## Pakistan

## Pakistan Demographic and Health Survey 1990/1991

National Institute of Population Studies

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Demographic and Health Surveys
IRD/Macro International Inc.

# Pakistan <br> Demographic and Health Survey 1990/1991 

National Institute of Population Studies Islamabad, Pakistan

IRD/Macro International Inc.
Columbia, Maryland USA

This report summarises the findings of the 1990-91 Pakistan Demographic and Health Survey (PDHS) conducted by the National Institute of Population Studies, in collaboration with the Federal Bureau of Statistics. IRD/Macro International Inc. provided technical assistance. Funding was provided by the U.S. Agency for Intemational Development and the Govemment of Pakistan.

The PDHS is part of the worldwide Demographic and Health Surveys (DHS) programme, which is designed to collect data on fertility, family planning, and maternal and child health. Additional information on the Pakistan survey may be obtained from the National Institute of Population Studies, No. 8, Street 70, F-8/3, Islamabad, Pakistan (Telephone 850205; Fax 851977 ; Telex 54139 NIPS PK). Additional information about the DHS programme may be obtained by writing to: DHS, IRD/Macro Intemational Inc., 8850 Stanford Boulevard, Suite 4000, Columbia, MD 21045, USA (Telephone 410-290-2800; Fax 410-290-2999; Telex 198116).

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## PREFACE

One of the major objectives of the National Institute of Population Studies (NIPS) is to assist the Ministry of Population Welfare by assessing and evaluating the Population Welfare Programme. The Pakistan Demographic and Health Survey (PDHS) has been one of the major activities in this context.

This survey is a part of the worldwide exercise to assess the changing demographic and health situation through 60 surveys in different countries. This effort is being coordinated by the Demographic and Health Surveys programme of IRD/Macro Intemational Inc., Columbia, Maryland. Planning for the PDHS began in June 1990 and the survey was executed between December 1990 and May 1991. While the data processing was done simultaneously with the fieldwork, the tabulation was done during June and July 1991 and the preliminary report was released in August 1991. This survey, which is a follow-up of the Pakistan Contraceptive Prevalence Survey undertaken during 1984-85, was given high priority in the work plan of the Institute.

The survey provides us with an up-to-date set of relevant data useful to evaluate population, health and family planning programmes and to assess the overall demographic situation in the country. The results produced in this report provide social scientists, policy makers, and planners with a clear picture about the current level of demographic and health indicators and trends in the recent past and illuminate the likely direction for the future. The importance of the PDHS lies in the fact that it provides basic resource material for the Eighth Five-Year Plan presently being formulated.

For undertaking this arduous task, the Institute cooperated with IRD/Macro International Inc., which provided technical assistance and data processing equipment. The Federal Bureau of Statistics provided assistance in the selection of the sample and the fieldwork. The United States Agency for International Development (USAID) and the Government of Pakistan provided financial assistance and staff for the execution of this activity. To all these agencies, NIPS is highly indebted.

Since this project is a research exercise, there could be differences in the findings of this survey and other data available from different sources. This is an understandable situation; questions have especially been raised about the data on immunisations, the contraceptive method mix and fertility estimates. The users of these data may use caution while interpreting these differences and may draw their own conclusions.

Those who actually worked on the project from its inception to its completion deserve special appreciation. I am also thankful to Mr. K. U. Faruqui and Mr. K. M. Chima for their interest, support and guidance during their stay at NIPS as Project Director. We also acknowledge the services of Dr. A. Ghayur who worked as Principal Investigator for the initial part of the project.

## ACKNOWLEDGMENTS

The Pakistan Demographic and Health Survey (PDHS) was completed as a part of an international exercise undertaken in collaboration with IRD/Macro International Inc. (IRD), Columbia, Maryland. The PDHS was conducted in order to update information on human reproduction, infant and child mortality, contraceptive use, maternal and child care, and the nutritional status of children. The major objective of the PDHS was to provide a data base for evaluating programme efforts and developing strategies and plans for the future programme.

As in the case of all previous demographic surveys, the successful completion depended on a joint effort of a number of organizations and individuals. The National Institute of Population Studies undertook the responsibility of implementing the project only when IRD provided assistance in terms of technical knowhow and equipment, USAID/Islamabad fully financed it, and the Federal Bureau of Statistics (FBS) provided the sampling frame, field supervisory personnel and almost all logistical support for the fieldwork.

Conducting the fieldwork was a huge task and all activities were accomplished on time only with the dedicated, relentless and devoted efforts of the PDHS staff at the headquarters, data entry staff, the office editors, able FBS supervisors and drivers and all our field teams. Many thanks to each one of them for undertaking an enormous amount of hardship during the winter and maintaining the speed and efficiency of work during the month of Ramadan and during unexpected rains from February to April 1991.

We are deeply indebted to Dr. M. S. Jillani, former Secretary of the Ministry of Population Welfare, for the guidance and personal interest needed to maintain the speed of the project. The timely release of funds by him was definitely a big boost for all. Later, his support as a Project Director worked as a catalyst for finalizing and releasing the preliminary and final report of the PDHS.

The PDHS was undertaken in several stages: establishment of the office, questionnaire design and modification, sample design, pretesting of the questionnaire, training of field teams, fieldwork, questionnaire editing, and data entry. As an integral part of the survey activities, every activity was appraised and guided by the Technical Advisory Committee. This is to acknowledge the efforts and timely advice of the members of the Committee in the successful completion of the survey. Many thanks are due to the late Mr. S. M. Ishaque, former Director General, FBS for his professional association and help to the PDHS. We also acknowledge with deep gratitude all the moral and logistic support that we received from the offices of all provincial Director Generals, Population Welfare Departments and a large number of District Population Welfare Officers in conducting our field survey in very remote areas of Pakistan.

Special thanks are also due to the reviewers of various chapters which include Ms. Anne R. Cross, Dr. Elisabeth Sommerfelt, Dr. Kate Stewart and Dr. Fred Arnold. We would also like to thank the following IRD personnel for their assistance in producing tabulations, designing the survey and the sample, and editing and typing the report: Mr. Noureddine Abderrahim, Dr. Alfredo Aliaga, Dr. Ties Boerma, Mr. Trevor Croft, Ms. Jeanne Cushing, Ms. Thanh Le, Dr. A.M. Marckwardt, Ms. Kaye Mitchell, Dr. Sidney Moore, Mr. Luis Ochoa, Mr. Guillermo Rojas, Dr. Jeremiah Sullivan, and Ms. Jane Weymouth. The amount of work put in by Dr. S. S. Hashmi and Dr. A. Razzaque Rukanuddin to review and finalize this report needs to be fully
acknowledged and appreciated. Finally, we would like to acknowledge with deep gratitude and thanks the relentless and committed efforts of Dr. Fred Arnold who provided immense moral support and technical assistance at each stage of the project.

Tauseef Ahmed, Ph.D. Principal Investigator

## SUMMARY OF FINDINGS

The Pakistan Demographic and Health Survey (PDHS) was fielded on a national basis between the months of December 1990 and May 1991. The survey was carried out by the National Institute of Population Studies with the objective of assisting the Ministry of Population Welfare to evaluate the Population Welfare Programme and maternal and child health services. The PDHS is the latest in a series of surveys, making it possible to evaluate changes in the demographic status of the population and in health conditions nationwide. Earlier surveys include the Pakistan Contraceptive Prevalence Survey of 1984-85 and the Pakistan Fertility Survey of 1975.

Until recently, fertility rates had remained high with little evidence of any sustained fertility decline. In recent years, however, fertility has begun to decline due to a rapid increase in the age at marriage and to a modest rise in the prevalence of contraceptive use. The total fertility rate is estimated to have fallen from a level of approximately 6.4 children in the early 1980s to 6.0 children in the mid-1980s, to 5.4 children in the late 1980s. The exact magnitude of the change is in dispute and will be the subject of further research. Important differentials of fertility include the degree of urbanisation and the level of women's education. The total fertility rate is estimated to be nearly one child lower in major cities (4.7) than in rural areas (5.6). Women with at least some secondary schooling have a rate of 3.6 , compared to a rate of 5.7 children for women with no formal education.

There is a wide disparity between women's knowledge and use of contraceptives in Pakistan. While 78 percent of currently married women report knowing at least one method of contraception, only 21 percent have ever used a method, and only 12 percent are currently doing so. Three-fourths of current users are using a modern method and one-fourth a traditional method. The two most commonly used methods are female sterilisation ( 4 percent) and the condom ( 3 percent). Despite the relatively low level of contraceptive use, the gain over time has been significant. Among married non-pregnant women, contraceptive use has almost tripled in 15 years, from 5 percent in 1975 to 14 percent in 1990-91. The contraceptive prevalence among women with secondary education is 38 percent, and among women with no schooling it is only 8 percent. Nearly one-third of women in major cities are current users of contraception, but contraceptive use is still rare in rural areas ( 6 percent).

The Government of Pakistan plays a major role in providing family planning services. Eighty-five percent of sterilised women and 81 percent of IUD users obtained services from the public sector. Condoms, however, were supplied primarily through the social marketing programme.

The use of contraceptives depends on many factors, including the degree of acceptability of the concept of family planning. Among currently married women who know of a contraceptive method, 62 percent approve of family planning. There appears to be a considerable amount of consensus between husbands and wives about family planning use: one-third of female respondents reported that both they and their husbands approve of family planning, while slightly more than one-fifth said they both disapprove. The latter couples constitute a group for which family planning acceptance will require concerted motivational efforts.

The educational levels attained by Pakistani women remain low: 79 percent of women have had no formal education, 14 percent have studied at the primary or middle school level, and only 7 percent have attended at least some secondary schooling. The traditional social structure of Pakistan supports a natural fertility pattem in which the majority of women do not use any means of fertility regulation. In such populations, the proximate determinants of fertility (other than contraception) are crucial in determining
fertility levels. These include age at marriage, breastfeeding, and the duration of postpartum amenorrhoea and abstinence.

The mean age at marriage has risen sharply over the past few decades, from under 17 years in the 1950s to 21.7 years in 1991. Despite this rise, marriage remains virtually universal: among women over the age of 35 , only 2 percent have never married. Marriage patterns in Pakistan are characterised by an unusually high degree of consanguinity. Half of all women are married to their first cousin and an additional 11 percent are married to their second cousin.

Breastfeeding is important because of the natural immune protection it provides to babies, and the protection against pregnancy it gives to mothers. Women in Pakistan breastfeed their children for an average of 20 months. The mean duration of postpartum amenorrhoea is slightly more than 9 months. After the birth of a child, women abstain from sexual relations for an average of 5 months. As a result, the mean duration of postpartum insusceptibility (the period immediately following a birth during which the mother is protected from the risk of pregnancy) is 11 months, and the median is 8 months. Because of differentials in the duration of breastfeeding and abstinence, the median duration of insusceptibility varies widely: from 4 months for women with at least some secondary education to 9 months for women with no schooling; and from 5 months for women residing in major cities to 9 months for women in rural areas.

In the PDHS, women were asked about their desire for additional sons and daughters. Overall, 40 percent of currently married women do not want to have any more children. This figure increases rapidly depending on the number of children a woman has: from 17 percent for women with two living children, to 52 percent for women with four children, to 71 percent for women with six children. The desire to stop childbearing varies widely across cultural groupings. For example, among women with four living children, the percentage who want no more varies from 47 percent for women with no education to 84 percent for those with at least some secondary education.

Gender preference continues to be widespread in Pakistan. Among currently married non-pregnant women who want another child, 49 percent would prefer to have a boy and only 5 percent would prefer a girl, while 46 percent say it would make no difference.

The need for family planning services, as measured in the PDHS, takes into account women's statements concerning recent and future intended childbearing and their use of contraceptives. It is estimated that 25 percent of currently married women have a need for family planning to stop childbearing and an additional 12 percent are in need of family planning for spacing children. Thus, the total need for family planning equals 37 percent, while only 12 percent of women are currently using contraception. The result is an unmet need for family planning services consisting of 25 percent of currently married women. This gap presents both an opportunity and a challenge to the Population Welfare Programme.

Nearly one-tenth of children in Pakistan die before reaching their first birthday. The infant mortality rate during the six years preceding the survey is estimated to be 91 per thousand live births; the under-five mortality rate is 117 per thousand. The under-five mortality rates vary from 92 per thousand for major cities to 132 for rural areas; and from 50 per thousand for women with at least some secondary education to 128 for those with no education.

The level of infant mortality is influenced by biological factors such as mother's age at birth, birth order and, most importantly, the length of the preceding birth interval. Children borm less than two years after their next oldest sibling are subject to an infant mortality rate of 133 per thousand, compared to 65 for those spaced two to three years apart, and 30 for those born at least four years after their older brother or sister.

One of the priorities of the Govemment of Pakistan is to provide medical care during pregnancy and at the time of delivery, both of which are essential for infant and child survival and safe motherhood. Looking at children born in the five years preceding the survey, antenatal care was received during pregnancy for only 30 percent of these births. In rural areas, only 17 percent of births benefited from antenatal care, compared to 71 percent in major cities. Educational differentials in antenatal care are also striking: 22 percent of births of mothers with no education received antenatal care, compared to 85 percent of births of mothers with at least some secondary education.

Tetanus, a major cause of neonatal death in Pakistan, can be prevented by immunisation of the mother during pregnancy. For 30 percent of all births in the five years prior to the survey, the mother received a tetanus toxoid vaccination. The differentials are about the same as those for antenatal care generally.

Eighty-five percent of the births occurring during the five years preceding the survey were delivered at home. Sixty-nine percent of all births were attended by traditional or trained birth attendants, while 19 percent were assisted by a doctor or nurse.

The Expanded Programme on Immunisation in Pakistan has met with considerable success. Among children 12 to 23 months of age, 70 percent had received a BCG vaccination, 50 percent a measles vaccination, and 43 percent had received all three doses of DPT and polio vaccine. Only 35 percent, however, had received all of the recommended vaccinations, while 28 percent had received none at all. Thirty-nine percent of boys were fully protected, compared to 31 percent of girls.

Sixteen percent of children under the age of five had been ill with a cough accompanied by rapid breathing during the two weeks preceding the survey. Children 6-11 months old were most prone to acute respiratory infections ( 23 percent). Two-thirds ( 66 percent) of children who were sick were taken to a healh facility or provider. All but 15 percent of the sick children received some kind of treatment.

About the same proportion of children ( 15 percent) had suffered from diarrhoea in the two weeks preceding the survey, with the highest incidence among children under two years of age. Nearly half (48 percent) were taken to a health facility or provider. About two of five ( 39 percent) children with diarrhoea were treated with oral rehydration solution prepared from ORS packets. Knowledge of oral rehydration therapy is widespread: 90 percent of mothers recognise ORS packets. Nearly two-thirds ( 63 percent) of mothers have used ORS packets at some time, and among these, three-quarters had mixed the solution correctly the last time they prepared it.

Thirty percent of children had suffered from fever in the two weeks preceding the survey. Those most prone to illness were age 6 to 11 months. Two-thirds of children with fever were taken to a health facility or provider.

Inadequate nutrition continues to be a serious problem in Pakistan. Fifty percent of children under five years of age suffer from stunting (an indicator of chronic undernutrition), as measured by height for age. The prevalence of stunting increases with age, from 16 percent for children under 6 months to 63 percent of four-year olds. The lowest prevalence is found in Punjab ( 44 percent), and the highest in Balochistan ( 71 percent). The mother's level of education is an important factor; the prevalence of stunting varies from 18 percent for mothers with some secondary education to 56 percent for mothers with no education.

Acute undernutrition, low weight for height, is less of a problem in Pakistan than chronic undernutrition. Nine percent of children suffer from acute undernutrition (wasting). The prevalence of wasting does not vary substantially between geographic groupings. The largest differential is for mother's
education: 4 percent of children of mothers with some secondary school or higher education are wasted, compared to 10 percent of children of mothers with no schooling.

A systematic subsample of households in the women's survey was selected to obtain information from the husbands of currently married women. The focus was on obtaining information about attitudes, behaviour, and the role of husbands regarding family planning. Husbands' responses concerning knowledge and use of contraception were remarkably similar to women's responses: about four-fifths knew of at least one method, two-thirds knew of a source of supply, one-fourth reported that they and their spouses had used contraception sometime in the past, and about one-seventh were current users.

Although a majority of husbands ( 56 percent) approve of family planning, wives are more likely to favour family planning than their husbands. Since husbands usually have a predominant role in family decision making, the family planning programme should increase efforts to educate and motivate husbands.

PAKISTAN


## CHAPTER 1

## INTRODUCTION

Abdul Razzaque Rukanuddin and Tauseef Ahmed

This report gives the major findings of the Pakistan Demographic and Health Survey (PDHS) conducted from December 1990 to May 1991 on a nationwide basis. After the preliminary report, published in August 1991, this is the first in a series of reports on the PDHS findings with the objective of improving the Population Welfare Programme and health services in Pakistan. Besides presenting results at the national level, this report presents information by urban-rural areas and by province. Before presenting the major findings, this chapter discusses the physical features, people, culture, religion, language, population distribution and size, fertility and mortality levels, literacy and educational attainment, economy, population and family planning and health policies and programmes of the country. The objective of this presentation is to make the reader familiar with the historical, geographic, socioeconomic and demographic features of the country.

### 1.1 Physical Features

Pakistan, situated in the northwestern part of the South Asian subcontinent, obtained independence from the British on August 14, 1947 after the subdivision of the Indian subcontinent. It is a land mass of diversified relief with vast plains in the Indus basin, a rocky expanse of plateaus in the southwest and majestic mountains in the north with beautiful valleys, snow-covered peaks and glaciers. Pakistan extends from $24^{\circ}$ to $37^{\circ} \mathrm{N}$ latitude and from $61^{\circ}$ to $75^{\circ} \mathrm{E}$ longitude. On its east and southeast lies India, to the north and northwest is Afghanistan, to the west is Iran and in the south, the Arabian Sea. It has a common frontier with China on the border of its Gilgit Agency. Tajikistan, formerly in the USSR, is separated from Pakistan by a narrow strip of Afghan territory called Wakhan.

This variety of landscape divides Pakistan into six major regions: the Northern High Mountainous Region, the Western Low Mountainous Region, the Balochistan Plateau, the Potohar Uplands, and the Punjab and Sindh fertile plains. Pakistan is a land of great rivers like the Indus and its tributaries, large dams like Tarbela, and high mountain peaks like K2 (Mount Goodwin Austin - 8,611 metres) and Nanga Parbat (8,126 metres).

### 1.2 Climate, Rainfall, and Seasons

Pakistan has a continental type of climate, characterized by extreme variations of temperature depending on the topography of the country. Pakistan experiences a general deficiency of rainfall. Although it is in the monsoon region, it is arid, except for the southern slopes of the Himalayas and the submountainous tract where the annual rainfall varies between 76 and 127 cm . Balochistan is the driest part of the country with an average rainfall of 21 cm .

There are four well-marked seasons in Pakistan, namely:

1. Cold season (December to March)
2. Hot season (April to June)
3. Monsoon season (July to September)
4. Post-monsoon season (October to November).

### 1.3 Administrative Divisions

The total land area of Pakistan is about 796,000 square kilometres. Pakistan is comprised of the provinces of Punjab, North West Frontier, Balochistan and Sindh and the Federally Administered Tribal Areas (FATA) of the north and northwest (see map, page xxiv). Each province is divided into administrative divisions, districts, tehsils and talukas. There were 16 divisions and 72 districts in the country in 1991. Islamabad, the capital of Pakistan, which lies in the northem part of the country at the bottom of the Margala hills near Rawalpindi, is a well-planned city which was constructed beginning in the 1960s.

### 1.4 People, Culture, Religion, and Language

Pakistan historically attracted migrants from many nations in the northwest and the northeast. These include Dravidians, Aryans, Greeks, Turks, Persians, Afghans, Arabs and Mughals. The dominant racial type in Pakistan is Indo-Aryans.

In the cultural arena, Pakistan has inherited a rich heritage. A highly developed way of life was attained by the people of Pakistan in the Indus Valley Civilization about 5000 years ago which came to an end around 1500 B.C. About 500 B.C., the northern city of Taxila emerged as a famous centre of Buddhist leaming and culture which existed for a thousand years.

Pakistan is an ideological state which came into existence as a result of the demand for a separate homeland for the Muslims of the Indian subcontinent. The Muslim majority areas were mostly carved out into Pakistan. Therefore, the large majority of the population of Pakistan is comprised of Muslims. A negligible minority of Hindus is settled mainly in the border districts of Sindh. Christians are widely spread throughout the country and form about three percent of the total population. The Parsis (Zoroastrians), who number about 20,000, are an economically notable minority, mostly settled in Karachi. The constitution of Pakistan guarantees the right of minorities to profess, practice and propagate their religion and every administrative position is open to them with the exception of the Head of State and the Prime Minister.

Urdu is the language most commonly spoken throughout the country. Balochi and Brohi are spoken in most of Balochistan, Pushto in North West Frontier Province (NWFP) and also in some parts of Balochistan, Punjabi in Punjab, and Sindhi in the Province of Sindh. Saraiki is widely spoken in southern Punjab in the districts of Multan, Bahawalpur and Dera Ghazi Khan and adjoining areas in Balochistan, NWFP and Sindh. The medium of education is Urdu but English continues to be used in higher education and professional colleges, particularly in scientific and technical fields. English is widely used for commercial, legal and other official business in the country.

### 1.5 Population

## Population Size

Pakistan is the ninth most populous country in the world after China, India, the former USSR, USA, Indonesia, Brazil, Japan, and Nigeria. The population of Pakistan was 16.6 million at the beginning of the twentieth century (in 1901). By the time of independence in 1947, the population was estimated to have doubled to 32.5 million. In the first decennial census (1951), the population of Pakistan was reported to be 33.8 million while in the last decennial census in 1981 the population size was 84.3 million (see Table 1.1). In 1991, the population was estimated to be around 115 million with males comprising 52.5 percent of the population. The sex ratio of the population is estimated to be 111 males per 100 females. Since independence, the population has increased at an average growth rate of 2.9 percent per annum. The present growth rate of the population is estimated to be around three percent.

| Table 1.1 Population size and distribution |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Distribution of population, intercensal change and average annual growth rate of population by residence, Pakistan, 1951-1981 |  |  |  |  |
|  | Census year |  |  |  |
| Area | 1951 | 1961 | 1972 | 1981 |
|  | Population (in 000s) |  |  |  |
| Urban | 6,019 | 9,655 | 16,594 | 23,841 |
| Rural | 27,798 | 33,324 | 48,727 | 60,412 |
| Total | 33,817 | 42,978 | 65,321 | 84,254 |
|  | Percent distribution |  |  |  |
| Urban | 17.8 | 22.5 | 25.4 | 28.3 |
| Rural | 82.2 | 77.5 | 74.6 | 71.7 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 |
|  | Intercensal percent change |  |  |  |
| Urban |  |  | 71.9 | 43.7 |
| Rural |  |  | 46.2 | 24.0 |
| Total |  |  | 52.0 | 29.0 |
|  | Average annual growth rate |  |  |  |
| Urban |  |  | 4.77 | 4.38 |
| Rural |  |  | 3.32 | 2.58 |
| Total |  |  | 3.67 | 3.06 |

Source: Population Census Organisation (1985).

## Population Distribution

The population of Pakistan is unevenly distributed among its various provinces. Punjab is the most densely populated province with about one-quarter ( 26 percent) of the total land area of the country and more than half ( 56 percent) of the total population. The next most densely populated provinces are Sindh, with less than one-fifth ( 18 percent) of the land area and 23 percent of the total population and North West Frontier Province (NWFP) and the Federally Administered Tribal Area (FATA) with 13 percent of the land area and 16 percent of the total population. Balochistan, which is the largest province by area (with 44 percent of the total land area), has the lowest proportion of Pakistan's total population ( 5 percent). The population density in the country increased from 43 persons per square kilometre in 1951 to 106 persons per square kilometre in 1981 and further to around 145 persons per square kilometre in 1991.

## Urban-Rural Distribution

Pakistan is predominantly an agricultural country with just over 50 percent of the work force employed in occupations related to agriculture. The 1981 Census reported that 72 percent of the total population lived in rural arcas. However, urban growth over the ycars has been dramatic. The proportion
urban increased from 18 percent in 1951 to 28 percent in 1981. In terms of absolute numbers, the urban population nearly quadrupled from 6.0 million in 1951 to 23.8 million in 1981. However, the intercensal average annual growth rate of the urban population declined from 4.9 percent for the period 1951-61 to 4.4 percent for the period 1972-81, primarily due to a change in the definition of urban areas (see Table 1.1).

### 1.6 Fertility

Several attempts have been made in Pakistan to estimate fertility rates through direct as well as indirect techniques. A number of estimates have been made based on different sets of data, methods and assumptions. Given the trend in population growth, the inevitability of fertility as an important focus of population studies cannot be overemphasized. But a major problem in Pakistan is the wide variations in fertility estimates derived from different sets of data (Rukanuddin and Farooqui 1988), reflecting problems in data inconsistency due to methodological and procedural differences. For instance, the direct fertility estimates based on the 1975 Pakistan Fertility Survey and the 1984-85 Pakistan Contraceptive Prevalence Survey are lower than the indirect estimates based on the Population Growth Surveys (conducted between 1968 and 1979) and the Pakistan Demographic Surveys (conducted annually since 1984). However, prior demographic surveys confirm the persistence of a high level of fertility in Pakistan but with a gradual decline over time. The principal decline has been observed for the younger age groups and is attributed primarily to an increase in the age at marriage. Changes over time in other proximate determinants of fertility in Pakistan such as contraceptive use and breastfeeding are less conducive to lower fertility. Since 1974, surveys have estimated the crude birth rate to vary from 37 to 43 per thousand population and the total fertility rate to range between 5.9 and 6.9 children per woman.

### 1.7 Mortality

In Pakistan, the systematic study of trends, levels and differentials in mortality is impeded by a lack of reliable data. Although a system of vital registration has been in existence in the country since the last quarter of the 19th century, the recorded data suffer from errors in coverage and inaccuracies in the information provided. It is estimated that at the time of independence, the crude death rate (CDR) was around 25 to 30 per thousand population. The decline in mortality after the Second World War has been very rapid, with the CDR falling to about 10 to 12 deaths per thousand in the 1980s. This has been due inter alia to improvements in the availability of food through higher levels of production, the effective control of procurement and distribution of food grains, and the increasing pace of socioeconomic development. Epidemics have also been eliminated and diseases brought under control with the development of effective public health measures and medical services such as inoculation and vaccination programmes.

The infant mortality rate was around 150 to 180 deaths per thousand live births at the time of independence in 1947. This has declined to less than 100 in 1991, mainly due to improved health services and a successful immunisation programme. Available evidence suggests that slightly more than one-third (36 percent) of all deaths occur during infancy in Pakistan. Morcover, one-third of all infant deaths occur within one week of birth. An additional 22 percent of deaths occur in the second to fourth week. In other words, more than half of infant deaths are neonatal deaths that occur within four weeks of birth. Much could be done to eliminate some of the causes of neonatal deaths such as short birth intervals and high parity births.

Maternal deaths, associated with complications of pregnancy and childbirth, are quite high. Four of five deliveries are attended by traditional birth attendants or elderly women. Repeated and closely spaced pregnancies and births coupled with high parity pregnancies are found to result in a high incidence of maternal deaths. In Pakistan it is estimated that around 500 maternal deaths occur per hundred thousand live births.

Although a gradual decline in mortality has been taking place in the country, health care coverage is still insufficient. Only 55 percent of the population has access to health services. A significant augmentation of services is necessary in order to reduce mortality, especially in rural areas.

The life expectancy at birth has increased from $35-38$ years at the time of independence to close to 60 years around 1990. The single largest increase in longevity occurred after the 1960s. In the past, males in Pakistan, on the whole, enjoyed a longer life expectancy ( $3-4$ years longer than females) because of higher female mortality at younger ages and during the reproductive years (although this result might have been affected by differential underreporting of mortality by sex). Recently this difference has been reduced.

### 1.8 Literacy and Educational Attainment

Pakistan has one of the lowest literacy rates ( 31 percent) in the world. Moreover, in 1985 there was a wide gap between male ( 43 percent) and female ( 18 percent) literacy rates. The lowest female literacy rate (4 percent), as of the 1981 Census, was observed for Balochistan. The literacy rate among rural females was only 2 percent in Balochistan and 4 percent in NWFP (Rukanuddin and Farooqui 1988).

The primary school enrolment ratio is also very low (49 percent). The corresponding figures for males and females are 63 percent and 35 percent, respectively. Primary education in Pakistan is further characterized by drop-out and repeater rates which are considered to be among the highest in the world. Only 50 percent of the students who enter primary school complete the five years of primary school. Students, on the average, go to school for 1.7 years, which is very low compared to the average years of schooling in other developing countries (United Nations Development Programme 1991).

### 1.9 Economy

Pakistan is intrinsically an agricultural country with more than 70 percent of its population living in rural areas. Agriculture is the largest single sector of the economy, employing more than 50 percent of the labour force. Agriculture accounts for 24 percent of the gross domestic product (GDP) and 70 percent of export earrings (Rukanuddin and Farooqui 1988). Development in agriculture and industry has transformed the economy of Pakistan and moved the country toward self sufficiency in meeting its basic needs.

In 1990-91, the average per capita income in Pakistan was about Rs 9000 (US\$400). The average rural monthly income per household in Pakistan is around one-third lower than the per household urban income. Moreover, it has been estimated that about 30 percent of the population in Pakistan live below the poverty line. Pakistan also has a low gross domestic savings rate of 13 percent of the GDP. The average annual growth rate of the GDP during the period 1985-90 was about 5.8 percent.

### 1.10 Population and Family Planning Policies and Programmes

Pakistan was a pioneer among the most populated developing countries in supporting and implementing family planning activities starting in the 1950s. Concem has been expressed in successive Five-YearDevelopment Plans (1955-60 to 1988-93) about rapid population growth and provisions have been made to support a family planning programme to deal with this burgeoning problem. Different approaches and strategies have been adopted during each plan period to promote the concept of a small family norm and to encourage the use of modern methods of family planning. These strategies have varied in design, coverage, outreach, supervision and guidance. However, due to a lack of consistent government commitment and social and cultural constraints, the programme has not been adequately effective in providing family planning services or generating widespread demand for the adoption of contraceptives. Financial and operational obstacles have also hindered the coverage of the programme, which is in the range of $25-30$
percent of the total population. Family planning facilities are more concentrated in urban areas than in rural areas. The fertility inhibiting effect of the family planning programme has been low in Pakistan and contraceptive use has remained low despite the existence of the programme for the last three decades.

The environment for family planning in Pakistan has been quite difficult. Factors which are generally associated with high fertility rates worldwide also pertain to Pakistan: high illiteracy and low educational attainment (particularly among females), poverty, high infant and child mortality, high maternal mortality, a preference for sons, poor access to health facilities, low socioeconomic status of women, ignorance, conservatism, fatalism and religiosity. These factors reinforced one another in maintaining high and stable fertility rates in the country. After many years of effort, the coverage of family planning services does not exceed one-third of the population. Various fertility surveys have found a wide gap between knowledge and the use of contraception in Pakistan. These surveys, however, have also indicated the existence of a potential demand for family planning expressed by Pakistani women (Population Welfare Division 1986).

### 1.11 Health Policies and Programmes

The Ministry of Health provides health care services through government hospitals and other health outlets. The objective of the health policy is to reduce the incidence of morbidity and mortality by providing preventive and curative care to the whole population. Specific attention is given to reducing infant and child mortality, curtailing severe undernutrition among children and mothers, and improving child survival and safe motherhood.

In order to combat high childhood morbidity and mortality due to infectious and communicable diseases, an immunisation programme was initiated in 1978 to protect infants and young children against six common diseases and pregnant mothers against tetanus. This programme was greatly accelerated in 1982 with the collaboration of the World Health Organisation and UNICEF. The Expanded Programme on Immunisation (EPI) is a major component of this scheme to provide universal immunisation.

High maternal mortality is a priority area for health policy and coverage is provided to mothers through ante- and postnatal services performed at maternal and child health centres. These efforts are complemented by projects focusing on child survival and nutritional status through growth monitoring, adequate food supplementation and the promotion of breastfeeding.

The government is committed to improving the quality of health services and the coverage of primary health care services, especially in the rural areas, through its Basic Health Units and Rural Health Centres. The provincial Health Departments of the respective provinces provide these services through their outlets. It was only in 1991 that the new health policy provided for family planning services to be offered through all health outlets as an integral part of health services.

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## CHAPTER 2

## SURVEY DESIGN AND IMPLEMENTATION

Tauseef Ahmed, M. D. Mallick and Alfredo Aliaga

This chapter outlines various aspects of the design and implementation of the Pakistan Demographic and Health Survey-namely, the objectives and organisation of the survey, the sample design, the questionnaire design, training and fieldwork, data processing, and implementation.

### 2.1 Objectives of the Pakistan Demographic and Health Survey

The primary objective of the Pakistan Demographic and Health Survey (PDHS) was to provide national- and provincial-level data on population and health in Pakistan. The primary emphasis was on the following topics: fertility, nuptiality, family size preferences, knowledge and use of family planning, the potential demand for contraception, the level of unwanted fertility, infant and child mortality, breastfeeding and food supplementation practices, matemal care, child nutrition and health, immunisations and child morbidity. This information is intended to assist policy makers, administrators and researchers in assessing and evaluating population and health programmes and strategies. The PDHS is further intended to serve as a source of demographic data for comparison with earlier surveys, particularly the 1975 Pakistan Fertility Survey (PFS) and the 1984-85 Pakistan Contraceptive Prevalence Survey (PCPS).

### 2.2 Organisation of the Survey

In April, 1990, the National Institute of Population Studies (NIPS), on behalf of the Government of Pakistan, signed a contract with the United States Agency for Intemational Development (USAID) and IRD/Macro Intemational Inc. (IRD), Columbia, Maryland, to carry out the Pakistan Demographic and Health Survey in collaboration with the Federal Bureau of Statistics, Statistics Division, Government of Pakistan. Technical assistance was provided by IRD for all phases of the survey through the Demographic and Health Surveys programme. The survey was funded by the United States Agency for International Development (USAID) and the Govemment of Pakistan.

### 2.3 Sample Design

The sample design adopted for the Pakistan Demographic and Health Survey is a stratified, clustered and systematic sample of households. The universe consists of all urban and rural areas of the four provinces of Pakistan as defined in the 1981 Population Census, excluding the Federally Administered Tribal Areas (FATA), military restricted areas, the districts of Kohistan, Chitral and Malakand, and protected areas of North West Frontier Province (NWFP). The population of excluded areas constitutes about 4 percent of the total population.

For the urban sample, the sampling frame used was the master sample prepared by the Federal Bureau of Statistics. This frame was developed by dividing each city/town into enumeration blocks of approximately 200-250 households with detailed and clearly recognizable boundary particulars and maps. The updating of the frame was done on the basis of the information obtained from the 1988 Census of Establishments. For the rural sample, the sampling frame used was the village list published by the 1980 Housing Census. The primary sampling units in the urban domain were enumeration blocks; in the rural domain they were mouzas/dehs/villages.

## Sample Size and Allocation

The PDHS sample is a subsample of the Federal Bureau of Statistics master sample, which includes 7,420 primary sampling units (PSUs). Consideration in the selection of the PDHS sample was given to the population parameters and geographic levels for which estimates were required, the resources available, and the expected rate of nonresponse. A sample of 8,019 households (secondary sampling units) was selected for coverage from 408 sample areas (PSUs). The distribution of primary sampling units, secondary sampling units (SSUs), eligible women and eligible husbands and their actual coverage in the four provinces is given in Tables 2.1, 2.2 and 2.3.

## Stratification Plan

Cities having a population of 500,000 and above (Faisalabad, Gujranwala, Hyderabad, Karachi, Lahore, Multan, Peshawar, and Rawalpindi) were included to form the domain for the major cities. Quetta, which had a population of less than 500,000 but is the capital of Balochistan, was also included as a major city. For the selection of the sample, each of these cities constituted a separate stratum which was further stratified into low, middle, and high income areas, based on information collected in each enumeration block at the time the urban sampling frame was updated. For the remaining urban cities/towns, divisions of NWFP, Sindh, Punjab and Balochistan were grouped together to form a stratum. For the rural domain, each district in each province was considered a stratum, except in Balochistan where each division constituted a stratum.

A two-stage stratified sample design was adopted for the survey. The sample PSUs from each urban stratum were selected with probability proportional to the number of households. The sample PSUs from each rural stratum were selected with probability proportional to the population enumerated in the 1981 census.

[^0]| Province | Number of PSUs |  |  | Number of SSUs (households) |  |  | Number of eligible women |  |  | Number of eligible husbands |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Covered | $\begin{gathered} \text { Not } \\ \text { covered } \end{gathered}$ | Total | Covered | Not covered | Total | Covered | Not covered | Total | Covered | $\begin{gathered} \text { Not } \\ \text { covered } \end{gathered}$ | Total |
| Punjab | 155 | 0 | 155 | 2598 | 192 | 2790 | 2207 | 124 | 2331 | 461 | 103 | 564 |
| Sindh | 110 | 0 | 110 | 2071 | 189 | 2260 | 1798 | 102 | 1900 | 364 | 175 | 539 |
| NWFP | 82 | 0 | 82 | 1609 | 147 | 1756 | 1665 | 24 | 1689 | 313 | 81 | 394 |
| Balochistan | 60 | 1 | 61 | 915 | 298 | 1213 | 941 | 43 | 984 | 216 | 44 | 260 |
| Total | 407 | 1 | 408 | 7193 | 826 | 8019 | 6611 | 293 | 6904 | 1354 | 403 | 1757 |

## Table 2.2 Sample coverage for urban areas

Coverage of urban primary sampling units (PSUs), secondary sampling units (SSUs), eligible women and eligible husbands, Pakistan 1990-91

| Province | Number of PSUs |  |  |  | Number of SSUs (households) |  |  | Number of eligible women |  |  | Number of eligible husbands |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Covered | Not covered | Total | Covered | Not covered | Total | Covered | $\begin{gathered} \text { Not } \\ \text { covered } \end{gathered}$ | Total | Covered | $\begin{gathered} \text { Not } \\ \text { covered } \end{gathered}$ | Total |
| Punjab | T | 72 | 0 | 72 | 1178 | 118 | 1296 | 995 | 71 | 1066 | 212 | 56 | 268 |
|  | M | 39 | 0 | 39 | 667 | 71 | 738 | 558 | 51 | 609 | 116 | 36 | 152 |
|  | 0 | 33 | 0 | 33 | 511 | 47 | 558 | 437 | 20 | 457 | 96 | 20 | 116 |
| Sindh | T | 70 | 0 | 70 | 1167 | 93 | 1260 | 1059 | 72 | 1131 | 206 | 120 | 326 |
|  | M | 49 | 0 | 49 | 835 | 65 | 900 | 755 | 57 | 812 | 147 | 85 | 232 |
|  | 0 | 21 | 0 | 21 | 332 | 28 | 360 | 304 | 15 | 319 | 59 | 35 | 94 |
| NWFP | T | 42 | 0 | 42 | 699 | 57 | 756 | 749 | 12 | 761 | 144 | 51 | 195 |
|  | M | 14 | 0 | 14 | 247 | 23 | 270 | 261 | 5 | 266 | 56 | 25 | 81 |
|  | S | 28 | 0 | 28 | 452 | 34 | 486 | 488 | 7 | 495 | 88 | 26 | 114 |
| Balochistan | T | 41 | 0 | 41 | 558 | 180 | 738 | 581 | 28 | 609 | 134 | 32 | 166 |
|  | M | 18 | 0 | 18 | 234 | 90 | 324 | 246 | 12 | 258 | 61 | 11 | 72 |
|  | 0 | 23 | 0 | 23 | 324 | 90 | 414 | 335 | 16 | 351 | 73 | 21 | 94 |
| Total | T | 225 | 0 | 225 | 3602 | 448 | 4050 | 3384 | 183 | 3567 | 696 | 259 | 955 |
|  | M | 120 | 0 | 120 | 1983 | 249 | 2232 | 1820 | 125 | 1945 | 380 | 157 | 537 |
|  | 0 | 105 | 0 | 105 | 1619 | 199 | 1818 | 1564 | 58 | 1622 | 316 | 102 | 418 |

$T=$ Total
$\mathrm{M}=$ Major city
$\mathrm{O}=$ Other urban

## Table 2.3 Sample coverage for rural areas

Coverage of rural primary sampling units (PSUs), secondary sampling units (SSUs), eligible women and eligible husbands, Pakistan 1990-91

| Province | Number of PSUs |  |  | Number of SSUs (households) |  |  | Number of eligible women |  |  | Number of eligible husbands |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Covered | Not covered | Total | Covered | $\begin{gathered} \text { Not } \\ \text { covered } \end{gathered}$ | Total | Covered | Not covered | Total | Covered | $\begin{gathered} \text { Not } \\ \text { covered } \end{gathered}$ | Total |
| Punjab | 83 | 0 | 83 | 1420 | 74 | 1494 | 1212 | 53 | 1265 | 249 | 47 | 296 |
| Sindh | 40 | 0 | 40 | 904 | 96 | 1000 | 739 | 30 | 769 | 158 | 55 | 213 |
| NWFP | 40 | 0 | 40 | 910 | 90 | 1000 | 916 | 12 | 928 | 169 | 30 | 199 |
| Balochistan | 19 | 1 | 20 | 357 | 118 | 475 | 360 | 15 | 375 | 82 | 12 | 94 |
| Total | 182 | 1 | 183 | 3591 | 378 | 3969 | 3227 | 110 | 3337 | 658 | 144 | 802 |

Households within each sample PSU were considered secondary sampling units (SSUs). A fixed number of SSUs were selected systematically with equal probability using a random start and a sampling interval: 18 SSUs from each PSU in the urban domain in the four provinces and in the rural domain of Punjab Province and 25 SSUs from each PSU in the rural domain of the remaining three provinces of Sindh, NWFP and Balochistan. Unlike previous surveys in Pakistan, the PDHS did not allow the substitution of households in the case of nonresponse.

From the selected sample of SSUs, a systematic subsample of one in three households was chosen for inclusion in the husbands' sample. The husbands of eligible women in these households were eligible to be interviewed, provided that they slept in the household the night before the interview.

The sample was designed to produce reliable estimates of population and health indicators separately for Karachi and for urban and rural areas of Punjab, Sindh, NWFP and Balochistan. This objective required an oversampling of all urban areas as well as the provinces of NWFP, Balochistan and Sindh.

Because of the nature of the PDHS sample, a separate weighting factor was required for every PSU. The weighting procedure has two major components: the design component and the response differential component, with the design component being the major one. The weights were standardized so that the weighted number of completed cases at the national level is equal to the unweighted total. After data entry, weights were applied to the households and individuals in each PSU, to insure that the weighted sample would properly represent the actual geographic distribution of the population of Pakistan. Weights for husbands followed the same methodology as weights for women, except that the husbands' nonresponse rates were used in the calculations.

The target was to interview 8,019 ever-married women age 15-49. The size of the target sample was based on an assumption of 1.1 eligible women per household and a nonresponse rate of 10 percent.

A summary of the distribution of eligible women and eligible husbands by province and urban-rural residence is presented in Tables 2.1,2.2 and 2.3. In general, the sample was adequate in size and sufficiently representative of the population to provide reliable estimates for the country as a whole, for urban areas, for rural areas, and for each province. However, for smaller groups, the sampling errors are generally higher. The calculated sampling errors for selected variables are shown in Appendix B.

### 2.4 Questionnaires

Three types of questionnaires were used in the PDHS: the Household Questionnaire, the Woman's Questionnaire and the Husband's Questionnaire (see Appendix D). The contents of the questionnaires were based on the DHS Model B Questionnaire, which is designed for use in countries with low contraceptive prevalence. Additions and modifications to the model questionnaire were made after extensive consultations with related ministries and interested organisations and with members of the PDHS Technical Advisory Committee. The questionnaires were translated from the original English version into the national language (Urdu) and three regional languages (Punjabi, Sindhi and Pushto).

The Household Questionnaire listed all usual residents of a sampled household, plus all visitors who slept in the household the night before the interview. Some basic information was collected on the characteristics of each person listed, including their age, sex, marital status, education and relationship to the head of the household. The main purpose of this section of the Household Questionnaire was to identify women and men who were eligible for the Women's Questionnaire and the Husband's Questionnaire. In addition, the Household Questionnaire collected information on the household itself, such as the source of water, type
of toilet facilities, materials used in the construction of the house, and ownership of various durable consumer goods.

The Woman's Questionnaire was used to collect information from eligible women-that is, all ever-married women age 15-49 who slept in the household the night before the household interview. Eligible women were asked questions about the following topics:

Background characteristics
Reproductive history
Knowledge and use of contraception
Pregnancy and breastfeeding
Vaccinations and the health of children
Marriage
Family size preferences
Husband's background
In addition, interviewing teams measured the height, weight and arm circumference of all respondents' children under age five. The PDHS was the first national survey that collected demographic, health and anthropometric data simultaneously. The questionnaire was designed to be completed in an average interview time of about 60 minutes. The actual mean time for the individual interview was 53 minutes. The interview time ranged from 47 minutes for women with no children bom since January 1986 to 60 minutes for women who had three or more children during that period.

Interviews were also conducted with a subsample of husbands of eligible women who were married at the time of the survey. The Husband's Questionnaire consists of a subset of the questions on the Woman's Questionnaire, with particular emphasis on family planning, marriage, and family size preferences.

### 2.5 Recruitment, Training and Fieldwork

The selection of field teams was done at the regional level in order to insure that interviewers were accustomed to local dialects and cultural norms and were acquainted with localities in adjacent areas. The majority of field interviewers had received either a bachelor's or a master's degree.

In September-October 1990, prior to the main survey, a pretest of the questionnaires and field procedures was carried out. A two-week training session for interviewers and supervisors was conducted at Punjab University, Lahore. The training session was followed by two weeks of fieldwork. A total of 309 pretest interviews were completed in urban and rural areas of all four provinces in Pakistan (Punjab, Sindh, North West Frontier Province, and Balochistan).

Training for the main survey took place in November-December 1990. Training was held simultaneously at the Regional Training Institutes of the Ministry of Population Welfare in three cities-Karachi, Lahore and Peshawar. Staff members from the National Institute of Population Studies, the Federal Bureau of Statistics, the Regional Training Institutes and IRD/Macro International conducted the training sessions.

Participants in the training course included 16 statistical officers from the Federal Bureau of Statistics (FBS) and more than 80 female and male interviewers. The four-week training course consisted of instruction in general interviewing techniques and field procedures, a detailed review of the questionnaires, practice in weighing and measuring children, and practice interviews in the field. Trainees who performed satisfactorily in the training programme were selected as interviewers for the main survey. The female interviewers whose performance was rated as superior were selected as field editors.

The fieldwork for the PDHS was carried out by 15 interviewing teams. Each team consisted of one field supervisor from FBS, one field editor, three female interviewers, one male interviewer and one driver (see Appendix A for a complete list of survey staff). The fieldwork started in December 1990 and was completed by May 1991. Transportation for the field teams was provided by FBS, provincial Population Welfare Departments, and NIPS. Assignment of PSUs to the teams and various logistic decisions were made by the PDHS staff. Each team was allowed a fixed period of time to complete fieldwork in a PSU before moving to the next PSU. All the teams started their fieldwork close to or adjacent to their headquarters.

The main duty of the field editors was to examine the completed questionnaires in the field and ensure that all necessary corrections were made. An additional duty was to examine the on-going interviews and verify the accuracy of information collected on the eligibility of respondents. Throughout the survey, PDHS staff maintained close contact with all 15 teams through direct communication and spot-checking. The objective was to provide support in the field and advice to enhance data quality and the efficiency of interviewers. This objective was accomplished by communicating data problems and possible solutions to the interviewing teams, reminding interviewers about proper probing techniques, and examining the fieldwork of the supervisors. Each team supervisor was provided by FBS with the original household listing and the household sample selected by computer for each designated PSU. In case of any error in the sample information, the supervisors contacted FBS headquarters to resolve the problem.

### 2.6 Data Entry and Processing

All completed questionnaires for the PDHS were sent to the National Institute of Population Studies for data entry and processing. The data entry operation consisted of office editing, coding, data entry and machine editing. Although field editors examined the completed questionnaires in the field, these were re-edited at the PDHS headquarters by specially trained office editors. This re-examination covered: checking all skip sequences, checking circled response codes, and checking the information recorded in the filter questions. Special attention was paid to the consistency of responses to age questions and the accurate completion of the birth history. A second stage of office editing comprised the assignment of appropriate occupational codes and the addition of commonly mentioned "other" responses to the coding scheme. One supervisor and five data entry operators were responsible for the data entry and computer editing operations. The data were processed using five microcomputers and the DHS data entry and editing programmes written in ISSA (the Integrated System for Survey Analysis). The data entry started in the first week of January 1991, within one week of the receipt of the first set of completed questionnaires. The data entry was done directly from the precoded questionnaires. All data entry and editing operations were completed by July 1991. A series of computer-based checks were done to clean the data and remove inconsistencies. Age imputation was also completed at this stage. As in all DHS surveys, age variables such as current age, age at first marriage, and the ages of all living or dead children were imputed for those cases in which information was missing or incorrect entries were detected.

The PDHS followed the DHS tabulation plan, in order to maintain comparability with other countries where DHS surveys have been conducted. Some additional tables were included to examine special topics included on the modified PDHS questionnaire.

### 2.7 Field Problems

Every survey is subject to a variety of field problems, which cannot be fully anticipated. The major problems encountered in the PDHS are highlighted below, with a discussion of their possible effects.

Transportation: Each field team was assigned a vehicle to visit dispersed PSUs and to move quickly from one sample area to the next. Unexpected heavy rains during the months of March, April, and May brought landslides and flooding in Punjab, NWFP and Balochistan, causing substantial delays. Tube-boats were, therefore, hired in some areas. Several attempts were made to reach engulfed PSUs. At times, travel on foot for several miles was necessary to reach the designated PSUs.

