..	..	..	..	..	..	..
Brazil	5760	..	..	..	..	..	..	..	..	..	4350	<.....3715.....>						..	..
Colombia	..	<.....4695.....>				..	..	..	..	..	..	<.....3375.....>						..	..
Ecuador	<.....6230.....>					<.....5355.....>					..	..	<.....4335.....>						..
Guyana	..	<.....4915.....>				..	..	..	..	..	..	..	..	..	..	..	..	..	..
Paraguay	..	..	..	..	..	<.....4965.....>					..	..	..	..	..	..	..	..	..
Peru	..	..	..	<.....5570.....>					..	..	..	..	..	..	<.....4218.....>			..	..
Venezuela	..	..	..	..	..	..	..	4740	4644	4496	4120	4155	..	..	3692	..	..	..	..

Sources: United Nations (forthcoming (a)); primary sources include national registration data and data from fertility surveys and censuses. Only total fertility rates are reported in United Nations (forthcoming (a)), although both total and teen-age fertility rates are available in citations.

a/ 1965-1970.
b/ 1966-1970.
c/ 1967-1970.
d/ Formerly called Burma.
e/ 1968-1970.

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