Security of Teams: The law and order situation in Sindh was at its worst from January through April, Teams in Sindh were advised to take full precautions before going to any disturbed rural PSU. In addition, local security officers had to accompany interviewing teams to several PSUs in Balochistan. One PSU in Balochistan could not be reached by a Sindh team because of the insecure situation and a lack of police protection for the PDHS team.

Supervision: In some instances, the work of certain supervisors was found to be weak: they were not moving to new PSUs as planned; they lacked coordination among team members; they did not dispatch the questionnaires from completed PSUs on time; they gave unauthorized leave to interviewers; they sent in an incomplete set of questionnaires; and at times they did not help female interviewers to locate sample households.

Funds: Funds for the fieldwork were often not released by responsible agencies in a timely fashion. These delays caused frustration for interviewers as they had to rely on borrowed money rather than their own salaries. A loan of Rs. 2 million from the Ministry of Population Welfare provided timely relief and facilitated the full execution of the fieldwork.

Timing: The actual fieldwork was planned to be completed before the month of Ramadan which started in March 1991. Due to the unfortunate delays caused by heavy rains, almost all teams worked throughout the month of Ramadan without any break.

Noncooperation: In a few areas in NWFP and Sindh, where the main cash crop is poppics or where dacoits reside, almost all households were apprehensive about talking to the interviewers, especially when questions were asked about household members and the ownership of durable consumer goods. PDHS team members were sometimes mistaken for members of the narcotics board or as television license examiners.

Cultural Norms: In several PSUs in Balochistan and NWFP, respondents willingly completed the interview but refused to allow anthropometric measurements to be taken. Most women did not want any outsider to touch their children. Moreover, mothers did not want others to know the weight and height of their children to protect them from the evil eye.

Sample Selection: The sample for the PDHS was selected at FBS headquarters. Some errors were detected in the sampling interval for households in the overall sample and in the husbands' sample. These problems caused some delays and confusion in the field. Most of these problems resulted in short-term difficulties but did not deter the overall progress of the project.

### 2.8 Coverage of the Survey

Tables 2.4 and 2.5 show the results of the household and individual interviews for the women's sample and the husbands' sample. A total of 8,019 households were selected for the women's sample. About 90 percent of the selected households were successfully contacted and interviewed. The shortfall was primarily due to dwellings that were vacant or households which were absent when they were visited by interviewers. Of the 7,404 households found to be occupied (including listed dwellings that could not be found), 97 percent were successfully interviewed. In other words, once a household was contacted, it was

Table 2.4 Results of the houschold and individual interviews for the women's sample
Percent distribution of households and eligible women in the women's sample by results of the household and individual interviews, and response rates, according to residence and province, Pakistan 1990-91

| Result of interview and response rate | Residence |  |  |  | Province |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total urban | $\begin{gathered} \text { Major } \\ \text { city } \end{gathered}$ | Other urban | Rural | Punjab | Sindh | NWFP | Balochistan |  |
| Selected households for women's sample |  |  |  |  |  |  |  |  |  |
| Completed (C) | 88.9 | 88.8 | 89.1 | 90.5 | 93.1 | 91.6 | 91.6 | 75.4 | 89.7 |
| Household present but no competent respondent at home (HP) | 0.9 | 1.0 | 0.7 | 1.0 | 0.9 | 1.9 | 0.2 | 0.5 | 1.0 |
| Refused (R) | 1.0 | 1.4 | 0.4 | 0.4 | 0.9 | 0.7 | 0.5 | 0.7 | 0.7 |
| Dwelling not found (DNF) | 1.0 | 0.6 | 1.6 | 0.9 | 0.4 | 0.1 | 0.2 | 5.0 | 1.0 |
| Household absent (HA) | 2.6 | 2.6 | 2.7 | 2.2 | 0.6 | 2.6 | 1.8 | 7.1 | 2.4 |
| Dwelling vacant/address not a dwelling (DV) | 4.6 | 4.9 | 4.2 | 3.1 | 3.2 | 2.6 | 3.2 | 8.7 | 3.9 |
| Dwelling destroyed (DD) | 0.2 | 0.2 | 0.3 | 0.3 | 0.2 | 0.3 | 0.4 | 0.1 | 0.2 |
| Other (0) | 0.7 | 0.5 | 1.0 | 1.6 | 0.7 | 0.2 | 2.2 | 2.5 | 1.2 |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 4050 | 2232 | 1818 | 3969 | 2790 | 2260 | 1756 | 1213 | 8019 |
| Household response rate for women's sample (HRR) ${ }^{\mathbf{1}}$ | 96.8 | 96.7 | 97.0 | 97.5 | 97.7 | 97.2 | 99.1 | 92.3 | 97.2 |
| Eligible women |  |  |  |  |  |  |  |  |  |
| Completed (EWC) | 94.7 | 93.5 | 96.2 | 96.7 | 94.7 | 94.6 | 98.6 | 95.1 | 95.7 |
| Not at home (EWNH) | 2.3 | 2.9 | 1.5 | 1.9 | 2.1 | 4.0 | 0.7 | 0.8 | 2.1 |
| Refused (EWR) | 1.7 | 2.3 | 1.0 | 0.7 | 1.9 | 0.8 | 0.5 | 1.7 | 1.2 |
| Partly completed (EWPC) | 0.5 | 0.6 | 0.3 | 0.3 | 0.9 | -- | -- | 0.5 | 0.4 |
| Other (EWO) | 0.8 | 0.7 | 0.9 | 0.4 | 0.4 | 0.6 | 0.3 | 1.9 | 0.6 |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 3572 | 1947 | 1625 | 3338 | 2331 | 1900 | 1689 | 990 | 6910 |
| Eligible women response rate (EWRR) ${ }^{2}$ | 95.5 | 94.2 | 97.1 | 97.1 | 95.0 | 95.2 | 98.9 | 96.9 | 96.3 |
| Overall response rate for women (ORRW) ${ }^{\mathbf{3}}$ | 92.5 | 91.0 | 94.2 | 94.7 | 92.9 | 92.5 | 98.0 | 89.5 | 93.5 |

-- Less than 0.05 percent
${ }^{1}$ Using the number of households falling into specific response categories, the household response rate (HRR) is calculated as:
$\frac{C}{C+H P+R+D N F}$
${ }^{2}$ Using the number of eligible women falling into specific response categories, the eligible women response rate (EWRR) is calculated as:

EWC

$$
E W C+E W N H+E W R+E W P C
$$

${ }^{3}$ The overall response rate for women (ORRW) is calculated as:
ORRW = HRR * EWRR

## Table 2.5 Results of the houschold and individual interviews for the husbands' sample

Percent distribution of houscholds and eligible husbands in the husbands' sample by resulta of the household and individual interviews, and response rates, according to residence and province, Pakistan 1990-91

| Result of interview and response rate | Residence |  |  |  | Province |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total urban | Major city | Other urban | Rural | Punjab | Sindh | NWFP | Balochistan |  |
| Selected households for husbands' sample |  |  |  |  |  |  |  |  |  |
| Completed (CH) | 90.0 | 89.8 | 90.3 | 90.7 | 93.0 | 91.4 | 93.8 | 77.0 | 90.3 |
| Household present but no competent respondent at home (HPH) | 0.7 | 0.7 | 0.8 | 1.2 | 1.0 | 2.0 | -- | 0.5 | 1.0 |
| Refused (RH) | 1.1 | 1.6 | 0.5 | 0.4 | 1.0 | 0.8 | 0.3 | 1.0 | 0.8 |
| Dwelling not found (DNFH) | 0.8 | 0.7 | 1.0 | 0.8 | 0.1 | 0.3 | -- | 4.7 | 0.8 |
| Household absent (HAH) | 2.3 | 2.3 | 2.3 | 1.9 | 0.4 | 2.1 | 1.7 | 6.4 | 2.1 |
| Dwelling vacant/address not a dwelling (DVH) | 4.1 | 4.3 | 4.0 | 3.3 | 3.3 | 3.0 | 2.0 | 8.4 | 3.7 |
| Dwelling destroyed (DDH) | -- | -- | -- | 0.4 | 0.1 | 0.4 | 0.2 | -- | 0.2 |
| Other ( OH ) | 0.9 | 0.7 | 1.2 | 1.3 | 1.1 | -- | 2.0 | 2.0 | 1.1 |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 1351 | 745 | 606 | 1342 | 930 | 760 | 598 | 405 | 2693 |
| Household response rate for husbands' sample (HRRH) ${ }^{1}$ | 97.1 | 96.8 | 97.5 | 97.4 | 97.9 | 96.8 | 99.6 | 92.6 | 97.2 |
| Eligible husbands |  |  |  |  |  |  |  |  |  |
| Completed (EHC) | 72.9 | 70.8 | 75.6 | 82.0 | 81.7 | 67.5 | 79.4 | 83.1 | 77.1 |
| Not at home (EHNH) | 23.9 | 25.7 | 21.5 | 15.1 | 16.3 | 29.9 | 16.5 | 11.9 | 19.9 |
| Postponed (EHP) | 0.3 | -- | 0.7 | -- | -- | -- | -- | 1.2 | 0.2 |
| Refused (EHR) | 1.6 | 2.0 | 1.0 | 0.9 | 0.9 | 0.9 | 1.8 | 1.9 | 1.3 |
| Partly completed (EHPC) | 0.3 | 0.4 | 0.2 | 0.5 | 0.5 | 0.4 | 0.3 | 0.4 | 0.4 |
| Other (EHO) | 1.0 | 1.1 | 1.0 | 1.5 | 0.5 | 1.3 | 2.0 | 1.5 | 1.3 |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 955 | 537 | 418 | 802 | 564 | 539 | 394 | 260 | 1757 |
| Eligible husbands response rate (EHRR) ${ }^{2}$ | 73.7 | 71.6 | 76.3 | 83.3 | 82.2 | 68.4 | 81.1 | 84.4 | 78.0 |
| Overall response rate for husbands (ORRH) ${ }^{3}$ | 71.6 | 69.3 | 74.4 | 81.1 | 80.5 | 66.2 | 80.8 | 78.2 | 75.8 |

- Less than 0.05 percent
${ }^{1}$ Using the number of households falling into specific response categories, the household response rate for the husbands' sample (HRRH) is calculated as:

CH

$$
\mathrm{CH}+\mathrm{HPH}+\mathrm{RH}+\mathrm{DNFH}
$$

${ }^{2}$ Using the number of eligible husbands falling into specific response categories, the eligible husbands' response rate (EHRR) is calculated as:

EHC

$$
\mathrm{EHC}+\mathrm{EHNH}+\mathrm{EHP}+\mathrm{EHR}+\mathrm{EHPC}
$$

${ }^{3}$ The overall response rate for husbands (ORRH) is calculated as:

$$
\text { ORRH }=\text { HRRH * EHRR }
$$

almost certain to complete the household interview. The highest response rate for the household interview was recorded for NWFP ( 99 percent); the lowest was recorded for Balochistan ( 92 percent). In more than 15 percent of the cases in Balochistan, either the dwellings were vacant or the households were absent due to the temporary migration of households because of severe cold weather in that region.

In the interviewed households, 6,910 women were identified as eligible for the individual interview. Interviews were successfully completed for 96 percent of the eligible women. The difference between the number of women targeted for interviewing and actual contacts was mainly due to the fact that the actual number of eligible women per household was lower than assumed in the sample design. The principal reason for nonresponse among eligible women was the failure to find them at home, despite repeated visits to the household. The refusal rate was low (only 1.2 percent).

A sample of 1,757 husbands of eligible women was identified as being eligible for the husbands' interview. However, only 77 percent of eligible husbands could be contacted and have interviews completed. The response rate was particularly low in Sindh where almost one-third of eligible husbands were not at home and in major cities where one-quarter of husbands were not at home. The major reason for the high level of nonresponse among husbands was their absence from the households and the fact that male interviewers could not contact them even after several visits.

## CHAPTER 3

# CHARACTERISTICS OF HOUSEHOLDS AND RESPONDENTS 

Tauseef Ahmed and Syed Mubashir Ali

A profile of the demographic and socioeconomic characteristics of the population in the sample households is presented in this chapter to provide background information about the respondents interviewed in the PDHS. The characteristics of the population are compared with those reported from earlier surveys and censuses, wherever possible, to examine differentials and trends.

### 3.1 Household Composition

Data on the household composition of the de jure population are presented for urban and rural areas in Table 3.1. The results show that households in Pakistan are predominantly headed by males. ${ }^{1}$ Only seven percent of all households are headed by females. This figure is slightly higher than the corresponding six percent obtained in the 1979-80 Population, Labour Force and Migration Survey.

Pakistani households tend to be large with an average of six to seven persons living and eating together in a single household. The typical household in Pakistan has an average of 6.7 persons, but about one-quarter ( 26 percent) of all households have four or fewer members. The breakdown by place of residence shows that there are more members in urban households ( 7.2 persons) than in rural households ( 6.5 persons). These results are consistent with the findings of the Pakistan Contraceptive Prevalence Survey (PCPS) and the Population, Labour Force and Migration Survey (PLM). The lower mean size of households in rural areas could be due partly to the migration of some household members to urban areas.

Joint and extended family living arrangements are the norm in Pakistan. More than 60 percent of households have three or more related adults, while one-third have two related adults. Only one household in twenty had just one adult among the usual residents of the household.

Another topic for which data are generally not available in Pakistan is the extent to which children live with families other than their own parents. In the PDHS, only one percent of households contained children under 15 years of age, who were not living with either of their natural parents. Many of these children are likely to be domestic servants, although some may be adopted or foster children.

[^1]Table 3.1 Household composition
Percent distribution of households by sex of head of household, household size, and kinship of household members, and the percentage of households with children not living with either of their natural parents, according to urban-rural residence, Pakistan 1990-91

| Household characteristic | Total urban | Major city | Other urban | Rural | Total |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Household head |  |  |  |  |  |
| Male | 92.1 | 93.0 | 90.9 | 93.2 | 92.9 |
| Female | 7.9 | 7.0 | 9.1 | 6.8 | 7.1 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number of usual members |  |  |  |  |  |
| 1 | 1.9 | 1.3 | 2.7 | 3.4 | 2.9 |
| 2 | 4.6 | 4.3 | 5.1 | 6.6 | 6.0 |
| 3 | 6.4 | 6.2 | 6.7 | 7.8 | 7.4 |
| 4 | 8.5 | 9.6 | 6.9 | 9.9 | 9.5 |
| 5 | 11.6 | 11.6 | 11.7 | 12.5 | 12.3 |
| 6 | 13.5 | 14.1 | 12.7 | 13.3 | 13.4 |
| 7 | 12.4 | 12.7 | 12.0 | 11.6 | 11.8 |
| 8 | 12.6 | 11.6 | 14.0 | 11.6 | 11.9 |
| $9+$ | 28.5 | 28.7 | 28.2 | 23.2 | 24.8 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Mean size | 7.2 | 7.2 | 7.2 | 6.5 | 6.7 |
| 1979-80 PLM mean size | 6.6 | U | U | 6.1 | 6.3 |
| 1984-85 PCPS mean size | 7.3 | 7.4 | 7.2 | 6.7 | 6.9 |
| Kinship of household members |  |  |  |  |  |
| One adult | 3.0 | 2.2 | 4.2 | 5.4 | 4.7 |
| 2 related adults opposite sex | 27.8 | 27.6 | 28.0 | 32.9 | 31.4 |
| 2 related adults same sex | 1.4 | 1.3 | 1.6 | 1.7 | 1.6 |
| $3+$ related adults | 65.8 | 65.9 | 65.7 | 59.5 | 61.4 |
| Other | 1.9 | 3.0 | 0.6 | 0.5 | 0.9 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Percentage of households with children not living with either of their natural parents | 1.0 | 0.6 | 1.6 | 1.1 | 1.1 |
| Number of households | 2120 | 1202 | 918 | 5073 | 7193 |
| $\mathrm{U}=$ Unknown; no information |  |  |  |  |  |

### 3.2 Age-sex Distribution of the Household Population

As in many developing countries, data collection efforts in Pakistan are subject to age misreporting and heaping on certain ages due to digit preference. Because of these limitations, special attention was paid in the PDHS to minimizing age reporting errors. Interviewers were given training in the techniques of probing to elicit age information that is as accurate as possible. Interviewers were also provided with reference calendars to help them in determining an approximate age for those respondents who were not able to report their exact age or date of birth. One calendar listed the dates of major national and local events for the last fifty years. Another calendar showed how to convert seasonal and Islamic months into dates in the

Gregorian calendar. Finally, interviewers were provided with an age conversion table to allow them to check the consistency of age and date of birth responses. In most rural areas, where knowledge about ages and dates of birth is not the norm, the PDHS interviewers were largely successful in estimating age information by using the calendars or calculating the ages of individuals relative to the age of any household member whose age could be determined. Nevertheless, errors in recording ages and dates of birth could not be totally eliminated.

Table 3.2 shows the age distribution of the de facto male and female population enumerated in the PDHS and sex ratios by five-year age groups. Because of continuing high levels of fertility, Pakistan's population is relatively young (see Figure 3.1). The median age of the de facto population is 17.6 years. Some age misreporting is evident from an examination of the age distributions. The sex ratios further help to highlight some of the errors in the data. The overall sex ratio for Pakistan is 1.08 males for each female. The sex ratios for the population as a whole are fairly stable up to age 40-44, but rather erratic thereafter. The relatively high sex ratio at age 45-49 (particularly in urban areas) suggests that in some cases interviewers may have "aged" women in that age group across the 50 -year age boundary so that the women would be ineligible for the individual interview.

Table 3.2 Houschold population by age, residence and sex
Percent distribution of the de facto household population by five-year age group, according to urban-rural residence and sex, Pakistan 1990-91

| Age group | Total urban |  |  | Major city |  |  | Other urban |  |  | Rural |  |  | Total |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Male | Female | Sex <br> ratio | Male | Female | Sex ratio | Male | Female | Sex ratio | Male | Female | Sex ratio | Male | Female | $\begin{aligned} & \text { Sex } \\ & \text { ratio } \end{aligned}$ |
| 0-4 | 12.6 | 13.6 | 0.98 | 12.3 | 13.7 | 0.95 | 13.0 | 13.4 | 1.02 | 13.4 | 13.6 | 1.08 | 13.2 | 13.6 | 1.05 |
| 5-9 | 15.2 | 16.5 | 0.97 | 14.7 | 15.5 | 1.00 | 16.0 | 17.9 | 0.94 | 18.2 | 17.9 | 1.11 | 17.3 | 17.5 | 1.07 |
| 10-14 | 13.4 | 14.3 | 0.99 | 12.8 | 14.1 | 0.96 | 14.2 | 14.6 | 1.02 | 13.9 | 13.3 | 1.14 | 13.8 | 13.7 | 1.09 |
| 15-19 | 11.7 | 11.3 | 1.09 | 11.8 | 11.5 | 1.08 | 11.5 | 11.1 | 1.10 | 9.7 | 9.5 | 1.11 | 10.3 | 10.1 | 1.10 |
| 20-24 | 9.0 | 8.7 | 1.10 | 9.6 | 9.4 | 1.07 | 8.3 | 7.6 | 1.15 | 7.4 | 8.0 | 1.02 | 7.9 | 8.2 | 1.05 |
| 25-29 | 7.2 | 7.5 | 1.02 | 7.7 | 7.8 | 1.04 | 6.6 | 7.0 | 0.98 | 6.3 | 7.7 | 0.90 | 6.6 | 7.6 | 0.94 |
| 30-34 | 5.5 | 5.5 | 1.06 | 5.4 | 5.3 | 1.07 | 5.7 | 5.7 | 1.05 | 5.3 | 5.5 | 1.05 | 5.3 | 5.5 | 1.05 |
| 35-39 | 5.3 | 5.0 | 1.12 | 5.6 | 5.3 | 1.10 | 5.0 | 4.6 | 1.16 | 4.2 | 4.3 | 1.07 | 4.6 | 4.5 | 1.09 |
| 40-44 | 4.1 | 3.7 | 1.16 | 4.3 | 3.7 | 1.20 | 3.8 | 3.6 | 1.11 | 4.0 | 4.1 | 1.06 | 4.0 | 4.0 | 1.09 |
| 45-49 | 3.6 | 2.7 | 1.43 | 3.9 | 2.5 | 1.65 | 3.3 | 2.9 | 1.18 | 3.1 | 2.8 | 1.20 | 3.2 | 2.7 | 1.27 |
| 50-54 | 2.9 | 3.6 | 0.86 | 3.1 | 3.3 | 0.98 | 2.8 | 4.0 | 0.74 | 2.8 | 3.7 | 0.83 | 2.9 | 3.7 | 0.84 |
| 55-59 | 2.1 | 2.2 | 1.04 | 2.1 | 2.2 | 1.01 | 2.2 | 2.1 | 1.09 | 2.1 | 3.0 | 0.78 | 2.1 | 2.7 | 0.85 |
| 60-64 | 2.6 | 2.2 | 1.24 | 2.7 | 2.3 | 1.21 | 2.6 | 2.1 | 1.28 | 3.2 | 2.5 | 1.38 | 3.0 | 2.4 | 1.34 |
| 65-69 | 1.6 | 1.1 | 1.51 | 1.5 | 1.2 | 1.38 | 1.6 | 1.0 | 1.70 | 1.9 | 1.7 | 1.21 | 1.8 | 1.5 | 1.28 |
| 70-74 | 1.5 | 1.0 | 1.47 | 1.3 | 1.1 | 1.28 | 1.6 | 1.0 | 1.75 | 2.5 | 1.2 | 2.36 | 2.2 | 1.1 | 2.09 |
| 75-79 | 0.5 | 0.2 | 2.37 | 0.5 | 0.2 | 3.20 | 0.4 | 0.3 | 1.67 | 0.6 | 0.4 | 1.57 | 0.6 | 0.3 | 1.73 |
| $80+$ | 1.1 | 0.9 | 1.20 | 0.9 | 0.9 | 1.10 | 1.3 | 1.0 | 1.32 | 1.5 | 0.8 | 2.08 | 1.4 | 0.8 | 1.76 |
| Missing/ Don't know | 0.1 | -- | . | -- | -- | * | 0.1 | 0.1 | * | 0.1 | 0.1 | * | 0.1 | 0.1 | 1.38 |
| Toul | 100.0 | 100.0 | 1.06 | 100.0 | 100.0 | 1.06 | 100.0 | 100.0 | 1.05 | 100.0 | 100.0 | 1.10 | 100.0 | 100.0 | 1.08 |
| Number | 7480 | 7089 | 14569 | 4303 | 4070 | 8373 | 3177 | 3019 | 6196 | 16293 | 14876 | 31169 | 23773 | 21965 | 45737 |

[^2]Figure 3.1
Population Pyramid of Pakistan


Table 3.3 Population by age from selected sources
Percent distribution of the population by age group, 1990-91 PDHS, 1984-85 PCPS and 1981 census

| Age | $1990-91$ <br> PDHS | $1984-85$ <br> PCPS | 1981 <br> census |
| :--- | ---: | ---: | ---: |
| $0-4$ | 13.4 | 16.4 | 15.3 |
| $5-9$ | 17.4 | 16.3 | 16.0 |
| $10-14$ | 13.7 | 12.8 | 13.2 |
| $15-19$ | 10.2 | 10.1 | 9.5 |
| $20-24$ | 8.1 | 8.0 | 7.6 |
| $25-29$ | 7.1 | 6.9 | 6.7 |
| $30-34$ | 5.4 | 5.3 | 5.6 |
| $35-39$ | 4.6 | 4.9 | 5.1 |
| $40-44$ | 3.0 | 4.1 | 4.7 |
| $45-49$ | 3.2 | 3.2 | 3.7 |
| $50-54$ | 2.4 | 2.3 | 3.6 |
| $55-59$ | 2.7 | 2.6 | 2.7 |
| $60-64$ | 1.7 | 1.3 | 1.2 |
| $65-69$ | 1.7 | 1.3 | 1.4 |
| $70-74$ | 1.6 | 1.4 | 1.7 |
| 75 and over | 100.0 | 100.0 | 100.0 |
| Total |  |  |  |

Source: Original data from Pakistan Contraceptive Prevalence Survey; Population Census Organisation (1984)

The overall distribution of the population by age is quite similar to that of the 1981 census and previous demographic surveys (see Table 3.3). The percentage of the population below age five, however, is smaller in the PDHS than in the other sources. This shift in age composition can be attributed partly to a reduction in fertility levels in the recent past. However, some of this shift is due to the omission of young children and displacement in their ages, particularly in rural areas (see the discussion of omission and age displacement in Chapter 4). It is interesting to note that despite substantial differences among the three sources in the first three age categories, the percentage of the total population that is under age 15 years of age is exactly the same ( 44.5 percent) in the 1981 census and in the PDHS.

### 3.3 Marital Status

The PDHS gathered information on the marital status of all household members age 15 and over. Examination of the marital status data for the de facto population (see Table 3.4) reveals a consistent picture,

Table 3.4 Household population by age, sex and marital status
Percent distribution of the de facto household population by marital status, according to age and sex, Pakistan 1990-91

| Male |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Age group | Never married | Married | Widowed | Divorced/ separated | Missing | Total | Number |
| 15-19 | 93.8 | 3.5 | 0.0 | 0.0 | 2.6 | 100.0 | 2448 |
| 20-24 | 75.3 | 23.1 | 0.4 | 0.0 | 1.2 | 100.0 | 1883 |
| 25-29 | 38.7 | 59.4 | 0.9 | 0.3 | 0.7 | 100.0 | 1561 |
| 30-34 | 15.1 | 82.2 | 1.6 | 0.5 | 0.6 | 100.0 | 1269 |
| 35-39 | 7.6 | 90.8 | 1.1 | 0.5 | -- | 100.0 | 1083 |
| 40-44 | 2.8 | 93.3 | 2.5 | 1.4 | -- | 100.0 | 951 |
| 45-49 | 2.0 | 93.4 | 3.7 | 1.0 | $\cdots$ | 100.0 | 766 |
| 50-54 | 2.1 | 92.8 | 4.5 | 0.6 | - | 100.0 | 678 |
| 55-59 | 1.8 | 93.3 | 4.6 | -- | 0.3 | 100.0 | 506 |
| 60-64 | 0.7 | 87.8 | 11.1 | 0.3 | 0.1 | 100.0 | 708 |
| 65+ | 1.0 | 78.2 | 19.3 | 0.9 | 0.5 | 100.0 | 1398 |
| Total | 35.3 | 59.5 | 3.8 | 0.4 | 0.9 | 100.0 | 13265 |
| FEMALE |  |  |  |  |  |  |  |
| Age group | Never married | Married | Widowed | Divorced/ separated | Missing | Total | Number |
| 15-19 | 78.1 | 18.4 | 0.3 | 0.2 | 3.0 | 100.0 | 2219 |
| 20-24 | 39.4 | 59.7 | 0.1 | 0.6 | 0.2 | 100.0 | 1798 |
| 25-29 | 11.8 | 86.0 | 0.9 | 1.0 | 0.4 | 100.0 | 1669 |
| 30-34 | 3.8 | 93.2 | 1.5 | 1.6 | -- | 100.0 | 1207 |
| 35-39 | 2.0 | 93.1 | 3.9 | 0.9 | -- | 100.0 | 996 |
| 40-44 | 2.3 | 92.7 | 4.6 | 0.3 | -- | 100.0 | 871 |
| 45-49 | 2.0 | 90.5 | 7.3 | 0.2 | -- | 100.0 | 602 |
| 50-54 | 0.7 | 81.8 | 15.5 | 2.0 | 0.1 | 100.0 | 805 |
| 55-59 | 0.3 | 77.3 | 21.4 | 0.7 | 0.2 | 100.0 | 597 |
| 60-64 | 0.5 | 72.1 | 26.2 | 0.1 | 1.1 | 100.0 | 528 |
| 65+ | 0.3 | 48.1 | 48.9 | 0.3 | 2.4 | 100.0 | 839 |
| Total | 22.6 | 67.8 | B. 0 | 0.7 | 0.9 | 100.0 | 12143 |

Note: Total includes 14 males and 10 females whose age is unknown.
-- Less than 0.05 percent
relative to previous surveys, with regard to the universality of marriage for both males and females. Almost all females get married by their early thirties and males by their early forties. However, women tend to get married much earlier than men. For example, 60 percent of women age $20-24$ are currently married but only 23 percent of men in that age group are married. Females exhibit an earlier transition than males to widowhood or to being divorced or separated. This finding is consistent with the cultural norm which permits the remarriage of widowed or divorced men but discourages the remarriage of women. The earlier transition of women to widowhood is also due to the age difference between husbands and wives and to higher male mortality in the older age groups. Nearly half of all women age 65 and over are widows, whereas only 19 percent of men in that age group are widowers.

### 3.4 Educational Attainment

The level of educational attainment in a society is an important indicator of social development. Moreover, education is considered to be a major factor underlying social status. Educational attainment has also been shown to have a significant effect on fertility behaviour, contraceptive use, infant and child mortality, morbidity and issues related to family health and hygiene. Table 3.5 presents the distribution of the household population age five and over by level of education, according to sex, age, place of residence and province.

Education has been one of the few neglected sectors which has not caught up with the growing population in Pakistan. Table 3.5 shows that 43 percent of males and 68 percent of females have never attended school. Overall, less than one-third of males ( 30 percent) and one-fifth of females ( 20 percent) have attended only primary school, while 16 percent of males and 7 percent of females were reported to have reached secondary school or higher. On average, males have completed 3.2 years of schooling, whereas females have completed only 1.6 years. The data indicate that males receive much more education than females. Such differentials are more prominent at higher levels of education. Men are 50 percent more likely than women to have attended only primary school, twice as likely to have attended middle school without going on to secondary school, and 2.3 times as likely to have attended secondary school or higher education.

The differentials in level of education according to age group provide an indication of the development in the educational attainment of the population over time. A steadily increasing percentage of both males and females have attended school and the increases are particularly dramatic at the secondary level of education and above. The sex differential in educational attainment continues to be significant for all ages, with little indication that the gap is decreasing, except in the youngest age group.

The findings further indicate that one-half of males ( 51 percent) and four-fifths of females (79 percent) in rural areas have received no education. Among both males and females, the relative urban-rural differentials are most pronounced at the highest educational level. The median and mean number of years of schooling are slightly higher in major cities than in other urban areas. The urban-rural difference is undoubtedly due to a lack of facilities or their inaccessibility in rural areas, while male-female differentials could be attributed to cultural norms and the social constraints faced by women. Punjab and Sindh have relatively low percentages of females who have received no education, while in NWFP and Balochistan more than 80 percent of females have never been to school. The level of educational attainment is much higher for males than for females in all provinces, but the disparity is particularly striking in NWFP.

The PDHS also asked about the current status of school attendance for all persons under age 25. Table 3.6 presents the percentage of the de facto male and female population (age 6-24) who are enrolled in school by age, sex and place of residence. Overall, more than half ( 54 percent) of all school age children (age 6-15) were currently enrolled in school; the figures were 64 percent for males and 44 percent for females. The enrolment rate is much higher in major cities ( 75 percent) than in rural areas ( 46 percent) (see Figure 3.2).

Table 3.5 Educational level of houschold population

Percent distribution of the de facto male and female household population age five and over by higheat level of education attended, according to selected background characteristics, Pakistan 1990-91

| MALE |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Background characteristic | No education | Primary | Middle | Secondary+ | Missing | Total | Number of persone | Median years | Mean years |
| Age group |  |  |  |  |  |  |  |  |  |
| $5-9$ | 44.4 | 54.8 | 0.4 | $\cdots$ | 0.4 | 100.0 | 4102 | 0.7 | 0.6 |
| 10-14 | 23.8 | 51.4 | 20.0 | 4.5 | 0.3 | 100.0 | 3274 | 3.6 | 3.2 |
| 15-19 | 28.4 | 17.8 | 20.8 | 32.6 | 0.3 | 100.0 | 2448 | 6.3 | 5.3 |
| 20-24 | 33.9 | 19.1 | 13.2 | 33.5 | 0.3 | 100.0 | 1883 | 5.7 | 5.4 |
| 25-29 | 39.7 | 20.7 | 12.4 | 27.1 | 0.1 | 100.0 | 1561 | 5.2 | 4.8 |
| 30-34 | 45.5 | 16.7 | 11.3 | 26.0 | 0.4 | 100.0 | 1269 | 4.4 | 4.4 |
| 35-39 | 44.7 | 17.1 | 10.2 | 27.7 | 0.3 | 100.0 | 1083 | 4.5 | 4.5 |
| $40-44$ | 50.6 | 20.2 | 8.1 | 20.9 | 0.2 | 100.0 | 951 | 0.0 | 3.8 |
| 45-49 | 54.3 | 14.3 | 8.7 | 22.3 | 0.4 | 100.0 | 766 | 0.0 | 3.7 |
| 50-54 | 61.6 | 15.9 | 6.1 | 16.0 | 0.4 | 100.0 | 678 | 0.0 | 2.9 |
| 55-59 | 64.6 | 17.2 | 6.1 | 11.4 | 0.8 | 100.0 | 505 | 0.0 | 2.4 |
| 60-64 | 73.8 | 11.3 | 5.6 | 9.3 | 0.1 | 100.0 | 708 | 0.0 | 1.8 |
| 65+ | 80.1 | 9.3 | 5.0 | 5.2 | 0.4 | 100.0 | 1398 | 0.0 | 1.3 |
| Residence |  |  |  |  |  |  |  |  |  |
| Total urban | 26.9 | 29.8 | 13.7 | 29.4 | 0.3 | 100.0 | 6535 | 5.0 | 5.0 |
| Major city | 27.0 | 27.0 | 13.4 | 32.3 | 0.2 | 100.0 | 3772 | 5.2 | 5.2 |
| Other urban | 26.7 | 33.5 | 14.0 | 25.6 | 0.3 | 100.0 | 2763 | 4.7 | 4.6 |
| Rural | 50.7 | 29.8 | 9.3 | 9.8 | 0.4 | 100.0 | 14106 | 0.0 | 2.4 |
| Province |  |  |  |  |  |  |  |  |  |
| Punjab | 40.8 | 30.2 | 12.0 | 16.9 | 0.1 | 100.0 | 12330 | 1.8 | 3.4 |
| Sindh | 44.0 | 31.5 | 7.8 | 16.0 | 0.7 | 100.0 | 4962 | 1.0 | 3.2 |
| NWFP | 46.7 | 27.6 | 11.0 | 14.4 | 0.2 | 100.0 | 2597 | 1.0 | 3.0 |
| Balochistan | 63.4 | 20.8 | 6.6 | 7.1 | 2.0 | 100.0 | 752 | 0.0 | 1.7 |
| Total | 43.1 | 29.8 | 10.7 | 16.0 | 0.3 | 100.0 | 20641 | 1.3 | 3.2 |


| FEMALE |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Background characteristic | No education | Primary | Middle | Secondary ${ }^{+}$ | Missing | Total | $\begin{aligned} & \text { Number } \\ & \text { of } \\ & \text { persons } \end{aligned}$ | Median years | Mean years |
| Age group |  |  |  |  |  |  |  |  |  |
| 5-9 | 58.7 | 40.7 | 0.1 | -- | 0.4 | 100.0 | 3840 | 0.0 | 0.4 |
| 10-14 | 48.5 | 35.5 | 12.4 | 3.2 | 0.5 | 100.0 | 2998 | 1.0 | 2.1 |
| 15-19 | 54.9 | 15.5 | 10.5 | 18.9 | 0.2 | 100.0 | 2219 | 0.0 | 3.2 |
| 20-24 | 63.9 | 13.6 | 6.4 | 16.1 | 0.1 | 100.0 | 1798 | 0.0 | 2.8 |
| 25-29 | 72.0 | 10.0 | 5.0 | 12.9 | -- | 100.0 | 1669 | 0.0 | 2.2 |
| 30-34 | 75.3 | 10.4 | 4.0 | 9.5 | 0.7 | 100.0 | 1207 | 0.0 | 1.8 |
| 35-39 | 79.0 | 9.1 | 4.8 | 6.9 | 0.2 | 100.0 | 996 | 0.0 | 1.5 |
| 40-44 | 83.4 | 7.0 | 3.3 | 6.0 | 0.3 | 100.0 | 871 | 0.0 | 1.2 |
| 45-49 | 86.3 | 6.5 | 2.8 | 3.4 | 1.0 | 100.0 | 602 | 0.0 | 0.9 |
| 50-54 | 93.0 | 3.0 | 1.9 | 1.7 | 0.4 | 100.0 | 805 | 0.0 | 0.5 |
| 55-59 | 92.8 | 3.9 | 1.5 | 1.0 | 0.7 | 100.0 | 597 | 0.0 | 0.4 |
| 60-64 | 94.5 | 1.8 | 1.3 | 1.6 | 0.9 | 100.0 | 528 | 0.0 | 0.3 |
| 65+ | 95.3 | 2.2 | 0.3 | 0.9 | 1.4 | 100.0 | 839 | 0.0 | 0.2 |
| Residence |  |  |  |  |  |  |  |  |  |
| Total urban | 42.8 | 28.4 | 10.5 | 18.0 | 0.3 | 100.0 | 6126 | 1.5 | 3.4 |
| Major city | 37.6 | 28.9 | 11.6 | 21.6 | 0.3 | 100.0 | 3511 | 2.8 | 4.0 |
| Other urtan | 49.9 | 27.6 | 9.0 | 13.2 | 0.2 | 100.0 | 2615 | 0.9 | 2.7 |
| Rural | 79.4 | 15.8 | 2.6 | 1.6 | 0.5 | 100.0 | 12855 | 0.0 | 0.7 |
| Province |  |  |  |  |  |  |  |  |  |
| Punjab | 63.7 | 22.2 | 6.1 | 7.7 | 0.2 | 100.0 | 11389 | 0.0 | 1.8 |
| Sindh | 66.2 | 20.2 | 4.6 | 8.2 | 0.8 | 100.0 | 4345 | 0.0 | 1.7 |
| NWFP | 81.6 | 12.2 | 3.0 | 2.9 | 0.3 | 100.0 | 2570 | 0.0 | 0.8 |
| Balochistan | 88.5 | 7.1 | 1.4 | 1.2 | 1.8 | 100.0 | 676 | 0.0 | 0.4 |
| Total | 67.6 | 19.9 | 5.2 | 6.9 | 0.4 | 100.0 | 18981 | 0.0 | 1.6 |

Note: Excludes 14 males and 10 females whose age is unknown.
-- Less than 0.05 percent

Table 3.6 School enrolment
Percentage of the de facto household population 6-24 years of age currendy enrolled in school by age, sex and urban-rural residence, Pakistan 1990-91

| Age group | Male |  |  |  |  | Female |  |  |  |  | Total |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total urban | Major city | Other urban | Rural | Total | Total urban | $\begin{aligned} & \text { Major } \\ & \text { city } \end{aligned}$ | Other urban | Rural | Total | Total urban | Major city | Other urban | Rural | Total |
| 6-15 | 76.3 | 75.8 | 76.9 | 58.6 | 63.8 | 68.1 | 73.3 | 61.9 | 31.9 | 43.6 | 72.2 | 74.6 | 69.2 | 46.1 | 54.1 |
| 6-10 | 78.1 | 77.9 | 78.4 | 56.8 | 62.6 | 71.7 | 75.5 | 67.1 | 33.2 | 44.8 | 74.9 | 76.7 | 72.7 | 45.7 | 54.1 |
| 11-15 | 74.1 | 73.4 | 75.0 | 61.4 | 65.5 | 63.8 | 70.6 | 55.8 | 29.8 | 41.8 | 68.9 | 72.0 | 65.1 | 46.8 | 54.2 |
| 16-20 | 40.8 | 41.5 | 39.8 | 32.4 | 35.4 | 31.2 | 35.1 | 24.8 | 5.4 | 14.3 | 36.1 | 38.3 | 32.8 | 19.0 | 25.0 |
| 21-24 | 15.4 | 15.9 | 14.6 | 8.6 | 11.1 | 7.2 | 8.1 | 5.7 | 1.9 | 3.9 | 11.6 | 12.2 | 10.5 | 5.4 | 7.7 |



Since the concentration of the population is relatively high in urban areas, there is a greater incentive for both public and private agencies to invest in setting up schools. The increased school enrolment in urban areas is likely to be a function of the greater availability and easy accessibility of educational institutions in general as well as higher educational aspirations for children in urban areas.

At age 16-20, one in four children was still attending school. By age 21-24, fewer than one in ten was still in school. Table 3.6 shows the greater enrolment of male than female children at all ages. The sex differentials in enrolment are more pronounced in rural areas, and to some extent in small cities and towns, but nearly disappear in major cities. The sex differentials in enrolment increase with age, which at least partially reflects the greater dropout rate for female children.

### 3.5 Housing Characteristics

Selected housing characteristics are shown in Table 3.7 for households with at least one eligible woman who completed the interview. Electricity is nearly universal in urban areas ( 96 percent) while less than half of rural households ( 47 percent) were reported to have electricity. Overall, 61 percent of all households have electricity.

The questionnaire included information on the source of drinking water for the household. A safe, accessible source of drinking water is important for the health and welfare of household members. Table 3.7 shows that only 18 percent of all households have water piped inside their houses and 9 percent have water piped onto their property. In total, more than 90 percent of all households in major cities have access to running piped water. Piped water is available to only 63 percent of households in other urban areas and 15 percent of households in rural areas. In rural areas, nearly 70 percent of households obtain their drinking water from wells and tubewells, while 13 percent rely on rivers, canals and karezes for their drinking water.

The use of different types of sanitation facilities varies greatly by place of residence. About 90 percent of all households in major cities have flush toilets in their houses compared to 55 percent in other urban areas. ${ }^{2}$ In contrast, the toilet facilities in rural areas are quite rudimentary. Seventy-two percent of rural households have no toilet facility at all and an additional 22 percent have only a pit latrine or a bucket.

One of the more important socioeconomic indicators for survey households is the quality of their housing, as measured by the construction material of the walls and roofs. More than 92 percent of households in major cities have baked brick and cement walls, compared to only two-thirds of households in other urban areas. In contrast, 60 percent of rural households live in houses with mud or unbaked brick walls and about 16 percent of their houses have wooden or bamboo walls. Similarly, a large majority of households in major cities ( 73 percent) live in houses with roofs made of concrete or T-irons or wood with bricks. Fifty-eight percent of households in other urban areas live in houses which have the same type of roofing materials. The other extreme is reported in rural households, where the roofs of houses are made primarily of wood or bamboo ( 72 percent). At the national level, a little more than one-third of households live in houses with cement and baked brick walls and roofs made with concrete or bricks with T-irons.

Finally, the number of persons per room used for sleeping was calculated as a measure of crowding. At the national level, only 20 percent of households have 1-2 persons per room and 37 percent of households have 3-4 persons sleeping in one room. At the other extreme, 20 percent of households have seven or more persons sleeping in one room. On the average, five persons sleep in one room. The degree of crowding was nearly as great in urban areas as in rural areas.

[^3]Teble 3.7 Housing characteristics
Percent distribution of households with eligible women by housing characteristics, according to urbanrural residence, Pakistan 1990-91

| Housing characteristic | Total urban | Major city | Other urban | Rural | Total |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Electrlalty |  |  |  |  |  |
| Yes | 95.7 | 98.1 | 92.5 | 46.6 | 61.4 |
| No | 4.3 | 1.9 | 7.5 | 53.4 | 38.6 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Source of drinking water |  |  |  |  |  |
| Piped into residence | 48.1 | 58.5 | 34.1 | 5.5 | 18.3 |
| Piped onto property | 20.3 | 20.1 | 20.6 | 4.4 | 9.2 |
| Public tap | 11.2 | 13.4 | 8.1 | 5.4 | 7.1 |
| Well with pump, tubewell | 15.5 | 4.7 | 30.0 | 55.1 | 43.2 |
| Well without hand pump | 2.2 | 0.7 | 4.2 | 13.5 | 10.1 |
| River, canal, karez | 0.9 | 0.8 | 1.1 | 12.5 | 9.0 |
| Tanker, vendor | 0.3 | 0.3 | 0.2 | 0.5 | 0.4 |
| Rainwater | -- | -- | -- | 0.9 | 0.6 |
| Other | 1.3 | 1.2 | 1.3 | 1.7 | 1.6 |
| Missing | 0.3 | 0.2 | 0.4 | 0.4 | 0.4 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Sanitation facillty |  |  |  |  |  |
| Flush | 74.5 | 89.3 | 54.6 | 5.8 | 26.5 |
| Bucket | 14.4 | 6.2 | 25.4 | 10.0 | 11.3 |
| Pit latrine | 4.4 | 2.8 | 6.5 | 11.5 | 9.3 |
| Other | 0.7 | 0.5 | 0.9 | 0.1 | 0.3 |
| No facilities | 6.0 | 1.1 | 12.6 | 71.9 | 52.1 |
| Missing | 0.1 | 0.1 | 0.1 | 0.7 | 0.5 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Material of walls |  |  |  |  |  |
| Baked bricks, cement | 81.1 | 92.4 | 65.9 | 19.2 | 37.8 |
| Unbaked bricks, mud | 16.3 | 6.9 | 28.9 | 60.0 | 46.9 |
| Wood/bamboo | 2.3 | 0.6 | 4.7 | 15.7 | 11.6 |
| Other | 0.3 | 0.1 | 0.5 | 5.1 | 3.6 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Material of roof |  |  |  |  |  |
| RCC/RBC | 45.0 | 57.8 | 27.9 | 4.1 | 16.4 |
| T-Iron/wood/brick | 21.5 | 15.2 | 29.9 | 19.5 | 20.1 |
| Asbestosfiron sheets | 10.6 | 16.7 | 2.4 | 3.6 | 5.7 |
| Wood/bamboo | 22.8 | 10.2 | 39.6 | 72.2 | 57.3 |
| Other | 0.1 | 0.1 | 0.1 | 0.6 | 0.4 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Persons per sleeping room |  |  |  |  |  |
| 1-2 | 21.6 | 22.4 | 20.5 | 19.3 | 20.0 |
| 3-4 | 39.6 | 39.2 | 40.1 | 36.1 | 37.2 |
| 5-6 | 20.6 | 21.3 | 19.6 | 23.9 | 22.9 |
| $7+$ | 18.1 | 17.1 | 19.6 | 20.4 | 19.7 |
| Missing/Don't know | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Mean | 4.6 | 4.5 | 4.6 | 4.8 | 4.7 |
| Number of households | 1633 | 936 | 698 | 3796 | 5429 |

-. Less than 0.05 percent

### 3.6 Presence of Household Durable Goods

In order to obtain additional information on the socioeconomic status of households, household respondents were asked if specific household goods were present in their homes. Table 3.8 shows that 35 percent of all households in Pakistan have a radio and a little more than one-quarter ( 27 percent) have a television. As expected, both these items show large differentials between urban and rural areas, but the differential for televisions is particularly prominent.

| Table 3.8 Household durable goods |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Percentage of households possessing various durable consumer goods, by urban-rural residence, Pakistan 1990-91 |  |  |  |  |  |
| Item | Total urban | $\begin{gathered} \text { Major } \\ \text { city } \end{gathered}$ | Other urban | Rural | Total |
| Radio | 51.9 | 58.4 | 43.2 | 28.3 | 35.4 |
| Television | 64.2 | 74.7 | 50.1 | 10.9 | 27.0 |
| Refrigerator | 37.6 | 46.3 | 26.0 | 4.0 | 14.1 |
| Room cooler | 13.2 | 13.0 | 13.5 | 1.2 | 4.8 |
| Washing machine | 43.4 | 50.2 | 34.2 | 2.9 | 15.1 |
| Water pump | 23.0 | 21.5 | 25.0 | 3.2 | 9.2 |
| Bicycle | 39.9 | 34.4 | 47.2 | 31.4 | 33.9 |
| Motorcycle | 17.6 | 21.4 | 12.5 | 3.3 | 7.6 |
| Car, van or tractor | 6.4 | 7.1 | 5.5 | 3.8 | 4.6 |
| Number of households | 1633 | 936 | 698 | 3796 | 5429 |

Refrigerators, room coolers, and washing machines are all concentrated in urban areas. Only a few households in rural areas reported owning any of these items. Bicycles are the most commonly owned means of transport in all areas. At the national level, 34 percent of all households own at least one bicycle. About 8 percent of all households have a motorcycle, but motorcycles are more common in major cities ( 21 percent). Less than five percent of households own a car, a van or a tractor.

### 3.7 Background Characteristics of Female Respondents

Women were eligible for the individual interview if they were ever married, age 15-49, and stayed in the household the night before the household interview was conducted. Eligible women were asked their age, marital status, educational level, place of residence, work status and physical mobility, in addition to many other questions on demographic and health status. Table 3.9 presents information on the background characteristics of all 6,611 eligible women who were interviewed. More than half of these women ( 57 percent) were in the 20-34 age group, with the largest number in age 25-29. The age distribution of currently married women in their childbearing years from four sources is compared in Figure 3.3. The PDHS age distribution is closest to the age distribution for the PCPS. The relatively low proportion of currently married women age $15-24$ in the PDHS is consistent with the evidence that the average age of marriage in Pakistan has been rising over time.

A large majority of ever-married women ( 96 percent) were currently married and only a negligible proportion were either widowed, divorced or separated. About 80 percent of women had never attended school and only 7 percent were educated up to the secondary or higher levels. Almost 70 percent of women were residents of rural areas, 17 percent resided in major cities and the rest were located in other urban areas. A majority of respondents ( 60 percent) were from Punjab, 23 percent were from Sindh, 13 percent from NWFP and 4 percent from Balochistan.

The norm in Pakistan is for women to stay home and take care of the house and the children. It is not common for women to join the labor market and their mobility is often restricted. In the PDHS, only 17 percent of women were reported to be currently working at the time of the survey and an additional 4 percent had worked only before marriage. Three-quarters of all women stated that they had never worked. To gauge the extent of their physical mobility, women were asked whether they would need to be accompanied by someone if they needed to go to a hospital or clinic for medical treatment. While one-quarter of women reported that they could go to a hospital alone, 71 percent reported that they would need to be accompanied by someone. The restriction on their physical mobility can be explained partly by cultural norms. An altemative hypothesis is that women usually do not seek medical treatment for minor illnesses and they leave the house only when their illness has become serious. Under these circumstances, they would need to be accompanied to go to a hospital.

Table 3.9 Background characteristics of female respondents
Percent distribution of ever-married women by background characteristics, Pakistan 1990-91

| Background charactenstic | Weighted percent | Weighted number of women | Unweighted number of women |
| :---: | :---: | :---: | :---: |
| Age |  |  |  |
| 15-19 | 6.5 | 428 | 407 |
| 20-24 | 16.0 | 1059 | 1064 |
| 25-29 | 22.6 | 1494 | 1469 |
| 30-34 | 18.0 | 1187 | 1200 |
| 35-39 | 14.8 | 981 | 1031 |
| 40-44 | 12.8 | 844 | 820 |
| 45-49 | 9.3 | 617 | 620 |
| Marital status |  |  |  |
| Married | 96.3 | 6364 | 6393 |
| Widowed | 2.4 | 159 | 148 |
| Divorced | 0.3 | 22 | 19 |
| Separated | 1.0 | 65 | 51 |
| Residence |  |  |  |
| Total urban | 30.5 | 2019 | 3384 |
| Major cily | 17.4 | 1151 | 1820 |
| Other urban | 13.1 | 868 | 1564 |
| Rural | 69.5 | 4592 | 3227 |
| Province |  |  |  |
| Punjab | 59.7 | 3948 | 2207 |
| Sindh | 23.1 | 1529 | 1798 |
| NWFP | 13.3 | 878 | 1665 |
| Balochistan | 3.9 | 255 | 941 |
| Education level attended |  |  |  |
| No education | 79.2 | 5237 | 5055 |
| Primary | 9.1 | 601 | 600 |
| Middle | 4.4 | 288 | 320 |
| Secondary | 6.2 | 410 | 522 |
| Higher | 1.1 | 75 | 114 |
| Work status |  |  |  |
| Currently working | 16.8 | 1111 | 1057 |
| Worked only before marriage | 4.4 | 290 | 292 |
| Worked only after marriage | 0.7 | 44 | 52 |
| Worked before and after marriage | 1.1 | 72 | 74 |
| Never worked ${ }^{1}$ | 76.7 | 5073 | 5111 |
| Mıssing | 0.3 | 21 | 25 |
| Mobtilty |  |  |  |
| Could go to hospital alone | 25.1 | 1660 | 1699 |
| Would need to be accompanied | 70.8 | 4682 | 4441 |
| Depends or missing | 4.1 | 269 | 471 |
| Total | 100.0 | 6611 | 6611 |

[^4]Figure 3.3
Distribution of Currently Married Women by Age, Pakistan, 1975-1991


Source Population Welfare Diviaion (1988)

In Table 3.10, variations in the level of education by age group, place and province of residence, and work status are examined. In all age groups, no less than three-quarters of women reported that they had never attended school. In general, younger women were more likely to have attended school than older women. A comparison of educational attainment as measured by the 1975 PFS and the PDHS confirms that levels of educational achievement for women have been increasing over time.

Even among women residing in major cities, 48 percent had no education and only one-quarter had attended a secondary school or a higher level of education. At the other extreme, 90 percent of women from rural areas had no education and only 1 percent had attended secondary school. The provincial educational pattern follows the general pattern of development. Punjab and Sindh, which are more developed, have a lower percentage of women who had no education and 8-9 percent had attended secondary school or gone beyond secondary school. In Balochistan, 96 percent of women had no education and only 1 percent had reached secondary school.

Women who were currently working were the least educated group. Eighty-four percent of working women had never been to school and only seven percent had some secondary or higher education. The highest average level of education was exhibited by those who worked only before marriage or both before and after marriage. Those who worked just after marriage also had a relatively high level of education: 13 percent reported that they had attended secondary school or a higher level of education.

Table 3.10 Level of education
Percent distribution of ever-married women by the highest level of education attended, according to selected background characteristics, Pakistan 1990-91

| Background characteristic | No education | Primary | Middle | Secondary | Higher | Total | Number |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Age |  |  |  |  |  |  |  |
| 15-19 | 81.0 | 10.9 | 3.6 | 4.2 | 0.2 | 100.0 | 428 |
| 20-24 | 75.3 | 12.6 | 5.1 | 5.9 | 1.0 | 100.0 | 1059 |
| 25-29 | 75.7 | 8.7 | 5.6 | 8.8 | 1.1 | 100.0 | 1494 |
| 30-34 | 77.7 | 9.2 | 4.0 | 7.5 | 1.6 | 100.0 | 1187 |
| 35-39 | 79.8 | 8.8 | 4.2 | 5.8 | 1.4 | 100.0 | 981 |
| 40-44 | 84.0 | 7.2 | 3.4 | 4.3 | 1.1 | 100.0 | 844 |
| 45-49 | 88.5 | 5.4 | 2.7 | 2.5 | 0.8 | 100.0 | 617 |
| Resldence |  |  |  |  |  |  |  |
| Total urban | 55.0 | 14.8 | 9.1 | 17.5 | 3.6 | 100.0 | 2019 |
| Major city | 47.7 | 15.7 | 10.6 | 20.7 | 5.3 | 100.0 | 1151 |
| Other urban | 64.6 | 13.6 | 7.1 | 13.3 | 1.5 | 100.0 | 868 |
| Rural | 89.9 | 6.6 | 2.3 | 1.2 | -. | 100.0 | 4592 |
| Province |  |  |  |  |  |  |  |
| Punjab | 76.5 | 10.3 | 5.2 | 6.7 | 1.3 | 100.0 | 3948 |
| Sindh | 76.8 | 10.2 | 3.8 | 7.9 | 1.3 | 100.0 | 1529 |
| NWFP | 90.6 | 4.0 | 2.4 | 2.7 | 0.3 | 100.0 | 878 |
| Balochistan | 96.3 | 1.9 | 0.6 | 1.0 | 0.2 | 100.0 | 255 |
| Work status ${ }^{1}$ |  |  |  |  |  |  |  |
| Currently working | 84.3 | 5.8 | 3.0 | 5.1 | 1.8 | 100.0 | 1111 |
| Worked only before marriage | 64.2 | 11.6 | 6.3 | 13.5 | 4.4 | 100.0 | 290 |
| Worked only after marriage | 74.0 | 9.1 | 3.8 | 12.4 | 0.6 | 100.0 | 44 |
| Worked before \& after marriage | 63.9 | 15.1 | 4.8 | 7.1 | 9.1 | 100.0 | 72 |
| Never worked ${ }^{2}$ | 79.2 | 9.6 | 4.6 | 6.0 | 0.7 | 100.0 | 5073 |
| Total | 79.2 | 9.1 | 4.4 | 6.2 | 1.1 | 100.0 | 6611 |

-- Less than 0.05 percent
${ }^{1}$ Excludes 21 women with missing information on work status.
${ }^{2}$ "Never worked" means that the woman is not currently working and she did not work either before marriage or just after marriage.

### 3.8 Exposure to Mass Media

As an indicator of exposure to mass media, each woman interviewed was asked whether she usually reads a newspaper, watches television, or listens to radio at least once a week. Table 3.11 shows that 14 percent of women read a newspaper weekly, 30 percent watch TV and 27 percent listen to radio.

As expected, there is a close association between the level of education and exposure to the three types of media. The low level of exposure to radio and TV among uneducated women may be explained by their lack of access to these facilities. There is also a large differential in media exposure between urban and
rural women. Women in major cities are more likely to watch TV ( 78 percent) than to read newspapers ( 43 percent) or listen to the radio ( 47 percent). In contrast, rural women listen to radio ( 21 percent) more than they watch TV ( 13 percent) or read newspapers ( 5 percent). Women from small cities or towns follow a pattern similar to women from major cities, however exposure to all forms of media is the highest in major cities.

Women in Sindh are more exposed to all types of media than women in other provinces. Women in Punjab have a pattern of media exposure similar to the national pattern. More than four times as many women in NWFP are exposed to radio and TV as are exposed to newspapers, while Balochi women are most often exposed to radio. In general, Balochi women have the least access to these media, perhaps because of a lack of media facilities in Balochistan and because of the large geographical area over which the population is dispersed.

## Table 3.11 Exposure to mass media

Percentage of ever-married women who usually read a newspaper, watch television, or listen to radio at least once a week by selected background characteristics, Pakistan 1990-91

| Background characteristic | Read newspaper weekly | Watch TV weekly | Listen to radio weekly | Number of women |
| :---: | :---: | :---: | :---: | :---: |
| Age |  |  |  |  |
| 15-19 | 11.0 | 24.8 | 31.8 | 428 |
| 20-24 | 14.9 | 28.8 | 30.3 | 1059 |
| 25-29 | 17.3 | 30.2 | 29.3 | 1494 |
| 30.34 | 14.7 | 30.5 | 26.5 | 1187 |
| 35-39 | 14.8 | 31.7 | 26.6 | 981 |
| 40-44 | 10.1 | 30.6 | 22.0 | 844 |
| 45-49 | 8.7 | 28.9 | 21.9 | 617 |
| Residence |  |  |  |  |
| Total urban | 34.1 | 67.5 | 41.1 | 2019 |
| Major city | 42.6 | 77.9 | 46.5 | 1151 |
| Other urban | 22.7 | 53.6 | 34.0 | 868 |
| Rural | 5.1 | 13.3 | 20.9 | 4592 |
| Province |  |  |  |  |
| Punjab | 14.4 | 29.1 | 26.3 | 3948 |
| Sindh | 19.6 | 40.2 | 33.1 | 1529 |
| NWFP | 5.4 | 21.5 | 23.8 | 878 |
| Balochistan | 2.8 | 7.3 | 15.0 | 255 |
| Education level attended |  |  |  |  |
| No education | 1.8 | 18.8 | 21.5 | 5237 |
| Primary | 43.1 | 57.8 | 43.1 | 601 |
| Middle | 65.9 | 70.4 | 50.4 | 288 |
| Secondary | 75.8 | 88.0 | 53.1 | 410 |
| Higher | 93.8 | 99.5 | 59.4 | 75 |
| Total | 13.9 | 29.8 | 27.1 | 6611 |

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## CHAPTER 4

## FERTILITY

Fred Arnold and Mehboob Sultan

One of the major objectives of the PDHS is to estimate fertility levels, trends and differentials. Information on fertility will help to determine the impact of changes in the use of family planning and other changes in the proximate determinants of fertility. The fertility estimates presented in this chapter are based on the reported birth histories of ever-married women 15-49 years old who were interviewed in the PDHS. Respondents were first asked to report the aggregate number of sons and daughters they had ever given birth to in their lifetime. To encourage complete reporting, women were asked separately about children still living at home, those living elsewhere and children who had died. The birth history also obtained information on the sex, date of birth and survival status of each child. This information was used to calculate measures of current fertility and fertility trends over time, as well as cumulative measures of the number of children ever born. In addition, estimates of birth intervals and the mother's age at the initiation of childbearing were calculated from data on the timing of births.

To obtain complete and accurate information on reproduction, interviewers were trained to probe carefully to facilitate the respondent's recall and to check any documents that may include birth dates for children. Moreover, for any intervals of more than three years between births, interviewers were required to record the reason for the long interval to help identify any live births that may have been missed during that time period.

In spite of the precautions taken, the PDHS is subject to the same types of errors that are typical of all retrospective demographic surveys. These include the underreporting of births (particularly for children who died immediately after birth or at a very early age) and the mistiming of births. These types of problems are particularly prevalent in countries such as Pakistan where the level of female literacy is low. In previous demographic surveys in Pakistan, births have been misplaced away from the survey date because of a pattem of exaggerating children's ages that increases with age (Retherford, et al. 1987). A further complication in the PDHS is the displacement of births out of the most recent five-year period (from 1986 to the time of the survey). This has been a significant problem in many DHS surveys in other countries (Amold 1990). The apparent reason for this type of displacement is that interviewers were trying to avoid a lengthy set of questions on health that were asked only about children born since January 1986. Because of the needs of policy makers for more detailed health data, the health section has been lengthened in recent DHS surveys and the displacement problem persists. Moreover, since height, weight and arm circumference measurements were also taken only on living children born in 1986 or later, there is an even stronger incentive for moving the dates of children's births out of that time period. In the PDHS, displacement was a serious problem, with nearly twice as many births being reported in 1985 as in 1986 (see Appendix C, Table C.4). For this reason, fertility and mortality rates in this report are presented for six-year periods, so that the transference of most displaced births will occur within a single time period rather than across time period boundaries.

The omission of recent births has been a feature of all retrospective demographic surveys in Pakistan. This problem is often attributed to inaccurate reporting by respondents. In the PDHS, the omission of recent births may be compounded by the underenumeration of births by interviewers who are trying to circumvent the health questions and to avoid weighing and measuring young children. The decline in the average annual number of births from 1556 in 1982-85 to 1145 in 1986-90 (Appendix C, Table C.4) is undoubtedly due in part to the omission of children born in the five years before the survey.

It is difficult, however, to correct the fertility estimates for the incomplete reporting of births since some of the estimated fertility decline is a real phenomenon and an unknown portion is attributable to data errors.

### 4.1 Fertility Levels and Trends

Until recently, fertility rates in Pakistan have remained high with little evidence of a sustained fertility decline (Shah and Cleland 1988; Rukanuddin and Farooqui 1988; Shah, Pullum and Irfan 1986; Retherford and Alam 1985). In recent years, however, fertility has begun to decline in response to a rapidly increasing age at marriage and a rise in the prevalence of contraceptive use. Various summary measures of fertility have been calculated from the PDHS to provide a complete picture of recent fertility, including the crude birth rate (CBR), the general fertility rate (GFR), age-specific fertility rates (ASFR) and the total fertility rate (TFR). These estimates are described in the following sections.

## Crude Birth Rate

The crude birth rate (per thousand population) is the least sophisticated measure of fertility, but it is the most commonly used and easily understood. Several attempts have been made to cstimate the CBR in Pakistan, but there is still no agreement on its precise magnitude. In the PDHS, the CBR is calculated by summing the product of the age-specific fertility rates and the proportion of women in each age group out of the total de facto (male and female) population at all ages. Since the ASFRs relate to births during the past six years, the CBR calculated from the PDHS pertains to the same period and is centered on the years 1987-88.

Table 4.1 shows the crude birth rates for selected years derived from various surveys. The PDHS estimates a CBR of 35 per thousand population. The CBRs estimated from previous surveys are 39 for the 1968-69 National Impact Survey (NIS), 41 for the 1975 Pakistan Fertility Survey (PFS), and 37 for the 1984-85 Pakistan Contraceptive Prevalence Survey (PCPS). The Pakistan Demographic Survey (PDS) estimated a CBR of 43 for each year during the period 1984-87 and 40 for 1988. The PDS rates are, however, based on indirect measures involving the matching of vital events and are considered to be on the high side.

The CBRs by residence indicate that fertility is slightly higher in rural areas (36) than urban areas (34). The provincial differentials are also worth noting. The lowest CBR is observed for Sindh (33) and the highest for Balochistan (38). Karachi had a slightly higher CBR (36) than major cities as a whole (34). This may be due to an age-sex distribution which favours higher fertility or the somewhat lower level of contraceptive prevalence in Karachi than in other major cities.

Comparing the CBRs from the 1984-85 PCPS and the 1990-91 PDHS, it is observed that there was a small decline of four percent in the CBR between the two surveys. The CBR declined in each type of place of residence and each province, except for major cities and for Sindh where it exhibited a slight increase.

It should be noted that the CBRs obtained from various sources are the by-products of methodological procedures, response errors, enumerator biases, problems of coverage and sampling errors, which may be of different nature and magnitude in different surveys. However, it appears that the fertility transition at least started in Pakistan after the mid-1970s.

Table 4.1 Crude birth rates according to selected surveys
Crude birth rate per thousand for selected surveys 1968-1991, Pakistan

| Urban-rural residence | $1990-91$ <br> PDHS <br> and province | $1984-85$ <br> PCPS | 1975 <br> PFS | $1968-69$ <br> NIS |
| :--- | :---: | :---: | :---: | :---: |
|  |  |  |  |  |
| Residence |  |  |  |  |
| Total urban | 33.7 | U | U | U |
| Major city | 33.5 | 32.6 | U | U |
| Other urban | 34.0 | 38.5 | U | U |
| Rural | 35.6 | 37.1 | U | U |
|  |  |  |  |  |
| Province | 35.5 | 37.6 | U | U |
| Punjab | 32.8 | 32.0 | U | U |
| Sindh | 36.2 | U | U | U |
| Karachi | 35.3 | 36.4 | U | U |
| NWFP | 38.3 | 45.4 | U | U |
| Balochistan |  |  |  |  |
|  |  |  |  |  |
| Total |  |  |  |  |

Note: The period covered by the CBR estimates is six years prior to the interview for the PDHS and one year prior to the interview for the other three surveys. The estimated crude birth rate from the PDHS for one year prior to the survey is 34.2 .
$\mathrm{U}=$ Unknown; no information
Source: Population Planning Council of Pakistan (1976), Population Welfare Divison (1986)

## General Fertility Rate

The general fertility rate (GFR) is calculated by dividing the number of births occurring during a specific period of time by the number of women of reproductive age ( $15-49$ years of age) and multiplying the result by 1,000 . The PDHS estimated the GFR to be 177 for the country as a whole-that is, 177 births to every 1,000 women (see Table 4.2). The observed GFR is higher in rural areas (184) than urban areas (163). Within urban areas, the GFR is lower in major cities (157) than in other urban areas (170). The highest GFR is observed in Balochistan (201), followed by Punjab and NWFP (178 each) and Sindh (171). The GFR for Pakistan was almost the same in the PDHS and the PCPS with an increase in urban rates and a slight decrease in rural rates between the two surveys.

## Table 4.2 Current fertility

Age-specific and cumulative fertility rates and the crude birth rate for the six years preceding the survey, by urban-rural residence and province and for Karachi, Pakistan, 1990-91

| Age | Residence |  |  |  | Province |  |  |  | Karachi | Toxal |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total urban | Major city | Other urban | Rural | Punjab | Sindh | NWFP | Balochisıan |  |  |
| 15-19 | 59 | 55 | 64 | 97 | 79 | 88 | 86 | 149 | 70 | 84 |
| 20-24 | 224 | 225 | 222 | 235 | 226 | 235 | 227 | 267 | 241 | 230 |
| 25-29 | 268 | 259 | 281 | 268 | 275 | 242 | 287 | 251 | 272 | 268 |
| 30-34 | 225 | 211 | 243 | 231 | 237 | 211 | 233 | 190 | 213 | 229 |
| 35-39 | 126 | 116 | 141 | 157 | 159 | 118 | 149 | 116 | 119 | 147 |
| 40-44 | [49] | [47] | [53] | [85] | [70] | [79] | [77] | [82] ${ }^{\text {a }}$ | [63] ${ }^{\text {a }}$ | [73] |
| 45-49 | [29] | [21] ${ }^{\text {a }}$ | [38] ${ }^{\text {a }}$ | [44] | [30] ${ }^{\text {a }}$ | [51] ${ }^{\text {a }}$ | [41] ${ }^{\text {a }}$ | b | b | [40] |
| TFR 15-49 | 4.90 | 4.67 | 5.21 | 5.58 | 5.39 | 5.12 | 5.50 | 5.84 | 5.03 | 5.36 |
| TFR 15-44 | 4.86 | 4.56 | 5.02 | 5.36 | 5.24 | 4.86 | 5.30 | 5.28 | 4.89 | 5.16 |
| GFR | 162.5 | 157.0 | 170.4 | 184.1 | 178.0 | 170.7 | 177.8 | 201.1 | 173.5 | 177.0 |
| CBR | 33.7 | 33.5 | 34.0 | 35.6 | 35.5 | 32.8 | 35.3 | 38.3 | 36.2 | 35.0 |

Note: Rates are calculated for all women 15-49, using information on women's age and marital status from the household questionnaire and on the number of births from the woman's questionnaire. Figures in brackets are partially truncated rates.
${ }^{\text {a }}$ Based on fewer than 500 person-months of exposure
${ }^{\text {b Based on }}$ fewer than 250 person-months of exposure, rates not shown
TFR: Total fertility rate expressed per woman
GFR: General ferility rate (births divided by number of women 15-44), expressed per 1,000 women
CBR: Crude birth rate, expressed per 1,000 population

## Age-Specific and Total Fertility Rates

Although the GFR is a more refined measure than the CBR, both are crude summary measures. The changes observed in these rates may not provide a complete picture; better estimates of fertility can be obtained by examining the age-specific fertility rates (ASFRs) and the total fertility rate (TFR).

A historical series of fertility estimates from four national surveys is shown in Table 4.3. The total fertility rate (TFR) is a summary measure that indicates the number of children a woman would bear during her reproductive years if she were to experience the age-specific fertility rates prevailing at the time of the survey. Mathematically, the TFR is five times the sum of the age-specific fertility rates for each five-year age group. The Pakistan Contraceptive Prevalence Survey (PCPS) includes only currently married women in its sample, whereas the other three surveys interviewed ever-married women. In order to calculate the fertility rates for all women, it is assumed that no births occur outside of marriage.

| Table 4.3 Current fertility according to selected surveys |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Age-specific fertility rates for selected surveys 1975-1991, Pakistan |  |  |  |  |
| Age group | $\begin{gathered} 1990-91 \\ \text { PDHS } \end{gathered}$ | 1984-85 <br> PCPS | $\begin{gathered} \text { 1979-80 } \\ \text { PLM } \end{gathered}$ | $\begin{aligned} & 1975 \\ & \text { PFS } \end{aligned}$ |
| 15-19 | 84 | 64 | 99 | 131 |
| 20.24 | 230 | 223 | 283 | 275 |
| 25-29 | 268 | 263 | 313 | 315 |
| 30-34 | 229 | 234 | 263 | 259 |
| 35-39 | 147 | 209 | 188 | 188 |
| 40-44 | 73 | 127 | 101 | 77 |
| 45-49 | 40 | 71 | 48 | 11 |
| Total fertility rate, 15-49 | 5.4 | 6.0 | 6.5 | 6.3 |

Source: Alam, Irfan and Farooqui [1984] and Population Welfare Division (1986)

According to the Pakistan Fertility Survey (PFS) and the Population, Labour Force and Migration Survey (PLM), the total fertility rate in the 1970s was between 6.3 and 6.5 children per woman. The PCPS recorded a drop to 6.0 children per woman and the PDHS registered a further decline to 5.4 children per woman (a decline of 10 percent since the 1984-85 PCPS and 15 percent since the 1975 PFS). ${ }^{1}$ According to the PDHS, if current age-specific fertility rates were to remain unchanged in the future, the average woman in Pakistan would have 1.6 children by the time she reaches age $25,2.9$ children by age 30 , more than four children by her thirty-fifth birthday, and 5.4 children by the end of her childbearing years.

Trends in age-specific fertility rates are somewhat erratic, although fertility is generally lower in the two most recent surveys (see Table 4.3 and Figure 4.1). A comparison of the fertility estimates from the PFS and the PDHS shows that fertility declined most rapidly (by more than one-third) in the 15-19 age group, reflecting a pattern which is consistent with the increasing age at marriage. Substantial fertility declines are also evident at ages 20-39.

[^5]Figure 4.1
Age-Specific Fertility Rates
Pakistan, 1970-1991


Source: Alam, Irfan and Farooqui (1984];
Population Welfare Divislon (1988)

Differentials in fertility by type of place of residence are shown in Table 4.4 and Figure 4.2. Overall, urban areas have lower fertility rates than rural areas and within urban areas major cities have lower fertility. Fertility rates in urban and rural areas were very similar during the prime childbearing years (ages 20-34), but differences in urban and rural fertility levels are striking in the youngest and oldest age groups (see Table 4.2). Overall, at current fertility rates, the average woman living in a large city can be expected to have nearly one child less than her rural counterpart ( 4.7 children compared to 5.6 children).

Provincial differences in fertility are quite modest. The TFR for women age 15-49 ranges from 5.1 in Sindh to 5.8 in Balochistan. For women age 15-44, the range of fertility estimates is even more restricted. At the provincial level, it is preferable to compare the estimates of fertility at ages $15-44$ rather than 15-49 since the age-specific fertility rates at age 45-49 are based on only a small number of years of exposure to the risk of pregnancy. An additional reason for focusing on the 15-44 age group is that the TFR which includes women age 45-49 uses data which are progressively truncated as one moves back in time.

A separate estimate of fertility is shown for Karachi, which has a total fertility rate of 5.0 for women age $15-49$ and 4.9 for women age $15-44$. While Karachi's fertility is lower than the national average, it is somewhat higher than the fertility reported for other major cities in Pakistan. As noted earlier, this finding is consistent with the fact that the reported contraceptive prevalence rate for Karachi is lower than that reported for other major cities.

Current fertility rates are related not only to the geographical area in which a woman resides but also to her educational attainment. Women without any formal education have a TFR that is nearly one child higher than women who have attended primary school and two children higher than women who have gone beyond the middle school level (see Table 4.4).

Table 4.4 also shows the mean number of children ever born to women age 40-49-that is, women who are approaching the end of their childbearing years. A comparison of this cumulative measure of childbearing with the TFR gives a rough indication of the trend in fertility over the last several decades. For all women, the total fertility rate is exactly one child less than the mean number of children ever borm. This difference provides further evidence that fertility has started to decline in Pakistan, although if there are errors in recording recent births in the birth history, the decline may not be as rapid as the comparison suggests. The differences between the two measures are greatest for women in Sindh and Punjab as well as for those living in urban areas (particularly in Karachi and other major cities). Therefore, women in these areas appear to be leading the way in the early stages of the fertility decline. Educational attainment is strongly related to both cumulative and current fertility levels, suggesting that educated women have been experiencing lower fertility for a long period of time.

The most direct way of observing fertility trends is to examine changes in age-specific fertili-

Table 4.4 Fertility by background characteristics
Total fertility rate for the six years preceding the survey, and mean number of children ever born (CEB) to women 40-49 years of age, by selected background characteristics, Pakistan 1990-91
$\left.\begin{array}{lcc}\hline & \begin{array}{c}\text { Total } \\ \text { fertility } \\ \text { rate }\end{array} & \begin{array}{c}\text { Mean no. } \\ \text { of CEB } \\ \text { characteristic }\end{array} \\ \text { (women 40-49) }\end{array}\right]$

Note: Figures are calculated for all women 15-49, using information on women's age and marital status from the household questionnaire and on the number of births from the woman's questionnaire. ty rates over time based on the PDHS birth history data (see Table 4.5). The trend in fertility over a period of more than two decades can be seen for women age 15-34. Only partial information is available for older women because of truncation in the data for earlier time periods. The lowest estimated fertility rate in every age group is observed for the most recent six-year period. A comparison of the two most recent periods reveals that estimated fertility has fallen most rapidly (by over forty percent) in the youngest and oldest age groups. Fertility also reportedly declined by more than one-quarter in every other age group. Declines of the magnitude shown for the middle and older age groups seem unlikely given the continuing low level of contraceptive prevalence in Pakistan. The fertility decline in these age groups is probably exaggerated by errors in the coverage and timing of births in the PDHS. This conclusion seems particularly warranted in light of the experience of previbus demographic surveys in Pakistan. In evaluating the quality of three large-scale national demographic surveys and the 1981 census, Retherford et al. (1987) noted that the estimated TFR fell below five children per woman during the two years preceding each of the surveys. However, there was no credible evidence that fertility had actually fallen during any of these periods. The authors concluded that fertility was severely underestimated in the fiveyear period preceding each survey.

Figure 4.2
Total Fertility Rate (TFR) and Mean Number of Children Ever Born (CEB)


Tabie 4.5 Fertility trends
Age-specific fertility rates for six-year periods preceding the survey, by mother's age at the time of birth, Pakistan 1990-91

|  | Number of years preceding survey |  |  |  |
| :--- | ---: | :---: | :---: | :---: |
| Mother's age | $0-5$ | $6-11$ | $12-17$ | $18-23$ |
| $15-19$ | 84 | 145 | 139 | 116 |
| $20-24$ | 268 | 317 | 294 | 278 |
| $25-29$ | 229 | 367 | 331 | $[334]$ |
| $30-34$ | 229 | 319 | $[309]$ | a |
| $35-39$ | 147 | $[212]$ | $[227]$ | U |
| $40-44$ | $[73]$ | $[137]$ | U | U |
| $45-49$ | $[40]$ | U | U | U |

Note: Age-specific fertility rates are per 1,000 women. Figures in brackets are partially truncated rates.
$\mathrm{U}=$ Unknown; no information
${ }^{2}$ Based on fewer than 250 person-months of exposure, rates not shown
${ }^{6}$ Based on fewer than 500 person-months of exposure

Table 4.5 also shows that fertility registered modest gains in the two earliest intervals between sixyear periods. Fertility may have actually risen over that time period but possible data errors again need to be considered in interpreting the results. The apparent rise in fertility in the earlier periods may be due to a commonly observed tendency among older women to underreport early births or to displace the birth dates of those children forward in time (Potter 1977).

The pattem of fertility change over time discussed above is also evident for women with marital durations of less than 10 years, but estimated fertility has fallen steadily over time for women married more than 15 years (see Table 4.6). In the most recent six-year period, the estimated fertility rate declines consistently as the duration of marriage increases. Women who have been married for more than 15 years reported sharply lower fertility than women with shorter marriage durations.

Table 4.6 Fertility by marital duration
Fertility rates for ever-married women by duration since first marriage in years for six-year periods preceding the survey, Pakistan 1990-91

|  | Nurnber of years preceding survey |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
| Marriage duration <br> at birth | $0-5$ | $6-11$ | $12-17$ | $18-23$ |
| $0-4$ | 339 | 386 | 343 | 309 |
| $5-9$ | 298 | 412 | 381 | 379 |
| $10-14$ | 248 | 346 | 325 | 341 |
| $15-19$ | 186 | 263 | 286 | $a$ |
| $20-24$ | 98 | 187 | $a$ | $a$ |
| $25-29$ | 52 | $(95)$ | a | NA |

Note: Rates in parentheses are based on fewer than 500 person-months of exposure.
NA = Not applicable
${ }^{2}$ Based on fewer than 250 person-months of exposure, rates not shown

### 4.2 Children Ever Born

The cumulative number of children ever born is shown in Table 4.7 for all women and for currently married women. The figures for all women are calculated by assuming that all births occur within marriage. Women in their childbearing years in Pakistan have had an average of three children and currently married women have had an average of just over four children. The steady increase in the average number of children ever bom by age is a normal function of the family building process. Women who are currently at the end of their childbearing years have had, on average, more than six births. Mortality has had a significant impact on family size, however, since the average woman age 40-49 has had one child who died by the time of the survey. Taking the difference between the mean number of children ever born (6.6) and the mean number of children surviving (5.6), it is seen that, overall, there has been a loss of 15 percent of births among currently married women age 40-49.

Early childbearing is relatively rare in Pakistan. Only 12 percent of women in the 15-19 age group have ever had a child and even in the 20-24 age group only a minority of women have ever given birth. Eventually, however, nearly all women bear children. Among currently married women age 35-49,
only three percent have never had a child. This low level of childlessness indicates that primary sterility is low in Pakistan. This is consistent with the findings of a low level of primary sterility in the 25 DHS surveys carried out from 1986 to 1989 (Amold and Blanc 1990).

Table 4.7 Children ever bom and living
Percent distribution of all women and currently married women by number of children ever bom (CEB) and mean number of children ever born and living, according to age group, Pakitun 1990-91


| ALL WOMEN |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 15-19 | 87.8 | 9.2 | 1.9 | 1.0 | 0.1 | -- | -- | -- | -- | -- | -- | 100.0 | 1720 | 0.2 | 0.1 |
| 20-24 | 54.3 | 17.0 | 15.3 | 8.2 | 3.6 | 0.9 | 0.6 | 0.1 | -- | -- | -- | 100.0 | 1747 | 1.0 | 0.8 |
| 25-29 | 23.0 | 10.4 | 15.0 | 17.4 | 15.3 | 11.0 | 4.6 | 2.3 | 0.8 | 0.2 | 0.1 | 100.0 | 1745 | 2.6 | 2.3 |
| 30-34 | 9.2 | 5.0 | 8.8 | 14.8 | 16.7 | 13.6 | 12.7 | 9.4 | 5.1 | 2.9 | 1.9 | 100.0 | 1241 | 4.3 | 3.7 |
| 35-39 | 5.4 | 3.4 | 4.3 | 8.6 | 10.2 | 16.8 | 16.9 | 12.9 | 8.8 | 6.2 | 6.4 | 100.0 | 1005 | 5.5 | 4.8 |
| 40-44 | 5.5 | 1.5 | 3.0 | 7.3 | 9.0 | 12.0 | 13.2 | 15.4 | 11.5 | 7.1 | 14.6 | 100.0 | 865 | 6.3 | 5.4 |
| 45-49 | 5.5 | 2.7 | 3.3 | 7.7 | 5.8 | 10.5 | 13.4 | 11.4 | 13.8 | 10.0 | 15.8 | 100.0 | 630 | 6.4 | 5.5 |
| Total | 34.7 | 8.5 | 8.5 | 9.4 | 8.4 | 8.0 | 6.9 | 5.5 | 3.9 | 2.5 | 3.5 | 100.0 | 8953 | 3.0 | 2.6 |
| CURRENTLY MARRIED WOMEN |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15-19 | 51.4 | 36.8 | 7.5 | 4.0 | 0.2 | -- | $\cdots$ | -- | -- | -- | -- | 100.0 | 418 | 0.6 | 0.6 |
| 20-24 | 24.3 | 27.9 | 25.2 | 13.7 | 6.1 | 1.6 | 1.1 | 0.1 | -- | -- | -- | 100.0 | 1041 | 1.6 | 1.4 |
| 25-29 | 9.5 | 11.8 | 17.2 | 20.5 | 18.2 | 13.2 | 5.5 | 2.7 | 0.9 | 0.2 | 0.2 | 100.0 | 1452 | 3.1 | 2.7 |
| 30-34 | 4.7 | 4.6 | 8.7 | 15.4 | 17.8 | 14.5 | 13.7 | 10.0 | 5.4 | 3.1 | 2.1 | 100.0 | 1147 | 4.6 | 4.0 |
| 35-39 | 2.7 | 3.3 | 4.6 | 9.0 | 8.9 | 17.5 | 17.7 | 13.5 | 9.4 | 6.6 | 6.8 | 100.0 | 932 | 5.7 | 5.0 |
| 40-44 | 3.1 | 1.1 | 3.1 | 7.3 | 8.9 | 11.7 | 13.5 | 16.4 | 12.3 | 7.1 | 15.5 | 100.0 | 803 | 6.5 | 5.6 |
| 45-49 | 3.8 | 2.8 | 3.5 | 7.4 | 6.1 | 10.1 | 13.7 | 11.4 | 14.5 | 10.4 | 16.4 | 100.0 | 572 | 6.6 | 5.6 |
| Total | 11.5 | 11.4 | 11.5 | 12.8 | 11.4 | 10.8 | 9.4 | 7.5 | 5.4 | 3.4 | 4.8 | 100.0 | 6364 | 4.1 | 3.5 |

-- Less than 0.05 percent

Although currently married women age 45-49, on average, have had 6.6 children, the range of family sizes is quite wide. Ten percent have had fewer than three children and an additional 13 percent have had three or four children. About one-quarter ( 24 percent) have had five or six children and another quarter ( 26 percent) have had seven or eight children. At the high end of the spectrum, more than one in four women have had nine or more live births and one in six women have had 10 or more births. More than half of currently married women age $45-49$ have had at least seven live births.

Cumulative fertility for currently married women has shown some signs of a decline over time in every age group except age 15-19 (see Table 4.8). Although the overall mean number of children ever bom was identical in the 1975 Pakistan Fertility Survey and the 1984-85 Pakistan Contraceptive Prevalence Survey, the mean number of children ever born declined slightly during that period in the
majority of age groups. Between the 1984-85 PCPS and the 1990-91 PDHS, the overall mean number of children ever born declined from 4.3 to 4.1. Because of a decline in mortality during that period, however, the mean number of surviving children remained constant at 3.5 children per woman. In fact, the mean number of surviving children actually increased from 3.2 to 3.5 between the time of the 1975 PFS and the 1984-85 PCPS, again due to a decline in mortality between the two surveys rather than to an increase in the cumulative number of children ever born.

Table 4.8 Children ever born according to selected surveys
Mean number of children ever born and children still living for currently married women, by age group, selected surveys 1975-1991, Pakistan

|  | Mean number of children ever born |  |  | Mean number of living children |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { 1990-91 } \\ & \text { PDHS } \end{aligned}$ | 1984-85 PCPS | $\begin{aligned} & 1975 \\ & \text { PFS } \end{aligned}$ | $\begin{aligned} & 1990-91 \\ & \text { PDHS } \end{aligned}$ | $1984-85$ <br> PCPS | $\begin{aligned} & 1975 \\ & \text { PFS } \end{aligned}$ |
| 15-19 | 0.6 | 0.6 | $0.6{ }^{\text {a }}$ | 0.6 | 0.6 | $0.5{ }^{\text {a }}$ |
| 20-24 | 1.6 | 1.8 | 1.9 | 1.4 | 1.5 | 1.5 |
| 25-29 | 3.1 | 3.4 | 3.4 | 2.7 | 2.8 | 2.8 |
| 30-34 | 4.6 | 5.0 | 5.2 | 4.0 | 4.2 | 4.0 |
| 35-39 | 5.7 | 6.1 | 6.4 | 5.0 | 5.1 | 4.9 |
| 40-44 | 6.5 | 7.0 | 7.5 | 5.6 | 5.5 | 5.2 |
| 45-49 | 6.6 | 7.5 | 7.4 | 5.6 | 5.7 | 5.1 |
| 15-49 | 4.1 | 4.3 | $4.3{ }^{\text {a }}$ | 3.5 | 3.5 | $3.2{ }^{\text {a }}$ |

${ }^{\text {a }}$ Includes currently married women age 10-14
Source: Population Welfare Division (1986) and Population Planning Council of Pakistan (1976)

Differentials in cumulative fertility by selected socioeconomic characteristics of respondents and their husbands are shown in Table 4.9. The largest differentials are observed for the woman's educational attainment. Women with some secondary school education or higher have 1.4 fewer children, on average, than women with no education. For the oldest age group (age 35 or higher) this differential widens to more than two children per woman. Differentials in fertility are less pronounced for the husband's education, particularly for men whose wives are in the youngest age groups. Women whose husbands are in professional, technical, clerical or service jobs have a relatively small number of children ever borm. It is surprising, however, that the woman's own work experience is only weakly related to her cumulative fertility.

Table 4.9 Mean number of children ever born
Mean number of children ever born by background characteristics of currently married women and their husbands according to age, Pakistan 1990-91

| Background characteristic | Age of woman |  |  | Total |
| :---: | :---: | :---: | :---: | :---: |
|  | 15-24 | 25-34 | 35+ |  |
| Woman's education |  |  |  |  |
| No education | 1.3 | 3.9 | 6.4 | 4.3 |
| Primary | 1.5 | 3.7 | 6.0 | 3.7 |
| Middle | 1.1 | 3.7 | 5.3 | 3.5 |
| Secondary+ | 1.0 | 2.8 | 4.2 | 2.9 |
| Woman's work status ${ }^{1}$ |  |  |  |  |
| Currently working | 1.5 | 4.0 | 6.3 | 4.4 |
| Worked previously | 1.5 | 3.5 | 6.1 | 3.8 |
| Never worked | 1.3 | 3.7 | 6.2 | 4.0 |
| Husband's education |  |  |  |  |
| No education | 1.3 | 4.0 | 6.4 | 4.4 |
| Primary | 1.4 | 3.7 | 6.5 | 4.1 |
| Middle | 1.3 | 3.6 | 6.7 | 3.7 |
| Secondary+ | 1.3 | 3.4 | 5.3 | 3.6 |
| Husband's occupation |  |  |  |  |
| Professional, technical | 1.5 | 3.1 | 5.8 | 3.7 |
| Administrative, managerial | 1.5 | 3.4 | 5.1 | 4.1 |
| Clerical | 1.3 | 3.3 | 5.8 | 3.7 |
| Sales | 1.3 | 4.1 | 6.1 | 4.3 |
| Service | 1.2 | 3.4 | 5.6 | 3.3 |
| Agriculture, fishing | 1.3 | 3.8 | 6.3 | 4.3 |
| Production, transportation, labor | 1.4 | 3.8 | 6.4 | 4.1 |
| Not classifiable | 1.0 | 3.7 | 6.1 | 3.9 |
| Total | 1.3 | 3.7 | 6.2 | 4.1 |

1"Worked previously" means that the woman is not curently working and she worked before marriage and/or just after marriage. "Never worked" means that the woman is not cursently working and she did not work either before marriage or just after marriage.

### 4.3 Birth Intervals

Previous research has demonstrated that children born too close to the time of a previous birth are at increased risk of dying. The risk is particularly high when the interval between births is less than 24 months. Previous birth intervals for children born in the five years preceding the survey are shown in Table 4.10. The median interval since the previous birth is 29 months. One of every three births occurred less than 24 months after the previous birth and half of those had very short birth intervals of less than 18 months. Another one-third of births ( 36 percent) had previous birth intervals of two years and the remaining one-third ( 31 percent) had intervals of three years or more.

| Percent distribution of births in the five years preceding the survey by number of months since previous birth, according to selected background characteristics, Pakistan 1990-91 |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Background characteristic | Number of months since previous birth |  |  |  |  | Total | Median months since previous birth | Number <br> of births |
|  | 7-17 | 18-23 | 24-35 | 36-47 | $48+$ |  |  |  |
| Age |  |  |  |  |  |  |  |  |
| 15-19 | 32.4 | 21.0 | 39.6 | 6.7 | 0.3 | 100.0 | 23.7 | 68 |
| 20-29 | 19.8 | 18.7 | 37.0 | 12.6 | 11.9 | 100.0 | 26.8 | 2452 |
| 30-39 | 14.3 | 15.9 | 35.7 | 14.4 | 19.8 | 100.0 | 30.8 | 2242 |
| 40+ | 10.3 | 10.9 | 27.8 | 15.7 | 35.4 | 100.0 | 37.9 | 547 |
| Birth order |  |  |  |  |  |  |  |  |
| 2.3 | 20.2 | 16.7 | 36.6 | 12.5 | 14.0 | 100.0 | 27.4 | 2056 |
| 4.6 | 13.6 | 16.4 | 37.0 | 13.8 | 19.2 | 100.0 | 30.0 | 2085 |
| $7+$ | 16.0 | 17.3 | 31.1 | 14.9 | 20.7 | 100.0 | 30.4 | 1169 |
| Sex of prior birth |  |  |  |  |  |  |  |  |
| Male | 17.7 | 16.2 | 33.3 | 14.8 | 18.0 | 100.0 | 29.1 | 2702 |
| Female | 15.6 | 17.3 | 37.9 | 12.3 | 16.9 | 100.0 | 29.0 | 2608 |
| Survival of prior birth |  |  |  |  |  |  |  |  |
| Living | 14.7 | 16.3 | 36.6 | 13.9 | 18.7 | 100.0 | 30.0 | 4670 |
| Dead | 31.2 | 20.2 | 28.5 | 11.1 | 9.0 | 100.0 | 23.7 | 640 |
| Residence |  |  |  |  |  |  |  |  |
| Total urban | 20.6 | 19.5 | 33.0 | 12.6 | 14.2 | 100.0 | 26.5 | 1649 |
| Major city | 21.9 | 20.6 | 31.9 | 12.1 | 13.6 | 100.0 | 25.7 | 938 |
| Other urban | 19.0 | 18.0 | 34.5 | 13.4 | 15.1 | 100.0 | 27.7 | 712 |
| Rural | 14.9 | 15.5 | 36.7 | 14.0 | 19.0 | 100.0 | 30.3 | 3660 |
| Province |  |  |  |  |  |  |  |  |
| Punjab | 16.3 | 16.3 | 38.4 | 13.2 | 15.8 | 100.0 | 28.9 | 3238 |
| Sindh | 19.9 | 18.1 | 26.8 | 11.4 | 23.9 | 100.0 | 28.3 | 1158 |
| NWFP | 11.5 | 17.3 | 37.2 | 17.2 | 16.9 | 100.0 | 31.3 | 709 |
| Balochistan | 22.5 | 13.7 | 34.3 | 18.8 | 10.7 | 100.0 | 27.3 | 205 |
| Education level attended |  |  |  |  |  |  |  |  |
| No education | 15.0 | 16.4 | 36.3 | 14.0 | 18.4 | 100.0 | 29.8 | 4192 |
| Primary | 22.2 | 20.2 | 32.3 | 12.9 | 12.5 | 100.0 | 26.2 | 524 |
| Middle | 26.3 | 14.2 | 39.3 | 7.7 | 12.5 | 100.0 | 25.9 | 233 |
| Secondary+ | 22.6 | 17.1 | 29.5 | 13.9 | 17.0 | 100.0 | 27.5 | 361 |
| Total | 16.7 | 16.7 | 35.6 | 13.6 | 17.5 | 100.0 | 29.1 | 5310 |

Note: First-order births are excluded. The interval for multiple births is the number of months since the preceding pregnancy that ended in a live birth.

The median birth interval is relatively short for younger women, for urban residents, for women living in Balochistan and for women who had received some formal education. In Balochistan, birth intervals are relatively short for both modem (urban, educated) women and traditional women. This
finding is probably due to a complex set of circumstances including negligible contraceptive use in Balochistan and a later age at marriage and shorter breastfeeding among modern women. Birth intervals are also shorter than average for second and third order births. Second and third order births were also most likely to be in the high risk group-that is, births occurring within 24 months of the preceding birth. As expected, children whose prior sibling had died before the time of the survey had the shortest previous birth intervals. A majority of children whose prior sibling had died were born less than 24 months after the birth of the previous child.

### 4.4 Age at First Birth

The age at which a woman bears her first child has important demographic and health consequences. On the demographic side, early initiation into childbearing is generally a major determinant of large family size and rapid population growth, particularly in countries in which family planning is not widespread. On the health side, bearing children at an early age entails significant risks to the health of both the mother and the child. Early childbearing also tends to restrict educational and economic opportunities for women.

Table 4.11 presents the distribution of Pakistani women by their age at first birth. The majority of women in Pakistan did not have their first birth until after their twentieth birthday. Childbearing before age 15 has always been uncommon and it is becoming increasingly rare over time. More than one-fifth of women age 25-49, however, had their first birth before age 18 whereas about 40 percent had their first birth during their teenage years. In recent years, there has been a rapid decline in the extent to which women begin childbearing during their teenage years. For example, whereas 42 percent of women age 25-29 had their first birth before age 20, only 30 percent of women age $20-24$ had their first child that early.

Table 4.11 Age at first birth
Percent distribution of ever-married women by age at first birth, according to current age, Pakistan 1990-91

| Current age | Women with no birth | Age at first birth |  |  |  |  |  | Total | Number of women | Median age at first birth |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | <15 | 15-17 | 18-19 | 20-21 | 22-24 | 25+ |  |  |  |
| 15-19 | 87.8 | 1.5 | 6.7 | 4.1 | -- | -- | -- | 100.0 | 1720 | a |
| 20-24 | 54.3 | 3.3 | 13.9 | 13.3 | 10.6 | 4.8 | -- | 100.0 | 1747 | a |
| 25-29 | 23.0 | 5.3 | 18.7 | 18.1 | 15.7 | 14.0 | 5.3 | 100.0 | 1745 | 21.0 |
| 30-34 | 9.2 | 4.4 | 20.0 | 17.3 | 16.1 | 19.7 | 13.3 | 100.0 | 1241 | 20.9 |
| 35-39 | 5.4 | 3.4 | 16.4 | 18.4 | 16.5 | 20.6 | 19.3 | 100.0 | 1005 | 21.4 |
| 40-44 | 5.5 | 6.3 | 15.6 | 15.6 | 15.5 | 19.8 | 21.8 | 100.0 | 865 | 21.7 |
| 45-49 | 5.5 | 4.8 | 12.4 | 15.7 | 12.9 | 22.2 | 26.5 | 100.0 | 630 | 22.6 |

-- Less than 0.05 percent
${ }^{\text {a }}$ Less than 50 percent of the women have had a bith by the beginning of the age group.

Differentials in the age at first birth are shown in Table 4.12. The median age at first birth for all women age $25-49$ is 21.3 years. Overall, there is little variation in the median age at first birth by place of residence or by education, except for women who have attended the highest education level. For the youngest age group, the median age at first birth is lowest in rural areas, in Balochistan and among

Table 4.12 Age at first birth by background characteristics
Median age at first birth among women aged 25-49 years, by current age and selected background characteristics

| Background characteristic | Current age |  |  |  |  | $\begin{gathered} \text { Ages } \\ 25-49 \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 |  |
| Residence |  |  |  |  |  |  |
| Total urban | 21.7 | 20.9 | 20.8 | 21.5 | 21.4 | 21.3 |
| Major city | 21.8 | 21.0 | 20.6 | 20.7 | 21.3 | 21.1 |
| Other urban | 21.6 | 20.8 | 21.2 | 22.1 | 21.5 | 21.4 |
| Rural | 20.6 | 20.9 | 22.0 | 21.7 | 23.2 | 21.3 |
| Province |  |  |  |  |  |  |
| Punjab | 21.6 | 21.0 | 21.6 | 21.8 | 22.7 | 21.6 |
| Sindh | 19.8 | 20.6 | 21.2 | 21.0 | 21.7 | 20.6 |
| NWFP | 21.2 | 20.8 | 21.0 | 21.3 | 23.6 | 21.4 |
| Balochistan | 18.3 | 20.4 | 22.0 | 22.7 | 25.3 | 20.3 |
| Education level attended |  |  |  |  |  |  |
| No education | 20.3 | 20.5 | 21.3 | 21.6 | 22.8 | 21.0 |
| Primary | 20.7 | 21.5 | 21.5 | 20.0 | 21.0 | 21.1 |
| Middle | 22.1 | 20.2 | 19.7 | 20.6 | 23.2 | 21.1 |
| Secondary+ | 25.0 | 24.7 | 23.0 | 23.3 | 22.5 | 24.0 |
| Total | 21.0 | 20.9 | 21.4 | 21.7 | 22.6 | 21.3 |

women with little or no education. These patterns, however, are not regular across all age groups. ${ }^{2}$ The most consistent pattern is the late initiation of childbearing among women who have gone beyond middle school.

### 4.5 Teenage Fertility

Some information on teenage fertility was already presented in the section on age at first birth. More detailed findings on teenage fertility are discussed in this section. Table 4.13 presents information on the childbearing experiences of women age 15-19. Column one shows the percentage of teenagers who are already mothers; column two shows the percentage who are pregnant with their first child. The sum of these two columns indicates the percentage of young women who have already begun childbearing. Overall, one in eight teenage women was a mother and another four percent were pregnant with their first child at the time of the survey. The proportion who have started childbearing increases with age. For example, at ages 15 and 16 , only six percent of women have begun childbearing. After age 16 , the proportion increases steadily to a level of 31 percent by age 19. While these figures demonstrate that there is a substantial amount of teenage childbearing in Pakistan, it is noteworthy that more than two-thirds of women who are 19 years old have not begun childbearing. Early childbearing is particularly characteristic of rural women and women who have not attended school. Regional differences in early childbearing are not as pronounced, but women in Balochistan are somewhat more likely to begin childbearing early than are women in other provinces.

[^6]Table 4.13 Teenage fertility
Percentage of teenagers 15-19 who are mothers or pregnant with their first child, by selected background characteristics, Pakistan 1990-91

| Background characteristic | Percentage who are: |  | Percentage who have begun childbearing | Numberofteenagers |
| :---: | :---: | :---: | :---: | :---: |
|  | Mothers | Pregnant with first child |  |  |
| Age |  |  |  |  |
| 15 | 3.0 | 2.5 | 5.5 | 173 |
| 16 | 3.7 | 2.5 | 6.1 | 381 |
| 17 | 7.6 | 5.4 | 13.0 | 260 |
| 18 | 15.1 | 3.8 | 18.9 | 630 |
| 19 | 27.4 | 3.3 | 30.6 | 276 |
| Residence |  |  |  |  |
| Total urban | 7.8 | 2.1 | 9.9 | 583 |
| Major city | 5.7 | 2.1 | 7.9 | 318 |
| Other urban | 10.2 | 2.1 | 12.3 | 264 |
| Rural | 14.5 | 4.3 | 18.7 | 1137 |
| Province |  |  |  |  |
| Punjab | 12.6 | 4.3 | 16.9 | 1015 |
| Sindh | 12.0 | 2.4 | 14.4 | 345 |
| NWFP | 11.7 | 2.2 | 13.9 | 281 |
| Balochistan | 15.3 | 5.2 | 20.5 | 52 |
| Education level attended |  |  |  |  |
| No education | 17.4 | 5.0 | 22.4 | 1007 |
| Primary | 8.3 | 2.1 | 10.4 | 248 |
| Middle | 4.9 | -- | 4.9 | 115 |
| Secondary+ | 3.1 | 2.1 | 5.3 | 256 |
| Total | 12.2 | 3.5 | 15.7 | 1720 |

-- Less than 0.05 percent

Teenage women who have begun childbearing are not likely to have had more than one birth (see Table 4.14). Only one respondent age $15-17$ had two or more births and fewer than 10 percent of women age 19 had given birth to more than one child. Overall, 88 percent of women $15-19$ have never given birth and only three percent have delivered more than one child. These findings suggest that the recent increase in the average age at first marriage in Pakistan has had a dampening effect on early childbearing and caused the large majority of women to delay childbearing at least until they have completed their teenage years.

## Table 4.14 Children ever born to teenagers

Percent distribution of teenagers 15-19 by number of children ever born (CEB), according to single year of age, Pakistan 1990-91

|  | Number of children <br> ever born |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Age | 0 | 1 | $2+$ | Total | Mean <br> number <br> of CEB | Number <br> of <br> teenagers |
| 15 | 97.0 | 3.0 | -- | 100.0 | -- | 173 |
| 16 | 96.3 | 3.7 | -- | 100.0 | -- | 381 |
| 17 | 92.4 | 7.3 | 0.3 | 100.0 | 0.1 | 260 |
| 18 | 84.9 | 11.3 | 3.8 | 100.0 | 0.2 | 630 |
| 19 | 72.6 | 17.9 | 9.5 | 100.0 | 0.4 | 276 |
| Total | 87.8 | 9.2 | 3.0 | 100.0 | 0.2 | 1720 |

-- Less than 0.05 percent or mean less than 0.05 children

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## CHAPTER 5

## KNOWLEDGE AND USE OF FAMILY PLANNING

Nasra M. Shah and Syed Mubashir Ali

In a country with a persistently high population growth rate such as Pakistan, the level of knowledge about family planning and the use of family planning methods remain very important demographic issues. Information on contraceptive use by various methods is of particular importance to policy makers, programme managers and researchers for formulating future programme strategies. An assessment of the extent of knowledge and use of contraception, therefore, constituted one of the primary objectives of the PDHS. This chapter describes women's knowledge of modern and traditional contraceptive methods as well as of their sources, the level of contraceptive use and the timing of contraceptive initiation, accessibility of family planning services and the cost of contraceptive methods. Differentials in knowledge and use according to demographic and socioeconomic characteristics of the respondents are also discussed.

### 5.1 Knowledge of Family Planning Methods and Sources

## Levels and Trends

The question used to elicit knowledge about family planning was phrased: "Now I would like to talk about family planning-the various ways or methods that a couple can use to delay or avoid a pregnancy. Which ways or methods have you heard about?" The respondent was first asked to report all the methods she knew without any prompting. Once she completed her spontaneous reporting, the interviewer read out the names and a short description of the remaining methods on the list and asked if she knew each one of them. In this way, her "complete" knowledge of contraception was obtained. The contraceptive methods included in the survey are shown in Table 5.1.

Almost four-fifths of ever-married and currently married women reported knowledge of at least one method. Almost all the women who reported such knowledge knew of a modern method. One-quarter of all women knew of a traditional method, mostly periodic abstinence or withdrawal. Female sterilisation, the pill, and injection were the best known methods. A distinction can be made, however, between prompted and unprompted knowledge. If just unprompted knowledge is considered, only about half of all women reported that they knew any method.

Women who reported knowing of a method were asked if they knew where they could go to obtain the method. Of all currently married women, 25 to 30 percent knew where they could obtain the pill, an IUD, or an injection. The largest percentage ( 37 percent) knew where they could get sterilisation services. In the case of periodic abstinence, only 9 percent of women knew where to get advice on how to use this method.

Table 5.1 Knowledge and source of contraceptive methods
Pcrcentage of ever-married women and currently married women who know specific contraceptive methods and who know a source (for information or services), by specific method, Pakistan 1990-91

| Contraceptive method | Ever-married women |  |  | Currently married women |  |  | Evermarried women $\qquad$ <br> Know a source | $\left.\begin{array}{c}\text { Currendy } \\ \text { married } \\ \text { women }\end{array}\right] \begin{gathered}\text { Know a } \\ \text { source }\end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Know method | Unprompted knowledge | Prompted knowledge | Know method | Unprompted knowledge | Prompted knowledge |  |  |
| Any method | 77.9 | 49.1 | 28.8 | 77.9 | 49.3 | 28.6 | 46.2 | 46.3 |
| Any modern method | 77.3 | 46.4 | 30.8 | 77.2 | 46.7 | 30.5 | 44.8 | 44.9 |
| Pill | 62.2 | 30.2 | 32.0 | 62.2 | 30.2 | 32.0 | 29.6 | 30.1 |
| IUD | 51.6 | 19.2 | 32.3 | 51.5 | 19.3 | 32.1 | 24.9 | 25.1 |
| Injection | 62.1 | 27.7 | 34.3 | 62.2 | 27.9 | 34.3 | 29.8 | 30.1 |
| Vaginal method | 12.7 | 3.1 | 9.5 | 12.7 | 3.1 | 9.6 | 7.0 | 7.0 |
| Condom | 35.0 | 14.7 | 20.3 | 35.3 | 14.8 | 20.5 | 19.1 | 19.3 |
| Female sterilisation | 69.6 | 24.0 | 45.6 | 69.7 | 24.2 | 45.5 | 37.0 | 37.0 |
| Male sterilisation | 20.2 | 3.0 | 17.2 | 20.2 | 3.0 | 17.3 | 11.4 | 11.5 |
| Any traditional method | 25.6 | 10.4 | 15.2 | 25.7 | 10.4 | 15.3 | NA | NA |
| Periodic abstinence | 17.8 | 5.7 | 12.0 | 17.8 | 5.7 | 12.0 | 9.3 | 9.4 |
| Withdrawal | 14.2 | 3.2 | 11.0 | 14.3 | 3.2 | 11.0 | NA | NA |
| Other | 3.5 | 3.5 | NA | 3.5 | 3.5 | NA | NA | NA |
| Number of women | 6611 | 6611 | 6611 | 6364 | 6364 | 6364 | 6611 | 6364 |

NA = Not applicable

Comparison of the level of contraceptive knowledge in the PDHS with earlier surveys reveals some unusual patterns. The comparisons are not straightforward, since some surveys included prompted responses about specific methods, while others included only the respondent's spontaneous (unprompted) knowledge. Looking only at unprompted knowledge, the percentage of currently married women who reported knowing about any method fluctuated from 76 percent in the 1975 Pakistan Fertility Survey (PFS) to 26 percent in the 1979-80 Population, Labour Force and Migration Survey (PLM) to 49 percent in the 1990-91 PDHS. Looking at prompted and unprompted knowledge combined, the percentages still vary greatly, from 97 percent of married women interviewed in 1968-69 in the National Impact Survey-when the family planning programme was only four years old-to 62 percent in the 1984-85 Contraceptive Prevalence Survey and 78 percent in the PDHS (see Table 5.2). Thus, it appears that the overall level of contraceptive knowledge, which showed a decline in the last two decades, has made headway in recent years, assuming that the measurement in the PDHS was of the same quality as in the earlier surveys. The reason for the fluctuations in the level of contraceptive knowledge is unclear, however, it is possible that the social climate that influences the respondent's reporting of knowledge of contraception might have become more restrictive beginning in the late 1970s, as was pointed out by analysts of the 1979-80 Pakistan Population, Labour Force and Migration Survey (Soomro et al. [1984]).

| Table 5.2 Trends in contraceptive knowledge |  |  |  |
| :---: | :---: | :---: | :---: |
| Percentage of currently marricd women who know specific contraceptive methods, 1990-91 PDHS, 1984-85 PCPS, and 1968-69 NIS |  |  |  |
| Contraceptive method | $\begin{aligned} & 1990.91 \\ & \text { PDHS } \end{aligned}$ | $\begin{aligned} & 1984-85 \\ & \text { PCPS } \end{aligned}$ | $\begin{gathered} 1968-69 \\ \text { NIS } \end{gathered}$ |
| Any method | 77.9 | 61.5 | 97.0 |
| Pill | 62.2 | 54.1 | 37.7 |
| IUD | 51.5 | 43.4 | 72.1 |
| Injection | 62.2 | 46.7 | U |
| Vaginal method | 12.7 | 16.2 | 38.8 |
| Condom | 35.3 | 28.9 | 42.3 |
| Female sterilisation | 69.7 | 50.6 | 47.9 |
| Male sterilisation | 20.2 | 18.8 | 36.7 |
| Periodic abstinence | 17.8 | 5.8 | 13.7 |
| Withdrawal | 14.3 | 9.0 | 16.5 |

Note: Figures are for total knowledge; i.e., knowledge based on unprompted (spontaneous) and prompted responses. $\mathrm{U}=$ Unknown; no information Source: Population Welfare Division (1986); Soomro et al. [1984].

## Differentials in Knowledge

Table 5.3 shows the knowledge of modern contraceptive methods and the source for methods among currently married women by selected background characteristics. In terms of respondent's age, women 30-39 years, who are likely to have the greatest need for contraception, reported the highest levels of knowledge ( 81 percent had heard of a modern method). Only 66 percent of women age $15-19$ knew of a modern method of contraception.

There are large differences in reported knowledge between urban and rural areas (see Figure 5.1). Ninety-four percent of currently married women residing in major cities knew of at least one modern method of contraception and three-fourths knew where to obtain a method. Among rural women, 71 percent knew of a modern method and 34 percent knew where to obtain a method. A comparison with earlier surveys indicates that the urban-rural differential in knowledge of family planning has increased over time (data not shown). While women in the provinces of Punjab, Sindh and NWFP had knowledge of modern methods ranging from 74 to 83 percent, only 37 percent of the Balochi women reported knowing of a modern method. Similarly, only about half as many Balochi women knew a source for a modem method as women in the other provinces.

Table 5.3 Knowledge of modern contraceptive methods and source for methods

Percentage of currently married women who know at least one modern contraceptive method and who know a source (for information or services), by background characteristics, Pakistan 1990-91

| Background characteristic | $\begin{gathered} \text { Know } \\ \text { any } \\ \text { method } \end{gathered}$ | Know a modern method ${ }^{1}$ | Know source for modern method | $\begin{aligned} & \text { Number } \\ & \text { of } \\ & \text { women } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: |
| Age |  |  |  |  |
| 15-19 | 66.3 | 65.8 | 32.3 | 418 |
| 20-24 | 75.0 | 74.4 | 39.2 | 1041 |
| 25-29 | 77.4 | 76.7 | 43.6 | 1452 |
| 30-34 | 81.8 | 81.2 | 48.4 | 1147 |
| 35-39 | 81.5 | 81.3 | 53.2 | 931 |
| 40-44 | 78.7 | 77.9 | 47.2 | 803 |
| 45-49 | 77.8 | 76.6 | 44.1 | 572 |
| Residence |  |  |  |  |
| Total urban | 91.3 | 90.6 | 69.9 | 1930 |
| Major city | 94.5 | 93.8 | 75.7 | 1098 |
| Other urban | 87.2 | 86.4 | 62.3 | 832 |
| Rural | 72.0 | 71.4 | 34.0 | 4434 |
| Province |  |  |  |  |
| Punjab | 80.6 | 79.9 | 46.2 | 3768 |
| Sindh | 74.4 | 73.9 | 45.3 | 1486 |
| NWFP | 83.6 | 83.3 | 44.8 | 856 |
| Balochistan | 38.5 | 36.5 | 23.8 | 254 |
| Education level attended |  |  |  |  |
| No education | 73.8 | 73.0 | 37.7 | 5044 |
| Primary | 91.7 | 91.7 | 64.3 | 573 |
| Middle | 93.6 | 93.6 | 72.4 | 279 |
| Secondary+ | 95.6 | 95.0 | 81.9 | 468 |
| Work status ${ }^{2}$ |  |  |  |  |
| Currently working | 72.7 | 72.5 | 40.0 | 1033 |
| Worked before marriage only | 85.8 | 85.7 | 57.7 | 282 |
| Worked after marriage only | 81.9 | 81.9 | 64.1 | 43 |
| Worked before and after marriage | 75.7 | 74.5 | 39.2 | 69 |
| Never worked | 78.5 | 77.7 | 45.0 | 4916 |
| Total | 77.9 | 77.2 | 44.9 | 6364 |

${ }^{1}$ Includes pill, IUD, injection, vaginal methods (diaphragm/foam/jelly), condom, female sterilisation and male sterilisation
${ }^{2}$ Excludes 21 women with missing information on work status. "Never worked" means that the woman is not currently working and she did not work either before marriage or just after marriage.

Figure 5.1
Knowledge of Modern Contraceptive
Methods and Sources among Currently Married Women by Residence



The major difference in contraceptive knowledge by education is between women with no education and those who have at least some education. Only 73 percent of women with no education knew of a modern method, compared with 92 percent of those who had gone to primary school and 95 percent of those who had received at least some education at the secondary level. Similarly, only 38 percent of the women with no education knew where to obtain a method, compared with 82 percent of the ones with secondary or higher education.

Finally, the relative level of contraceptive knowledge of working and nonworking women does not show any clear pattern. One might expect working women to have greater exposure and knowledge; however, the results in Table 5.3 indicate that this is not always the case. Women who worked only before or after marriage are more likely to know a modem contraceptive method ( 86 percent and 82 percent, respectively) than those who have never worked ( 78 percent), but those who have never worked are slightly more likely to know a modern method than those who are currently working ( 73 percent). Earlier research in Pakistan has shown that working women typically belong to the lower socioeconomic stratum (Shah 1986) and are likely to be less knowledgeable about contraception. This is consistent with the finding in Table 3.10 that working women are the least educated group overall.

### 5.2 Contraceptive Use

## Ever Use of Family Planning Methods

In the PDHS all respondents who knew at least one method were asked whether they had ever used the known methods. This was further probed by asking whether they "ever used anything or tried in any way to delay or avoid getting pregnant." Table 5.4 shows that one-fifth of ever-married and of currently married women had used a contraceptive method at some time in the past. Sixteen percent of currently married women had used a modem method, while 9 percent had used a traditional method. Periodic abstinence was the most commonly used traditional method.

Table 5.4 Ever use of contraception
Percentage of ever-married and of currently married women who have ever used any contraceptive method, by specific method and age, Pakistan 1990-91

| Contraceptive method | Age of woman |  |  |  |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 |  |
| EVER-MARRIED WOMEN |  |  |  |  |  |  |  |  |
| Any method | 3.3 | 12.7 | 18.6 | 23.5 | 31.1 | 25.5 | 19.1 | 20.3 |
| Any modern method | 2.4 | 8.0 | 15.1 | 19.1 | 25.1 | 20.0 | 15.4 | 16.0 |
| Pill | 1.1 | 2.2 | 3.7 | 5.7 | 6.0 | 7.0 | 4.2 | 4.5 |
| IUD | 0.6 | 1.4 | 4.0 | 4.9 | 4.1 | 3.9 | 2.2 | 3.4 |
| Injection | 0.4 | 1.5 | 2.7 | 4.0 | 5.9 | 3.2 | 3.0 | 3.2 |
| Vaginal method | -- | 0.4 | 0.3 | 0.4 | 1.1 | 0.4 | 0.4 | 0.5 |
| Condom | 1.4 | 3.9 | 8.8 | 9.2 | 10.2 | 6.6 | 4.6 | 7.1 |
| Female sterilisation | .. | 0.5 | 0.8 | 2.7 | 7.6 | 7.6 | 6.6 | 3.5 |
| Male sterilisation | -- | -. | 0.1 | 0.1 | 0.2 | -- | 0.4 | 0.1 |
| Any traditional method | 1.2 | 6.4 | 8.5 | 9.9 | 13.3 | 9.9 | 6.6 | 8.7 |
| Periodic abstinence | 1.1 | 2.4 | 5.2 | 5.2 | 8.2 | 6.3 | 3.7 | 4.9 |
| Withdrawal | 0.5 | 3.0 | 3.6 | 5.3 | 6.2 | 2.7 | 1.9 | 3.7 |
| Other | 0.2 | 2.5 | 1.4 | 1.8 | 1.6 | 2.7 | 2.1 | 1.8 |
| Number of women | 428 | 1059 | 1494 | 1187 | 981 | 844 | 617 | 6611 |
| CURRENTLY MARRIED WOMEN |  |  |  |  |  |  |  |  |
| Any method | 3.1 | 12.9 | 19.1 | 24.0 | 32.1 | 25.9 | 19.6 | 20.7 |
| Any modern method | 2.3 | 8.2 | 15.5 | 19.4 | 25.8 | 20.1 | 15.8 | 16.2 |
| Pill | 0.9 | 2.3 | 3.7 | 5.9 | 6.3 | 7.0 | 4.5 | 4.5 |
| IUD | 0.4 | 1.4 | 4.1 | 4.9 | 4.1 | 3.6 | 1.8 | 3.3 |
| Injection | 0.4 | 1.6 | 2.7 | 4.2 | 6.2 | 3.2 | 3.3 | 3.3 |
| Vaginal method | -- | 0.4 | 0.3 | 0.4 | 1.2 | 0.4 | 0.4 | 0.5 |
| Condom | 1.3 | 4.0 | 9.1 | 9.4 | 10.1 | 6.2 | 4.7 | 7.2 |
| Female sterilisation | -- | 0.5 | 0.9 | 2.7 | 8.0 | 8.0 | 6.8 | 3.5 |
| Male sterilisation | .- | -- | 0.1 | 0.1 | 0.2 | -- | 0.4 | 0.1 |
| Any traditional method | 1.0 | 6.5 | 8.7 | 10.0 | 13.9 | 10.3 | 6.7 | 8.9 |
| Periodic abstinence | 0.9 | 2.5 | 5.3 | 5.2 | 8.4 | 6.5 | 3.8 | 5.0 |
| Withdrawal | 0.5 | 3.1 | 3.7 | 5.4 | 6.5 | 2.8 | 1.9 | 3.8 |
| Other | -- | 2.5 | 1.4 | 1.8 | 1.7 | 2.8 | 2.1 | 1.9 |
| Number of women | 418 | 1041 | 1452 | 1147 | 931 | 803 | 572 | 6364 |

[^7]The most commonly used modem methods were the condom (7 percent), followed by the pill ( 5 percent) and female sterilisation ( 4 percent). Less than one percent of the women reported ever having used a vaginal method such as the diaphragm, spermicides, or suppositories and a negligible proportion ( 0.1 percent) reported the use of male sterilisation.

In terms of age, one-fifth or more of ever-married and of currently married women age $30-44$ had used a modern method. Contraceptive use rates were highest in the age group 35-39, where knowledge was reported to be the highest (Table 5.3). A low use rate was observed among the youngest women: only 2 percent of those age 15-19 had ever used a modern method. The use of traditional methods was highest (1314 percent) in the age group 35-39, followed by 10 percent in the adjacent age groups $30-34$ and 40-44.

Levels of ever use from the PDHS are considerably higher (21 percent) than those estimated from previous surveys. Data from the 1968-69 National Impact Survey (NIS), the 1975 Pakistan Fertility Survey (PFS), the 1979-80 Population, Labour Force and Migration Survey (PLM) and the 1984-85 Pakistan Contraceptive Prevalence Survey (PCPS) show levels of ever use among currently married women to be 12 percent, 11 percent, 5 percent, and 12 percent, respectively (Soomro et al. [1984]; Population Welfare Division 1986). While differences in the methods asked about and in the implementation of the surveys may account for some of the differences, it seems likely that there has been a substantial recent increase in the ever use of contraception in the country.

## Current Use of Family Planning Methods

Regarding current use at the time of survey, ${ }^{1} 12$ percent of currently married women reported that they were using some method to delay or prevent pregnancy (see Table 5.5). Three-fourths of the current users were using a modern method and one-fourth a traditional method. The most widely used method was female sterilisation ( 4 percent), followed by the condom ( 3 percent) and the IUD ( 1 percent). Less than one percent were using either the pill or injection (a recently introduced method).

[^8]Table 5.5 Current use of contraception
Percent distribution of currently married women by current use of contraceptive methods, according to age, Pakistan 1990-91

| Contraceptive method | Age of woman |  |  |  |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 |  |
| Any method | 2.6 | 6.3 | 9.6 | 13.4 | 20.4 | 15.8 | 11.8 | 11.8 |
| Any modern method | 1.9 | 3.8 | 7.4 | 9.6 | 15.8 | 12.8 | 10.3 | 9.0 |
| Pill | 0.2 | 0.8 | 0.8 | 0.7 | 0.9 | 0.8 | -- | 0.7 |
| IUD | 0.4 | 0.7 | 1.8 | 1.9 | 1.4 | 1.1 | 0.4 | 1.3 |
| Injection | 0.4 | 0.4 | 0.4 | 0.6 | 1.6 | 1.1 | 1.1 | 0.8 |
| Vaginal method | -- | -- | -- | -- | 0.1 | -- | -- | - |
| Condom | 0.8 | 1.5 | 3.6 | 3.6 | 3.8 | 1.8 | 1.9 | 2.7 |
| Fernale sterilisation | -- | 0.5 | 0.9 | 2.7 | 7.9 | 8.0 | 6.8 | 3.5 |
| Male sterilisation | -- | -. | -- | 0.1 | 0.2 | -- | -- | .. |
| Any traditional method | 0.7 | 2.5 | 2.3 | 3.8 | 4.5 | 3.0 | 1.5 | 2.8 |
| Periodic abstinence | 0.5 | 0.7 | 1.0 | 1.6 | 2.6 | 1.7 | 0.4 | 1.3 |
| Withdrawal | 0.1 | 1.1 | 1.0 | 1.9 | 1.8 | 1.3 | 0.3 | 1.2 |
| Other | -- | 0.6 | 0.3 | 0.3 | 0.2 | -- | 0.8 | 0.3 |
| Not currently using | 97.4 | 93.7 | 90.4 | 86.6 | 79.6 | 84.2 | 88.2 | 88.2 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 418 | 1041 | 1452 | 1147 | 931 | 803 | 572 | 6364 |

-- Less than 0.05 percent

The level of contraceptive use varies with the age of women, increasing from less than three percent for married women age $15-19$ to a high of 20 percent for women $35-39$, and decreasing thereafter. It is assumed that younger women are less likely to use contraception because they have recently started their families, while older women, whose current use is more than the national average, are more likely to use due to the pressure of frequent pregnancies and large family size. Younger women typically use a temporary method such as the condom, periodic abstinence, or withdrawal, while sterilisation is more common among older women ( 8 percent of women age $35-44$ have been sterilised). It is notable that even among women age 35 and over, the condom is the second most widely used method.

Table 5.6 shows the contraceptive use rates (ever use and current use) among non-pregnant women. A total of 22 percent of non-pregnant currently married women reported that they had ever used contraception while 14 percent were currently using various methods ( 11 percent modern methods and 3 percent traditional methods). Among modern methods, female sterilisation (a permanent method) was used most frequently ( 4 percent), followed by the condom (3 percent), IUD ( 2 percent), injection and the pill ( 1 percent each). Modem methods had been used by 17 percent of non-pregnant women and traditional methods had been used by 10 percent. The most prominent modern method among ever-users was the condom ( 8 percent), followed by the pill ( 5 percent), sterilisation and the IUD (4 percent each), and injection (3 percent).

| Table 5.6 Use of contraception by non-pregnant women |  |  |
| :---: | :---: | :---: |
| Percentage of currently married non-preguant women who have ever used and are currently using a contraceptive method, by specific method, Pakistan 1990-91 |  |  |
| Contraceptive method | Ever used | Currently using |
| Any method | 22.0 | 14.0 |
| Any modern method | 17.1 | 10.7 |
| Pill | 4.7 | 0.8 |
| IUD | 3.6 | 1.5 |
| Injection | 3.2 | 0.9 |
| Vaginal method | 0.5 | -- |
| Condom | 7.5 | 3.2 |
| Female sterilisation | 4.2 | 4.2 |
| Male sterilisation | 0.1 | -- |
| Any traditional method | 9.6 | 3.3 |
| Periodic abstinence | 5.4 | 1.5 |
| Withdrawal | 4.1 | 1.4 |
| Other | 2.1 | 0.4 |
| Never used/Not currently using | 78.0 | 86.0 |
| Total | NA | 100.0 |
| Number of women | 5375 | 5375 |
| -- Less than 0.05 percent NA = Not applicable |  |  |

The level of contraceptive use reported in the PDHS represents a substantial increase from that reported in either the 1975 PFS or the 1984-85 PCPS. Both these surveys calculated contraceptive use for currently married non-pregnant women; the results from all three surveys, calculated on this basis, are given in Table 5.7. Contraceptive use among married, non-pregnant women has almost tripled in 15 years, from 5 percent in 1975 to 9 percent in 1984-85 and 14 percent in 1990-91. In particular, female sterilisation has gained importance over the last two decades. Only 1 percent of married non-pregnant women were reported in the 1975 PFS to have been sterilised; in the 1984-85 PCPS, this had increased to 2.6 percent and by 199091 , to 4.2 percent, a fourfold increase in 15 years.

| Table 5.7 Trends in contraceptive use |  |  |  |
| :---: | :---: | :---: | :---: |
| Percentage of currently married, non-pregnant women age 15-49 who are currently using a contraceptive method, 1990-91 PDHS, 1984-85 PCPS and 1975 PFS |  |  |  |
| Contraceptive method | $\begin{gathered} 1990-91 \\ \text { PDHS } \end{gathered}$ | 1984-85 PCPS | $\begin{aligned} & 1975 \\ & \text { PFS } \end{aligned}$ |
| Any method | 14.0 | 9.1 | 5.5 |
| Any modern method | 10.7 | 7.6 | 4.0 |
| Pill | 0.8 | 1.4 | 1.0 |
| IUD | 1.5 | 0.8 | 0.7 |
| Injection | 0.9 | 0.6 | U |
| Vaginal method | -- | 0.1 | 0.2 |
| Condom | 3.2 | 2.1 | 1.0 |
| Female sterilisation | 4.2 | 2.6 | 1.0 |
| Male sterilisation | -- | -- | -- |
| Any traditional method | 3.3 | 1.5 | 1.5 |
| Periodic abstinence | 1.5 | 0.1 | 0.1 |
| Withdrawal | 1.4 | 0.9 | 0.1 |
| Other | 0.4 | 0.5 | 1.3 |
| Number of women | 5375 | U | 4441 |

Note: Figures for the PFS include use of prolonged abstinence as "other," which is analogous to the PCPS and PDHS, since there was no probing of methods.
-- Less than 0.05 percent
U = Unknown; no information
Source: Population Planning Council of Pakistan (1976); Population Welfare Division (1986:88).

The condom, the second most widely used method, has gained in popularity compared to the pill. This may be due to the general availability of condoms through a commercial social marketing programme, Social Marketing of Contraceptives (SMC). Similarly, IUD use has doubled from 0.8 percent in the 1984-85 PCPS to 1.5 percent in the $1990-91$ PDHS. The introduction of the Copper T into the programme has probably been the principal reason for this increase.

## Socioeconomic Differentials in Current Use of Family Planning

Table 5.8 shows the sociodemographic differentials in current contraceptive use. As in previous surveys, a large urban-rural differential continues to exist (see Figure 5.2). The proportion of married urban women using a modem method ( 19 percent) is almost four times greater than that of rural women ( 5 percent). The urban-rural differential holds for each method; for example, 9 percent of the women in major cities have been sterilised, compared to 6 percent of women in other urban areas and 2 percent of women in rural areas. It should also be noted that in both rural and urban areas, current use of any method has increased since the 1984-85 PCPS, which showed a rate of 16 percent for urban and 5 percent for rural areas.

## Table 5.8 Current use of contraception by background characteristics

Percent distribution of currently married women by contraceptive method currently being used, according to background characteristics

| Background churacteristic | Any method | Any modem method | Plll | IUD | $\begin{gathered} \text { Injec- } \\ \text { tion } \end{gathered}$ | Vaginal method | Condom | Fernale sterilisation | Male sterilisation | Any trad. method | Periodic abstinence | Withdrawal | Oher | Not currenuly using | Total | Number |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Residence |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total urban | 25.7 | 18.7 | 1.4 | 2.0 | 1.2 | -- | 6.7 | 7.3 | 0.1 | 7.1 | 3.4 | 3.0 | 0.6 | 74.3 | 100.0 | 1930 |
| Major city | 31.0 | 22.3 | 1.4 | 2.4 | 1.0 | 0.1 | 8.9 | 8.5 | 0.1 | 8.7 | 4.2 | 4.0 | 0.5 | 69.0 | 100.0 | 1098 |
| Other urben | 18.8 | 13.9 | 1.4 | 1.4 | 1.4 | -. | 3.8 | 5.7 | 0.2 | 4.9 | 2.4 | 1.8 | 0.7 | 81.2 | 100.0 | 832 |
| Rural | 5.8 | 4.8 | 0.4 | 0.9 | 0.6 | -- | 1.0 | 1.9 | -- | 1.0 | 0.4 | 0.4 | 0.2 | 94.2 | 100.0 | 4434 |
| Province |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Punjab | 13.0 | 9.8 | 0.6 | 1.5 | 0.8 | -- | 3.0 | 3.8 | 0.1 | 3.2 | 1.4 | 1.5 | 0.3 | 87.0 | 100.0 | 3768 |
| Sindh | 12.4 | 9.1 | 0.7 | 0.9 | 0.4 | -- | 3.4 | 3.5 | -- | 3.4 | 1.7 | 1.3 | 0.4 | 87.6 | 100.0 | 1486 |
| NWFP | 8.6 | 7.6 | 1.3 | 1.1 | 1.1 | 0.1 | 0.8 | 3.2 | -- | 1.0 | 0.6 | 0.3 | 0.1 | 91.4 | 100.0 | 856 |
| Balochistas | 2.0 | 1.7 | 0.7 | 0.5 | 0.1 | -- | 0.2 | 0.3 | -- | 0.3 | 0.2 | 0.1 | -- | 98.0 | 100.0 | 254 |
| Education |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| No education | 7.8 | 6.2 | 0.5 | 1.0 | 0.5 | -- | 1.1 | 3.0 | -- | 1.6 | 0.8 | 0.5 | 0.3 | 92.2 | 100.0 | 5044 |
| Primary | 17.8 | 14.0 | 1.5 | 1.5 | 1.2 | -- | 4.5 | 5.1 | 0.2 | 3.8 | 1.7 | 1.8 | 0.3 | 82.2 | 100.0 | 573 |
| Middle | 29.5 | 21.7 | 1.6 | 1.1 | 3.1 | 0.1 | 8.5 | 6.8 | 0.5 | 7.8 | 3.4 | 3.8 | 0.6 | 70.5 | 100.0 | 279 |
| Secondary+ | 38.0 | 25.9 | 1.1 | 4.0 | 1.1 | 0.1 | 14.4 | 5.2 | -- | 12.1 | 4.8 | 7.0 | 0.2 | 62.0 | 100.0 | 468 |

Number of
living children

| 0 | 0.1 | 0.1 | -- | -- | -. | -- | 0.1 | -- | -- | -- | -- | -- | $\cdots$ | 99.9 | 100.0 | 810 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 3.2 | 2.0 | 0.2 | -- | 0.4 | -- | 1.4 | -- | -- | 1.2 | 0.5 | 0.5 | 0.2 | 96.8 | 100.0 | 834 |
| 2 | 10.7 | 8.0 | 0.8 | 1.4 | 0.3 | -- | 4.5 | 1.0 | -- | 2.7 | 1.1 | 1.0 | 0.6 | 89.3 | 100.0 | 812 |
| 3 | 11.1 | 7.8 | 0.9 | 1.4 | 0.5 | .. | 3.1 | 1.9 | -- | 3.3 | 1.2 | 2.0 | 0.1 | 88.9 | 100.0 | 914 |
| 4 | 17.1 | 12.6 | 1.2 | 1.5 | 0.8 | -- | 3.9 | 4.8 | 0.3 | 4.5 | 1.7 | 2.4 | 0.4 | 82.9 | 100.0 | 856 |
| 5 | 18.0 | 14.0 | 1.4 | 1.7 | 1.8 | -- | 4.5 | 4.8 | -- | 3.9 | 2.6 | 1.1 | 0.2 | 82.0 | 100.0 | 647 |
| $6+$ | 18.4 | 14.8 | 0.6 | 2.1 | 1.3 | 0.1 | 2.1 | 8.5 | .- | 3.6 | 1.8 | 1.3 | 0.5 | 81.6 | 100.0 | 1492 |
| Tocal | 11.8 | 9.0 | 0.7 | 1.3 | 0.8 | -- | 2.7 | 3.5 | - | 2.8 | 1.3 | 1.2 | 0.3 | 88.2 | 100.0 | 6364 |

-- Less than 0.05 percent

In terms of provincial variation, Balochi women reported the lowest level of current use-only 2 percent were using modem methods, which is consistent with the low level of contraceptive knowledge among Balochi women. In contrast, 10 percent of women in Punjab were using modern methods.

Figure 5.2

## Current Use of Modern Contraceptive

 Methods among Currently Married Women 15-49 by Residence and Province

Another major differential that continues to hold is related to women's education. A strong positive relationship exists between education and the level of current use (see Figure 5.3). The percentage of married women using a modern contraceptive method increases from 6 percent of women with no education to 26 percent of women with secondary or higher education. This same association exists in the case of condom use and the use of traditional methods, with use being much greater among women who have attended secondary or higher education. The relationship is less obvious for female sterilisation and many of the other methods; the percentage of sterilised women, for example, was almost the same among those who attended primary school and those who attended secondary school or higher.

Finally, a positive association exists between the number of living children a woman has and current use. This was especially marked regarding use of female sterilisation. Only 2 percent of the women with three children had been sterilised, compared with 5 percent of those with four or five children and 9 percent of those with six or more children.

Figure 5.3
Current Use of Modern Contraceptive Methods among Currently Married Women 15-49 by Education


PDHS 1990-91

## Number of Children at First Use of Contraception

In order to investigate when during the family building process couples become motivated to initiate family planning use, the PDHS included a question for all women who had ever used a method as to how many living children they had when they first used a method. Overall, less than half (46 percent) of those who had ever used family planning initiated use when they had fewer than three living children (see Table 5.9). As expected, very few women initiated contraceptive use before they had any cnildren ( 0.5 percent). There appears to be a slight tendency for younger women to have initiated family planning use at lower parities than older women. A larger proportion of women living in major cities ( 34 percent) started using a method when they had fewer than four children than women living in other urban areas ( 19 percent) and those living in rural areas ( 5 percent). Users in NWFP started using a method much later than their counterparts in other provinces. Women who attended secondary school or a higher level of education started using a contraceptive method earlier than women with no education.

| Percent distribution of ever-married women by number of living children at the time of first use of contraception, according to selected background characteristics, Pakistan 1990-91 |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Background characteristic | Never used contraception | Number of living children at the time of first use of contraception |  |  |  |  |  |  |  | Missing | Total | $\begin{aligned} & \text { Number } \\ & \text { of } \\ & \text { women } \end{aligned}$ |
|  |  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | $7+$ |  |  |  |
| Age |  |  |  |  |  |  |  |  |  |  |  |  |
| 15-19 | 96.7 | 0.3 | 2.1 | 0.9 | -- | -- | -- | -- | -- | -- | 100.0 | 428 |
| 20-24 | 87.3 | 0.8 | 6.3 | 3.2 | 0.8 | 0.7 | 0.1 | 0.1 | -- | 0.6 | 100.0 | 1059 |
| 25-29 | 81.3 | 0.6 | 5.9 | 4.9 | 3.4 | 2.3 | 0.9 | 0.3 | 0.2 | 0.2 | 100.9 | 1494 |
| 30-34 | 76.5 | 0.6 | 4.1 | 5.3 | 3.7 | 4.5 | 2.1 | 1.5 | 1.5 | 0.2 | 100.0 | 1187 |
| 35-39 | 68.9 | 0.2 | 4.3 | 6.2 | 4.6 | 4.2 | 3.1 | 4.1 | 4.3 | 0.1 | 100.0 | 981 |
| 40-44 | 74.5 | 0.3 | 4.7 | 3.7 | 2.7 | 2.7 | 2.9 | 2.8 | 5.7 | -- | 100.0 | 844 |
| 45-49 | 80.9 | 0.3 | 1.8 | 2.4 | 2.2 | 1.8 | 2.1 | 3.3 | 5.3 | -- | 100.0 | 617 |
| Residence |  |  |  |  |  |  |  |  |  |  |  |  |
| Total urban | 58.9 | 1.0 | 9.8 | 10.2 | 6.4 | 5.1 | 2.7 | 2.6 | 3.2 | 0.1 | 100.0 | 2019 |
| Major city | 51.3 | 1.7 | 12.3 | 12.3 | 7.3 | 5.9 | 2.6 | 3.3 | 3.3 | 0.1 | 100.0 | 1151 |
| Other urban | 69.0 | 0.2 | 6.5 | 7.3 | 5.2 | 4.1 | 2.9 | 1.8 | 2.9 | 0.1 | 100.0 | 868 |
| Rural | 88.8 | 0.2 | 2.3 | 1.6 | 1.2 | 1.5 | 1.1 | 1.2 | 1.7 | 0.3 | 100.0 | 4592 |
| Province |  |  |  |  |  |  |  |  |  |  |  |  |
| Punjab | 77.7 | 0.4 | 5.4 | 4.8 | 3.0 | 3.0 | 1.8 | 1.8 | 1.9 | 0.2 | 100.0 | 3948 |
| Sindh | 78.4 | 0.9 | 4.8 | 4.9 | 3.4 | 2.4 | 1.2 | 1.4 | 2.3 | 0.2 | 100.0 | 1529 |
| NWFP | 86.0 | 0.1 | 1.8 | 1.8 | 1.7 | 1.6 | 2.1 | 1.6 | 3.3 | 0.1 | 100.0 | 878 |
| Balochistan | 95.2 | 0.1 | 1.6 | 0.7 | 0.4 | 0.5 | 0.3 | 0.2 | 0.9 | 0.1 | 100.0 | 255 |
| Education level attended |  |  |  |  |  |  |  |  |  |  |  |  |
| No education | 85.7 | 0.3 | 2.3 | 2.6 | 1.7 | 2.1 | 1.5 | 1.4 | 2.2 | 0.1 | 100.0 | 5237 |
| Primary | 67.3 | 0.1 | 5.1 | 8.1 | 5.6 | 3.6 | 3.4 | 3.6 | 2.5 | 0.8 | 100.0 | 601 |
| Middle | 55.9 | 1.4 | 12.4 | 9.5 | 7.9 | 7.0 | 1.1 | 1.1 | 3.4 | 0.4 | 100.0 | 288 |
| Secondary+ | 43.6 | 2.6 | 24.4 | 14.6 | 7.7 | 3.7 | 1.1 | 1.5 | 0.5 | 0.1 | 100.0 | 485 |
| Total | 79.7 | 0.5 | 4.6 | 4.2 | 2.8 | 2.6 | 1.6 | 1.6 | 2.2 | 0.2 | 100.0 | 6611 |

-- Less than 0.05 percent

## Use of Social Marketing Brand Condoms

The increase in condom use documented in the PDHS may be attributed at least partially to the active social marketing of this method. Table 5.10 shows that more than one-third ( 36 percent) of all couples who were using condoms were using the social marketing brand (Sathi), 18 percent were using the brand distributed in the government's family planning programme (Sultan) and 8 percent were using other brands. These figures underestimate the importance of the social marketing brand of condoms, as well as the other brands, since they include the responses of women who did not know the brand of condoms used by their husbands. When we consider only those respondents who knew the brand name of the condoms their husbands were using, 58 percent reported Sathi, 29 percent reported Sultan and 13 percent reported the use of other brands.

Table 5.10 Brand names of condoms
Percent distribution of condom users by brand names of condoms currently being used, according to urban-rural residence, Pakistan 1990-91

| Residence | Sathi | Sultan | Other <br> brand | Don't <br> know | Total | Number |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Total urban | 36.3 | 17.2 | 11.2 | 35.4 | 100.0 | 126 |
| $\quad$ Major city | 37.0 | 17.8 | 10.4 | 34.7 | 100.0 | 94 |
| Other urban | $(34.2)$ | $(15.1)$ | $(13.5)$ | $(37.2)$ | $(100.0)$ | 32 |
| Rural | $(35.4)$ | $(21.8)$ | $(-)$ | $(42.8)$ | $(100.0)$ | 43 |
| Total | 36.1 | 18.3 | 8.4 | 37.2 | 100.0 | 169 |

Note: Excludes three women with information missing on brand name. Figures in parentheses are based on 25 to 49 unweighted women.
-. Less than 0.05 percent

### 5.3 Knowledge of the Fertile Period

Earlier in this chapter it was reported that 18 percent of the currently married women had heard about periodic abstinence as a method of contraception and 9 percent knew where to get information about this method (see Table 5.1). A total of 5 percent of currently married women reported that they had ever used periodic abstinence as a method of contraception (see Table 5.4). The successful use of periodic abstinence as a method of contraception is, to some extent, dependent on a woman's knowledge of the fertile period. Table 5.11 shows respondents' knowledge about the time during the menstrual cycle when a woman is most likely to get pregnant. Only five percent of all ever-married women could correctly identify the fertile period as being in the middle of the cycle. Even among the women who said they have used periodic abstinence, less than one-third had accurate knowledge about the time a woman is at the highest risk of pregnancy.

Table 5.11 Knowledge of fertile period
Percent distribution of ever-married women and women who have ever used periodic abstinence by knowledge of the fertile period during the ovulatory cycle, Pakistan 1990-91

$\left.$| Perceived |
| :--- | ---: | :---: |
| fertile period |$\quad$| Ever- |
| :---: |
| married |
| women | | Ever users |
| :---: |
| of periodic |
| abstinence | \right\rvert\,

Some remarks about the comprehensibility of this question are in order. The question dealing with the fertile period presented a special difficulty and often had to be repeated in order to be understood. It is therefore not surprising that 84 percent of the women said they did not know when the fertile period occurs. In a society where two-thirds of women have received no education (see Table 3.5) and knowledge about the reproductive period is obtained through informal social channels, it is not unusual that only a few women reported accurate knowledge of the fertile period. It follows that in order for periodic abstinence to be used as a programme method, a major educational effort would have to be implemented.

### 5.4 Age at Sterilisation

Some information about the age and time at which women obtain sterilisation operations is given in Table 5.12. Of the total women who reported sterilisation, 45 percent were sterilised less than four years before the survey, another one-third ( 34 percent) were sterilised $4-7$ years before the survey and the remaining one-fifth were sterilised eight or more years before the survey. For those sterilised in the most recent time period-the four years before the survey-the data show that half of the sterilised women had the operation before they were age 35 and about one-third had the operation in their late 30s. It is difficult to assess trends in the age at sterilisation since the PDHS only interviewed women age 15-49 at the time of the survey. Thus, for the period eight or more years before the survey, there are no women age 45-49 and very few age 40-44, since these women would have been age 53-57 and 48-52. respectively, at the time of the survey. A recent study sponsored by the Family Planning Association of Pakistan, however, found that the age, as well as the parity, of sterilised women showed a declining trend (Rehan, n.d.).

Table 5.12 Timing of sterilisation
Percent distribution of sterilised women by age at the time of sterilisation, according to the number of years since the operation, Pakistan 1990-91

| Years since operation | Age at time of operation |  |  |  |  |  | Total | Number of women | Median age ${ }^{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | <25 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 |  |  |  |
| <4 | 7.5 | 18.4 | 24.3 | 29.6 | 17.1 | 2.9 | 100.0 | 102 | 33.4 |
| 4-7 | 1.2 | 15.8 | 41.4 | 29.9 | 11.7 | -- | 100.0 | 77 | 33.7 |
| $8+$ | 10.9 | 34.7 | 38.2 | 16.2 | -- | -- | 100.0 | 46 | 30.4 |
| Total | 6.1 | 20.8 | 33.0 | 27.0 | 11.8 | 1.3 | 100.0 | 225 | 32.8 |

-- Less than 0.05 percent
${ }^{1}$ Median ages have been calculated only for women less than 40 years of age to avoid problems of censoring

### 5.5 Source of Supply and Accessibility of Contraception

In order to evaluate the relative importance of various types of family planning service delivery mechanisms, the PDHS included a question about where current users obtained their methods. Overall, the government supplied over half ( 56 percent) of all modem methods used, while the private sector supplied 30 percent (see Table 5.13 and Figure 5.4). Four percent of users obtained their methods from other sources, while 10 percent (mostly condom users) did not know the source of their methods.

The mix of public vs. private sources varied according to the method used. For clinical methods (IUD and sterilisation), the government was by far the major source of supply; 85 percent of sterilised women and 81 percent of IUD users said that they had obtained services from a government source. More than half ( 53 percent) of the users of injection also got their supply from a government source. Users of supply methods (the pill and condoms) were less dependent on the government for their supply.

Table 5.13 Source of supply
Percent distribution of current users of modern contraceptive methods by most recent source of supply or information, according to specific method, Pakistan 1990-91

| Source of supply or information | Pill | IUD | Injection | Condom | Female sterilisation | All methods ${ }^{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Total government | 34.9 | 81.1 | 53.0 | 11.7 | 85.1 | 55.7 |
| Hospital/clinic | 13.1 | 45.9 | 29.5 | 4.1 | 78.3 | 42.2 |
| Family Welfare Centre | 21.3 | 35.2 | 21.3 | 6.1 | 6.7 | 12.8 |
| Other government | 0.5 | -- | 2.2 | 1.5 | -- | 0.7 |
| Total private | 56.2 | 15.8 | 42.0 | 47.6 | 13.7 | 30.0 |
| Doctor | 6.7 | 2.0 | 20.1 | 1.7 | 3.6 | 4.6 |
| Hospital | 1.3 | 9.3 | 17.6 | 1.9 | 10.1 | 7.5 |
| Drugstore | 41.7 | -- | 4.2 | 29.6 | -- | 12.5 |
| Other shop | 6.5 | -- | -- | 13.1 | -- | 4.4 |
| TBA | -- | 4.5 | $\cdots$ | 1.3 | -- | 1.0 |
| Total other sources | 5.2 | -- | 4.7 | 11.5 | -- | 4.3 |
| Friends/relatives | 4.7 | -- | 4.6 | 3.3 | -- | 1.7 |
| Other sources | 0.6 | -- | 0.1 | 8.2 | -- | 2.5 |
| Don't know/missing | 3.7 | 3.1 | 0.3 | 29.2 | 1.2 | 10.0 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 45 | 80 | 48 | 172 | 225 | 574 |

-- Less than 0.05 percent
${ }^{1}$ All methods include vaginal methods and male sterilisation, which are not shown separately.

As for specific sources, Family Welfare Centres, the main institutional structure through which contraceptives are provided, are an important source of services: 35 percent of IUD users and 21 percent each of users of the pill and injection are served by Family Welfare Centres. Govermment hospitals and clinics are the major source for female sterilisation, serving 78 percent of the women. These facilities served a large proportion of IUD and injection users as well. Drugstores and other shops are the major sources for pills and condoms ( 48 percent of pill users and 43 percent of condom users). A substantial proportion (38 percent) of women who use injection receive their shots from a private doctor or hospital. Thus, government and private sources are active in supplying various types of contraceptives. To facilitate the accessibility of contraceptive methods, both these sources need to be expanded.

Figure 5.4
Sources of Family Planning among Current Users of Modern Contraceptive Methods


The ease of obtaining a contraceptive method is an important factor in establishing contraceptive use. Thus, in the PDHS, each current user of a modern method was asked how long it took to travel from her home to the place where the method was obtained. These same questions were also asked of nonusers who knew of a source for family planning. The results are presented in Table 5.14.

Table 5.14 Time to source of supply for modem contraceptive methods
Percent distribution of current users of modern methods of family planning, nonusers of modern methods, and all ever-married women knowing any method and a source, by time to reach source of supply, according to urban-rural residence, Pakistan 1990-91

|  | Current users of modern methods |  |  |  |  | Nonusers of modern methods |  |  |  |  | Ever-married women who know a contraceptive method |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Minutes to source | Total urban | $\begin{gathered} \text { Major } \\ \text { city } \end{gathered}$ | Other urban | Rural | Total | Total urban | $\begin{gathered} \text { Major } \\ \text { city } \end{gathered}$ | Other urban | Rural | Total | Total urban | $\begin{aligned} & \text { Major } \\ & \text { city } \end{aligned}$ | Other urban | Rural | Total |
| 0-14 | 24.8 | 25.1 | 24.2 | 11.4 | 19.7 | 26.1 | 28.0 | 23.4 | 13.3 | 18.7 | 25.7 | 27.0 | 23.6 | 13.1 | 19.1 |
| 15-29 | 20.2 | 22.3 | 15.8 | 10.6 | 16.5 | 26.3 | 26.8 | 25.7 | 11.3 | 17.6 | 24.6 | 25.3 | 23.5 | 11.4 | 17.6 |
| 30-59 | 23.3 | 26.1 | 17.4 | 12.8 | 19.3 | 21.1 | 20.8 | 21.6 | 15.8 | 18.0 | 21.6 | 22.6 | 20.0 | 15.6 | 18.4 |
| 60+ | 27.6 | 22.2 | 38.7 | 63.0 | 41.0 | 20.6 | 19.6 | 22.0 | 53.6 | 39.6 | 22.8 | 20.5 | 26.5 | 54.3 | 39.4 |
| Don't know time | 4.1 | 4.2 | 3.9 | 2.3 | 3.4 | 5.9 | 4.9 | 7.3 | 6.0 | 6.0 | 5.3 | 4.6 | 6.4 | 5.6 | 5.5 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Median | 30.1 | 30.0 | 30.5 | 60.5 | 30.7 | 20.6 | 20.3 | 20.9 | 60.3 | 30.7 | 20.8 | 20.5 | 25.7 | 60.3 | 30.7 |
| Number | 307 | 206 | 101 | 187 | 494 | 713 | 418 | 295 | 976 | 1689 | 1014 | 623 | 391 | 1134 | 2148 |

[^9]In terms of how long it took the current users of modern methods to reach a source of supply, rural women reported a median of 61 minutes, compared with 30 minutes reported by urban women. About 63 percent of the rural users of modern methods said that it took them an hour or more to reach the facility from where they obtained their contraception, compared with 22 percent of the women in major cities and 39 percent in other urban areas. Differentials by time to reach a source reported by those who were not using modern methods and by all women who know a method were similar.

### 5.6 Cost of Contraception

The PDHS included a question for current users of the pill, IUD, condom, injection and female sterilisation about the cost of their methods. The results are presented in Table 5.15. Caution should be exercised in interpreting these data since the number of users is small.

Table 5.15 Costs of contraceptive methods
Average cost of contraception for current users and the percentage receiving method for free by contraceptive method, Pakistan 1990-91

| Contraceptive method | Average cost (Rupees) |  | Number of users |  | Percent receiving free |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total ${ }^{1}$ | For those who pay | Total ${ }^{1}$ | Who paid |  |
| Pill (one packet) | 7 | (8) | 35 | 29 | 15.5 |
| IUD insertion | 59 | (100) | 79 | 46 | 41.2 |
| Injection | 87 | (102) | 42 | 35 | 15.1 |
| Condom | 1 | 1 | 80 | 64 | 19.7 |
| Sathi | (1) | (1) | 37 | 34 | (9.8) |
| Female sterilisation | 756 | 2740 | 199 | 55 | 72.4 |

Note: Table excludes users who did not know the cost of their method. Figures in parentheses are based on 25 to 49 unweighted women.
${ }^{1}$ Includes those who received method free

A majority of the female sterilisations ( 72 percent) and 41 percent of the IUD insertions were provided free of charge, presumably by government hospitals or clinics, while alarge majority of women who were using the pill, injection, or condoms had to pay for the services. The cost of pills and condoms is fairly low as a result of government subsidies: on average, one condom costs the user one rupee (for those who paid), while a cycle of pills costs eight rupees. The cost of an injection or an IUD insertion is substantial (about 100 rupees). In recent years injection has become a popular method and programme administrators would be well advised to encourage additional free or subsidized services for this method. Finally, those who paid for the sterilisation operation paid, on average, over 2,700 rupees. The high cost of this method puts it well beyond the reach of most couples. Hence, the programme emphasis on the provision of free sterilisations is well placed.

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## CHAPTER 6

# FAMILY PLANNING ATTITUDES 

Abdul Razzaque Rukanuddin and Mehboob Sultan

A positive attitude toward family planning is one of the basic prerequisites for contraceptive use. This chapter discusses the interpersonal communication among husbands and wives about family planning; attitudes of couples toward family planning; whether they heard a family planning message on radio or television; their perceptions about the effectiveness of family planning messages in persuading couples to use family planning; and their attitudes toward family planning messages on radio or television.

### 6.1 Discussion of Family Planning Among Couples

Although husband-wife discussion of family planning is not a necessary condition for adopting contraception, earlier research in Pakistan does indicate that interspousal communication on family planning creates interest in and support for regulating fertility through contraceptive use (Shah 1974).

All currently married nonsterilised women who knew a contraceptive method were asked how often they talked with their husbands about family planning in the past year. Three-quarters of the women (74 percent) said they had not discussed this topic with their husbands in the previous year. Of the remaining 26 percent who had discussed the topic, 21 percent discussed family planning once or twice while 5 percent discussed it more often (see Table 6.1). A relatively high percentage of women age 30-39 (31 percent) reported that they had discussed family planning with their husbands, which is consistent with the greater use of contraception in this age group ( 20 percent). Women in their early and late reproductive years were least likely to have communicated with their husbands on family planning.

Substantial differences were also found on the basis of urban-rural residence, province, and educational attainment. Women in major cities were more than twice as likely as women in rural areas to have discussed family planning with their husbands ( 41 percent versus 20 percent). Similarly, women in Punjab were most likely to have discussed family planning ( 28 percent), followed by women in Sindh (25 percent), Balochistan ( 23 percent) and NWFP ( 17 percent). The findings of relatively low interspousal communication in Balochistan and NWFP are consistent with the low level of contraceptive use reported in these provinces.

As expected, the extent of husband-wife communication about family planning was positively related with the educational attainment of women. For example, women with some secondary or higher education were more then twice as likely to have discussed family planning with their husbands as women with no education ( 46 percent versus 21 percent). Women with secondary or higher education were also more likely to have discussed family planning with their husbands at least three times during the last year ( 16 percent) than women with a lower level of education or with no education at all.

Table 6.1 Discussion of family planning by couples
Percent distribution of currently married nonsterilised women who know a contraceptive method by the number of times family planning was discussed with their husbands in the year preceding the survey, according to background characteristics, Pakistan 1990-91

| Background characteristic | Number of times <br> family planning discussed |  |  |  | Number of women |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Never | Once or twice | Three or more times | Total |  |
| Age |  |  |  |  |  |
| 15-19 | 83.4 | 14.0 | 2.6 | 100.0 | 277 |
| 20-24 | 75.7 | 19.8 | 4.6 | 100.0 | 776 |
| 25-29 | 72.8 | 21.9 | 5.2 | 100.0 | 1112 |
| 30-34 | 69.4 | 25.2 | 5.4 | 100.0 | 906 |
| 35-39 | 68.8 | 24.7 | 6.6 | 100.0 | 684 |
| 40-44 | 76.0 | 18.6 | 5.4 | 100.0 | 568 |
| 45-49 | 84.4 | 13.3 | 2.3 | 100.0 | 406 |
| Residence |  |  |  |  |  |
| Total urban | 63.2 | 27.9 | 9.0 | 100.0 | 1619 |
| Major city | 59.4 | 29.3 | 11.3 | 100.0 | 944 |
| Other urban | 68.5 | 25.9 | 5.6 | 100.0 | 676 |
| Rural | 79.7 | 17.4 | 2.9 | 100.0 | 3109 |
| Province |  |  |  |  |  |
| Punjab | 71.7 | 24.3 | 4.0 | 100.0 | 2889 |
| Sindh | 74.6 | 18.9 | 6.5 | 100.0 | 1054 |
| NWFP | 82.6 | 10.6 | 6.8 | 100.0 | 689 |
| Balochistan | 77.1 | 19.3 | 3.6 | 100.0 | 97 |
| Education level attended |  |  |  |  |  |
| No education | 78.5 | 18.1 | 3.3 | 100.0 | 3569 |
| Primary | 69.5 | 23.7 | 6.8 | 100.0 | 495 |
| Middle | 53.0 | 40.6 | 6.4 | 100.0 | 241 |
| Secondary + | 53.6 | 30.9 | 15.5 | 100.0 | 423 |
| Total | 74.0 | 21.0 | 5.0 | 100.0 | 4729 |

### 6.2 Attitudes of Couples Toward Family Planning

Data on attitudes toward family planning were collected by asking women whether they and their husbands approved or disapproved of couples using a method to delay or avoid pregnancy. Table 6.2 presents information on the extent of consensus between women's attitudes and those of their husbands. It should be noted that the husbands' actual attitudes (reported in Chapter 12) may differ from their wives' perceptions of their attitudes. However, a wife's perception concerning her husband's attitude is important as it affects her decision with regard to the use of family planning.

Table 6.2 Attitudes of couples toward family planning
Percent distribution of wives' approval of family planning by their perception of their husbands' attitude toward family planning, among currently married nonsterilised wornen who know of a contraceptive method, according to selected background characteristics, Pakistan 1990-91

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

-- Less than 0.05 percent

Table 6.2 shows that 62 percent of currently married, nonsterilised women who knew of a contraceptive method approved of family planning use, while 38 percent disapproved of it. Women perceived their husbands to be somewhat less favourable toward family planning. While 28 percent of women said they did not know their husband's attitude, half of the rest thought their husband disapproved of family planning. There appears to be a considerable amount of consensus between husbands and wives about family planning use. One-third of female respondents reported that both they and their husbands approved of family planning and 22 percent said they both disapproved. The latter couples constitute the hard core cases in which family planning acceptance seems unlikely, unless concerted motivational efforts are made to bring about an attitudinal change. Only 15 percent of women reported an opposite opinion to that of their husbands, and in such cases the husband was usually reported to have a less favourable attitude toward family planning.

Attitudes toward family planning use differ little by the age of the wife. However, urban women are more likely than rural women to approve of family planning (see Figure 6.1). The approval of family planning by both husband and wife was more than twice as high ( 53 percent) in urban than in rural areas ( 24 percent). Conversely, disapproval by both husbands and wives was higher in rural areas ( 26 percent) than in urban areas ( 16 percent). Rural women were less likely to know their husband's attitude than urban women, a fact which is consistent with the lower level of communication about family planning in rural areas.

Considering family planning approval by province, about 60 percent of women in Sindh, Punjab, and NWFP approved of family planning use, compared with only 47 percent of women in Balochistan. The highest proportion of disapproval by both husband and wife was reported in Balochistan ( 32 percent), followed by Sindh and Punjab ( 23 percent each) and NWFP ( 19 percent).

Figure 6.1

## Approval of Family Planning among Currently Married Women by Residence and Education



Note: Based on currently married non-
sterllized women age $15-49$ who know a method.

Education of women is a crucial variable which is related to the approval of family planning by both husband and wife. Overall, only 55 percent of uneducated women approved of family planning compared with 89 percent of women with secondary education. Approval by both husband and wife was the lowest ( 27 percent) among women with no formal education. As education increased, the proportion of women who reported that both they and their husbands approve of the use of family planning increased from 43 percent in the case of primary education to 55 percent in the case of middle school and 70 percent for secondary and higher education.

### 6.3 Family Planning Messages on Electronic Mass Media

The Popuiation Welfare Programme (PWP), keeping in view the low literacy rate-particularly among females-and the rural residence of most of the population, has utilised the electronic mass media to publicise family planning messages. For more than six years, the PWP has been regularly using radio and television to promote the concept of a small family norm and to disseminate information on family planning, maternal and child health, and breastfeeding. The effort to spread family planning information through the electronic mass media has succeeded in reaching only one in five ever-married women ( 21 percent) at the national level (see Table 6.3). One in twenty women ( 5 percent) had heard a family planning message only on radio and the same proportion had seen a message only on television. About one in nine women ( 11 percent) had heard a message on both radio and television in the month preceding the survey. This indicates that the electronic media have yet to play a major role in disseminating the family planning message to a large segment of the illiterate and rural population.

Table 6.3 Family planning messages on radio and television
Percent distribution of ever-married women by whether they have heard a family planning message on the radio or television in the month preceding the survey, according to background characteristics, Pakistan 1990-91

| Background characteristic | Heard family planning message on radio or on television |  |  |  | Total | Number of women |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Neither | Radio only | Television only | Both |  |  |
| Residence |  |  |  |  |  |  |
| Total urban | 60.6 | 3.3 | 12.6 | 23.4 | 100.0 | 2019 |
| Major ciry | 53.7 | 2.8 | 14.6 | 28.8 | 100.0 | 1151 |
| Other urban | 69.7 | 4.0 | 10.1 | 16.3 | 100.0 | 868 |
| Rural | 86.7 | 5.9 | 1.9 | 5.4 | 100.0 | 4592 |
| Province |  |  |  |  |  |  |
| Punjab | 81.6 | 5.1 | 4.7 | 8.6 | 100.0 | 3948 |
| Sindh | 68.1 | 5.1 | 7.7 | 18.9 | 100.0 | 1529 |
| NWFP | 80.7 | 5.4 | 4.2 | 9.5 | 100.0 | 878 |
| Balochistan | 90.0 | 4.8 | 0.8 | 3.3 | 100.0 | 255 |
| Education level attended |  |  |  |  |  |  |
| No education | 84.4 | 5.5 | 3.0 | 7.0 | 100.0 | 5237 |
| Primary | 62.7 | 4.9 | 10.1 | 22.2 | 100.0 | 601 |
| Middle | 61.0 | 4.8 | 12.2 | 22.0 | 100.0 | 288 |
| Secondary + | 47.8 | 1.0 | 18.4 | 32.7 | 100.0 | 485 |
| Total | 78.7 | 5.1 | 5.2 | 10.9 | 100.0 | 6611 |

Urban-rural differentials in media coverage were quite prominent. One of eight rural women (13 percent) had heard a family planning message on radio or television compared to two of five urban women (39 percent). In major cities, close to half of the women (46 percent) had heard a family planning message on radio or television during the preceding month.

Among the provinces, a larger proportion of women ( 32 percent) in the comparatively more urbanised province of Sindh had heard a family planning message, followed by NWFP (19 percent) and

Punjab (18 percent). Women in Balochistan were least likely to have heard family planning messages ( 10 percent), probably because of the low population density and the relatively low level of coverage by mass media.

Exposure to family planning messages through the electronic mass media was positively correlated with educational attainment. Only 16 percent of the uneducated respondents reported that they had heard a family planning message on radio or television, whereas more than half ( 52 percent) of the women with secondary education had heard a message. The proportion hearing a message on radio alone declined with increasing education and the proportion hearing a message on TV or on both radio and TV increased with increasing education.

## Table 6.4 Perceived effectiveness of mass media messages on use of family planning

Percent distribution of the perceived effectiveness of family planning messages in persuading couples to use family planning, among ever-married women who have heard a radio or television message about family planning, according to selected background characteristics, Pakistan 1990-91

| Background characteristic | Perceived effectiveness |  |  |  | Total | Number |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Effective | Not effective | Don't know | Missing |  |  |
| Age |  |  |  |  |  |  |
| 15-19 | 69.9 | 10.0 | 19.9 | 0.2 | 100.0 | 85 |
| 20-24 | 81.9 | 10.4 | 7.3 | 0.4 | 100.0 | 233 |
| 25.29 | 81.0 | 9.2 | 8.9 | 1.0 | 100.0 | 343 |
| 30-34 | 81.4 | 8.4 | 7.6 | 2.7 | 100.0 | 242 |
| 35.39 | 81.7 | 9.5 | 8.7 | 0.2 | 100.0 | 236 |
| 40-44 | 80.6 | 8.9 | 8.3 | 2.2 | 100.0 | 150 |
| 45-49 | 72.6 | 12.7 | 13.3 | 1.4 | 100.0 | 112 |
| Residence |  |  |  |  |  |  |
| Total urban | 84.5 | 9.8 | 4.9 | 0.7 | 100.0 | 795 |
| Major city | 87.1 | 7.8 | 4.6 | 0.5 | 100.0 | 532 |
| Other urban | 79.2 | 14.0 | 5.6 | 1.2 | 100.0 | 263 |
| Rural | 74.0 | 9.2 | 15.1 | 1.7 | 100.0 | 606 |
| Province |  |  |  |  |  |  |
| Punjab | 82.0 | 7.1 | 9.8 | 1.1 | 100.0 | 724 |
| Sindh | 79.5 | 12.3 | 6.7 | 1.5 | 100.0 | 486 |
| NWFP | 76.0 | 9.3 | 14.3 | 0.4 | 100.0 | 168 |
| Balochistan | 51.1 | 33.2 | 14.5 | 1.2 | 100.0 | 23 |
| Education level attended |  |  |  |  |  |  |
| No education | 74.9 | 11.7 | 12.2 | 1.2 | 100.0 | 811 |
| Primary | 87.8 | 6.8 | 5.2 | 0.2 | 100.0 | 224 |
| Middle | 85.5 | 4.1 | 8.1 | 2.3 | 100.0 | 112 |
| Secondary + | 86.7 | 7.8 | 4.2 | 1.2 | 100.0 | 253 |
| Total | 79.9 | 9.6 | 9.3 | 1.2 | 100.0 | 1401 |

Table 6.4 presents the views of ever-married women about the effectiveness of the family planning media messages they heard on radio or saw on television. Eighty percent of the women who heard a message reported that these messages were effective, while 10 percent reported that they were not effective and 9 percent did not know. The differentials in perceived effectiveness by various social and demographic characteristics were generally small. The youngest women ( $15-19$ years) and the oldest women ( $45-49$ years)
were less likely to find the messages effective than women at other ages. Rural women were less likely to find the family planning messages effective. Women in Balochistan and women with no education were least likely to rate the messages as effective.

### 6.4 Acceptability of Family Planning Messages on Electronic Mass Media

Women were further asked whether or not they considered it acceptable for family planning information to be provided on radio or television. Slightly less than half (48 percent) of the women said that these messages were acceptable to them, while 20 percent said they were not acceptable and the rest ( 32 percent) were not sure. Younger women, rural residents, women with no education, and women in Balochistan were less likely than other women to think it was acceptable to broadcast family planning messages on radio or television (see Table 6.5). Attitudes toward the acceptability of family planning messages on the electronic mass media are highly favourable among women living in major cities and among women who have gone beyond primary school.

Table 6.5 Acceptability of media messages on family planning
Percentage of ever-married women who believe that it is acceptable to have messages about family planning on radio or television, by age and selected background characteristics, Pakistan 1990-91

| Background characteristic | Age |  |  |  |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 |  |
| Residence |  |  |  |  |  |  |  |  |
| Total urban | 66.4 | 72.0 | 77.1 | 77.2 | 77.1 | 72.9 | 62.0 | 73.9 |
| Major city | 67.3 | 81.7 | 84.2 | 81.8 | 82.9 | 78.5 | 74.1 | 80.9 |
| Other urban | 65.4 | 57.7 | 66.8 | 72.2 | 67.9 | 65.5 | 48.9 | 64.6 |
| Rural | 33.3 | 37.6 | 36.5 | 36.0 | 37.5 | 38.4 | 38.5 | 36.9 |
| Province |  |  |  |  |  |  |  |  |
| Punjab | 39.3 | 51.1 | 52.8 | 52.9 | 54.8 | 54.0 | 50.5 | 51.9 |
| Sindh | 38.2 | 49.9 | 49.6 | 47.3 | 53.0 | 38.2 | 42.2 | 47.0 |
| NWFP | 49.9 | 35.9 | 40.3 | 38.8 | 42.8 | 44.0 | 40.8 | 41.0 |
| Balochistan | 12.8 | 20.7 | 23.5 | 28.6 | 35.0 | 18.3 | 16.2 | 23.6 |
| Education level attended |  |  |  |  |  |  |  |  |
| No education | 33.2 | 36.9 | 37.3 | 40.2 | 44.8 | 42.6 | 41.2 | 39.7 |
| Primary | 59.1 | 75.6 | 76.9 | 62.5 | 72.7 | 71.3 | 81.1 | 71.7 |
| Middle | 72.6 | 92.0 | 89.4 | 91.6 | 84.9 | 84.3 | 74.1 | 87.3 |
| Secondary+ | 82.7 | 79.4 | 90.4 | 91.3 | 87.0 | 88.1 | 91.3 | 88.0 |
| Total | 39.6 | 47.5 | 49.0 | 49.0 | 52.0 | 48.5 | 46.0 | 48.2 |

### 6.5 Intentions About Future Use of Contraception

Information on intentions to use contraception in the future can assist family planning administrators in reaching prospective users and providing them with contraceptives of their choice. Similarly, information on method preference and the reasons for nonuse is helpful in planning future strategies and improving the
operational modalities of the family welfare programme. Such information also provides an estimate of the potential demand for family planning services in the country.

In the PDHS, all currently married pregnant women and non-pregnant women who were not using contraception at the time of interview were asked about their future intentions regarding the use of family planning and their method preference if they intended to use. If they did not intend to use family planning at any time in the future, they were asked why they did not intend to use. Seven of 10 ( 71 percent) currently married nonusers reported they do not intend to use contraception in the future (see Table 6.6). One of six ( 16 percent) said that they would use in the future and 13 percent were not sure about their intentions. Seven of 10 of the intended users ( 69 percent) said they would use contraception within the next 12 months, onequarter ( 25 percent) reported they would use at a later stage, and 7 percent were not sure when they would start using contraception.

Table 6.6 Future contraceptive use
Percent distribution of intentions to use family planning in the future by past experience with contraception, among currently married women who are not currently using any contraceptive method, according to number of living children, Pakistan 1990-91

| Intention | Number of living children ${ }^{1}$ |  |  |  |  |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | $7+$ |  |
| Never used contraception |  |  |  |  |  |  |  |  |  |
| Intends use within 12 months | 0.3 | 3.6 | 6.4 | 6.6 | 7.5 | 9.3 | 9.9 | 13.8 | 7.1 |
| Intends use later | 4.7 | 3.9 | 1.9 | 2.7 | 2.6 | 2.0 | 0.9 | 1.4 | 2.6 |
| Intends - unsure time | 0.3 | 1.3 | 1.0 | 0.9 | 1.5 | 0.4 | 0.4 | 0.7 | 0.8 |
| Unsure as to intent | 13.9 | 12.7 | 13.1 | 14.1 | 10.7 | 11.4 | 8.5 | 10.7 | 12.0 |
| Does not intend use | 80.1 | 75.5 | 70.2 | 63.7 | 62.9 | 61.6 | 65.2 | 59.4 | 67.3 |
| Previously used contraception |  |  |  |  |  |  |  |  |  |
| Intends use within 12 months | -- | 0.6 | 2.1 | 4.0 | 5.7 | 7.1 | 4.7 | 5.3 | 3.6 |
| Intends use later | -- | 0.6 | 0.9 | 3.1 | 1.4 | 1.8 | 1.2 | 1.2 | 1.3 |
| Intends - unsure time | -- | -- | 0.2 | 0.2 | 0.4 | 0.3 | 0.7 | -- | 0.2 |
| Unsure as to intent | -- | 0.2 | 0.8 | 0.8 | 1.9 | 0.7 | 1.9 | 0.9 | 0.9 |
| Does not intend use | 0.7 | 1.5 | 3.4 | 3.7 | 5.4 | 5.6 | 6.5 | 6.4 | 4.1 |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Currently married nonusers |  |  |  |  |  |  |  |  |  |
| Intends use within 12 months | 0.3 | 4.2 | 8.4 | 10.6 | 13.3 | 16.3 | 14.6 | 19.0 | 10.7 |
| Intends use later | 4.7 | 4.5 | 2.8 | 5.8 | 4.0 | 3.7 | 2.1 | 2.7 | 3.9 |
| Intends - unsure time | 0.3 | 1.3 | 1.2 | 1.1 | 1.9 | 0.7 | 1.1 | 0.7 | 1.1 |
| Unsure as to intent | 13.9 | 12.9 | 13.9 | 15.0 | 12.5 | 12.1 | 10.4 | 11.6 | 12.9 |
| Does not intend use | 80.8 | 77.1 | 73.6 | 67.4 | 68.3 | 67.1 | 71.7 | 65.7 | 71.4 |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 601 | 853 | 744 | 808 | 737 | 578 | 498 | 792 | 5610 |

[^10]The proportion of women who intend to use does not indicate a consistent trend by parity, although women with three or fewer children are less likely to express an intention to use family planning in the future. Among women who never used contraceptive methods before, three-quarters reported that they did not intend to use in the future. In contrast, a majority of those who used in the past (but are not currently using) intended to use contraception again in the future.

### 6.6 Reasons for Nonuse of Contraception

Currently-married women who do not intend to use contraception in the future were asked to indicate the main reason for their intentions. The largest proportion of women (43 percent) said they did not intend to use contraception since they wanted more children (see Table 6.7). This reason was given by nearly two-thirds ( 64 percent) of women less than 30 years of age, but only one-quarter of women age 30 and over.

Religious reasons were cited by the next largest group of women ( 13 percent), followed by lack of knowledge about family planning (11 percent). Although Pakistani society is considered to be male dominated, relatively few women ( 6 percent) mentioned their husband's opposition to the adoption of family planning methods as the main reason they do not intend to use contraception. The proportion of women with a fatalistic attitude ( 3 percent) was less than might be expected. A significant proportion of older women reported their actual or perceived sterility as the main reason for not intending to use contraception in the future.

### 6.7 Preferred Future Method of Contraception

Among the women who reported their intention of using contraception in the future, one of six ( 17 percent) reported female sterilisation as their preferred method of contraception (see Table 6.8). Less than half ( 45 percent) said they preferred to use modern spacing methods: injection ( 16 percent), the pill ( 13 percent), condoms ( 10 percent), and the IUD ( 7 percent). About one-quarter of these respondents did not know what method they preferred for future use, 4 percent mentioned traditional methods ( 2 percent periodic abstinence and another 2 percent withdrawal), while 8 percent gave other answers. Almost none of the respondents indicated male sterilisation or vaginal methods as their preferred method.

Table 6.8 Preferred method of contraception for future use

Percent distribution of preferred contraceptive method among currently married non-contracepting women who intend to use in the future, according to intended timing of future use, Pakistan 1990-91

| Preferred method of contraception | Intend to use |  |  |
| :---: | :---: | :---: | :---: |
|  | In next 12 months | After 12 months | Total |
| Pill | 14.5 | 12.0 | 13.0 |
| IUD | 8.7 | 3.6 | 6.8 |
| Injection | 17.5 | 14.6 | 15.7 |
| Diaphragm/Foam/Jelly | 0.3 | -- | 0.2 |
| Condom | 10.4 | 9.5 | 9.5 |
| Female sterilisation | 18.9 | 14.1 | 17.1 |
| Periodic abstinence | 2.4 | 1.9 | 2.1 |
| Withdrawal | 1.5 | 3.4 | 1.9 |
| Other | 7.9 | 5.2 | 7.6 |
| Don't know/missing | 17.9 | 35.7 | 25.9 |
| Total | 100.0 | 100.0 | 100.0 |
| Number | 602 | 217 | 878 |

Note: Total includes 59 women who intend to use in the future, but who are unsure when they will use.
-- Less than 0.05 percent

The choice of preferred methods was generally similar for those who intended to use within 12 months and for those who intended to use later, although the women in the latter group were less likely to state a preference for any specific method. Overall, a sizeable number of women did not know what method they would prefer to use. This suggests that method-specific knowledge needs to be disseminated to enable women to make informed choices about the use of various methods.

## REFERENCE

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## CHAPTER 7

# PROXIMATE DETERMINANTS OF FERTILITY 

Zeba Sathar and Tauseef Ahmed

Analyses of reproductive behaviour cannot omit the important role of factors related to exposure to the risk of pregnancy. The traditional social structure of Pakistan largely supports a natural fertility regime in which the majority of women do not use any means of fertility regulation. Especially in such populations, other proximate determinants of fertility are more crucial in influencing fertility levels. An inquiry into these determinants and their patterns is important in examining the course of sociodemographic change. Previous studies of the proximate determinants of fertility in Pakistan have pointed toward age at marriage and duration of breastfeeding as extremely important variables in this particular cultural context (Karim 1990, Khan 1991, Sathar 1984). Of equal significance are postpartum amenorrhoea and sexual abstinence which lead to insusceptibility to the risk of pregnancy. These factors are also closely associated with fertility patterns, especially in the early months after a birth. This chapter examines patterns and trends in all of the intermediate variables for which data were collected in the PDHS, to highlight their effect on fertility levels in Pakistan.

### 7.1 Marriage Patterns and Trends

All ever-married women interviewed in the PDHS were asked to give their age at the time they started cohabiting with their husbands. Probing was used to differentiate the nikah (the marriage contract ceremony) from the actual rukhsati (the departure for the husband's household, i.e., consummation of the marriage). It is not until cohabitation begins that women are considered to be exposed to the risk of pregnancy. The length of time women are exposed directly affects overall fertility; for example, a later age at marriage for females would result in a shorter period of exposure to childbearing (provided other factors are equal). Thus, any change in marriage patterns that results in later age at marriage for women can play an important role in reducing fertility, particularly in a country like Pakistan, which has a low level of contraceptive prevalence.

In the PDHS, only 25 percent of women age 15-19 and 60 percent of women age $20-24$ had ever been married (see Table 7.1). Once marriages were entered into, however, they tended to remain quite stable. Less than one percent of women were divorced or separated at the time of the survey and less than two percent were widowed. The fact that marriage is a social obligation and nearly universal in Pakistan is supported by the finding that 98 percent of women age $35-49$ had married.

A comparison of the proportion of women who had never been married derived from the PDHS and the 1979-80 PLM indicates that substantial changes in marriage patterns took place between the two surveys. Although the proportion of women never married rose for every age group, the changes are particularly striking at ages 20-29, which has traditionally been the peak childbearing period for women in Pakistan.

Changes in marriage patterns over time are also evident from an examination of changes in the singulate mean age at marriage (SMAM). The singulate mean age at marriage computed from various sources for males and females is presented in Table 7.2. The SMAM for females has risen by five years during the last three decades (from 16.7 years in 1961 to 21.7 years in 1990-91). The SMAM for males rose by three years over the same period.

| Table 7.1 Current marital status |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Percent distribution of women by current marital status, according to age, 1990-91 PDHS and 1979-80 PLM |  |  |  |  |  |  |  |  |
|  | 1990-91 PDHS |  |  |  |  |  |  | 1979-80 PLM |
| Age | Never married | Married | Divorced | Widowed | Separated | Total | Number | Percent never married |
| 15-19 | 75.1 | 24.3 | -- | 0.3 | 0.2 | 100.0 | 1720 | 72 |
| 20-24 | 39.4 | 59.6 | 0.6 | 0.1 | 0.7 | 100.0 | 1747 | 23 |
| 25-29 | 14.4 | 83.2 | 0.2 | 1.0 | 1.3 | 100.0 | 1745 | 6 |
| 30-34 | 4.3 | 92.4 | 0.5 | 1.5 | 1.2 | 100.0 | 1241 | 3 |
| 35-39 | 2.4 | 92.7 | 0.5 | 4.0 | 0.4 | 100.0 | 1005 | 2 |
| 40-44 | 2.4 | 92.8 | 0.1 | 4.2 | 0.5 | 100.0 | 865 | 1 |
| 45-49 | 2.1 | 90.8 | 0.2 | 6.5 | 0.5 | 100.0 | 630 | 1 |
| Total | 26.2 | 71.1 | 0.2 | 1.8 | 0.7 | 100.0 | 8953 | 32 |
| -- Less than 0.05 percent |  |  |  |  |  |  |  |  |

Table 7.2 Mean age at marriage
Singulate mean age at marriage for selected sources 1951-1991, Pakistan

| Source | Male | Female | Difference |
| :--- | :---: | :---: | :---: |
|  |  |  |  |
| 1951 Census | 22.3 | 16.9 | 5.4 |
| 1961 Census | 23.3 | 16.7 | 6.6 |
| 1972 Census | 25.7 | 19.7 | 6.0 |
| 1981 Census | 25.1 | 20.2 | 4.9 |
| 1976 PGS | 25.2 | 20.0 | 5.2 |
| 1988 PDS | 24.9 | 20.6 | 4.3 |
| 1990-91 PDHS | 26.5 | 21.7 | 4.8 |

Table 7.3 shows the distribution of ever-married women by the proportion married by particular ages. Early marriage (before age 15) has never been prevalent, but it occurs even less frequently among the youngest age groups. The proportion married by age 18 or age 20 has also declined sharply when comparing women age $30-34$ to those age 20-24. The median age at marriage for each of the five-year age groups from age 25-49 indicates very little variation for different cohorts. This apparent lack of change is partly due to the fact that the median cannot be calculated for women under age 25 since the majority have not yet been married. The median age at marriage, however, will necessarily be higher than 20 years for women who are currently in the 20-24 age group.

Table 7.3 Age at first marriage
Percentage of women ever-married by exact age $15,18,20,22$, and 25 , and median age at first marriage, according to current age, Pakistan 1990-91

| Current age | Percentage ever-married by exact age: |  |  |  |  | Percent never married | Number | Median age |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 15 | 18 | 20 | 22 | 25 |  |  |  |
| 15-19 | 7.3 | NA | NA | NA | NA | 75.1 | 1720 | a |
| 20-24 | 11.4 | 31.6 | 48.9 | NA | NA | 39.4 | 1747 | a |
| 25-29 | 16.5 | 42.3 | 58.4 | 70.1 | 82.1 | 14.4 | 1745 | 18.9 |
| 30-34 | 17.0 | 47.8 | 63.1 | 74.3 | 87.7 | 4.3 | 1241 | 18.2 |
| 35.39 | 16.3 | 43.4 | 60.5 | 75.0 | 88.3 | 2.4 | 1005 | 18.6 |
| 40-44 | 18.0 | 44.8 | 60.9 | 75.9 | 87.7 | 2.4 | 865 | 18.5 |
| 45-49 | 16.3 | 40.7 | 57.4 | 68.9 | 81.9 | 2.1 | 630 | 18.8 |
| 20-49 | 15.5 | 41.0 | 57.4 | NA | NA | 14.5 | 7233 | 18.9 |

$\mathrm{NA}=\mathrm{Not}$ applicable
${ }^{\text {a }}$ Less than 50 percent of women in the age group were married by the beginning of the age group.

## Differentials in Age at Marriage

Table 7.4 presents differentials in the median age at marriage for various groups of women. Overall, for women age 25-49, the median age at marriage is 18.6 years. This figure is slightly higher in urban areas (19.1 years) than in rural areas (18.4 years). Among Pakistan's four provinces, the median age is highest in NWFP and Punjab and substantially lower in Balochistan and Sindh. Finally, there is a positive association between the median age at marriage for women and their educational attainment: women with no education marry four years earlier, on average, than women with secondary or higher education.

Table 7.4 Median age at first marriage
Median age at first marriage among women age 25-49 years, by current age and background characteristics, Pakistan 1990-91

| Background characteristic | Current age |  |  |  |  | Women$25-49$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 25.29 | 30-34 | 35-39 | 40-44 | 45-49 |  |
| Residence |  |  |  |  |  |  |
| Total urban | 19.9 | 19.1 | 18.7 | 19.2 | 18.3 | 19.1 |
| Major city | 20.1 | 19.4 | 18.5 | 18.8 | 18.5 | 19.2 |
| Other urban | 19.5 | 18.4 | 18.9 | 20.1 | 17.8 | 19.0 |
| Rural | 18.4 | 18.0 | 18.6 | 18.3 | 19.0 | 18.4 |
| Province |  |  |  |  |  |  |
| Punjab | 19.4 | 18.5 | 19.0 | 18.9 | 19.0 | 19.0 |
| Sindh | 17.5 | 17.2 | 17.6 | 16.5 | 16.0 | 17.1 |
| NWFP | 19.5 | 18.6 | 19.0 | 18.9 | 20.8 | 19.3 |
| Balochistan | 16.8 | 17.7 | 18.3 | 18.2 | 21.9 | 17.7 |
| Education level attended |  |  |  |  |  |  |
| No education | 18.2 | 17.8 | 18.4 | 18.4 | 18.8 | 18.3 |
| Primary | 19.1 | 19.1 | 18.6 | 17.7 | (16.9) | 18.7 |
| Middle | 20.6 | 18.4 | (17.9) | a | (19.6) | 18.9 |
| Secondary + | 22.9 | 23.3 | 21.5 | 21.6 | (20.0) | 22.5 |
| Total | 18.9 | 18.2 | 18.6 | 18.5 | 18.8 | 18.6 |

Note: Figures in parentheses are based on 25 to 49 unweighted cases.
${ }^{\text {a }}$ Based on fewer than 25 unweighted cases, median not shown

## Ideal Age at Marriage

The PDHS included questions asking ever-married women about what they considered to be the ideal age at marriage for women. The median ideal age at marriage was 18.4 years (see Table 7.5). Although ages 20-21 were considered ideal by the largest percentage of women ( 23 percent), more than one-quarter said it is ideal for a woman to get married at age 15 or earlier. There is a strong positive association between the stated ideal age at marriage and the actual age at which women got married. Nevertheless, most women who got married at a relatively young age (under 18) report an ideal age at marriage that is greater than their own age at marriage. Overall, the wide range of responses suggests that there is no consensus about what the ideal age at marriage is for women in Pakistan, despite a trend toward increasing age at marriage for females over the last three decades.

| Table 7.5 Ideal age at marriage for women |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Percent distribution of ever-married women by ideal age at marriage for women and median ideal age at marriage, according |
| to actual age at first marriage, Pakistan $1990-91$ |

## Marriage Between Relatives

One of the most salient aspects of marriage patterns in Pakistan is the frequency of marriage between blood relatives (i.e., consanguineous marriages). There is some evidence that cousin marriage may affect both fertility and the health of children. For example, Bittles et al. (1992) found that unions between close biological relatives in Pakistan were characterised by higher fertility as well as higher mortality among the offspring of such marriages. Shami and Zahida (1982) found significantly higher pregnancy wastage and longer first birth intervals in consanguineous marriages.

Data on marriage between relatives are shown in Table 7.6 and Figure 7.1. It should be noted that such data have not previously been available for Pakistan at the national level. The PDHS presents documented evidence of the widespread prevalence of cousin marriage in Pakistan. Sixty-one percent of all marriages are consanguineous unions between first or second cousins; this is one of the highest rates reported anywhere in the world (Bittles 1990; Bittles et al. 1991). First cousin marriages occur more frequently on the father's side ( 30 percent), but are also common on the mother's side ( 21 percent).

There is a negative association between current age and marriage between relatives. The incidence of consanguineous marriage is higher among younger couples than older ones. More specifically, women age 35 and above are more likely to have married nonrelatives than women under age 35 . It appears, therefore, that the traditional pattern of cousin marriage continues to be adhered to on a wide scale. ${ }^{1}$ The continued popularity of cousin marriage may be related to the increasing size of dowries. Some parents may not be able to afford a large dowry, but if a daughter marries her cousin, the size of the dowry may be smaller and the dowry can be kept within the family. Further investigation of this phenomenon is needed.

[^11]Table 7.6 Marriage between relatives
Percent distribution of ever-married women by relationship to their husbands, according to background characteristics, Pakistan 1990-91

| Background characteristic | First cousin |  | Second cousin | Other relation | Not related | Missing | Total | Number |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Father's side | $\begin{gathered} \text { Mother's } \\ \text { side } \end{gathered}$ |  |  |  |  |  |  |
| Age |  |  |  |  |  |  |  |  |
| 15-19 | 31.4 | 24.6 | 11.8 | 1.9 | 30.2 | 0.1 | 100.0 | 428 |
| 20-24 | 34.9 | 21.2 | 8.4 | 1.0 | 34.6 | -- | 100.0 | 1059 |
| 25-29 | 30.6 | 20.2 | 10.5 | 0.9 | 37.6 | 0.1 | 100.0 | 1494 |
| 30-34 | 27.8 | 21.1 | 13.7 | 1.1 | 35.8 | 0.6 | 100.0 | 1187 |
| 35-39 | 26.5 | 20.6 | 10.2 | 1.7 | 40.9 | 0.1 | 100.0 | 981 |
| 40-44 | 29.2 | 18.9 | 11.2 | 2.6 | 38.1 | -- | 100.0 | 844 |
| 45-49 | 27.2 | 19.2 | 10.9 | 1.7 | 41.0 | -. | 100.0 | 617 |
| Age at marriage |  |  |  |  |  |  |  |  |
| < 15 | 33.8 | 22.2 | 8.7 | 1.1 | 33.9 | 0.4 | 100.0 | 1245 |
| 15 | 36.1 | 21.2 | 13.2 | 1.8 | 27.5 | 0.2 | 100.0 | 782 |
| 16-17 | 30.2 | 23.1 | 10.3 | 0.9 | 35.3 | 0.1 | 100.0 | 1302 |
| 18-19 | 28.2 | 17.3 | 11.7 | 1.0 | 41.8 | -- | 100.0 | 1252 |
| 20-21 | 28.7 | 19.7 | 9.1 | 2.4 | 39.8 | 0.2 | 100.0 | 852 |
| 22-23 | 26.1 | 19.1 | 9.8 | 1.8 | 43.1 | -- | 100.0 | 558 |
| $24+$ | 20.3 | 20.7 | 15.6 | 1.7 | 41.8 | -- | 100.0 | 620 |
| Residence |  |  |  |  |  |  |  |  |
| Total urban | 22.8 | 18.2 | 10.3 | 1.8 | 46.7 | 0.3 | 100.0 | 2019 |
| Major city | 21.0 | 16.6 | 9.2 | 2.0 | 50.8 | 0.5 | 100.0 | 1151 |
| Other urban | 25.2 | 20.3 | 11.8 | 1.5 | 41.2 | -- | 100.0 | 868 |
| Rural | 32.8 | 21.6 | 11.2 | 1.3 | 33.0 | 0.1 | 100.0 | 4592 |
| Province |  |  |  |  |  |  |  |  |
| Punjab | 29.8 | 23.2 | 10.9 | 1.4 | 34.6 | 0.2 | 100.0 | 3948 |
| Sindh | 33.3 | 16.4 | 9.9 | 1.4 | 38.8 | 0.2 | 100.0 | 1529 |
| NWFP | 22.1 | 16.2 | 12.7 | 1.2 | 47.8 | -- | 100.0 | 878 |
| Balochistan | 33.9 | 20.5 | 10.8 | 2.7 | 31.6 | 0.4 | 100.0 | 255 |
| Education level attended |  |  |  |  |  |  |  |  |
| No education | 31.2 | 21.3 | 10.6 | 1.4 | 35.4 | 0.1 | 100.0 | 5237 |
| Primary | 29.7 | 19.2 | 14.4 | 1.8 | 34.7 | 0.3 | 100.0 | 601 |
| Middle | 23.1 | 20.0 | 10.0 | 1.5 | 45.3 | -- | 100.0 | 288 |
| Secondary + | 18.0 | 14.5 | 10.8 | 1.3 | 55.1 | 0.3 | 100.0 | 485 |
| Total | 29.7 | 20.6 | 10.9 | 1.4 | 37.2 | 0.2 | 100.0 | 6611 |

-- Less than 0.05 percent

Women who marry at an early age are more likely to marry cousins. For example, cousin marriages were contracted by 67 percent of women who got married before age 16 compared to 57 percent of women who got married at age 18 or above. There is also a clear relationship between residence and consanguinity. Women residing in major urban areas are least likely to have married a cousin, and those living in rural Pakistan are most likely to have done so. The difference is more pronounced for marriage with a cousin from the father's side, indicating stronger adherence to the traditional marriage pattem in rural areas. Rural residents may also have a greater desire to keep the dowry on the father's side of the family. Consanguineous marriages are relatively less popular in NWFP, although even in that province a majority of women marry a close relative.

Figure 7.1

## Marriage Between Relatives and Between

 Nonrelatives among Ever-Married Women 15-49, Pakistan and Major Cities

PDHS 1990-91

As expected, more educated women tend to marry nonrelatives more often than women with no education. In fact, women with a secondary or higher education and those living in major citics are more likely to marry a nonrelative than a relative. These results are supported by the findings of a survey in Karachi which found that women who were educated or employed were less likely to have married relatives (Sathar and Kazi 1988). With the exception of the pattern across age groups, which reflects a trend toward more consanguineous unions over time, all other factors indicate that more modern women are less likely to enter consanguineous unions. Women who marry later, those who are exposed to urban influences and those who are more educated are less likely to marry relatives.

## Polygyny

Another factor which has thus far been undocumented is the extent of polygynous marriages in Pakistan. Polygyny is legal in Pakistan, although according to the Muslim Family Laws Ordinance promulgated in 1961, the husband needs to obtain written permission from his first wife to marry a second wife. Even though polygyny is legal, less than five percent of currently married women reported that their husbands had more than one wife (Table 7.7). Only 0.2 percent of women reported that their husbands had more than two wives (data not shown). The prevalence of polygynous marriages is low in all groups, with the highest proportion found in the 45-49 age group, especially in rural areas. Among the provinces, polygynous unions are most common in Balochistan ( 12 percent) and least common in Punjab ( 3 percent). Not surprisingly, female education shows a negative association with polygyny, but an erratic pattem is evident in some age groups due to the small number of cases.

Table 7.7 Polygyny
Percentage of currently married women in a polygynous union, by age and selected background characteristics, Pakistan 1990-91

|  | Age |  |  |  |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Background characteristic | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 |  |
| Residence |  |  |  |  |  |  |  |  |
| Total urban | 2.1 | 2.5 | 3.2 | 2.3 | 3.3 | 4.1 | 2.3 | 2.9 |
| Major city | 2.1 | 2.7 | 2.9 | 1.9 | 3.1 | 4.0 | 0.7 | 2.6 |
| Other urban | 2.1 | 2.1 | 3.7 | 2.8 | 3.6 | 4.1 | 3.9 | 3.2 |
| Rural | 3.7 | 4.1 | 5.0 | 4.8 | 5.2 | 3.9 | 11.4 | 5.2 |
| Province |  |  |  |  |  |  |  |  |
| Punjab | 1.6 | 2.4 | 1.1 | 2.6 | 3.4 | 1.7 | 7.7 | 2.6 |
| Sindh | 8.6 | 6.0 | 7.5 | 7.6 | 5.0 | 7.3 | 6.2 | 6.8 |
| NWFP | 2.5 | 3.8 | 9.0 | 3.5 | 7.4 | 8.0 | 11.8 | 6.6 |
| Balochistan | 7.3 | 7.1 | 17.6 | 5.6 | 7.6 | 10.3 | 27.2 | 12.1 |
| Education level attended |  |  |  |  |  |  |  |  |
| No education | 3.5 | 4.3 | 5.3 | 4.5 | 4.5 | 3.8 | 9.2 | 4.9 |
| Primary | 0.8 | 2.0 | 2.5 | 2.1 | 10.2 | 4.7 | 6.3 | 3.7 |
| Middle | -- | 2.7 | 1.1 | 1.1 | -- | 3.9 | 6.5 | 1.7 |
| Secondary + | 10.5 | -- | 1.7 | 3.2 | 0.7 | 5.6 | -- | 2.3 |
| Total | 3.4 | 3.6 | 4.5 | 4.0 | 4.5 | 3.9 | 8.7 | 4.5 |
| Number | 418 | 1041 | 1452 | 1147 | 932 | 803 | 572 | 6364 |

-- Less than 0.05 percent

### 7.2 Breastfeeding and Postpartum Infecundibility

Breastfeeding has a negative effect on fertility through the mechanism of lactational infecundibility. Since the majority of women in Pakistan have traditionally breastfed their children for fairly long periods of time, lactational infecundibility has helped to keep fertility in check. Declines in the period of lactation in Pakistan would lead to shorter birth intervals and to an increase in fertility unless other factors compensate for its effects.

## Breastfeeding

The PDHS provides an opportunity to assess whether the prevalence and length of breastfeeding are declining in Pakistan. More than half ( 57 percent) of children under three years of age were being breastfed at the time of the survey (see Table 7.8). More than 80 percent of children were being breastfed during the first year of their lives. In the second year of life, breastfeeding declines rapidly, but 42 percent of children were still being breastfed in the last two months of their second year of life. On average, Pakistani mothers breastfeed their children for 20 months, which is slightly less than the mean duration of 22 months estimated in the 1975 PFS for surviving children (Shah 1984). Breastfeeding is usually supplemented at an early age
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Ms. Farhana Naureen Khan (Interviewer)
Mr. Jamil Mehmood (Interviewer)
Mr. Allah Rakha (Driver)
Sargodha:
Mr. Abdul Qayum (Supervisor, FBS)
Ms. Sajida Naheed (Field Editor)
Ms. Shabana Shehnaz (Interviewer)
Ms. Samina Amir (Interviewer)
Ms. Tahira Yasmin (Interviewer)
Mr. Iftikhar Qamar (Interviewer)
Mr. Gul Nawaz (Driver)
Abbottabad:
Mr. Masood Anwar (Supervisor, FBS)
Ms. Shazia Naureen (Field Editor)
Ms. Naushaba (Interviewer)
Ms. Saira Jabeen Jehangeri (Interviewer)
Ms. Lubna Shirin (Interviewer)
Mr. Zahir Jamil Khan (Interviewer)
Mr. Hamayoon Khan (Driver)
less than 30 years of age have a median duration of amenorrhoea that is four months shorter than older women. Rural women have a median duration that is twice as long as urban women. Education is negatively associated with the duration of amenorrhoea: women with at least some secondary education have a median duration of amenorrhoea of 3.1 months compared to 7.9 months for women with no education. Table 7.9 also shows wide differentials for provinces. Women in Sindh and Balochistan experience only five months of amenorrhoea, while the median is six months in Punjab and nine months in NWFP. For postpartum abstinence, there are only small differences in the median values, and the differentials in insusceptibility follow closely the pattern of differentials in amenorrhoea.

Two indicators of the termination of exposure to the risk of childbearing are shown in Table 7.10. The first indicator concerns fecundity as measured by evidence of menopause. The lack of a menstrual period for six months among women who are neither pregnant nor postpartum amenorrhoeic is taken as evidence of menopause and therefore infecundity. Only two percent of women in their thirties have already reached menopause. By the mid-forties (age 44-45), nearly one-quarter of women are menopausal and the proportion increases rapidly in the late forties.

The second indicator is a crude measure of
Table 7.10 Termination of exposure to the risk of pregnancy

Indicators of menopause and infertility among currently married women 30-49 years of age, by age, Pakistan 1990-91

| Age | Menopause $^{\mathbf{1}}$ | Infertility $^{2}$ |
| :--- | :---: | :---: |
| $30-34$ | 1.7 | 15.3 |
| $35-39$ | 2.1 | 22.8 |
| $40-41$ | 10.1 | 42.0 |
| $42-43$ | 12.8 | 49.6 |
| $44-45$ | 22.8 | 64.4 |
| $46-47$ | 41.1 | 67.3 |
| $48-49$ | 60.8 | 85.6 |
| Women $30-49$ | 11.8 | 34.8 |

${ }^{1}$ Percentage of non-pregnant, non-amenorrhoeic currently married women whose last menstrual period occurred six or more months preceding the survey or who report that they are menopausal.
${ }^{2}$ Percentage of currently married women in their first union of six or more years' duration, never having used contraception, who did not have a birth in the six years preceding the survey and who are not pregnant. infertility, based on the number of women who have not had a birth in the six years preceding the survey and who were not pregnant at the time of the survey. Since the survey does not include a complete history of marriage and contraceptive use, the figures are based only on women in their first union of six or more years' duration who have never used contraception. Even in their early thirties, nearly one in every six of these women is estimated to be infertile. The infertility rate rises rapidly for women in their forties, from 42 percent of women age 40-41 to 86 percent of women age 48-49. By age 44-45, nearly two-thirds of women are estimated to be infertile.

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## CHAPTER 8

## FAMILY SIZE PREFERENCES

Syed Mubashir Ali and Abdul Razzaque Rukanuddin

This chapter examines women's preferences concerning family size and the gender of their children. The analysis is based on responses of ever-married women of reproductive age to questions about: (a) whether the respondent wants more children, and if so, how long she would prefer to wait before the next child, and (b) if she were to start afresh, how many children she would want. Pregnant women were asked about their desire for additional children after the one they were expecting; thus, they were treated as if they had already reached the next parity.

In order to ascertain the extent of sex preference, two additional questions were asked. One gathered information on the preferred sex of the next child and the other on the ideal number of children by sex. Two other issues examined were the frequency of unwanted or mistimed births and the effect that the prevention of such births would have on fertility rates. Answers to these questions provide an assessment of the need for family planning services.

Do family size preferences play an important role in accounting for actual reproductive behaviour? Demographers differ on the empirical application of this attitudinal construct. Although some have agreed that these responses are useful in predicting future fertility in developed countries, they believe that the responses may not be meaningful in developing countries (Hauser 1967; Lightbourne and MacDonald 1982; Westoff and Ochoa 1991).

The critics argue that the responses to questions on fertility preferences reflect unformed, ephemeral views which are held with little conviction. Moreover, they believe that the responses do not take into account the effect of social pressures or the attitudes of other family members, particularly the husband, who may exert a major influence on reproductive decisions.

In Pakistan, where the contraceptive prevalence rate is still low ( 12 percent) and other social pressures, particularly from the woman's husband and mother-in-law apparently have an influence on reproductive decisions, the criticisms may hold true to some extent. However, a comparison of husbands' and wives' attitudes about family size in the PDHS showed that their responses are quite similar (see Chapter 12). Moreover, many demographers are of the opinion that the responses to the questions on fertility preferences could be of practical value provided the questions are correctly framed and presented (Gay 1971; Ware 1974). Farooq (1981) suggests that in developing countries where the contraceptive prevalence rate is low, observed fertility may not reflect the actual demand for children, but family size preferences would.

### 8.1 Desire for Children

This section examines the potential need for contraceptive services for spacing as well as limiting births. Such a need is ascertained by the responses of currently married women who want either to space their next birth or to cease childbearing altogether.

The majority of currently married women want to stop having children or want to delay the next birth (see Table 8.1 and Figure 8.1). This indicates that there is a general awareness of the need to regulate the level of fertility and a willingness to do so. More than one-third ( 36 percent) of women reported that they wanted no more children at all in the future. An additional 18 percent said that they wanted to wait at least

Table 8.1 Fertility preferences by number of living children
Percent distribution of currently married women by desire for more children, according to number of living children, Pakistan 1990-91

| Desire for more children | Number of living children ${ }^{1}$ |  |  |  |  |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | $7+$ |  |
| Have another soon ${ }^{2}$ | 77.8 | 38.4 | 27.3 | 19.0 | 12.8 | 7.6 | 5.3 | 3.1 | 22.5 |
| Have another later ${ }^{3}$ | 7.2 | 40.9 | 32.9 | 23.4 | 14.2 | 8.4 | 4.8 | 1.9 | 17.6 |
| Another undecided when ${ }^{4}$ | -- | 1.4 | 3.2 | 1.7 | 1.4 | 0.4 | 0.4 | 0.5 | 1.2 |
| Undecided | 4.6 | 4.7 | 1.0 | 2.3 | 1.7 | 2.4 | 1.4 | 0.5 | 2.3 |
| Up to Allah | 4.4 | 8.1 | 15.2 | 14.7 | 15.8 | 14.7 | 15.0 | 14.8 | 13.1 |
| Want no more | 1.6 | 3.8 | 15.6 | 33.8 | 46.6 | 58.9 | 62.4 | 66.4 | 36.4 |
| Sterilised | -- | -- | 1.0 | 1.9 | 5.0 | 4.4 | 8.7 | 7.8 | 3.6 |
| Declared infecund | 4.1 | 2.5 | 3.2 | 3.0 | 2.0 | 3.2 | 2.1 | 4.8 | 3.1 |
| Missing | 0.2 | 0.2 | 0.5 | 0.1 | 0.5 | - | .- | 0.3 | 0.2 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 602 | 880 | 830 | 910 | 883 | 694 | 601 | 963 | 6364 |

-- Less than 0.05 percent
${ }^{1}$ Includes current pregnancy
${ }^{2}$ Wants next birth within two years
${ }^{3}$ Wants next birth after two or more years
${ }^{4}$ Includes timing up to Allah and other non-numeric responses
two years before having another child. In other words, a majority of women can be considered to be potentially in need of family planning services. Only 23 percent of women wanted another child within two years. Moreover, 13 percent indicated that the decision was "up to Allah." An analysis of the 1984-85 PCPS (data not shown) indicated a pattern of preferences similar to that found in the 1990-91 PDHS.

The continuing importance accorded to childbearing in Pakistan is cvident from the PDHS data. Among all childless women, 85 percent definitely want children and nine-tenths of the women desiring children want a child within two years. However, the proportion who want another child within two years drops sharply to 38 percent for women already having one child. Thereafter, the desire to bear additional children within two years decreases gradually as the number of living children increases.

As shown in Table 8.1 and Figure 8.2 the proportion of women who do not want more children was strongly associated with the number of living children. Although large family size norms continue to prevail in Pakistan, about one-half ( 52 percent) of women at parity four and almost three-quarters ( 71 percent) of women at parity six want to stop childbearing. ${ }^{1}$

[^12]Figure 8.1
Fertility Preferences among Currently Married Women 15-49


POHS 1990-91

Figure 8.2
Fertility Preferences among Currently Married Women 15-49 by Number of Living Children


A fatalistic approach to childbearing is evident among a small minority of women. About 13 percent of women stated that the decision about whether or not to have another child is up to Allah. Only two percent of women are undecided about having another child. Therefore, a large majority of women were able to estimate their preferences with regard to future childbearing.

Table 8.2 presents the percent distribution of currently married women by their desire for children according to age. Since age and the number of living children are highly correlated variables, future fertility preferences by age closely follow the pattern already observed between future fertility preferences and the number of living children in Table 8.1.

Table 8.2 Fertility preferences by age
Percent distribution of currently married women by desire for more children, according to age, Pakistan 1990-91

| Desire for more children | Age of woman |  |  |  |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 |  |
| Have another soon ${ }^{1}$ | 43.0 | 34.3 | 26.7 | 23.9 | 12.5 | 10.5 | 6.0 | 22.5 |
| Have another later ${ }^{2}$ | 35.7 | 35.8 | 24.5 | 13.6 | 7.0 | 1.8 | 1.1 | 17.6 |
| Another undecided when ${ }^{3}$ | 0.9 | 1.6 | 1.4 | 1.4 | 1.4 | 0.3 | 0.5 | 1.2 |
| Undecided | 7.6 | 2.2 | 3.1 | 1.8 | 1.2 | 0.9 | 0.8 | 2.3 |
| Up to Allah | 8.9 | 11.2 | 15.5 | 16.2 | 13.3 | 10.8 | 10.0 | 13.1 |
| Want no more | 3.3 | 11.7 | 26.2 | 37.9 | 55.1 | 62.0 | 61.8 | 36.4 |
| Sterilised | -- | 0.5 | 0.9 | 2.8 | 8.1 | 8.0 | 6.8 | 3.6 |
| Declared infecund | 0.5 | 2.4 | 1.7 | 2.1 | 1.1 | 5.4 | 12.4 | 3.1 |
| Missing | 0.2 | 0.3 | -- | 0.3 | 0.3 | 0.2 | 0.5 | 0.2 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 418 | 1041 | 1452 | 1147 | 931 | 803 | 572 | 6364 |

-- Less than 0.05 percent
${ }^{1}$ Wants next birth within two years
${ }^{2}$ Wants next birth after two or more years
${ }^{3}$ Includes timing up to Allah and other non-numeric responses

The desire to stop having children increases with age and the desire to space births decreases with age. In other words, the potential need for family planning services is greatest among older women for limiting children and among younger women for spacing births. The total potential need is greatest for women age 35 and over. However, even among women in their twenties about half want to either stop childbearing or delay their next birth for two or more years.

Table 8.3 presents the percentage of currently married women who want no more children by the number of living children and selected background characteristics. This table reveals that a higher proportion of women in urban than in rural areas want no more children ( 52 and 35 percent respectively). This differential becomes more prominent when rural women are compared with the women living in major cities. The differential in preferences between major cities and other urban areas disappears for women with six or more children. By the time they have had six or more children, more than four of five urban women want to stop childbearing, whether they live in major cities or other urban areas.

Table 8.3 Desire to stop having children
Percentage of currently married women who want no more children, by number of living children and selected background characteristics, Pakistan 1990-91

| Background characteristic | Number of living children ${ }^{1}$ |  |  |  |  |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | $7+$ |  |
| Residence |  |  |  |  |  |  |  |  |  |
| Total urban | 0.8 | 4.5 | 28.7 | 55.0 | 66.4 | 76.8 | 84.7 | 82.3 | 52.3 |
| Major city | 1.0 | 6.5 | 33.2 | 59.3 | 72.1 | 79.5 | 84.8 | 82.2 | 54.3 |
| Other urban | 0.5 | 2.0 | 20.8 | 49.1 | 58.6 | 73.4 | 84.5 | 82.5 | 49.7 |
| Rural | 2.0 | 3.5 | 10.8 | 27.3 | 44.7 | 57.0 | 64.7 | 70.4 | 34.6 |
| Province |  |  |  |  |  |  |  |  |  |
| Punjab | 1.7 | 3.8 | 17.6 | 40.8 | 60.4 | 71.8 | 81.4 | 83.1 | 44.4 |
| Sindh | 1.6 | 3.8 | 15.4 | 33.0 | 39.5 | 54.8 | 62.3 | 63.6 | 35.8 |
| NWFP | 1.9 | 4.7 | 19.2 | 26.6 | 41.7 | 54.1 | 62.2 | 72.0 | 36.7 |
| Balochistan | -- | 0.1 | 0.5 | 2.8 | 15.7 | 10.8 | 21.0 | 24.1 | 9.2 |
| Education level attended |  |  |  |  |  |  |  |  |  |
| No education | 2.0 | 3.2 | 13.4 | 30.0 | 46.6 | 58.7 | 68.5 | 72.6 | 38.2 |
| Primary | -- | 8.9 | 9.6 | 39.4 | 52.8 | 78.0 | 80.2 | 82.6 | 42.2 |
| Middle | 1.2 | 0.8 | 35.7 | 59.9 | 67.9 | 61.5 | 89.1 | 91.2 | 47.9 |
| Secondary + | 1.3 | 5.4 | 37.4 | 59.6 | 84.2 | 91.0 | 98.7 | 97.4 | 50.9 |
| Total | 1.7 | 3.8 | 16.6 | 35.8 | 51.5 | 63.3 | 71.1 | 74.2 | 39.9 |

Note: Women who have been sterilised are considered to want no more children.
-- Less than 0.05 percent
${ }^{1}$ Includes current pregnancy

Among the provinces, women in Punjab have the strongest preference to stop childbearing (44 percent want no more children), followed by NWFP ( 37 percent) and Sindh ( 36 percent). Balochi women indicated the least potential demand for fertility control, since only 9 percent said they did not want more children.

There is an inverse association between educational level and the percentage of women who want no more children. While only 38 percent of uneducated women want to stop childbearing, the corresponding proportion was 48 percent for women with middle level education and 51 percent for those with secondary or higher education. These educational differentials were also evident among women classified by their existing number of children. The largest differential in percentage terms was found for women at parity four where the difference between the largest figure (for women who have secondary or higher education) and the smallest figure (for those having no education) is 38 percentage points. Even among women with no education, however, nearly half want to stop bearing children after they have had four children.

### 8.2 Sex Preference for Children

Previous studies in Pakistan have found a strong preference for sons among married couples (Ali 1989a,b; Sathar 1987; Miller 1984; DeTray 1984). The desire to have more sons than daughters is an outcome of the value attached to sons for socioeconomic and cultural reasons. In rural areas, sons are valued for the help they provide for parents on farms. Sons in general are desired for carrying forward the family name and providing security for their parents during old age.

The PDHS results confirm that there is a continuing preference for sons in Pakistan (see Table 8.4). Yet nearly half of all women who want another child say that the sex of the next child does not matter to them. Among those who prefer a child of a particular sex, however, ten times as many prefer a son to a daughter. Among childless women, more than two-thirds do not have a preference about the sex of their first baby. This is consistent with the fact that social pressures in Pakistan place demands on a newly married woman to prove her fertility by producing a child, rather than specifically giving birth to a son. Among women who already have children, the proportion who desire a son for the next child increases with the number of daughters in the family. Moreover, a very strong desire for a son is observed among women with two or more children all of whom are daughters. Almost all (at least 92 percent) of these women want a son for their next birth. Among women with two or more children without a daughter, at most three-fifths (57 percent) at any parity wish for a daughter. In general, an increasingly large percentage of respondents with at least one daughter showed no preference regarding the sex of the next child as the number of sons increased.

Table 8.4 Preferred sex of next child
Percent distribution of preferred sex for the next child among currently married non-pregnant women who want another child, according to number of living children and sons, Pakistan 1990-91

| Number of living children and sons | Preferred sex |  |  |  | Total | Number |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Male | Female | Does not matter | Missing |  |  |
| No children | 31.7 | 0.2 | 67.6 | 0.5 | 100.0 | 512 |
| One child | 49.5 | 4.3 | 46.2 | -- | 100.0 | 548 |
| No sons | 78.6 | -- | 21.4 | -- | 100.0 | 268 |
| One son | 21.6 | 8.5 | 69.9 | -* | 100.0 | 280 |
| Two children | 47.5 | 11.0 | 41.5 | -- | 100.0 | 417 |
| No sons | 93.0 | -- | 7.0 | -- | 100.0 | 105 |
| One son | 44.4 | -- | 55.6 | -- | 100.0 | 192 |
| Two sons | 12.7 | 38.1 | 49.2 | -- | 100.0 | 120 |
| Three children | 63.9 | 7.0 | 29.1 | -- | 100.0 | 329 |
| No sons | 91.9 | - | 8.1 | -- | 100.0 | 67 |
| One son | 78.7 | 0.1 | 21.2 | -- | 100.0 | 141 |
| Two sons | 34.4 | 5.7 | 60.0 | -- | 100.0 | 90 |
| Three sons | (21.2) | (57.2) | (21.6) | (--) | (100.0) | 31 |
| Four children | 62.8 | 6.4 | 30.6 | 0.2 | 100.0 | 193 |
| No sons | 100.0 | -- | -- | .- | 100.0 | 25 |
| One son | 95.4 | -- | 4.0 | 0.5 | 100.0 | 74 |
| Two sons | (44.3) | (--) | (55.7) | (--) | (100.0) | 47 |
| Three or more sons | (9.8) | (26.3) | (63.8) | (--) | (100.0) | 47 |
| Five children | 59.3 | 4.5 | 36.2 | - | 100.0 | 175 |
| Less than two sons | 95.8 | -- | 4.2 | -- | 100.0 | 69 |
| Two or three sons | 46.9 | 3.0 | 50.0 | -- | 100.0 | 70 |
| Four or more sons | (13.8) | (15.7) | (70.5) | (--) | (100.0) | 37 |
| Total | 49.1 | 5.2 | 45.6 | 0.1 | 100.0 | 2174 |

Note: Figures in parentheses are based on 25 to 49 unweighted women.
-- Less than 0.05 percent

### 8.3 Need for Family Planning

Table 8.5 presents estimates for the unmet, met and total need for family planning services by selected background characteristics. ${ }^{2}$ More than one-quarter of currently married women were found to have an unmet need for family planning services ( 11 percent for birth spacing and 18 percent for limiting births).

## Table 8.5 Need for family planning services

Percentage of currently married women with unmet need for family planning, met need for family planning, and total demand for family planning scrviccs, by selected background characteristics, Pakistan 1990-91

| Background Characteristic | Unmet need for family planning ${ }^{1}$ |  |  | Met need for family planning (currently using) ${ }^{2}$ |  |  | Total demand for family planning |  |  | Percentage of demand satisfied | $\begin{aligned} & \text { Number } \\ & \text { of } \\ & \text { women } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Unmet need for spacing | Unmet need for limiting | Total unmet need | Met need for spacing | Met need for limiting | $\begin{gathered} \text { Total } \\ \text { met } \\ \text { need } \end{gathered}$ | Demand for spacing | Demand for limiting | Total demand |  |  |
| Age |  |  |  |  |  |  |  |  |  |  |  |
| 15.19 | 23.2 | 1.5 | 24.7 | 2.3 | 0.3 | 2.6 | 25.5 | 1.8 | 27.3 | 9.4 | 418 |
| 20-24 | 19.3 | 5.1 | 24.5 | 4.1 | 2.2 | 6.3 | 23.5 | 7.3 | 30.8 | 20.5 | 1041 |
| 25-29 | 14.5 | 13.4 | 27.9 | 3.1 | 6.5 | 9.6 | 17.6 | 20.0 | 37.6 | 25.6 | 1452 |
| 30-34 | 8.4 | 20.6 | 28.9 | 2.2 | 11.2 | 13.4 | 10.6 | 31.7 | 42.3 | 31.6 | 1147 |
| 35-39 | 5.0 | 30.1 | 35.1 | 0.8 | 19.6 | 20.4 | 5.8 | 49.7 | 55.5 | 36.7 | 931 |
| 40-44 | 1.6 | 30.8 | 32.4 | 0.1 | 15.7 | 15.8 | 1.7 | 46.5 | 48.2 | 32.8 | 803 |
| 45-49 | 0.5 | 17.2 | 17.8 | -. | 11.8 | 11.8 | 0.5 | 29.1 | 29.6 | 40.0 | 572 |
| Residence |  |  |  |  |  |  |  |  |  |  |  |
| Total urban | 11.3 | 18.0 | 29.3 | 4.8 | 20.9 | 25.7 | 16.1 | 39.0 | 55.1 | 46.7 | 1930 |
| Major city | 11.0 | 17.5 | 28.5 | 6.8 | 24.2 | 31.0 | 17.8 | 41.6 | 59.5 | 52.1 | 1098 |
| Other urban | 11.7 | 18.8 | 30.5 | 2.1 | 16.7 | 18.8 | 13.8 | 35.5 | 49.3 | 38.2 | 832 |
| Rural | 10.1 | 17.3 | 27.5 | 0.9 | 4.9 | 5.8 | 11.0 | 22.3 | 33.3 | 17.4 | 4434 |
| Province |  |  |  |  |  |  |  |  |  |  |  |
| Punjab | 11.4 | 19.0 | 30.5 | 2.2 | 10.9 | 13.0 | 13.6 | 29.9 | 43.5 | 29.9 | 3768 |
| Sindh | 9.0 | 14.9 | 23.9 | 2.8 | 9.7 | 12.4 | 11.7 | 24.6 | 36.3 | 34.2 | 1486 |
| NWFP | 10.1 | 19.4 | 29.6 | 0.7 | 7.8 | 8.6 | 10.9 | 27.2 | 38.1 | 22.5 | 856 |
| Balochistan | 6.2 | 5.1 | 11.4 | 0.9 | 1.1 | 2.0 | 7.1 | 6.2 | 13.3 | 14.9 | 254 |
| Education level attended |  |  |  |  |  |  |  |  |  |  |  |
| No education | 9.6 | 18.3 | 27.8 | 0.8 | 6.9 | 7.8 | 10.4 | 25.2 | 35.6 | 21.8 | 5044 |
| Primary | 15.2 | 14.9 | 30.1 | 3.4 | 14.4 | 17.8 | 18.6 | 29.3 | 47.8 | 37.2 | 573 |
| Middle | 15.8 | 15.0 | 30.8 | 7.6 | 21.9 | 29.5 | 23.4 | 36.9 | 60.3 | 48.9 | 279 |
| Secondary + | 11.3 | 14.8 | 26.1 | 10.2 | 27.8 | 38.0 | 21.5 | 42.6 | 64.0 | 59.3 | 468 |
| Total | 10.5 | 17.6 | 28.0 | 2.1 | 9.8 | 11.8 | 12.5 | 27.3 | 39.9 | 29.7 | 6364 |

- Less than 0.05 percent
${ }^{1}$ Unmet needfor spacing refers to: pregnant women whose pregnacy was mistimed, amenorrhoeic women whose last birth was mistimed, and women who are neither pregnant nor amenorrhoeic and who are not using any method of family planning and who say they want to wait two or more years for their next birth. Unmet need for limiting refers to: pregnant women whose pregnancy was unwanted, amenorrhoeic women whose last child was unwanted, and women who are neither pregnant nor amenorrhoeic and who are not using any method of family planning and who want no more children. Excluded from the category of unmet need are menopausal and infertile women, defined in footnotes 1 and 2 in Table 7.10.
${ }^{2}$ Met need for spacing refers to: women who are using some method of family planning and who say they want to wait two or more years for their next child. Met need for limiting refers to: women who are using a method and who want no more children.

[^13]Those who were practicing family planning methods ( 12 percent of currently married women) were considered to have a met need for family planning. Among these women only two percent were practicing family planning for spacing purposes.

Assuming that the women's intentions are true, the contraceptive prevalence rate could be increased to 40 percent if all women in need of family planning services actually used contraception. Presently, less than one-third of the stated need is being met.

The overall unmet need for family planning increases with age up to age 35-39 and decreases thereafter. The unmet need for spacing of births was highest among younger women, whereas the unmet need for limiting births was highest among women age 35-44. Younger women were least likely to have their need for family planning services satisfied. Only 9 percent of currently married women age 15-19 had their demand for family planning services satisfied, compared to 40 percent of women age 45-49.

The unmet need for family planning is nearly the same in urban and rural areas, but urban-rural differentials are quite pronounced for current use of contraception. This results in large differentials by place of residence in the percentage of demand that is satisfied. More than half of the overall demand for family planning is satisfied in major cities compared to only 17 percent of demand in rural areas.

The largest proportion of women with both met and unmet need live in Punjab Province. In contrast, women in Balochistan revealed a minimal need for family planning services, primarily because they are less motivated to curtail childbearing. The level of unmet need for family planning varies little among women in various education categories. But the number of women using family planning services increases sharply with the level of education.

### 8.4 Ideal Family Size

In the PDHS, the ideal family size is estimated from responses to two questions. Women who had no children were asked, "If you could choose exactly the number of children to have in your whole life, how many would that be?" For women who had children, the question was rephrased as follows: "If you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be?" Although many women found this type of hypothetical question difficult to answer, the results are informative.

Table 8.6 presents the distribution of ever-married women by their ideal number of children and parity. Three-fifths of women stated that the number of children that is ideal for them is up to Allah. The magnitude of such responses is unprecedented in previous national demographic surveys in Pakistan and is also high compared to the results of DHS surveys conducted in 30 other countries so far.

It is not in the scope of this report to present a thorough investigation of the causes of the high proportion of such responses. However, there are a number of possible explanations. The question on ideal family size (particularly for women who already had children) is phrased in such a manner that the respondent is required to perform the difficult task of thinking abstractly and independently of her actual family size. In view of the high level of illiteracy among women, such questions may be difficult for many women to answer.

Older women with many children may be reluctant to mention a smaller family size as an ideal for fear that some of their existing children may die. In fact, in Table 8.6 a larger percentage of women with large families were found to leave the decision up to Allah in response to the question on ideal family size. This finding may also be associated with cultural conservatism among older women.

Table 8.6 Ideal number of children
Percent distribution of ideal number of children among ever-married women, and mean ideal number of children for ever-married women (EMW) and for currently married women (CMW), according to number of living children, Pakistan 1990-91

| Ideal number of children | Number of living children ${ }^{1}$ |  |  |  |  |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | $7+$ |  |
| 0 | 0.3 | -- | 0.2 | -- | -- | -- | -- | -- | 0.1 |
| 1 | -- | 0.4 | 0.7 | 0.3 | 0.2 | -- | -- | -- | 0.2 |
| 2 | 7.2 | 7.4 | 10.1 | 3.9 | 3.7 | 3.5 | 3.8 | 1.4 | 5.1 |
| 3 | 6.6 | 8.8 | 7.5 | 13.9 | 3.2 | 4.8 | 4.5 | 3.3 | 6.7 |
| 4 | 16.9 | 17.3 | 19.8 | 18.9 | 26.7 | 13.8 | 15.4 | 13.7 | 18.0 |
| 5 | 3.9 | 3.1 | 3.1 | 2.9 | 3.6 | 7.4 | 2.5 | 2.9 | 3.6 |
| 6 | 2.3 | 2.4 | 2.3 | 2.1 | 4.2 | 3.7 | 7.7 | 3.9 | 3.5 |
| 7+ | 2.9 | 1.8 | 1.4 | 1.9 | 1.3 | 0.9 | 1.6 | 3.9 | 2.0 |
| Up to Allah | 58.5 | 58.1 | 54.6 | 55.7 | 56.4 | 65.5 | 64.3 | 69.8 | 60.2 |
| Other non-numeric | 1.3 | 0.7 | 0.3 | 0.4 | 0.6 | 0.5 | 0.2 | 0.9 | 0.6 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 640 | 928 | 870 | 947 | 907 | 709 | 620 | 990 | 6611 |
| EMW mean ideal | 3.9 | 3.9 | 3.6 | 3.8 | 4.2 | 4.2 | 4.4 | 4.8 | 4.1 |
| Ever-married women | 257 | 382 | 392 | 415 | 390 | 242 | 220 | 289 | 2587 |
| CMW mean ideal | 4.0 | 3.9 | 3.6 | 3.8 | 4.2 | 4.2 | 4.4 | 4.8 | 4.1 |
| Currently married women | n 249 | 368 | 379 | 405 | 386 | 236 | 213 | 283 | 2519 |

Note: Means are calculated excluding women giving non-numeric responses.
-- Less than 0.05 percent
${ }^{1}$ Includes current pregnancy

Among women who gave a numerical answer for their ideal family size, the ideal number of children for both ever-married and currently married women is 4.1 children, on average. The average ideal number of children and the actual number of children ever born (CEB) are found to be identical in the PDHS (see Table 4.8 for the average CEB). The average ideal family size is considerably smaller in the PDHS than in previous surveys: 1984-85 PCPS ( 4.9 children), 1979-80 PLM (4.6 children), and 1975 PFS ( 4.2 children) [Ali 1989a]. The smaller ideal family size reported in the PDHS, compared to the PCPS, is consistent with the observed decline in the estimated TFR between the two surveys.

Women with fewer than four children had a smaller number of children than their ideal number, whereas the pattem is the opposite for women at parity four or more. Overall, 18 percent of women consider four children as the ideal family size. This was the most popular family size expressed by women at every parity.

Table 8.7 presents the mean ideal number of children for ever-married women by age group and selected background characteristics. The average ideal number of children shows only a small increase with increasing age. The ideal number of children is lower in urban areas ( 3.7 children) than in rural areas ( 4.3 children), and is lowest in major cities ( 3.6 children). An inverse association exists between the ideal number of children and the educational level of women.

Table 8.7 Mean ideal number of children
Mean ideal number of children for ever-married women by age and selected background characteristics, Pakistan 1990-91

| Background characteristic | Age of woman |  |  |  |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 15-19 | 20.24 | 25-29 | 30-34 | 35.39 | 40-44 | 45-49 |  |
| Residence |  |  |  |  |  |  |  |  |
| Total urban | 3.4 | 3.5 | 3.5 | 3.9 | 3.8 | 4.1 | 4.3 | 3.7 |
| Major city | (3.3) | 3.3 | 3.4 | 3.6 | 3.7 | 4.0 | 4.1 | 3.6 |
| Other urban | (3.6) | 3.7 | 3.7 | 4.2 | 4.1 | 4.5 | (4.7) | 4.0 |
| Rural | 4.2 | 4.1 | 4.4 | 4.3 | 4.4 | 4.7 | 4.6 | 4.3 |
| Province |  |  |  |  |  |  |  |  |
| Punjab | 4.1 | 3.8 | 3.8 | 4.1 | 3.9 | 4.2 | 4.5 | 4.0 |
| Sindh | (3.5) | 3.6 | 4.0 | 3.8 | 4.1 | 5.0 | (4.2) | 4.0 |
| NWFP | (3.8) | 4.1 | 4.2 | 4.8 | 4.3 | 4.8 | 4.1 | 4.3 |
| Balochistan | * | (5.4) | 6.3 | (6.7) | (7.5) | * | * | 6.3 |
| Education level attended |  |  |  |  |  |  |  |  |
| No education | 4.1 | 4.0 | 4.2 | 4.3 | 4.2 | 4.8 | 4.6 | 4.3 |
| Primary | (4.2) | 3.8 | 4.4 | 4.0 | (3.8) | (4.3) | * | 4.0 |
| Middle | * | 3.4 | 3.5 | (3.9) | (3.7) | * | * | 3.6 |
| Secondary + | * | 3.2 | 3.3 | 3.5 | 3.5 | 3.4 | (4.2) | 3.4 |
| Total | 3.9 | 3.8 | 4.0 | 4.1 | 4.0 | 4.5 | 4.4 | 4.1 |

Note: Means are calculated excluding women giving non-numeric responses. Figures in parentheses are based on 25 to 49 unweighted cases.
*Based on fewer than 25 unweighted cases, mean number not shown.

The most prominent departure from the average ideal number of children nationwide is found in the province of Balochistan. The average ideal family size for women in Balochistan ( 6.3 children) is over two children greater than the national average. A somewhat similar pattern was observed in the 1984-85 PCPS.

### 8.5 Fertility Planning

In this section, responses to the question, "At the time you became pregnant with (NAME), did you want to become pregnant then, did you want to wait until later or did you want no more children at all?" pave the way for a more direct assessment of the extent of excess fertility and the desire for spacing. This question was asked about every child bom in the preceding five years and about the forthcoming expected child for women who were pregnant at the time of survey. Measures based on these questions, however, are not free of limitations. The respondent is required to recall accurately her wishes at one or more points in the last five years and to report them honestly, which may be affected by memory lapse. There is also a danger of rationalization since it is common for an unwanted conception to become a cherished child.

Overall, more than three-fourths of the births were wanted at the time the women became pregnant (see Table 8.8). An additional 13 percent were not wanted at all and eight percent were reported to have occurred earlier than desired. First order births were found to be largely wanted when they occurred. A lack

Table 8.8 Planning status of births
Percent distribution of births (including current pregnancy) in the five years preceding the survey by fertility planning status, according to birth order and mother's age at the time of birth, Pakistan 1990-91

| Birth order and mother's age | Planning status of birth |  |  |  | Total | Number of births |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Wanted then | Wanted later | Not wanted | Missing |  |  |
| Birth order ${ }^{1}$ |  |  |  |  |  |  |
| 1 | 94.1 | 1.9 | 0.3 | 3.7 | 100.0 | 1366 |
| 2 | 85.2 | 10.0 | 2.6 | 2.2 | 100.0 | 1227 |
| 3 | 81.0 | 12.6 | 4.3 | 2.1 | 100.0 | 1101 |
| 4 | 78.9 | 11.8 | 8.1 | 1.2 | 100.0 | 964 |
| 5 | 72.9 | 9.4 | 16.6 | 1.1 | 100.0 | 833 |
| 6 | 66.5 | 7.9 | 23.9 | 1.8 | 100.0 | 622 |
| 7+ | 51.8 | 7.2 | 38.2 | 2.8 | 100.0 | 1366 |
| Mother's age |  |  |  |  |  |  |
| $<20$ | 90.5 | 4.8 | 1.6 | 3.2 | 100.0 | 832 |
| 20.24 | 84.4 | 9.7 | 3.5 | 2.5 | 100.0 | 2205 |
| 25.29 | 77.7 | 10.2 | 9.9 | 2.2 | 100.0 | 2049 |
| 30-34 | 67.7 | 7.6 | 22.5 | 2.3 | 100.0 | 1365 |
| 35-39 | 60.7 | 5.8 | 32.1 | 1.5 | 100.0 | 655 |
| 40-44 | 49.5 | 6.2 | 43.4 | 0.9 | 100.0 | 307 |
| 45.49 | 49.6 | 7.4 | 41.6 | 1.4 | 100.0 | 65 |
| Total | 76.4 | 8.4 | 13.0 | 2.3 | 100.0 | 7479 |

${ }^{1}$ Includes current pregnancy
of awareness and limited availability of family planning services could be responsible for an increase in the incidence of mistimed births after the first birth. The proportion of births not wanted at all surpasses the proportion that were mistimed at the fifth and higher birth orders. A similar pattern of unwanted and mistimed pregnancies is evident for women in different age groups. For women in their thirties, less than two-thirds of pregnancies were desired at the time they occurred. This figure drops below half for women in their forties. More than 40 percent of pregnancies to women in their forties were not wanted at all. These results confirm that there is a substantial unmet need for family planning services in Pakistan.

Table 8.9 presents a comparison between the wanted total fertility rate and the actual total fertility rate (TFR) by background characteristics. The wanted TFR is calculated in exactly the same manner as the conventional TFR, except that births classified as unwanted are omitted from the numerator. A birth is considered unwanted if the number of living children at the time of the pregnancy was greater than or equal to the ideal number of children at the time of the survey, as reported by the respondent. ${ }^{3}$ Thus, the wanted TFR

[^14]can be interpreted as the total number of wanted births a woman would bear in her reproductive span if she experienced the wanted age-specific fertility rates prevailing for the past six years. "Wanted fertility rates" express the level of fertility that theoretically would result if all unwanted births were prevented. A comparison of the conventional TFR with the wanted TFR indicates the potential demographic impact of preventing unwanted births.

The wanted TFR was 4.7 children per women for Pakistan as a whole, but it exceeded 5 in rural areas and in Balochistan. The wanted TFR was particularly low ( 3.3 to 3.6) in Karachi and other major cities. Education is strongly related to the wanted TFR. Women with a primary school education have a wanted TFR that is 1.3 children lower than that of women with no education. Overall, the wanted TFR was 0.7 children or 12 percent lower than the actual TFR. Given the fact that only a small number of births were considered unwanted, the wanted TFR remained quite high--a pattern consistent with the large family size norm prevalent in the country.

The differences between the actual TFR and the wanted TFR were highest for the major cities, implying the prevalence of substantial unwanted fertility in those areas. Major cities also had the highest proportion of women who wanted no more children (see Table 8.3). Although a relatively greater number of educated women live in major cities, where contraceptive services are more available, use of family planning has still not closed the gap between the number of children women are having and their ideal family size.

## Table 8.9 Wanted fertility rates

Total wanted fertility rates and total fertility rates for the six years preceding the survey by selected background characteristics, Pakistan 1990-91


Note: Rates are based on births to women 15-49 in the period 1-72 months preceding the survey. The total fertility rates are the same as those presented in Table 4.4.

The difference between the two measures was of almost the same magnitude in all provinces except Balochistan, where the difference was negligible. By education group, women with a primary or middle level of education had the highest differentials.

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## CHAPTER 9

# INFANT AND CHILD MORTALITY 

Tauseef Ahmed, Mansoor-ul-Hassan Bhatti and George Bicego

Since independence in 1947, Pakistan has experienced steady but modest declines in rates of mortality at all ages. Yet early childhood mortality remains high. The most recent source of child survival data before the 1990-91 PDHS was the multi-round Pakistan Demographic Survey (PDS), which estimated infant mortality at 110 per thousand live births for the 1984-88 period. The PDHS provides an opportunity to examine infant and child mortality in more detail. Such information is important at this time because of recent efforts by the health sector in Pakistan to address the health problems of infants and young children. Major areas of child survival intervention include: (1) control of diarrhoeal disease, (2) management of acute respiratory infection, (3) the Expanded Programme on Immunisation (EPI), and (4) nutrition. Careful examination of changes in the level of infant and child mortality is essential in assessing whether and to what extent such efforts have been effective.

This chapter focuses on levels, trends, determinants and differentials in the mortality of infants and children under the age of five. An analysis of high-risk fertility behaviour is also presented.

### 9.1 Definitions of Infant and Child Mortality

All female respondents were asked to provide a complete birth history, including the sex, birth date, survival status, and current age or age at death for each live birth. These data were used to calculate the following direct estimates of infant and child mortality, ${ }^{1}$ for three six-year periods ( $0-5,6-11$, and $12-17$ ) preceding the survey:

Neonatal mortality: the probability of dying in the first month of life; Postneonatal mortality: the difference between infant and neonatal mortality; Infant mortality $\left({ }_{( } q_{0}\right): \quad$ the probability of dying before the first birthday; Child mortality $\left({ }_{4} q_{1}\right)$ : the probability of dying between the first and fifth birthday; Under-five mortality $\left({ }_{( } q_{0}\right)$ : the probability of dying before the fifth birthday.

[^15]$$
{ }_{n} q_{x}=1-\prod_{i=x}^{i=x+n}\left(1-q_{i}\right)
$$

### 9.2 Assessment of Data Quality

Rates of infant and child mortality are subject to both sampling and nonsampling errors. This section describes the results of some basic checks for various nonsampling errors; namely, underreporting of early childhood deaths (which would result in underestimates of mortality) and misreporting age at death (which may distort the age pattern of under-five mortality).

Underreporting of deaths is generally more common for children who died shortly after birth than those who died later. If early neonatal deaths are selectively underreported, then an abnormally low ratio of deaths under seven days to all neonatal deaths and an abnormally low ratio of neonatal to infant mortality would be observed. If such underreporting is related to the child's sex or to the length of time preceding the survey, then the ratios would be affected in proportion to the extent of the underreporting. The ratios are given in Table 9.1.

The proportion of neonatal deaths reported to have occurred during the first week of life ( $0-6$ days) varies considerably for males, but little for females. The large jump in the ratio for males between 12-17 years before the survey and 6-11 years before the survey from 0.50 to 0.69 is unusual and suggests that male deaths during the early neonatal period may have been omitted in the earliest period. The ratio of neonatal mortality to infant mortality is comparatively stable for both males and females although further evidence in support of the notion of male omission for the earliest period is found in a slight increase in the male ratio between the two earliest periods, when the female ratio was declining. Since female neonatal mortality is expected to be lower due to greater biological vigour at birth, it is unusual to find a smaller male neonatal/infant ratio for the earliest period.

Table 9.1 Indices of early infant deaths
Indices of early infant deaths by sex, for three six-year periods, Pakistan 1990-91

|  | Time period of death <br> (years preceding survey) |  |  |
| :--- | :--- | :--- | :--- |
|  | $0-5$ | $6-11$ | $12-17$ |
| Index <br> Deaths in first 6 days/ <br> all neonatal deaths <br> Male <br> $\quad$ Female | 0.64 | 0.69 | 0.50 |
| Neonatal deaths/ <br> all infant deaths <br> Male | 0.62 | 0.62 | 0.59 |
| Female | 0.59 | 0.61 | 0.59 |
|  | 0.55 | 0.55 | 0.60 |

Table 9.2 Sex differentials in infant and neonatal mortality
Infant and neonatal mortality rates by sex, and sex ratios, for three six-year periods preceding the survey, Pakistan 1990-91

|  | Time period of death <br> (years preceding survey) |  |  |
| :--- | :--- | :--- | :--- |
| Mortality | $0-5$ | $6-11$ | $12-17$ |
| Infant mortality |  |  |  |
| $\quad$ Male | 100.9 | 98.5 | 101.6 |
| Female | 79.7 | 94.9 | 113.1 |
| $\quad$ Sex ratio | 1.27 | 1.04 | 0.90 |
| Neonatal mortality <br> Male |  |  |  |
| Female | 59.0 | 60.2 | 59.4 |
| Sex ratio | 43.5 | 53.1 | 67.7 |
|  | 1.36 | 1.13 | 0.88 |

Sex differentials in infant and neonatal
mortality over time are presented in Table 9.2. By analysing trends in these differentials, it is possible to examine misreporting of mortality. Normally, there is an excess of male mortality during infancy, especially during the neonatal period. The decreasing ratio of male to female mortality going back in time is striking, and suggests that some early deaths of male children 12-17 years preceding the survey were not reported. ${ }^{2}$

[^16]This would lead to a bias in the evaluation of trends, since mortality rates 12-17 years preceding the survey will be underestimated relative to mortality in more recent time periods.

A problem common to most retrospective surveys is heaping of age at death on "convenient" digits, e.g., 6,12 , and 18 months. This phenomenon introduces biases in rate calculation, if the net result is to shift deaths from one age segment to another. Thus, heaping at 12 months causes concern because a certain fraction of these deaths, though reported to occur after infancy (i.e., at ages 12-23 months), may have actually occurred during infancy (i.e., at ages 0-11 months). The infant mortality rate ( $\mathrm{q}_{0}$ ), in this case, is biased downwards and child mortality ( ${ }_{4} q_{1}$ ) upwards.

Table 9.3 presents the distribution of deaths reported at ages 5 to 23 months by reported age at death for three six-year periods preceding the survey. Distinct "heaps" of deaths are evident at 6,12 , and 18 months of age, with corresponding deficits in the adjacent months, although heaping at 12 months occurs only during the most recent period. Digit preference appears not to be serious enough, however, to substantially alter the rates calculated here. For instance, even if as many as half of the deaths reported at " 12 months" were reassigned to the infant age segment, infant mortality would be increased and child mortality would be decreased by less than one percent for the period $0-5$ years preceding the survey. More troublesome are the large number of deaths reported at " 1 year," which results not from digit preference, but from the failure of interviewers to correctly elicit and record the age at death in units of months as required by PDHS survey guidelines for deaths under two years of age. ${ }^{3}$ The rates reported here are not adjusted for this defect in the data-which, in effect, assumes that all "1 year" deaths occurred in the 12-23 month segment. In the unlikely event that half of these deaths actually occurred during the infant age segment, the infant mortality rate would be underestimated by less than five percent for each of the three six-year periods. While infant mortality may be slightly underestimated and child mortality overestimated, when age at death is reported as " 1 year" (with no adjustment), trend evaluation will not be substantially affected, since there is no marked trend in such reporting.

Unreported age at death is another potential problem in data of this type; however, respondents failed to provide age at death in only 5 ( 0.2 percent) of the 3,016

Table 9.3 Reporting of age at death
Distribution of reported deaths at age 5-23 months by age at death, for three six-year periods preceding the survey, Pakistan 1990-91

|  | Time period of death <br> (years preceding survey) |  |  |
| :--- | ---: | ---: | ---: |
| Age at death <br> (months) | $0-5$ | $6-11$ | $12-17$ |
|  |  |  |  |
| 5 | 16 | 28 | 15 |
| 6 | 39 | 38 | 22 |
| 7 | 13 | 21 | 20 |
| 8 | 18 | 17 | 10 |
| 9 | 21 | 9 | 24 |
| 10 | 18 | 21 | 12 |
| 11 | 9 | 9 | 4 |
| 12 | 20 | 7 | 5 |
| 13 | 2 | 0 | 0 |
| 14 | 1 | 3 | 1 |
| 15 | 10 | 4 | 3 |
| 16 | 5 | 0 | 3 |
| 17 | 2 | 1 | 0 |
| 18 | 16 | 17 | 10 |
| 19 | 0 | 0 | 0 |
| 20 | 0 | 0 | 0 |
| 21 | 1 | 0 | 1 |
| 22 | 1 | 0 | 0 |
| 23 | 0 | 0 | 0 |
| 1 year | 69 | 61 | 55 |
|  |  |  |  |

${ }^{1}$ Age at death reported to be 1 year was supposed to be recorded in months.

[^17]deaths reported during the 18 years preceding the survey. In these cases, age at death was imputed using a hot-deck procedure. ${ }^{4}$

In sum, internal consistency checks indicate that the mortality data from the PDHS are of reasonable quality, keeping in mind the sociocultural constraints prevalent in the society. However, with increasing time since the survey, there appears to be an increasing omission of neonatal deaths, especially deaths to boys. The effect of this omission will be to underestimate rates of infant mortality for less recent periods and thus reduce estimates of mortality decline. Also, imprecise reports of ages at death, especially reports of "1 year," may introduce a small downward bias in the estimation of infant mortality and an upward bias in the estimation of child mortality. However, the evaluation of trends in the PDHS would not be affected.

### 9.3 Levels and Trends in Infant and Child Mortality

Infant and child mortality rates for three six-year periods preceding the PDHS are shown in Table 9.4. The estimated infant mortality rate for the most recent period ( $0-5$ years preceding the survey) is 91 per 1000 live births, with 57 percent of infant deaths occurring in their first four weeks of life. ${ }^{5}$ Under-five mortality $\left(\mathrm{Gq}_{0}\right)$ has fallen 18 percent, from 143 to 117 per thousand in the period from 12-17 years to $0-5$ years before the survey. Much of the estimated decline in mortality occurred between the periods 12-17 years and 6-11 years preceding the survey, with a slower rate of decline between the two most recent periods. Disproportionate gains were made in survival among children age 12 to 59 months ( 28 percent), while neonatal ( 19 percent) and postneonatal ( 11 percent) survival have shown more modest improvements. As mentioned previously, the apparently unremarkable change in neonatal mortality may be an artifact of underreporting of neonatal deaths in less recent periods. Still, over half of infant mortality (neonatal plus postneonatal mortality) and 45 percent of under-five mortality occurs during the first month of life (see Figure 9.1). Thus, there exists considerable scope for improving child survival during infancy in Pakistan through programmes designed to improve matemal health and pregnancy outcome.

Table 9.4 Infant and child mortality
Infant and child mortality rates for three six-year periods preceding the survey, Pakistan 1990-91

|  |  | Neonatal <br> mortality <br> $(\mathrm{NN})$ | Postneonatal <br> Yortality ${ }^{1}$ <br> (PNN) <br> survey | Infant <br> mortality <br> $\left(\mathrm{C}_{1}\right)$ | Child <br> mortality <br> $\left({ }_{4} \mathrm{q}_{1}\right)$ | Under-five <br> mortality <br> $\left({ }_{5} \mathrm{q}_{0}\right)$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 51.4 | 39.1 | 90.5 | 29.5 | 117.4 |  |
| $0-5$ | 56.7 | 40.0 | 96.7 | 29.8 | 123.6 |  |
| $6-11$ | 63.4 | 43.7 | 107.1 | 40.7 | 143.5 |  |
| $12-17$ |  |  |  |  |  |  |

Note: The month of interview is excluded from the analysis.
${ }^{1}$ Computed as the difference between infant and neonatal mortality

[^18]Figure 9.1

## Distribution of Deaths Under Age Five by Age at Death



Note Based on deaths in the six years preceding the survey

### 9.4 Differentials in Infant and Child Mortality

Table 9.5 presents infant and child mortality rates by urban-rural residence, province of residence, level of mother's education, and use of basic matermal health services. Mortality rates are calculated for a ten-year period so that the rates for each population subgroup are based on an adequate number of events. Under-five mortality $\left({ }_{5} \mathrm{~g}_{0}\right)$ is 29 percent lower in urban Pakistan ( 94 per thousand) than in the rural setting ( 132 per thousand). The urban-rural differential exists at all ages (see Figure 9.2), which suggests that both social factors and access to health services are important in the greater risk of death among rural children. There is little or no difference in mortality risk between major cities and other urban areas.

Among regions, under-five mortality is lowest in NWFP (98 per thousand) and highest in Punjab (133 per thousand). The higher under-five risk in Punjab is largely due to higher mortality during infancy ( 104 per thousand). Infant mortality was estimated to be lowest in Balochistan, but this should be interpreted with caution since sampling errors are relatively high in Balochistan, as well as in NWFP. Moreover, the unusually low rate of infant mortality relative to child mortality in Balochistan as well as a deficit of births in the year preceding the survey, suggests that there was selective underreporting of infant deaths in that province.

Child survival chances in Pakistan are closely related to a mother's level of education. Children of mothers with no education experience over two and a half times ( 159 percent) the level of under-five mortality as children of women educated to the secondary level or higher. Indeed, each incremental change in education is associated with significant gains in survival. In the postneonatal period, a strong education effect is observed only for the secondary and higher level of education.

## Table 9.5 Infant and child mortality by background characteristics

Infant and child mortality rates for the ten-year period preceding the survey, by background characteristics of the mother, Pakistan 1990-91

| Characteristic of mother | Neonatal mortality (NN) | Postneonatal mortality ${ }^{1}$ (PNN) | Infant mortality $\left(\mathrm{q}_{0}\right)$ | Child mortality $\left({ }_{4} \mathrm{q}_{1}\right)$ | Under-five mortality $\left({ }_{5} q_{0}\right)$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Residence |  |  |  |  |  |
| Total urban | 40.8 | 33.8 | 74.6 | 20.6 | 93.6 |
| Major city | 39.7 | 34.1 | 73.8 | 19.5 | 91.9 |
| Other urban | 42.1 | 33.5 | 75.6 | 22.0 | 95.9 |
| Rural | 58.6 | 43.7 | 102.2 | 33.0 | 131.9 |
| Province |  |  |  |  |  |
| Punjab | 58.4 | 45.7 | 104.1 | 32.0 | 132.8 |
| Sindh | 44.4 | 36.1 | 80.5 | 27.3 | 105.6 |
| NWFP | 48.2 | 31.3 | 79.6 | 19.7 | 97.7 |
| Balochistan | 46.1 | 26.3 | 72.4 | 31.0 | 101.1 |
| Education level attended |  |  |  |  |  |
| No education | 56.1 | 42.5 | 98.6 | 33.1 | 128.4 |
| Primary | 49.8 | 40.6 | 90.4 | 18.3 | 107.0 |
| Middle | 43.5 | 36.7 | 80.2 | 7.9 | 87.4 |
| Secondary + | 26.9 | 18.9 | 45.8 | 3.9 | 49.5 |
| Medical maternity care ${ }^{\mathbf{2}}$ |  |  |  |  |  |
| No antenatal or delivery care | 57.1 | 47.2 | 104.3 | 31.6 | 132.6 |
| Either antenatal or delivery care | 32.5 | 32.4 | 64.9 | 40.9 | 103.1 |
| Both antenatal and delivery care | 46.7 | 22.8 | 69.5 | 10.5 | 79.3 |
| Total | 53.3 | 40.7 | 94.0 | 29.2 | 120.4 |

Note: The month of interview is excluded from analysis.
${ }^{1}$ Computed as the difference between infant and neonatal mortality
${ }^{2}$ Rates are for the five-year period preceding the survey. Medical care is that given by a doctor, nurse or trained midwife, or received in a hospital, clinic, health centre or health unit.

Figure 9.2
Infant and Child Mortality by Place of Residence


Note: Based on deaths in the
10 years preceding the survey

Use of basic matemal health services is associated with child survival chances. Under-five mortality is 67 percent higher ( 133 per thousand) among children born to women who did not receive antenatal services and did not receive delivery care from a trained health professional compared to children whose mothers received both services. The under-five differentials, however, exhibit some unexpected differences in mortality risk across service use categories. For instance, use of both services is associated with higher neonatal risk than use of one or the other. Perhaps, women who receive antenatal care do not also seek delivery care unless they experience a problem with the pregnancy. Child mortality ( $\left(q_{1}\right)$ is lower among children whose mothers received no services than among those whose mothers received one or the other service. This aberrant pattern may be the result of small numbers, which produce large sampling errors. Nevertheless, it is unusual that the postneonatal period, and not the neonatal period, is the age segment most sensitive to the effects of maternal health service use.

Table 9.6 presents differentials in infant and child mortality by various characteristics of the mother and child. The expected biological effects of sex on age-specific mortality are observed. Neonatal mortality is 30 percent higher among males than females; however, mortality during the postneonatal period is little affected by the sex of the child. Child mortality $\left({ }_{6} q_{1}\right)$ is 66 percent higher among females than males, which suggests that there may be some gender-related differences in child rearing practices that favour boys over girls.

## Table 9.6 Infant and child mortality by demographic characteristics

Infant and child mortality rates for the ten-year period preceding the survey, by selected demographic and biological characteristics, Pakistan 1990-91

| Demographic/ biological characteristic | Neonatal mortality ( NN ) | Postneonatal mortality ${ }^{1}$ (PNN) | Infant mortality $\left({ }_{1} q_{0}\right)$ | Child mortality $\left({ }_{4} q_{1}\right)$ | Under-five mortality $\left({ }_{5} q_{0}\right)$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Sex of child |  |  |  |  |  |
| Male | 60.1 | 42.0 | 102.1 | 22.0 | 121.9 |
| Female | 46.1 | 39.3 | 85.5 | 36.5 | 118.9 |
| Mother's age at birth |  |  |  |  |  |
| <20 | 70.1 | 51.2 | 121.3 | 26.7 | 144.8 |
| 20-29 | 50.9 | 40.0 | 90.8 | 28.5 | 116.7 |
| 30-39 | 48.5 | 35.4 | 83.9 | 31.8 | 113.0 |
| 40-49 | 56.1 | 50.4 | 106.5 | 27.1 | 130.7 |
| Birth order |  |  |  |  |  |
|  | 60.9 | 37.7 | 98.5 | 12.9 | 110.2 |
| 2-3 | 45.0 | 38.6 | 83.6 | 32.1 | 113.0 |
| 4-6 | 51.9 | 43.0 | 94.8 | 33.6 | 125.2 |
| $7+$ | 63.4 | 43.5 | 106.9 | 32.3 | 135.7 |
| Previous blrth interval |  |  |  |  |  |
| $<2$ years | 74.1 | 58.8 | 132.9 | 42.9 | 170.1 |
| 2-3 years | 38.9 | 26.3 | 65.2 | 25.5 | 89.0 |
| 4 years or more | 13.5 | 16.3 | 29.7 | 15.0 | 44.3 |
| Birth size ${ }^{2}$ |  |  |  |  |  |
| Very small | 90.6 | 40.7 | 131.3 | 30.5 | 157.8 |
| Small | 41.9 | 58.0 | 99.9 | 22.9 | 120.5 |
| Average or larger | 40.3 | 31.5 | 71.8 | 27.6 | 97.4 |

Note: The month of interview is excluded from analysis.
${ }^{1}$ Computed as the difference between infant and neonatal mortality
${ }^{2}$ Rates are for the five-year period before the survey.

Differences in under-five mortality ( ${ }_{5} \mathrm{q}_{0}$ ) by maternal age at birth follow the expected pattern: mortality is highest for children of young mothers; it falls for births to mothers age 20-39; then it rises again for births to women 40 and older (see Figure 9.3). This pattern, however, is seen exclusively during the first year of life. This same $U$-shaped pattem is also seen in the relationship between birth order and mortality, but only during the neonatal period. After the first month, first order births are at lowest risk, and the high birth order effect is not observed.

The pace of childbearing has a powerful effect on the survival chances of Pakistani children. Underfive mortality $\left(\mathrm{g}_{0}\right)$ is four times higher among children born after an interval of less than two years than among children born after an interval of four years or more. The birth interval effect is marked for mortality in each age group, although the strength of the association diminishes with increasing age of the child. Birth interval length strongly affects survival chances throughout the first five years of life. This may indicate that

the relationship in Pakistan is not simply related to matemal depletion and pregnancy outcome (which would be expected to specifically influence early infant mortality), but may also be associated with constraints on breastfeeding and other nutritional inputs, child care, and the use of health scrvices.

The size of a child at birth is closely linked to neonatal survival. Children perceived by their mothers as very small were 2.2 times more likely to die in the first four weeks than those perceived as small, average or larger. After the neonatal period, the relationship is less pronounced, although average/larger children still appear to maintain some continued advantage in survival in the postneonatal period.

### 9.5 Causes of Death in Early Childhood

In the PDHS, an effort was made to obtain general information on the causes of death of children bom during the five-year period preceding the survey. Mothers of deceased children were asked whether a doctor or health care worker had provided an explanation or cause for the child's death. If the mother responded "yes," then she was asked to give the reported causes of death. If there was no explanation from a doctor or health worker, then the mother was asked to provide her perception of the causes of death.

Table 9.7 gives the percentage of deaths in the five years preceding the survey by reported causes of death, the source of information on the cause, and the age group of the child at death. The figures should be viewed with caution, especially those for children age 12-59 months, since they are based on small numbers. Furthermore, nearly half of all reported deaths could not be assigned to any specific category, making interpretation difficult. This is particularly true for reporting of causes during the neonatal period, when many deaths are atributed to a lack of viability at birth and, as such, are difficult to specify. This is further reflected in the small fraction of deaths for which a doctor or health worker's explanation of the cause of death could be elicited ( 26 percent during the neonatal period compared to 42 percent during the postneonatal period and 55 percent for children age 12 to 59 months).

Table 9.7 Causes of death in early childhood
Among nonsurviving children born during the five years preceding the survey, the percentage reported to have died from selected diseases or other causes, by age at death and person reporting the cause of death, Pakistan 1990-91

| Disease or cause | Age at death |  |  |  |  |  |  |  |  | Total |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Less than 1 month |  |  | 1-11 months |  |  | 12-59 months |  |  |  |  |  |
|  | Cause reported by |  |  | Cause reported by |  |  | Cause reported by |  |  | Cause reported by |  |  |
|  | Doctor ${ }^{1}$ | Mother ${ }^{2}$ | Total | Doctor ${ }^{1}$ | Mother ${ }^{2}$ | Total | Doctor ${ }^{1}$ | Mother ${ }^{2}$ | Total | Doctor ${ }^{1}$ | Mother ${ }^{2}$ | Total |
| Diarrhoea | 0.6 | 7.2 | 5.5 | 40.2 | 19.5 | 28.3 | (30.0) | (22.4) | 26.6 | 24.1 | 12.8 | 16.9 |
| Vomiting | 2.2 | 5.6 | 4.7 | 7.2 | 13.1 | 10.6 | (11.7) | (19.1) | 15.0 | 6.5 | 9.5 | 8.4 |
| Pneumonia | 7.4 | 2.5 | 3.7 | 16.9 | 0.7 | 7.5 | (5.7) | (--) | 3.1 | 11.0 | 1.6 | 5.0 |
| Cough | 1.6 | 4.4 | 3.7 | 8.8 | 10.9 | 10.0 | (5.4) | (17.5) | 10.8 | 5.5 | 7.9 | 7.0 |
| Fever | 19.9 | 14.5 | 15.9 | 33.3 | 40.8 | 37.6 | (30.4) | (49.6) | 39.0 | 28.0 | 26.8 | 27.2 |
| Convulsions | 5.2 | 8.6 | 7.7 | 1.8 | 8.5 | 5.7 | (8.1) | (8.4) | 8.2 | 4.4 | 8.5 | 7.0 |
| Measles | 4.0 | 1.3 | 2.0 | 5.2 | 1.7 | 3.2 | (14.3) | (7.0) | 11.1 | 6.9 | 2.0 | 3.8 |
| Other | 63.8 | 68.6 | 67.4 | 16.2 | 43.6 | 32.0 | (27.7) | (33.0) | 30.1 | 35.4 | 56.7 | 49.0 |
| Number | 69 | 200 | 268 | 84 | 114 | 198 | 45 | 37 | 82 | 198 | 350 | 548 |

Note: Percentages add to more than 100.0 because of the recording of multiple causes of death. Figures in parentheses are based on 25 to 49 unweighted cases.
-- Less than 0.05 percent
${ }^{1}$ Reported to mother by a doctor or a health worker
${ }^{2}$ Mother's own assessment (for mothers who were not informed about the cause by a doctor or a health worker)

Despite these problems, some conclusions can tentatively be drawn from the figures on causes of death in childhood. First, over one-quarter ( 27 percent) of the under-five deaths were associated with fever, and about 17 percent were associated with diarrhoea (as reported either by the mother or a health worker). Cough, vomiting, convulsions, pneumonia, and measles were each reported for 4 to 8 percent of deaths, although in the case of measles, it is unlikely that the few deaths reported during the neonatal period were actually associated with measles. Deaths associated with reported convulsions may represent cases of tetanus during the neonatal period, and after the neonatal period often would suggest various conditions involving high fever or hypoxia such as meningitis, pneumonia, and other acute infections. During the postneonatal period, there is a two-fold difference between mothers' reports and health workers' reports in the percentage of deaths associated with diarrhoea. This difference suggests that children with the most severe cases of diarrhoea tend to be brought to doctors for treatment.

Lastly, it was mentioned above that the percentage of child deaths for which a doctor's or health worker's explanation was provided rises markedly with the age group of the deceased child. One substantive expla-nation for this pattern reflects greater use of curative health services among older children, which would increase the probability of the child having seen a health worker around the time of death. In addition, illnesses among older children may be less serious but of longer duration, thereby increasing the probability of having had some contact with health personnel.

In sum, acute respiratory and gastrointestinal illnesses are important morbid conditions preceding death after the neonatal period in Pakistan. Causes of neonatal mortality are more difficult to ascertain with these very limited data, although it appears likely that neonatal tetanus and other acute infectious diseases play at least some role.

### 9.6 High-risk Fertility Behaviour

Previous demographic research has shown that a strong relationship exists between a mother's pattern of fertility and her children's survival chances. Typically, infants and young children have a higher risk of dying if they are bom to very young mothers or older mothers, if they are bom after a short birth interval, or if their mothers have already had many children (see Table 9.6). In the following analysis, mothers are classified as too young if they are less than 18 years old at the time of the birth, and too old if they are 35 or older at the time of the birth. A short birth interval is defined as less than 24 months, and a high order birth as one occurring after five or more previous births (i.e., birth order six or higher). Births may also be crossclassified by combinations of these characteristics. Thus, a birth may have from zero to three high-risk characteristics.

Column one of Table 9.8 shows the percentage of births in various risk categorics. More than half ( 55 percent) of all births in Pakistan fall into at least one risk category, with a third (19 percent) of these having multiple risk characteristics. Risk ratios are presented in column two; a risk ratio is the ratio of the proportion of children in a category who have died, to the proportion who have died in the reference category of births without any risk factors. This analysis indicates several things. First, older maternal age at birth (age $>35$ ) and high parity ( $\mathrm{BO}>5$ ) are essentially unrelated to mortality risk when not combined with a short birth interval ( $\mathrm{BI}<24$ ). Indeed, the two main factors leading to heightened risk are young age at birth (<18 years) and a short birth interval ( $<24$ months). The only multiple risk categories that exhibit higher risk are those that include a short birth interval. Since one-third of recent births in Pakistan occurred less than 24 months after a prior birth, this finding underscores the need to reduce, through greater use of contraception, the number of closely spaced births.

Column three in Table 9.8 shows the distribution of currently married women by the risk category into which a current birth would fall. A comparison of this percent distribution with the distribution of actual births in the last six years indicates that the percentage of births falling into two of the high-risk categories would increase substantially without fertility control. However, both of these categories (births to older women and births to older women of higher parity) have risk ratios of less than one and, therefore, they do not conform to the expected pattern.

## Table 9.8 High-risk fertility behaviour

Percent distribution of children born in the six years preceding the survey who are at elevated risk of mortality, and the percent distribution of currently married women at risk of conceiving a child with an elevated risk of mortality, according to category of increased risk, Pakistan 1990-91

| Risk category | Births in the 6 years preceding the survey |  | Percentage of currently married women ${ }^{\text {a }}$ |
| :---: | :---: | :---: | :---: |
|  | Percent of births | Risk ratio |  |
| Not in any risk category | 45.1 | 1.00 | $33.3{ }^{\text {b }}$ |
| Single risk category |  |  |  |
| Age<18: Mother's age at birth <18 | 3.8 | 1.69 | 1.0 |
| Age>34: Mother's age at birth 35+ | 2.7 | 0.93 | 8.8 |
| BI<24: Birth interval <24 months | 19.9 | 1.78 | 17.2 |
| BO>5: Birth order 6 or higher | 9.4 | 0.93 | 7.4 |
| Subtotal | 35.9 | 1.48 | 34.4 |
| Multiple risk category |  |  |  |
| Age<18 \& BI<24 ${ }^{\text {c }}$ | 1.0 | 1.64 | 0.3 |
| Age $>34$ \& $\mathrm{BI}<24$ | 0.5 | 1.17 | 0.8 |
| Age>34 \& BO $>5$ | 7.0 | 0.81 | 20.8 |
| Age $>34$ \& $\mathrm{BI}<24$ \& $\mathrm{BO}>5$ | 3.1 | 2.01 | 4.7 |
| $\mathrm{BI}<24$ \& $\mathrm{BO}>5$ | 7.5 | 2.25 | 5.7 |
| Subtotal | 19.0 | 2.00 | 32.0 |
| In any risk category | 54.9 | 1.53 | 66.7 |
| Total | 100.0 | NA | 100.0 |
| Number | 8241 | NA | 6364 |

Note: Risk ratio is the ratio of the proportion dead of births in a specific risk category to the proportion dead of births not in any risk category. NA = Not applicable
${ }^{2}$ Women were assigned to risk categories according to the status they would have at the birth of a child, if the child were conceived at the time of the survey: age less than 17 years and 3 months, age older than 34 years and 2 months, latest birth less than 15 months ago, and latest birth of order 5 or higher.
${ }^{\text {b }}$ Includes sterilised women


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## CHAPTER 10

# MATERNAL AND CHILD HEALTH 

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One of the objectives of the Pakistan Demographic and Health Survey (PDHS) was to provide information relating to the health of children and their mothers, both of which have a crucial influence on population growth and perceptions moderating fertility behaviour. High levels of infant, child, and maternal mortality in Pakistan have drawn the attention of the government, resulting in efforts to improve survival through primary health care. The PDHS, for the first time, provides information on coverage of these services. In this chapter, an analysis is undertaken of data obtained through detailed questions about antenatal and delivery care, immunisation coverage, and treatment of diarrhoea, fever, and acute respiratory diseases in children.

### 10.1 Maternal Care Indicators

In Pakistan, health facilities are available to about 55 percent of the population (Grant 1992). Most of these health and MCH services are concentrated in urban areas, while the rural population has access to Rural Health Centres (RHCs), Basic Health Units (BHUs), and Family Welfare Centres (FWCs), in addition to traditional providers (dais and traditional medical practitioners, i.e., hakeems).

One of the priorities of the govemment is to provide medical care during pregnancy and at the time of delivery, both of which are essential for infant and child survival and safe motherhood. To measure the level of care received by women during pregnancy, mothers of all children born during the five years preceding the survey were asked whom, if anyone, they had seen for an antenatal checkup and how many such visits they had made. They were also asked if they received an injection (tetanus toxoid-TT) in the arm during pregnancy to prevent the baby from getting tetanus, i.e., convulsions after birth, and how many such injections were received. Mothers were also asked where they had given birth and who assisted during the delivery. Information about the characteristics of births was also gathered, including whether the delivery was premature or by caesarean section, and the size and weight of the baby at birth.

## Antenatal Care

Table 10.1 and Figure 10.1 present background information on antenatal care for births in the five years preceding the survey. For 70 percent of these births, no antenatal care was received during pregnancy. When care was received, 23 percent was provided by a doctor, 3 percent by a nurse, Lady Health Visitor, or Family Welfare Worker, and 4 percent by either a trained or a traditional birth attendant. The percentage of births with no antenatal care increased with the birth order of the mother and was highest for women age 35 and over. Conversely, mothers receiving care from a doctor were slightly younger and of lower parity.

## Table 10.1 Antenatal care

Percent distribution of live births in the five years preceding the survey by source of antenatal care during pregnancy, according to selected background characteristics, Pakistan 1990-91

| Background characteristic | Antenatal care provider ${ }^{1}$ |  |  |  |  |  |  |  | Number of live births |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Doctor | Nurse/ Lady Health Visitor ${ }^{2}$ | Trained birth attendant | Traditional birth attendant | Other | No one | $\begin{aligned} & \text { Don't know/ } \\ & \text { missing } \end{aligned}$ | Total |  |
| Mother's age at blrth |  |  |  |  |  |  |  |  |  |
| < 20 | 20.3 | 3.0 | 0.8 | 2.7 | 0.1 | 72.6 | 0.5 | 100.0 | 746 |
| 20-34 | 24.4 | 3.1 | 1.1 | 2.6 | -- | 67.2 | 1.5 | 100.0 | 4843 |
| 35+ | 13.6 | 3.0 | 1.0 | 1.3 | -- | 80.8 | 0.3 | 100.0 | 818 |
| Birth order |  |  |  |  |  |  |  |  |  |
| 1 | 28.1 | 2.6 | 1.0 | 2.9 | -- | 63.8 | 1.6 | 100.0 | 1167 |
| 2-3 | 26.4 | 3.6 | 0.9 | 2.5 | -- | 65.2 | 1.4 | 100.0 | 2031 |
| 4-5 | 21.2 | 2.7 | 0.9 | 2.3 | 0.1 | 72.1 | 0.5 | 100.0 | 1538 |
| 6+ | 15.0 | 3.3 | 1.4 | 2.3 | -- | 76.6 | 1.4 | 100.0 | 1671 |
| Residence |  |  |  |  |  |  |  |  |  |
| Total urban | 51.3 | 5.2 | 1.5 | 1.6 | -- | 39.6 | 0.8 | 100.0 | 1980 |
| Major city | 63.9 | 3.3 | 1.5 | 1.5 | $\cdots$ | 28.9 | 0.9 | 100.0 | 1140 |
| Other urban | 34.1 | 7.8 | 1.5 | 1.7 | 0.1 | 54.1 | 0.7 | 100.0 | 840 |
| Rural | 9.6 | 2.2 | 0.8 | 2.9 | -- | 83.0 | 1.4 | 100.0 | 4426 |
| Province |  |  |  |  |  |  |  |  |  |
| Punjab | 17.7 | 3.8 | 0.6 | 1.8 | 0.1 | 74.8 | 1.4 | 100.0 | 3933 |
| Sindh | 43.8 | 1.8 | 0.3 | 4.0 | 0.1 | 48.5 | 1.5 | 100.0 | 1364 |
| NWFP | 15.3 | 2.0 | 0.7 | 0.5 | -- | 81.3 | 0.2 | 100.0 | 864 |
| Balochistan | 7.1 | 3.2 | 13.9 | 11.8 | -- | 62.5 | 1.5 | 100.0 | 246 |
| Education level attended |  |  |  |  |  |  |  |  |  |
| No education | 14.0 | 2.6 | 1.2 | 2.7 | -- | 78.0 | 1.5 | 100.0 | 4983 |
| Primary | 33.5 | 4.3 | 0.9 | 1.7 | -- | 58.9 | 0.6 | 100.0 | 641 |
| Middle | 49.3 | 7.3 | 0.5 | 1.5 | -- | 41.1 | 0.3 | 100.0 | 304 |
| Secondary + | 79.3 | 3.7 | 0.5 | 1.5 | 0.2 | 14.6 | 0.2 | 100.0 | 479 |
| Total | 22.5 | 3.1 | 1.1 | 2.5 | - | 69.6 | 1.2 | 100.0 | 6407 |

Note: Figures are for births in the period 1-59 months preceding the survey.
-- Less than 0.05 percent
${ }^{1}$ If more than one source of antenatal care was mentioned, only the provider with the highest qualifications is considered.
${ }^{2}$ Includes Family Welfare Worker

No antenatal care was received for 83 percent of the births in rural areas and 40 percent in urban areas (Figure 10.1). Regionally, women in the North West Frontier Province (NWFP) had the lowest level of care (81 percent received no antenatal care), followed by Punjab ( 75 percent), Balochistan ( 63 percent) and Sindh ( 49 percent). Women in Balochistan relied more on traditional and trained birth attendants for antenatal care ( 26 percent) than women in other regions (all less than 5 percent). More educated women were considerably more likely to receive antenatal care from a doctor. For 78 percent of births to mothers with no education, no antenatal care was received by the mother. In almost four of five births ( 79 percent) occurring to women with secondary education, antenatal checkups were done by doctors. Antenatal care provided by physicians was highest in urban areas ( 51 percent), particularly among residents of major cities ( 64 percent).

Figure 10.1
Antenatal Care, Place of Delivery, and Assistance During Delivery


Note: Based on births In the
flve years preceding the survey
PDHS 1990-91

Both the number and timing of antenatal care visits are thought to have an impact on pregnancy outcome. For slightly less than one-quarter of the births ( 23 percent), two or more antenatal visits were made (see Table 10.2). The median number of visits was 4.1 among cases where care was received. For births where antenatal care was received, most women had their first visit during the first five months of pregnancy.

## Tetanus Toxoid Immunisation

Preventable neonatal mortality is a major concern of public health authorities. Tetanus is an important cause of neonatal death in Pakistan and can be prevented by immunisation of the mother during pregnancy. Immune protection is transferred to the baby through the placenta, if the mother has been immunised with tetanus toxoid. Previously, the World Health Organisation (WHO) had recommended that pregnant women receive two tetanus toxoid shots, four weeks apart, to protect the infant and the mother against tetanus for about two years. With recent advances in medicine, WHO now recommends a series of five tetanus toxoid shots to provide 10-15 years of protection.

Table 10.2 Number of antenatal care visits and stage of pregnancy

Percent distribution of live births in the five years preceding the survey by number of antenatal care (ANC) visits, and by the stage of pregnancy at the time of the first visit, Pakistan 1990-91
Antenatal visits/
Stage of pregnancy All
at first visit births

Number of ANC visits
0
1 4.8

2-3 8.5
$4+\quad 14.2$
Don't know, missing 2.9
$\begin{array}{ll}\text { Total } & 100.0\end{array}$
Median number of visits
(for those with ANC)
Number of months pregnant at the time of first ANC visit
No antenatal care 69.6
$<6 \quad 19.8$
6-7 5.6
$8+\quad 2.5$
Don't know, missing 2.5
Total 100.0
Median number of months
pregnant at first visit
(for those with ANC)
Number of live births 6407

Note: Figures are for births in the period 1-59 months preceding the survey.

## Table 10.3 Tetanus toxoid vaccination

Percent distribution of births in the five years preceding the survey by number of tetanus toxoid injections given to the mother during pregnancy and whether the respondent received an antenatal card, according to selected background characteristics, Pakistan 1990-91

| Background characteristic | Number of tetanus toxoid injections |  |  |  |  | Percent given antenatal card | Number of births |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | None | One dose | $\begin{gathered} \text { Two } \\ \text { doses } \\ \text { or more } \end{gathered}$ | Don't know/ missing | Total |  |  |
| Mother's age at birth |  |  |  |  |  |  |  |
| < 20 | 71.3 | 7.2 | 21.5 | -- | 100.0 | 11.4 | 746 |
| 20-34 | 68.7 | 6.5 | 24.6 | 0.2 | 100.0 | 13.8 | 4843 |
| $35+$ | 76.5 | 5.7 | 17.3 | 0.5 | 100.0 | 7.6 | 818 |
| Birth order |  |  |  |  |  |  |  |
| 1 | 65.0 | 6.3 | 28.5 | 0.2 | 100.0 | 16.1 | 1167 |
| 2-3 | 66.2 | 7.7 | 25.8 | 0.3 | 100.0 | 15.6 | 2031 |
| 4-5 | 73.7 | 6.1 | 20.0 | 0.2 | 100.0 | 11.2 | 1538 |
| $6+$ | 74.6 | 5.4 | 19.7 | 0.2 | 100.0 | 8.2 | 1671 |
| Residence |  |  |  |  |  |  |  |
| Total urban | 46.9 | 9.0 | 44.0 | 0.2 | 100.0 | 31.4 | 1980 |
| Major city | 42.4 | 9.0 | 48.3 | 0.3 | 100.0 | 42.6 | 1140 |
| Other urban | 53.0 | 9.0 | 38.0 | -- | 100.0 | 16.2 | 840 |
| Rural | 80.3 | 5.4 | 14.1 | 0.2 | 100.0 | 4.4 | 4426 |
| Province |  |  |  |  |  |  |  |
| Punjab | 69.8 | 6.8 | 23.0 | 0.3 | 100.0 | 10.3 | 3933 |
| Sindh | 59.4 | 7.8 | 32.8 | -- | 100.0 | 24.8 | 1364 |
| NWFP | 81.9 | 3.5 | 14.5 | -- | 100.0 | 6.9 | 864 |
| Balochistan | 89.3 | 4.4 | 6.0 | 0.4 | 100.0 | 5.3 | 246 |
| Education level attended |  |  |  |  |  |  |  |
| No education | 77.8 | 5.7 | 16.3 | 0.2 | 100.0 | 6.5 | 4983 |
| Primary | 55.1 | 6.5 | 38.1 | 0.3 | 100.0 | 19.9 | 641 |
| Middle | 34.9 | 11.2 | 53.6 | 0.3 | 100.0 | 34.8 | 304 |
| Secondary + | 30.8 | 11.4 | 57.5 | 0.4 | 100.0 | 53.4 | 479 |
| Total | 70.0 | 6.5 | 23.3 | 0.2 | 100.0 | 12.7 | 6407 |

Note: Figures are for births in the period 1-59 months preceding the survey. -- Less than 0.05 percent

For 70 percent of births in the five years preceding the survey, no tetanus toxoid immunisation was received during pregnancy (see Table 10.3 and Figure 10.1). Immunisation coverage was significantly lower in rural than in urban areas ( 20 vs. 53 percent). Births to women in Balochistan were least likely to be protected ( 10 percent). Women with no education, older women, and mothers of higher birth order children were also less likely to be immunised prior to delivery. Among women who had been immunised, more than three of four births were protected by two or more injections. The proportion receiving multiple injections was highest for residents of major cities ( 48 percent), for Sindh ( 33 percent), and for mothers with secondary or higher education ( 58 percent).

In recent years, health care programmes have been encouraged to distribute antenatal cards to pregnant women at the time they receive antenatal care. While 26 percent of births were preceded by antenatal care from a doctor or nurse (see Table 10.1), only 13 percent had received an antenatal card. Not

Table 10.4 Place of delivery
Percent distribution of births in the five years preceding the survey by place of delivery, according to selected background characteristics, Pakistan 1990-91

| Background characteristic | Place of delivery |  |  |  |  | Number of births |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Health facility | $\begin{gathered} \text { At } \\ \text { home } \end{gathered}$ | Other | Don't know/ missing | Total |  |
| Mother's age at birth |  |  |  |  |  |  |
| <20 | 11.0 | 88.5 | -- | 0.5 | 100.0 | 746 |
| 20-34 | 14.6 | 83.7 | 0.1 | 1.6 | 100.0 | 4843 |
| 35+ | 8.1 | 91.4 | 0.1 | 0.3 | 100.0 | 818 |
| Birth order |  |  |  |  |  |  |
| 1 | 19.8 | 78.3 | 0.3 | 1.6 | 100.0 | 1167 |
| 2-3 | 15.4 | 83.1 | -- | 1.5 | 100.0 | 2031 |
| 4-5 | 11.8 | 87.5 | 0.2 | 0.5 | 100.0 | 1538 |
| 6+ | 7.9 | 90.6 | 0.1 | 1.5 | 100.0 | 1671 |
| Residence |  |  |  |  |  |  |
| Total urban | 32.6 | 66.5 | - | 0.8 | 100.0 | 1980 |
| Major city | 46.1 | 53.0 | 0.1 | 0.9 | 100.0 | 1140 |
| Other urban | 14.3 | 85.0 | -- | 0.7 | 100.0 | 840 |
| Rural | 4.8 | 93.6 | 0.1 | 1.5 | 100.0 | 4426 |
| Province |  |  |  |  |  |  |
| Punjab | 10.5 | 88.0 | 0.1 | 1.4 | 100.0 | 3933 |
| Sindh | 27.8 | 70.4 | 0.1 | 1.7 | 100.0 | 1364 |
| NWFP | 6.6 | 93.0 | 0.1 | 0.3 | 100.0 | 864 |
| Balochistan | 2.5 | 96.3 | .. | 1.2 | 100.0 | 246 |
| Education level attended |  |  |  |  |  |  |
| No education | 6.7 | 91.7 | 0.1 | 1.5 | 100.0 | 4983 |
| Primary | 17.4 | 82.0 | -- | 0.6 | 100.0 | 641 |
| Middle | 43.4 | 56.3 | -- | 0.3 | 100.0 | 304 |
| Secondary + | 58.6 | 41.0 | -- | 0.4 | 100.0 | 479 |
| Antenatal care visits |  |  |  |  |  |  |
| 0 | 2.9 | 96.8 | 0.1 | 0.1 | 100.0 | 4458 |
| 1-3 | 22.7 | 77.3 | -- | -- | 100.0 | 853 |
| 4+ | 57.8 | 42.0 | 0.1 | 0.1 | 100.0 | 908 |
| Don't know, missing | 4.4 | 54.9 | -- | 40.7 | 100.0 | 188 |
| Total | 13.4 | 85.2 | 0.1 | 1.3 | 100.0 | 6407 |

Note: Figures are for births in the period 1-59 months preceding the survey. -- Less than 0.05 percent
surprisingly, the distribution of frequencies for antenatal cards by background characteristics (see Table 10.3) is similar to that for antenatal care.

## Place of Delivery and Assistance During Delivery

Eighty-five percent of the births occurring during the five years preceding the survey took place at home (see Table 10.4). This proportion has declined very little since the PCPS in 1984-85, when 92 percent of the live births occurred at home. Though delivery in a health facility was less common than receiving antenatal care, more than five-sixths of all births which occurred in health facilities were to women who had received antenatal care. This may be due to differences in service availability or to complications during

## Table 10.5 Assistance during delivery

Percent distribution of births in the five years preceding the survey by type of assistance during delivery, according to selected background characteristics, Pakistan 1990-91

| Background characteristic | Person providing assistance |  |  |  |  |  |  |  | Number of births |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Doctor | Nurse/ Lady Health Visitor ${ }^{1}$ | Trained birth attendant | Traditional birth attendant | Other | No one | Don't know/ missing | Total |  |
| Mother's age at birth |  |  |  |  |  |  |  |  |  |
| $<20$ | 10.3 | 6.8 | 13.7 | 55.4 | 11.1 | 1.9 | 0.9 | 100.0 | 746 |
| 20-34 | 13.4 | 6.6 | 16.8 | 50.8 | 9.3 | 1.4 | 1.7 | 100.0 | 4843 |
| 35+ | 8.0 | 4.8 | 18.5 | 57.7 | 8.1 | 2.3 | 0.6 | 100.0 | 818 |
| Birth order |  |  |  |  |  |  |  |  |  |
| 1 | 18.5 | 6.7 | 13.9 | 48.0 | 9.4 | 1.8 | 1.7 | 100.0 | 1167 |
| 2.3 | 14.0 | 7.0 | 17.0 | 49.6 | 9.4 | 1.3 | 1.7 | 100.0 | 2031 |
| 4.5 | 11.0 | 5.2 | 17.0 | 54.8 | 9.9 | 1.2 | 0.8 | 100.0 | 1538 |
| $6+$ | 7.4 | 6.4 | 17.8 | 55.8 | 8.8 | 2.2 | 1.6 | 100.0 | 1671 |
| Residence |  |  |  |  |  |  |  |  |  |
| Total urban | 30.7 | 11.6 | 18.3 | 35.2 | 2.7 | 0.7 | 0.8 | 100.0 | 1980 |
| Major city | 41.8 | 9.3 | 18.6 | 27.4 | 1.6 | 0.5 | 0.8 | 100.0 | 1140 |
| Other urban | 15.5 | 14.8 | 17.9 | 45.7 | 4.3 | 1.0 | 0.8 | 100.0 | 840 |
| Rural | 4.2 | 4.0 | 15.9 | 59.8 | 12.3 | 2.0 | 1.7 | 100.0 | 4426 |
| Province |  |  |  |  |  |  |  |  |  |
| Punjab | 9.8 | 6.6 | 19.8 | 56.4 | 4.6 | 1.1 | 1.7 | 100.0 | 3933 |
| Sindh | 24.6 | 7.6 | 7.4 | 54.6 | 3.1 | 1.3 | 1.3 | 100.0 | 1364 |
| NWFP | 7.7 | 3.9 | 8.8 | 33.0 | 42.5 | 3.8 | 0.3 | 100.0 | 864 |
| Balochistan | 3.1 | 4.4 | 45.1 | 38.2 | 3.5 | 3.7 | 2.0 | 100.0 | 246 |
| Education level attended |  |  |  |  |  |  |  |  |  |
| No education | 6.1 | 5.0 | 16.9 | 57.4 | 11.1 | 1.9 | 1.6 | 100.0 | 4983 |
| Primary | 15.1 | 10.4 | 21.5 | 48.4 | 3.3 | 0.1 | 1.3 | 100.0 | 641 |
| Middle | 39.1 | 13.0 | 12.7 | 29.9 | 3.4 | 0.2 | 1.7 | 100.0 | 304 |
| Secondary + | 57.2 | 11.6 | 10.1 | 17.1 | 2.8 | 1.0 | 0.2 | 100.0 | 479 |
| Antenatal care visits |  |  |  |  |  |  |  |  |  |
| 0 | 3.2 | 3.6 | 17.5 | 60.9 | 12.2 | 2.1 | 0.4 | 100.0 | 4458 |
| $1-3$ | 19.1 | 14.5 | 18.5 | 43.3 | 4.0 | 0.5 | -- | 100.0 | 853 |
| 4+ | 52.3 | 13.1 | 11.7 | 21.3 | 1.4 | 0.1 | 0.1 | 100.0 | 908 |
| Don't know. missing | 5.1 | 2.0 | 11.7 | 34.8 | 4.1 | 2.0 | 40.2 | 100.0 | 188 |
| Total | 12.4 | 6.4 | 16.6 | 52.2 | 9.4 | 1.6 | 1.5 | 100.0 | 6407 |

Note: If the respondent mentioned more than one attendant, only the most qualified attendant is considered. Figures are for births in the period $1-59$ months preceding the survey.
-- Less than 0.05 percent
${ }^{1}$ Includes Family Welfare Worker
pregnancy which may lead a woman to seek care. It may also suggest that antenatal visits give the provider an opportunity to develop rapport with the woman, increasing her willingness to seek proper care at the time of delivery. The pattem of home delivery by various background characteristics is similar to the distribution of cases in which no antenatal care or tetanus toxoid injections were received. The proportion of births taking place at health facilities was highest among women 20-34 years of age, among women having their first child, for residents of Sindh, and for those living in urban areas. Home births were more than twice as common among women with no education as among those with secondary or higher levels of educational attainment.

Sixty-nine percent of deliveries of all live births were attended by traditional or trained birth attendants, while 19 percent were assisted by a doctor or nurse (see Table 10.5). The characteristics of births attended by a doctor are consistent with those of births occurring in health facilities (Table 10.4).

## Characteristics of Deliveries

Three percent of births were delivered by caesarean section (see Table 10.6). Only two percent of births were reported as premature; however, exclusion of stillbirths from this figure results in a significant underestimation of prematurity overall. In addition, it is uncertain how accurately mothers are able to identify prematurity.

Most of the deliveries took place at home, hence 9 of 10 ( 88 percent) births were not weighed at the time of birth. The resulting sample of birth weights is therefore subject to selection bias, such that the proportion of births weighing less than 2.5 kilograms (one of six births with a known birth weight) probably understates the problem of low birth weight overall. Three-quarters ( 76 percent) of the live births were reported to be of average or larger size.

Table 10.6 presents information about the average duration of labour for the most recent birth. This average was within the normal range for all subgroups examined. In births delivered by a surgical procedure, the mean was higher than for others, suggesting obstructed and/or prolonged labour as an indication for some caesarean births.

Table 10.6 Characteristics of delivery
Percent distribution of live births in the five years preceding the survey by whether the delivery was by caesarean section, whether premature, and by birth weight and the mother's estimate of baby's size at birth, Pakistan 1990-91

| Delivery characteristic | Percent | Most recent birth |  |
| :---: | :---: | :---: | :---: |
|  |  | Average duration of labour (in hours) | Number of births |
| C-section delivery |  |  |  |
| C-section | 2.7 | 11.8 | 99 |
| Not C-section | 95.5 | 7.7 | 3679 |
| Missing | 1.8 | * | 21 |
| Total | 100.0 | 7.8 | 3800 |
| Premature birth |  |  |  |
| On time | 96.7 | 7.7 | 3723 |
| Premature | 1.9 | 12.9 | 70 |
| Don't know | 1.5 | * | 7 |
| Total | 100.0 | 7.8 | 3800 |
| Birth welght |  |  |  |
| Less than 2.5 kg | 1.2 | 12.1 | 50 |
| 2.5 kg or more | 6.3 | 7.8 | 252 |
| Don't know, missing | 4.2 | 9.4 | 97 |
| Not weighed | 88.3 | 7.7 | 3401 |
| Total | 100.0 | 7.8 | 3800 |
| Size at birth |  |  |  |
| Very small | 6.2 | 10.7 | 271 |
| Smaller than average | 15.9 | 7.9 | 668 |
| Average or larger | 76.3 | 7.5 | 2854 |
| Don't know, missing | 1.5 | * | 6 |
| Total | 100.0 | 7.8 | 3800 |
| Number | 6407 | 3800 | 3800 |

Note: Figures are for births in the period $1-59$ months preceding the survey.
*Based on fewer than 25 unweighted cases, number not shown

### 10.2 Child Care Indicators

The Pakistan Demographic and Health Survey included questions on a number of indicators of child care and utilisation of child care services. The information collected focused on immunisation coverage and the prevalence of diarrhoea, fever and respiratory illnesses among children under five years of age, as well as the type of treatment sought.

## Immunisation of Children

Given the high levels of infant and child mortality in Pakistan, in 1982 the Government initiated an Expanded Programme on Immunisation (EPI) following the intemational guidelines recommended by the World Health Organisation (WHO). These guidelines recommend that by the age of 12 months all children should be immunised against the six preventable childhood diseases: a BCG vaccination for tuberculosis, three doses of DPT vaccine for the prevention of diphtheria, pertussis (whooping cough), and tetanus, three doses of polio vaccine, and one dose of measles vaccine. The ultimate aim of the EPI programme is to attain universal child immunisation in the country by the mid-1990s. Vaccinations received by infants and children are usually recorded on a health card which is given to the parents for each child at the time of first vaccination.

In the PDHS, mothers were asked questions designed to determine whether their children under five years of age had received injections or drops to protect against the preventable childhood diseases. Mothers were also asked whether they had a vaccination card for each child. If a card was available, the interviewer was required to ask to see it and record the dates on which the child had received vaccinations against each disease. One dose each of BCG and measles vaccine and three doses of polio and DPT are required to establish immunity.

Table 10.7 presents the percentage of children 12-23 months of age who were vaccinated at any time before the interview and by 12 months of age, by the source of information. The EPI programme has achieved considerable success although universal immunisation is far from a reality. Fifty percent of the children have received measles vaccine. The highest coverage was for BCG (70 percent) and the first two doses of DPT and polio. It may be noted that DPT and polio vaccinations are usually given together, which partially explains why the proportions were almost identical for these two vaccines. Because these

## Table 10.7 Vaccinations by source of information

The percentage of children 12-23 months of age who had received specific vaccines at any time before the survey and before 12 months of age, by whether the information was from a vaccination card or from the mother, Pakistan 1990-91

| Source of information and timing of vaccination | Percentage of children who received: |  |  |  |  |  |  |  |  |  |  | Number of children |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Polio |  |  |  | DPT |  |  | Measles | All ${ }^{1}$ | None |  |
|  | BCG | 0 | 1 | 2 | 3 | 1 | 2 | 3 |  |  |  |  |
| Vaccinated at any time before the survey |  |  |  |  |  |  |  |  |  |  |  |  |
| Vaccination card | 97.9 | 35.1 | 99.6 | 91.2 | 82.6 | 97.3 | 89.5 | 81.9 | 76.3 | 71.7 | -- | 360 |
| Mother's report | 57.7 | 2.2 | 50.1 | 47.5 | 26.2 | 50.1 | 47.5 | 26.2 | 39.2 | 19.6 | 40.2 | 855 |
| Either source | 69.7 | 12.0 | 64.8 | 60.5 | 42.9 | 64.1 | 60.0 | 42.7 | 50.2 | 35.1 | 28.3 | 1215 |
| Vaccinated by 12 months of age | 61.1 | 10.0 | 58.1 | 51.1 | 32.6 | 57.9 | 50.6 | 32.7 | 35.5 | 21.8 | 34.7 | 1215 |

Note: The DPT coverage rate for children without a written record is assumed to be the same as that for polio vaccine since mothers were specifically asked whether the child had received polio vaccine. Children reported by the mother to have received only two or three doses of polio vaccine were assumed to have received polio 1,2 and 3 , respectively. Children reported by the mother to have received four or more doses of polio vaccine were additionally assumed to have received polio 0 . For children whose information was based on the mother's report, the proportion of vaccinations given during the first year of life was assumed to be the same as for children with a written record of vaccination.
-- Less than 0.05 percent
${ }^{1}$ Children who are fully vaccinated, i.e., those who have received BCG, measles and three doses of DPT and polio vaccines
vaccinations are administered together, and because mothers can more easily identify polio vaccine (given as drops in the mouth), when data were collected by mother's report, only polio was asked about and DPT was assumed to be the same. For both DPT and polio, the dropout rates between the first and the second doses were very low (about 4 percentage points). However, the dropout between the second and third doses increased substantially (to about 17 to 18 percentage points). A relatively recent recommendation is the administration of a dose of polio vaccine at the time of birth (polio 0). The use of this dose has not yet become widespread in Pakistan, as only 12 percent of the children 12-23 months of age had received this dose at the time of birth.

Seventy-two percent of children age 12-23 months who have a vaccination card have received all the recommended vaccinations, ${ }^{1}$ but mothers were able to produce vaccination cards for only 30 percent of the children. The mothers' reports indicated a much lower level of complete coverage ( 20 percent). According to their reports, 40 percent of the children received no vaccinations. Combining data from both sources, that is, vaccination cards and mothers' reports, the proportion vaccinated against all diseases was 35 percent. Only 22 percent were fully vaccinated by 12 months of age and 36 percent had received measles vaccine within their first year of life.

Table 10.8 and Figure 10.2 show vaccination coverage for children $12-23$ months of age by background characteristics, combining both sources of information (vaccination card information and mothers' reports.) In general, vaccine coverage is consistently higher among male children, although disparities are all less than 10 percentage points. This difference might be due to son preference, which is still prevalent in Pakistan. Differences in coverage by birth order are neither large nor consistent from one vaccine to another. Complete vaccination coverage was higher in urban ( 46 percent) than in rural areas ( 30 percent). However, more than half of the children in rural areas had received BCG and two doses of DPT and polio vaccine; while 44 percent were vaccinated against measles. The children in Punjab and NWFP were more protected than children in Sindh and in Balochistan, where the EPI programme has met with less success than elsewhere in Pakistan. As seen for the indicators of maternal health care, these findings also reflect a positive correlation between the education level of the mother and service utilisation. The results suggest that educational attainment above the primary school level may be an important factor in improving vaccination coverage of children.

Table 10.9 shows vaccinations received by children in the first year of life by current age for children one to four years of age. The proportion of children whose immunisation status was determined according to a vaccination card declines as the age of the children increases. This may in part reflect increased use of vaccination cards in the recent past, as well as an improved coverage overall. In addition, vaccination cards may have been lost or discarded more frequently for older children with completed immunisations. The highest level of vaccination coverage against all diseases is noted for children age 12-23 months; coverage then declines progressively with increasing age up to $36-47$ months. Thereafter, coverage again increases slightly for children 48-59 months of age.

[^19]
## Table 10.8 Vaccinations by background characteristics

Percentage of children $12-23$ months of age who had received specific vaccines by the time of the survey (according to the vaccination card or the mother's report) and the percentage with a vaccination card seen by the interviewer, by selected background characteristics, Pakistan 1990-91

| Background characteristic | Percentage of children who received: |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Polio |  |  |  | DPT |  |  | Measles | All ${ }^{1}$ | None | Percentage with a card | Number of childre |
|  | BCG | 0 | 1 | 2 | 3 | 1 | 2 | 3 |  |  |  |  |  |
| Sex |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Male | 72.8 | 12.2 | 67.0 | 61.9 | 45.8 | 66.7 | 61.7 | 45.4 | 54.6 | 39.1 | 25.3 | 30.7 | 585 |
| Female | 66.7 | 11.7 | 62.7 | 59.1 | 40.3 | 61.7 | 58.4 | 40.2 | 46.1 | 31.3 | 31.0 | 28.7 | 629 |
| Blrth order |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 | 76.6 | 11.9 | 70.3 | 65.3 | 39.7 | 69.1 | 64.9 | 39.3 | 57.0 | 33.5 | 21.1 | 29.2 | 228 |
| 2-3 | 71.4 | 16.5 | 67.1 | 63.6 | 43.0 | 66.4 | 62.6 | 42.9 | 50.6 | 33.8 | 26.8 | 30.0 | 380 |
| 4-5 | 65.4 | 11.1 | 65.1 | 59.2 | 44.6 | 65.1 | 59.2 | 44.6 | 48.4 | 36.8 | 31.4 | 31.1 | 276 |
| $6+$ | 66.4 | 7.5 | 58.0 | 54.5 | 43.6 | 57.3 | 54.1 | 43.2 | 46.5 | 36.2 | 32.2 | 28.3 | 331 |
| Residence |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total urban | 84.2 | 21.5 | 80.7 | 77.1 | 55.4 | 80.6 | 77.0 | 55.4 | 64.6 | 45.6 | 14.0 | 34.7 | 383 |
| Major city | 83.5 | 27.7 | 78.8 | 74.6 | 52.9 | 78.7 | 74.5 | 52.9 | 64.4 | 43.7 | 15.3 | 34.5 | 215 |
| Other urban | 85.2 | 13.5 | 83.1 | 80.3 | 58.7 | 83.1 | 80.3 | 58.7 | 64.8 | 48.0 | 12.4 | 35.0 | 168 |
| Rural | 62.9 | 7.6 | 57.5 | 52.8 | 37.2 | 56.5 | 52.1 | 36.9 | 43.6 | 30.2 | 34.8 | 27.3 | 832 |
| Province |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Punjab | 75.8 | 10.2 | 70.7 | 67.3 | 46.9 | 69.6 | 66.6 | 46.7 | 54.4 | 38.6 | 22.2 | 31.2 | 763 |
| Sindh | 60.2 | 20.4 | 54.0 | 50.3 | 33.0 | 54.5 | 50.3 | 33.0 | 41.2 | 25.3 | 38.5 | 25.7 | 244 |
| NWFP | 63.8 | 10.1 | 60.0 | 52.3 | 44.5 | 60.0 | 51.9 | 44.0 | 48.2 | 37.6 | 33.5 | 31.3 | 165 |
| Balochistan | 37.1 | 2.7 | 39.3 | 29.1 | 23.4 | 36.5 | 28.5 | 22.9 | 34.1 | 17.8 | 57.2 | 18.6 | 43 |
| Education level attended |  |  |  |  |  |  |  |  |  |  |  |  |  |
| No education | 62.9 | 9.4 | 58.1 | 53.4 | 38.2 | 57.5 | 53.0 | 38.1 | 43.6 | 31.4 | 34.8 | 29.2 | 929 |
| Primary | 89.6 | 23.2 | 87.0 | 83.6 | 53.8 | 85.8 | 82.4 | 52.6 | 65.5 | 39.0 | 7.3 | 29.5 | 127 |
| Middle | 88.3 | 12.5 | 80.7 | 78.2 | 67.0 | 80.7 | 78.2 | 67.0 | 68.6 | 57.0 | 11.5 | 31.3 | 62 |
| Secondary + | 96.2 | 21.5 | 89.0 | 86.1 | 58.3 | 89.0 | 86.1 | 58.3 | 81.5 | 51.5 | 3.8 | 33.4 | 97 |
| Total | 69.7 | 12.0 | 64.8 | 60.5 | 42.9 | 64.1 | 60.0 | 42.7 | 50.2 | 35.1 | 28.3 | 29.6 | 1215 |

Note: See footnote for Table 10.7 for definitions of vaccine coverage.
${ }^{1}$ Children who are fully vaccinated, i.e., those who have received BCG, measles and three doses of DPT and polio vaccines

Figure 10.2
Percentage of Children 12-23 Months Who Are Fully Vaccinated


Note: Includes health card
Information and mothers' reports.
PDHS 1990-91

## Children's Morbidity and Treatment Patterns

The main causes of death in infants and children in Pakistan are acute lower respiratory infections and diarthoea. Information was collected in the PDHS for all children under five years of age on the occurrence of symptoms of acute respiratory infection (ARI), fever, and diarthoea in the two weeks preceding the survey. Mothers were also asked about treatment provided to children with any of these conditions.

Table 10.9 Vaccinations in first year of life by current age
The percentage of children one to four years of age for whom a vaccination card was seen by the interviewer and the percentage vaccinated for BCG, DPT, polio, and measles during the first year of life, by current age of the child, Pakistan 1990-91

|  | Current age of child in months |  |  | All children <br> $12-59$ <br> months |  |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Vaccine | $12-23$ | $24-35$ | $36-47$ | $48-59$ |  |
| Vaccination card seen | 29.6 | 20.3 | 13.9 | 11.7 | 19.3 |
| by interviewer |  |  |  |  |  |
| Percent vaccinated |  |  |  |  |  |
| at 0-11 months | 61.1 | 59.5 | 46.4 | 49.9 | 54.5 |
| BCG | 10.0 | 5.9 | 5.1 | 2.7 | 6.1 |
| Polio 0 | 58.1 | 54.1 | 39.9 | 44.9 | 49.5 |
| Polio 1 | 51.1 | 50.3 | 35.8 | 42.5 | 45.0 |
| Polio 2 | 32.6 | 34.1 | 21.6 | 28.0 | 29.2 |
| Polio 3 | 57.9 | 54.1 | 39.9 | 45.6 | 49.6 |
| DPT 1 | 50.6 | 49.9 | 35.8 | 42.5 | 44.8 |
| DPT 2 | 32.7 | 35.7 | 22.2 | 28.0 | 29.7 |
| DPT 3 | 35.5 | 26.6 | 25.4 | 38.9 | 31.3 |
| Measles | 21.8 | 16.9 | 13.6 | 20.7 | 18.2 |
| All vaccinations ${ }^{\text {B }}$ |  |  |  |  |  |
| No vaccinations | 34.7 | 37.5 | 51.0 | 45.7 | 42.0 |
| Number of children | 1215 | 1141 | 1167 | 966 | 4489 |

Note: See footnote for Table 10.7 for definitions of vaccine coverage.
${ }^{1}$ Children who are fully vaccinated, i.e., those who have received BCG, measles and three doses of DPT and polio vaccines

## Acute Respiratory Infection

Table 10.10 and Figure 10.3 present background information for children with cough accompanied by rapid breathing, i.e., acute respiratory infection (ARI), and the type of treatment given. Adjustments for seasonality have not been made in this table, though the fieldwork took place mostly in the winter, when the prevalence of ARI is expected to be higher. One in six children ( 16 percent) had suffered from symptoms of ARI during the two weeks preceding the survey. The most vulnerable period for this disease was the first year of life. There were only small differences according to gender and birth order. Children in major cities exhibited a lower prevalence of ARI symptoms than those in other areas. ARI symptoms were least prevalent (8 percent) in Balochistan, while the highest prevalence was observed in Punjab and Sindh. ARI symptoms were less evident among children whose mothers had secondary or more education.

Table 10.10 Prevalence and treatment of acute respiratory infection
Percentage of children under five who were ill with a cough accompanied by rapid breathing during the two weeks preceding the survey, and the percentage of ill children who were treated with specific remedies, by selected background characteristics, Pakistan 1990-91

| Background characteristic | Percentage of children with cough and fast breathing | Among children with cough and rapid breathing |  |  |  |  |  |  | Number of children |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Percentage taken to a health facility or provider ${ }^{1}$ | Percentage treated with: |  |  |  |  |  |  |
|  |  |  | Antibiotic pill or syrup | Injection | Cough syrup | Home remedy | Other | None |  |
| Child's age |  |  |  |  |  |  |  |  |  |
| <6 months | 17.4 | 65.5 | 13.6 | 11.1 | 23.7 | 5.9 | 49.1 | 12.2 | 679 |
| 6-11 months | 23.4 | 76.8 | 20.5 | 12.0 | 32.8 | 3.9 | 50.9 | 7.9 | 608 |
| 12-23 months | 18.0 | 65.9 | 18.1 | 13.7 | 37.4 | 5.5 | 41.8 | 14.2 | 1215 |
| 24.35 months | 16.2 | 64.8 | 14.8 | 17.2 | 35.6 | 7.8 | 33.0 | 17.3 | 1141 |
| 36-47 months | 13.7 | 65.5 | 11.9 | 14.2 | 34.7 | 1.7 | 43.9 | 15.9 | 1167 |
| 48-59 months | 10.4 | 57.8 | 18.9 | 9.4 | 33.4 | 3.6 | 29.4 | 22.2 | 966 |
| Sex |  |  |  |  |  |  |  |  |  |
| Male | 15.8 | 67.5 | 16.2 | 14.5 | 33.4 | 6.3 | 41.8 | 15.2 | 2942 |
| Female | 16.2 | 65.2 | 16.4 | 12.3 | 33.9 | 3.5 | 41.0 | 14.4 | 2833 |
| Birth order |  |  |  |  |  |  |  |  |  |
| 1 | 17.0 | 72.7 | 21.0 | 12.5 | 37.9 | 4.5 | 39.6 | 8.5 | 1026 |
| 2-3 | 14.9 | 62.5 | 17.3 | 9.8 | 36.7 | 6.4 | 34.6 | 16.5 | 1869 |
| 4.5 | 16.0 | 74.8 | 10.3 | 15.0 | 29.6 | 4.5 | 55.0 | 8.9 | 1377 |
| $6+$ | 16.7 | 58.8 | 17.0 | 16.8 | 31.0 | 3.9 | 38.2 | 22.3 | 1504 |
| Residence |  |  |  |  |  |  |  |  |  |
| Total urban | 13.8 | 76.2 | 23.9 | 12.8 | 38.0 | 3.1 | 40.6 | 11.4 | 1835 |
| Major city | 12.3 | 81.4 | 33.8 | 11.2 | 39.8 | 3.1 | 38.7 | 5.7 | 1055 |
| Other urban | 15.9 | 70.8 | 13.6 | 14.5 | 36.0 | 3.2 | 42.6 | 17.4 | 781 |
| Rural | 17.0 | 62.6 | 13.4 | 13.7 | 32.1 | 5.6 | 41.7 | 16.0 | 3940 |
| Province |  |  |  |  |  |  |  |  |  |
| Punjab | 17.0 | 68.0 | 9.3 | 11.3 | 28.1 | 5.1 | 50.7 | 12.2 | 3516 |
| Sindh | 17.2 | 63.3 | 32.5 | 18.6 | 38.2 | 3.7 | 22.5 | 23.2 | 1222 |
| NWFP | 12.2 | 61.1 | 19.1 | 15.3 | 53.6 | 7.2 | 29.7 | 12.8 | 815 |
| Balochistan | 8.3 | 77.4 | 40.5 | 11.6 | 54.6 | 0.0 | 16.9 | 14.6 | 222 |
| Education level attended |  |  |  |  |  |  |  |  |  |
| No education | 16.5 | 62.8 | 14.4 | 13.4 | 31.9 | 4.3 | 43.0 | 17.3 | 4457 |
| Primary | 16.6 | 76.8 | 20.2 | 12.7 | 36.4 | 11.2 | 38.1 | 5.2 | 588 |
| Middle | 13.9 | 92.4 | 19.2 | 21.0 | 53.3 | 5.4 | 37.0 | 2.0 | 277 |
| Secondary + | 11.2 | 78.3 | 34.4 | 9.1 | 38.8 | 1.9 | 27.6 | 6.3 | 454 |
| Total | 16.0 | 66.4 | 16.3 | 13.4 | 33.7 | 4.9 | 41.4 | 14.8 | 5776 |

[^20]Figure 10.3
Prevalence of ARI Symptoms and Fever in the Two Weeks Preceding the Survey


Note: Bazed on children age
1-59 months.

Two-thirds ( 66 percent) of the children who suffered ARI symptoms were taken to a health facility or health provider for treatment. Children most likely to be treated were those age 6-11 months, those living in urban areas, particularly major cities, and those whose mothers had a middle school education. In Balochistan, where health facilities are sparse, the proportion of children going for treatment was the highest ( 77 percent), although other provinces would be expected to have better service coverage. The findings on ARI from Balochistan may reflect differences in reporting; perhaps only the most severe cases were reported and were also therefore more likely to receive care.

One-third ( 34 percent) of the children were treated with cough syrup, while 16 percent were given antibiotics and 13 percent were given injections. Two of five children ( 41 percent) were given other treatments, while 15 percent were not treated at all. Children most likely to have untreated symptoms were those four years of age, children of the highest birth orders, children in Sindh, and children whose mothers had no education.

## Prevalence of Fever

During the period of interviewing for the PDHS, fever, a sign of malaria as well as other illnesses, was more prevalent ( 30 percent) than cough with rapid breathing ( 16 percent). The incidence of fever was particularly high ( 43 percent) among infants age 6-11 months (see Table 10.11 and Figure 10.3). This is the age at which young children are most vulnerable to both fever and ARI. The prevalence of fever was found to be almost the same among males and females, in almost all birth orders, and in urban and rural areas. Its prevalence was highest ( 34 percent) in Sindh and lowest ( 16 percent) in Balochistan. Fever was also more prevalent among children of women with no education.

## Table 10.11 Prevalence and treatment of fever

Percentage of children under five with a fever during the two weeks preceding the survey, and the percentage of children with a fever who were treated with specific remedies, by selected background characteristics, Pakistan 1990-91

| Background characteristic | Percentage of children with fever | Among children with fever |  |  |  |  |  |  | Number of children |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Percentage taken to a health facility or provider ${ }^{1}$ | Percentage treated with: |  |  |  |  |  |  |
|  |  |  | Antimalarial | Antibiotic pill or syrup | Injection | Home remedy | Other | None |  |
| Child's age |  |  |  |  |  |  |  |  |  |
| $<6$ months | 29.5 | 68.7 | 8.5 | 21.5 | 14.8 | 8.8 | 59.5 | 13.9 | 679 |
| 6-11 months | 42.6 | 66.6 | 5.8 | 21.2 | 12.4 | 5.1 | 69.9 | 11.0 | 608 |
| 12-23 months | 35.5 | 65.0 | 6.1 | 20.9 | 12.2 | 4.4 | 66.5 | 14.0 | 1215 |
| 24-35 months | 30.5 | 65.9 | 7.3 | 18.3 | 18.9 | 7.9 | 55.5 | 18.3 | 1141 |
| 36-47 months | 23.5 | 67.4 | 5.4 | 15.0 | 14.1 | 2.3 | 67.4 | 15.7 | 1167 |
| 48-59 months | 23.3 | 54.4 | 4.5 | 20.0 | 13.9 | 3.6 | 54.7 | 19.6 | 966 |
| Sex |  |  |  |  |  |  |  |  |  |
| Male | 30.3 | 66.7 | 5.9 | 18.7 | 14.9 | 6.2 | 63.8 | 14.3 | 2942 |
| Female | 29.9 | 62.9 | 6.7 | 20.2 | 13.8 | 4.3 | 61.4 | 16.5 | 2833 |
| Blith order |  |  |  |  |  |  |  |  |  |
| 1 | 29.5 | 67.3 | 5.6 | 22.6 | 11.5 | 6.5 | 62.8 | 10.7 | 1026 |
| 2-3 | 29.8 | 64.3 | 6.4 | 19.2 | 12.6 | 5.6 | 67.4 | 12.9 | 1869 |
| 4-5 | 30.0 | 67.5 | 5.7 | 19.0 | 13.7 | 4.8 | 62.3 | 15.2 | 1377 |
| $6+$ | 31.0 | 61.5 | 7.1 | 18.0 | 19.0 | 4.6 | 57.0 | 21.5 | 1504 |
| Resldence |  |  |  |  |  |  |  |  |  |
| Total urban | 30.9 | 75.7 | 9.1 | 27.9 | 13.2 | 2.4 | 63.9 | 11.2 | 1835 |
| Major city | 31.2 | 78.0 | 7.9 | 33.7 | 11.1 | 1.8 | 67.4 | 8.7 | 1055 |
| Other urban | 30.4 | 72.5 | 10.6 | 20.0 | 16.1 | 3.2 | 59.0 | 14.7 | 781 |
| Rural | 29.7 | 59.6 | 4.9 | 15.3 | 15.0 | 6.7 | 62.0 | 17.4 | 3940 |
| Province |  |  |  |  |  |  |  |  |  |
| Punjab | 30.8 | 63.1 | 4.5 | 10.2 | 11.6 | 7.0 | 67.0 | 14.7 | 3516 |
| Sindh | 34.2 | 72.4 | 11.4 | 37.1 | 22.0 | 1.5 | 49.6 | 16.7 | 1222 |
| NWFP | 24.9 | 60.8 | 4.1 | 30.7 | 15.0 | 5.1 | 70.7 | 13.1 | 815 |
| Balochistan | 16.1 | 51.7 | 10.5 | 29.5 | 7.2 | 0.3 | 37.1 | 31.6 | 222 |
| Mother's education level |  |  |  |  |  |  |  |  |  |
| No education | 31.1 | 61.1 | 5.8 | 17.0 | 14.8 | 5.7 | 62.0 | 17.4 | 4457 |
| Primary | 29.4 | 80.5 | 7.5 | 24.5 | 14.5 | 4.7 | 63.0 | 9.3 | 588 |
| Middle | 20.6 | 79.4 | 14.1 | 27.3 | 16.5 | 4.9 | 58.7 | 12.0 | 277 |
| Secondary + | 26.6 | 78.5 | 6.4 | 36.7 | 9.0 | 1.0 | 71.0 | 2.7 | 454 |
| Total | 30.1 | 64.8 | 6.3 | 19.4 | 14.4 | 5.3 | 62.6 | 15.4 | 5776 |

Note: Figures are for children born in the period 1-59 months preceding the survey.
${ }^{1}$ Includes hospital, clinic, Rural Health Centre, Basic Health Unit, private doctor, Family Welfare Worker and Lady Health Visitor

As was seen for ARI symptoms, twothirds ( 65 percent) of the children having fever during the two wecks preceding the survey were taken to health facilities for treatment. Only 6 percent of children with a fever were treated with antimalarial medicine, 19 percent received an antibiotic, and 14 percent were given an injection. Almost two-thirds ( 63 percent) of the children who had a fever were treated with other medicine.

## Prevalence of Diarrhoea

Diarrhoeal disease is a major cause of infant and child morbidity and mortality in Pakistan. In Table 10.12, the prevalence of diarrhoea among children under five during the preceding 24 hours and the preceding 2 weeks is presented by background characteristics of children and their mothers. Fifteen percent of all children had suffered from diarrhoea during the previous two weeks, while two percent had suffered from bloody diarrhoea. Because of the seasonality of bloody dysentery, with more cases occurring during the monsoon season and the hot season, these figures may underestimate annual prevalence. Eight percent of the children were reported as having diarrhoea in the past 24 hours. The incidence of diarrhoea was highest among children under two years of age. Regionally, Balochistan had the lowest prevalence ( 8 percent), and Sindh the highest ( 20 percent). Prevalences were lowest ( 10 percent) among mothers with secondary or higher level education. The pattern of differentials for diarrhoea in the previous 24 hours is similar to that for diarrhoea in the preceding two weeks. Given the low prevalence of bloody diarrhoea, it is difficult to detect differences according to background characteristics.

## Knowledge and Use of ORS Packets

The govemment's information, education, and communication (IEC) programme has focused primarily on educating couples, particularly mothers, about the prevention of diarrhoea and childhood death due to dehydration. In the PDHS, information was obtained about knowledge and use of ORS packets. Mixed with water, the commercially prepared packets of oral rehydration salts (ORS) are used in oral rehydration therapy (ORT) to treat dehydration due to diarrhoea. Since knowledge of ORS is a prerequisite
for its use, special efforts were made to investigate the extent and accuracy of mothers' knowledge of ORS, in addition to determining its use for diarmeal treatment.

Table 10.13 and Figure 10.4 show that knowledge of ORS is very widespread ( 90 percent of the mothers recognised ORS packets). Recognition was relatively low among teenage mothers, among rural women, particularly women in Balochistan, and among women with no education. Knowledge of ORS was almost universal among women with any education and among women living in NWFP (99 percent).

Table 10.13 Knowledge and use of ORS packets
Percentage of mothers with births in the five years preceding the survey who know about and have ever used ORS packets and the percentage of users who prepared the solution correctly, by background characteristics, Pakistan 1990-91

| Background characteristic | Percentage who know about ORS packets | Percentage who have ever used ORS packets | Number of mothers | Percentage of users who prepared solution correctly ${ }^{1}$ | Number of users |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Mother's age |  |  |  |  |  |
| 15-19 | 83.4 | 45.9 | 209 | 65.0 | 93 |
| 20-24 | 88.8 | 60.3 | 774 | 72.5 | 462 |
| 25-29 | 91.0 | 67.9 | 1202 | 74.6 | 804 |
| 30-34 | 90.5 | 66.4 | 859 | 76.9 | 570 |
| 35+ | 89.3 | 61.1 | 1016 | 70.2 | 616 |
| Residence |  |  |  |  |  |
| Total urban | 96.7 | 79.9 | 1184 | 81.7 | 943 |
| Major city | 97.2 | 82.6 | 669 | 83.6 | 552 |
| Other urban | 96.1 | 76.5 | 515 | 79.0 | 391 |
| Rural | 86.7 | 56.4 | 2876 | 68.4 | 1603 |
| Province |  |  |  |  |  |
| Punjab | 89.8 | 61.2 | 2441 | 75.7 | 1478 |
| Sindh | 89.1 | 65.8 | 893 | 68.5 | 586 |
| NWFP | 98.6 | 75.4 | 567 | 71.2 | 427 |
| Balochistan | 58.9 | 38.2 | 159 | 75.2 | 55 |
| Education level attended |  |  |  |  |  |
| No education | 87.3 | 58.5 | 3213 | 70.0 | 1861 |
| Primary | 98.3 | 76.8 | 373 | 78.5 | 286 |
| Middle | 98.9 | 81.7 | 172 | 77.8 | 138 |
| Secondary + | 99.1 | 86.4 | 301 | 89.0 | 261 |
| Total | 89.7 | 63.3 | 4059 | 73.3 | 2546 |

${ }^{1}$ It is assumed that the solution was prepared correctly if the whole packet was prepared at once and the amount of water used was $800-1200$ millilitres.

Figure 10.4
Knowledge and Use of ORS by Residence and Province


Note: Based on mothers with
chlldren under age live.

The survey indicates that about two-thirds ( 63 percent) of the mothers had ever used ORS packets. Frequencies for use of ORS by background characteristics of the mother followed the same pattem noted for knowledge of ORS, though knowledge was considerably more widespread than use in each subgroup. Among mothers who had used ORS packets, about three-quarters (73 percent) had mixed the solution correctly the last time they had prepared it. Women living in rural areas, those with no education and young mothers were less likely to have prepared the solution correctly.

## Treatment of Diarrhoea

Table 10.14 and Figure 10.5 indicate that almost half ( 48 percent) of the children with diarrhoea in the two weeks preceding the survey were taken to a health facility for treatment. Children who live in urban areas, those in Sindh, and children of educated mothers were more likely to be taken to a health facility or provider than other children. Older children ( $48-59$ months) and males were less likely to be taken to a health facility.

About two of five children (39 percent) with diarrhoea were treated with ORS packets, but 50 percent were given oral rehydration therapy (ORT) or increased fluids. Allopathic medicines (antibiotics or injections) were received by about 11 percent of children who had diarrhoea. In general, children who were very young (less than 6 months), those in rural areas, and those whose mothers had little or no education were less likely to be treated appropriately, i.e., with ORT or increased fluids. There was no consistent pattern by birth order of the child, although low birth order children were generally less likely to get appropriate care.

## Table 10.14 Treatment of diarhoea

Percentage of children under five years who had diarrhoea in the two weeks preceding the survey who were taken for treatment to a health faciity or provider, the percentage who received oral rehydration therapy (ORT), the percentage who received increased fluids, the percentage who received neither ORT nor increased fluids, and the percentage receiving other treatments, by selected background characteristics, Pakistan 1990-91

| Background characteristic | Percentage taken to a health facility or provider ${ }^{1}$ | Oral rehydration therapy (ORT) |  |  | Percentage receiving increased fluids | Percentage receiving neither ORT nor increased fluids | Percentage receiving other treatments: |  |  | Number of children with diarthoea |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | ORS packets | Sugar, salt, water solution | Other home fluid |  |  | Antibiotics | $\underset{\text { Injection }}{\text { In- }}$ | Home remedy, other |  |
| Child's age |  |  |  |  |  |  |  |  |  |  |
| <6 months | 43.2 | 25.6 | 12.0 | 5.9 | 4.8 | 62.2 | 3.3 | 2.0 | 23.4 | 125 |
| 6-11 months | 52.9 | 42.5 | 10.7 | 11.6 | 8.1 | 48.7 | 8.7 | 0.2 | 36.5 | 123 |
| 12-23 months | 54.2 | 43.9 | 14.5 | 21.1 | 12.5 | 43.6 | 11.4 | 1.5 | 28.6 | 233 |
| $24-35$ months | 44.4 | 37.7 | 10.9 | 22.2 | 8.2 | 50.4 | 11.9 | 2.5 | 25.3 | 181 |
| 36-47 months | 52.2 | 40.2 | 13.3 | 19.3 | 7.6 | 46.4 | 13.3 | 1.7 | 42.5 | 109 |
| 48-59 months | 33.0 | 39.6 | 5.9 | 14.7 | 8.6 | 51.1 | 2.3 | 3.3 | 33.2 | 69 |
| Sex |  |  |  |  |  |  |  |  |  |  |
| Male | 43.4 | 38.2 | 11.5 | 15.6 | 10.3 | 49.7 | 9.8 | 1.6 | 26.5 | 441 |
| Female | 53.6 | 39.4 | 12.4 | 18.4 | 7.1 | 49.4 | 8.9 | 1.9 | 34.7 | 400 |
| Birth order |  |  |  |  |  |  |  |  |  |  |
| 1 | 48.0 | 31.9 | 13.4 | 9.9 | 7.0 | 57.4 | 5.9 | -- | 25.6 | 156 |
| 2-3 | 48.1 | 37.1 | 14.1 | 15.7 | 5.6 | 53.3 | 11.4 | 1.5 | 29.1 | 281 |
| 4-5 | 44.6 | 39.4 | 7.3 | 20.8 | 13.8 | 44.0 | 10.5 | 2.8 | 30.8 | 186 |
| $6+$ | 51.8 | 45.4 | 12.0 | 20.3 | 10.0 | 43.8 | 8.4 | 2.4 | 35.3 | 217 |
| Residence |  |  |  |  |  |  |  |  |  |  |
| Urban | 62.7 | 46.9 | 24.2 | 17.7 | 12.4 | 38.7 | 14.2 | 1.0 | 30.3 | 276 |
| Major city | 65.6 | 53.8 | 33.4 | 17.2 | 13.3 | 30.6 | 18.0 | 0.9 | 26.8 | 159 |
| Other urban | 58.8 | 37.5 | 11.6 | 18.4 | 11.1 | 49.7 | 9.0 | 1.0 | 35.1 | 117 |
| Rural | 41.2 | 34.8 | 6.0 | 16.6 | 7.1 | 54.9 | 7.1 | 2.2 | 30.5 | 565 |
| Province |  |  |  |  |  |  |  |  |  |  |
| Punjab | 43.9 | 35.7 | 8.0 | 14.6 | 8.8 | 54.0 | 5.3 | 1.6 | 30.4 | 505 |
| Sindh | 59.7 | 48.4 | 22.9 | 21.9 | 8.9 | 37.8 | 17.4 | 1.8 | 30.7 | 239 |
| NWFP | 41.5 | 31.2 | 4.6 | 14.7 | 9.9 | 59.2 | 11.1 | 3.4 | 35.8 | 78 |
| Balochistan | 48.3 | 30.2 | 9.8 | 26.0 | 3.4 | 39.2 | 9.1 | 0.3 | 5.1 | 18 |
| Education level attended |  |  |  |  |  |  |  |  |  |  |
| No education | 45.0 | 37.6 | 9.7 | 17.2 | 6.7 | 50.8 | 8.0 | 2.1 | 30.2 | 653 |
| Primary | 60.7 | 39.9 | 16.2 | 15.8 | 18.1 | 51.2 | 9.5 | -- | 35.2 | 100 |
| Middle+ | 58.1 | 46.1 | 23.9 | 16.1 | 13.8 | 38.7 | 20.0 | 1.3 | 27.0 | 88 |
| Total | 48.3 | 38.8 | 11.9 | 16.9 | 8.8 | 49.6 | 9.4 | 1.8 | 30.4 | 840 |

Note: Oral rehydration therapy (ORT) includes solution prepared from ORS packets, home solution made from sugar, salt and water, and other home fluids (such as rice water or lassi). Figures are for children born in the period 1-59 months preceding the survey.

## -- Less than 0.05 percent

${ }^{1}$ Includes hospital, clinic, Rural Health Centre, Basic Health Unit, private doctor, Family Welfare Worker and Lady Health Visitor

Figure 10.5
Percentage of Children Receiving Treatment for Diarrhoea by Type of Treatment


Note: Based on chlldren age 1-59 months
who had dlarrhoea in the two weeks
preceding the survey.

The mothers whose children suffered from diarrhoea in the two weeks prior to the survey were asked whether their feeding practices changed during the episode. Among those mothers who were breastfeeding, 65 percent of the children were breastfed as usual during the diarrhoeal episode, while 13 percent either reduced their frequency of breastfeeding or stopped breastfeeding altogether (see Table 10.15). Aside from breast milk, 65 percent of the children got the same amount of fluid as before the episode. Only 9 percent got an increased amount of fluids and 21 percent received a reduced amount of fluids. The same pattern was followed with respect to the consumption of food during the diarrioea episode.

Table 10.15 Feeding practices during diarrhoea

Percent distribution of feeding practices among children under five years who had diarthoea in the two weeks preceding the survey, Pakistan 1990-91

| Feeding practice |  |
| :--- | ---: |
| during diarthoea | Percent |
|  |  |
| Breastfeeding frequency |  |
| Sarne as usual | 65.2 |
| Increased | 17.4 |
| Reduced | 12.2 |
| Stopped | 1.1 |
| Don't know, missing | 4.1 |
| Total | 100.0 |
| Number of children | 439 |
|  |  |
| Amount of fluids given | 65.4 |
| Same as usual | 8.8 |
| More | 21.1 |
| Less | 4.7 |
| Don't know, missing | 100.0 |
|  |  |
| Total | 64.8 |
|  | 7.7 |
| Amount of food given | 21.9 |
| Same as usual | 5.6 |
| More |  |
| Less |  |
| Don't know, missing | 100.0 |
| Total | 840 |
| Number of children |  |

Note: Figures are for children borm in the period $1-59$ months preceding the survey. ${ }^{1}$ Applies only to last child who is still breastfed

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## CHAPTER 11

# FEEDING PATTERNS AND THE NUTRITIONAL STATUS OF CHILDREN 

Tauseef Ahmed and Mohammad Ayub

Over the years, concern has been expressed about the growing number of children living in poor conditions. Poverty affects feeding practices and both of these factors affect the overall mental and physical growth of children. This chapter focuses on the nutritional situation of young children who were bom in the five years preceding the survey. Patterns of breastfeeding are of particular interest because of their effects on postpartum amenorrhoea. Some information on this topic has already been provided in the chapter on the proximate determinants of fertility (Chapter 7). Since breastfeeding and food supplementation play a vital role in determining the duration of postpartum amenorrhoea and birth intervals, the dynamics of these fceding practices are of great importance in societies like Pakistan where there is little fertility control at the individual level.

In the PDHS, information was collected on the birth weight of children, breastfeeding practices, and the types of food items given to children before breastfeeding began. Details were also collected on the ages when various liquids and solid or mushy foods were first given to children on a regular basis. The mother was also asked about liquids and solid/mushy foods given to the child and the use of bottles with nipples for feeding children during the 24 hours before the interview for all children alive at the time of the survey. In the PDHS, anthropometric measurements were collected for all the respondents' children age less than five years who were present in the household. Information on breastfeeding patterns and food supplementation is also analysed in this chapter, followed by a description of the nutritional status of children derived from anthropometric measurements.

During the 1970s and 1980s, several surveys in Pakistan identified infants and young children considered to be at high risk of being undernourished. One study found that 48 percent of all Pakistani children were malnourished and 10 percent were severely malnourished (Nutrition Division 1988). Anemia is another serious nutrition-related condition that has been reported for 65 percent of young children and 45 percent of pregnant mothers. Undernutrition is less prominent among infants under 6 months of age but increases rapidly with age.

### 11.1 Breastfeeding and Nutritional Intake

In this section we focus on breastfeeding and the nutritional intake of children born in the five years preceding the survey. Table 11.1 shows the percentage of children who were ever breastfed and at what stage infants first received breast milk. It is well documented that breastfeeding is quite common in Pakistan (Population Welfare Division 1986). The PDHS data are consistent with these findings. About 94 percent of all infants born in the five years preceding the survey were ever breastfed by their mothers. This figure is similar to the values from the 1984-85 PCPS ( 98 percent) and the 1975 PFS ( 95 percent). Breastfeeding practices in traditional societies such as Pakistan are based on cultural norms and social expectations. Differentials for various background characteristics are also presented in Table 11.1. The differentials are generally quite small, since at least 89 percent of children in every subgroup had been breastfed at some time. Children born in a health facility are less likely to be breastfed ( 89 percent) than children bom at home ( 96 percent). Among babies of mothers with no education 94 percent had been breastfed, compared to 89 percent of children whose mothers had some secondary or higher education. A slightly smaller proportion of babies in the major cities had been breastfed ( 91 percent) than babies in the rest of the country ( 94 percent). These

Table 11.1 Initial breastfeeding
Percentage of all children bom in the five years preceding the survey who were ever breastfed and the percentage of last-born children who started breastfeeding within one hour and within one day of birth, according to selected background characteristics, Pakistan 1990-91

|  |  |  | Among last-bom children |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |

${ }^{1}$ Excludes 94 children and 31 last-born children with missing data on assistance at delivery and 89 children and 25 last-born children with missing data or other responses on place of delivery.
differences may be due to family social status and, to a certain extent, to mother's education rather than cultural norms, which may be more flexible among higher status and more educated women.

An important dimension relating to breastfeeding is the timing of initiation. Though 94 percent of all babies were breastfed at some time, only 9 percent started breastfeeding within the first hour of life. ${ }^{1}$ Furthermore, only 26 percent of last-born children were put to the breast within the first day of life. The small percentage initiating breastfeeding during the first hour of life may be due to the social practice of not giving colostrum to newborns. There were no major differentials in initiating breastfeeding on the first day by gender, time since birth, or urban-rural residence. However, there were substantial differences between provinces. For instance, last-bom children in Sindh and Balochistan stand a much greater chance of being put to the breast within one day of birth than babies born in Punjab or NWFP. Similarly, infants born to mothers with secondary education or more, and those born in a medical facility have a slightly greater chance of receiving breast milk in the first day of life.

For last-bom children who had ever been breastfed, mothers were asked what the newborn had been given to drink before being put to the breast. Table 11.2 shows the percentage of such children who were given various liquids or food items before being put to the breast, according to selected background characteristics. About 30 percent of the babies were given water before breastfeeding was started and similar percentages were given either ghutti or honey. Nineteen percent received milk and 13 percent were given rose water/araq or sugar. No major sex differentials in the intake of various food items were reported by mothers.

For the three main items given to the youngest child, major differences are shown by place of residence. More children living in major cities were given water, ghutti, or honey than children living in other urban or rural areas. A major differential is also observed among provinces. Water was given more often in Balochistan (43 percent) and Sindh ( 38 percent), while 52 percent of the children were given ghutti and 29 percent received tea in NWFP (Figure 11.1). Similarly, more than half of all children in Sindh ( 53 percent) were given honey before breastfeeding was started. A significant difference is also seen in giving milk. In Punjab, one-quarter of newborns were given milk before being put to the breast compared to less than 10 percent in other provinces. Giving water and honey before starting breastfeeding is positively correlated with mothers' education, which may also be taken as an indication of easy accessibility of these items to educated mothers.

The presence of a medically trained person at the time of birth of a child and the place of delivery are related to what the newborm was given before breastfeeding was started. Table 11.2 shows that mothers who were assisted in their last birth by medically trained persons were more likely to give their baby various liquids than those who were assisted by traditional midwives. The intake of water and honey is higher for children whose delivery was assisted by traditional midwives or medically trained persons than for other children. Mothers who delivered at a health facility are twice as likely to have given water or honey than mothers who delivered at home. The greater propensity of giving water and honey to children bom in health facilities and those assisted by medically trained personnel is related to the popularity of this practice in urban areas.

[^21]Table 11.2 Liquids and food ierms given before breastfeeding
Percentage of last-born children born in the five years preceding the survey who were given liquids or food items before being put to the breast, according to selected background characteristics, Pakistan 1990-91

Percentage given liquid or food

| Background characteristic |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Water | Ghuti | Honey | Sugar | Milk | Ghee | Butter | Oil | Tea | Araq/ rose water | Other | Number of children |
| Sex of chlld |  |  |  |  |  |  |  |  |  |  |  |  |
| Male | 30.3 | 32.7 | 29.6 | 12.6 | 18.4 | 3.6 | 1.2 | 5.0 | 5.9 | 13.6 | 5.5 | 1981 |
| Female | 28.8 | 30.6 | 31.0 | 13.8 | 18.8 | 3.6 | 1.6 | 6.4 | 5.4 | 11.4 | 4.8 | 1870 |
| Residence |  |  |  |  |  |  |  |  |  |  |  |  |
| Total urban | 47.3 | 39.2 | 52.8 | 11.6 | 16.0 | 1.8 | 0.5 | 0.9 | 5.9 | 9.4 | 6.4 | 1111 |
| Major city | 57.8 | 41.5 | 64.8 | 10.6 | 11.5 | 1.8 | 0.2 | 0.7 | 5.5 | 7.1 | 6.8 | 624 |
| Other urban | 33.8 | 36.2 | 37.3 | 12.9 | 21.8 | 1.8 | 0.9 | 1.1 | 6.5 | 12.3 | 5.9 | 486 |
| Rural | 22.4 | 28.6 | 21.2 | 13.8 | 19.7 | 4.4 | 1.8 | 7.6 | 5.5 | 13.8 | 4.6 | 2740 |
| Province |  |  |  |  |  |  |  |  |  |  |  |  |
| Punjab | 28.7 | 29.4 | 26.5 | 15.1 | 27.0 | 4.0 | 1.4 | 7.1 | 1.2 | 20.7 | 5.3 | 2302 |
| Sindh | 38.3 | 28.2 | 52.9 | 10.6 | 8.4 | 0.6 | 2.3 | 0.7 | 2.8 | 0.4 | 5.3 | 847 |
| NWFP | 16.0 | 51.8 | 9.0 | 8.5 | 3.9 | 7.5 | 0.2 | 8.6 | 29.0 | 0.2 | 2.6 | 551 |
| Balochistan | 42.8 | 12.8 | 38.1 | 15.1 | 1.8 | 0.6 | 1.2 | 1.5 | 3.6 | 0.6 | 10.7 | 151 |
| Education level attended |  |  |  |  |  |  |  |  |  |  |  |  |
| No education | 26.3 | 30.1 | 25.1 | 13.3 | 18.7 | 3.9 | 1.6 | 6.8 | 6.2 | 12.3 | 4.6 | 3059 |
| Primary | 32.3 | 37.9 | 41.8 | 14.9 | 18.3 | 3.3 | 1.1 | 2.3 | 4.7 | 17.3 | 5.5 | 353 |
| Middle | 40.3 | 44.9 | 48.1 | 13.6 | 12.7 | 2.2 | 0.6 | 1.4 | 3.9 | 20.6 | 5.8 | 165 |
| Secondary+ | 56.6 | 33.9 | 62.5 | 9.9 | 21.0 | 1.6 | 0.0 | 0.6 | 1.6 | 4.1 | 10.2 | 273 |
| Assistance at delivery ${ }^{1}$ |  |  |  |  |  |  |  |  |  |  |  |  |
| Medically trained | 38.0 | 34.3 | 43.7 | 9.5 | 20.4 | 1.8 | 1.1 | 2.4 | 4.4 | 12.7 | 6.5 | 1316 |
| Traditional midwife | 26.4 | 29.6 | 25.5 | 15.8 | 19.8 | 2.8 | 1.7 | 6.6 | 4.0 | 14.1 | 4.6 | 2067 |
| Other or none | 20.0 | 33.3 | 14.0 | 11.5 | 8.4 | 12.7 | 1.3 | 10.1 | 16.6 | 4.5 | 4.0 | 457 |
| Place of delivery ${ }^{1}$ |  |  |  |  |  |  |  |  |  |  |  |  |
| Health facility | 50.3 | 31.7 | 59.7 | 10.1 | 14.1 | 0.6 | 0.3 | 0.1 | 5.1 | 6.1 | 9.2 | 505 |
| At home | 26.4 | 31.7 | 25.9 | 13.6 | 19.3 | 4.0 | 1.6 | 6.5 | 5.7 | 13.5 | 4.5 | 3341 |
| Total | 29.6 | 31.7 | 30.3 | 13.2 | 18.6 | 3.6 | 1.4 | 5.7 | 5.6 | 12.5 | 5.2 | 3851 |

Note: Figures are for last children who were ever breastfed. Percentages add to more than 100.0 because children may have received more than one item
${ }^{1}$ Excludes 11 children with missing data on assistance at delivery and 5 children with missing data or other responses on place of delivery.

Figure 11.1
Percentage of Children Given Selected Liquids Before Being Put to the Breast by Province



Note: Based on youngest child under age
five.

Another important issue is current nutritional intake. Table 11.3 and Figure 11.2 show liquids and food items given to youngest children during the 24 hours before the interview. Plain water was given to the largest proportion of children ( 83 percent) followed by solid or mushy food given to 63 percent of children. The intake of the major items consumed (water, fresh milk and solid or mushy food) is positively related to age. Older children are much more likely to be provided with solid or mushy foods than younger children. This is expected since older children have a greater need for solid or mushy food than younger children. The consumption of ghutti, sugar/honey water and gripe water generally declines as children grow older. After the age of six months, a substantial proportion of children start consuming solid food. However, even at age 9-11 months, only a slight majority of children are given any solid or mushy food.

Table 11.3 Nutritional intake
Percentage of youngest living children under age five given various liquids and food items the day before the interview, by age of child and type of liquid or food item, Pakistan 1990-91

| Liquid or food | Age of child |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} 0.1 \\ \text { month } \end{gathered}$ | $\begin{gathered} 2.3 \\ \text { months } \end{gathered}$ | $\begin{gathered} 4-6 \\ \text { months } \end{gathered}$ | $\begin{gathered} 7.8 \\ \text { months } \end{gathered}$ | $\begin{gathered} 9-11 \\ \text { months } \end{gathered}$ | $12-17$ <br> months | $18-23$ months | $\begin{aligned} & 24-59 \\ & \text { months } \end{aligned}$ | Total |
| Plain water | 46.3 | 56.2 | 65.2 | 73.8 | 73.8 | 91.4 | 91.5 | 97.2 | 83.4 |
| Ghuti | 28.8 | 16.6 | 11.2 | 8.6 | 4.9 | 2.3 | 3.3 | 2.2 | 6.4 |
| Sugar or honey water | 11.6 | 9.0 | 6.3 | 5.4 | 2.1 | 2.1 | 3.1 | 3.8 | 4.5 |
| Juice | -- | 0.4 | 1.2 | 5.2 | 2.9 | 4.3 | 10.0 | 6.8 | 4.9 |
| Herbal tea | 9.1 | 9.9 | 8.5 | 9.9 | 10.0 | 14.9 | 22.2 | 22.8 | 16.5 |
| Gripe water | 20.7 | 32.8 | 38.1 | 28.6 | 25.6 | 20.5 | 14.8 | 6.9 | 18.6 |
| Baby formula | 0.4 | 1.8 | 3.8 | 4.0 | 2.1 | 3.4 | 1.5 | 0.8 | 2.0 |
| Fresh milk | 22.8 | 30.9 | 34.4 | 41.0 | 42.4 | 48.5 | 50.9 | 56.1 | 46.4 |
| Tinned/Powdered milk | 2.1 | 2.4 | 2.7 | 2.8 | 2.3 | 2.4 | 1.9 | 1.4 | 2.0 |
| Other liquid | 6.3 | 9.1 | 5.0 | 3.5 | 6.7 | 4.9 | 8.6 | 7.3 | 6.6 |
| Any solid or mushy food | 0.3 | 5.5 | 15.2 | 36.6 | 52.0 | 71.9 | 83.4 | 95.2 | 63.2 |
| Liquid and solid | 0.3 | 5.1 | 11.9 | 29.7 | 39.0 | 50.3 | 63.6 | 69.9 | 46.6 |
| Number | 232 | 270 | 368 | 229 | 255 | 700 | 427 | 1317 | 3797 |

Note: Percentages add to more than 100.0 because children may have received more than one item. -- Less than 0.05 percent

Figure 11.2
Percentage of Children Given Water, Milk, or Solid/Mushy Food the Day Before the Interview


Note: Based on youngest chlld under age flve.

POHS 1990-91

All mothers were asked about breastfeeding and food supplementation given to the youngest child in the 24 hours preceding the interview. Table 11.4 and Figure 11.3 show the pattern of current breastfeeding and food supplementation. About 4 percent of all newborns were not being breastfed in their first two months of life. About one-quarter of all infants in the first four months of life were being exclusively breastfed (that is, being fed nothing but breast milk). This percentage drops to 12 percent for children age 8-9 months. More than half of all infants in the same age group were being breastfed and were also receiving liquids or solid supplements other than plain water. In every age group through age 21 months, a majority of children were receiving breast milk and supplementation. Almost 72 percent of children who had just completed their first year of life got food supplementation in addition to breastfeeding, while 14 percent of children in the same age group were not being breastfed at all.

Table 11.4 Breastfeeding and supplementation
Percent distribution of youngest children by breasffeeding status, according to child's age in months, Pakistan 1990-91

| Age in months | Percentage of youngest living children who are: |  |  |  |  | $\begin{aligned} & \text { Number } \\ & \text { of } \\ & \text { children } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Not breastfeeding | Exclusively breastfeeding | Breastfeeding and receiving |  | Total |  |
|  |  |  | Plain water only | Supplements |  |  |
| 0-1 | 4.0 | 27.2 | 11.5 | 57.4 | 100.0 | 237 |
| 2-3 | 3.2 | 23.7 | 9.7 | 63.4 | 100.0 | 272 |
| 4-5 | 6.6 | 17.6 | 11.8 | 64.0 | 100.0 | 253 |
| 6-7 | 11.6 | 15.7 | 13.3 | 59.4 | 100.0 | 235 |
| 8-9 | 8.6 | 11.9 | 20.5 | 59.0 | 100.0 | 209 |
| 10-11 | 18.4 | 7.7 | 8.9 | 65.0 | 100.0 | 164 |
| 12-13 | 14.0 | 5.2 | 8.9 | 71.9 | 100.0 | 279 |
| 14-15 | 30.0 | 2.6 | 8.2 | 59.2 | 100.0 | 265 |
| 16-17 | 39.5 | 0.4 | 2.5 | 57.5 | 100.0 | 184 |
| 18-19 | 40.6 | 3.2 | 2.6 | 53.7 | 100.0 | 197 |
| 20-21 | 43.8 | 3.2 | 2.2 | 50.8 | 100.0 | 142 |
| 22-23 | 52.7 | 2.0 | 4.3 | 41.0 | 100.0 | 148 |
| 24-25 | 67.8 | -- | 2.5 | 29.7 | 100.0 | 184 |
| 26-27 | 78.9 | -- | 1.0 | 20.2 | 100.0 | 196 |
| 28-29 | 80.9 | -- | 1.3 | 17.8 | 100.0 | 200 |
| 30.31 | 79.9 | 1.7 | -- | 18.4 | 100.0 | 190 |
| 32-33 | 75.6 | -- | -- | 24.4 | 100.0 | 188 |
| 34-35 | 83.8 | -- | -- | 16.2 | 100.0 | 183 |

Note: Breastfeeding status refers to last 24 hours.
-- Less than 0.05 percent

Figure 11.3


Table 11.5 shows in more detail the types of food supplementation received by currently breastfeeding children. The table shows that infant formula was not a major supplement while children were being breastfed. On the contrary, fresh milk is a major component of the diet and its use increases progressively from 23 percent for the youngest infants to over 40 percent for children one to two years of age. Other liquids also form a major component of supplementary food but their use decreases with age. Solids and mushy food items do not become an important part of the diet until at least age six months. The transition to solid and mushy foods as a supplement is quite rapid and almost all children are given these before they complete their third year of life. Nevertheless, according to the mothers' reports, a substantial proportion of breastfeeding children were not receiving solid or mushy food even after they reached their second birthday.

Of particular interest to both demographers and nutritionists is the use of a bottle with a nipple when breastfeeding. Bottle feeding has a direct effect on the mother's exposure to the risk of pregnancy and exposes the child to unhygienic conditions (since it is difficult to properly sterilise the nipple). The PDHS data show that about one-quarter of breastfed children under one year of age were given a bottle with a nipple the day before the interview. This is of great concern since women's amenorrhoeic period is shortened when they provide their children with liquids from bottles with a nipple. Simultaneously, these children are at risk due to the use of unsterilised bottles and the intake of unhygienic liquids.

## Table 11.5 Type of supplementation

Percentage of breasteeding children who are receiving specific types of food supplementation, and the parcentage using a bottle with a nipple, according to child's age in months, Pakistan 1990-91

| Age in months | Among breastfeeding children |  |  |  |  | $\begin{aligned} & \text { Number } \\ & \text { of } \\ & \text { children } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Peroentage receiving |  |  |  | Percentage using $a$ bottle with a nipple |  |
|  | Infant formula | Other milk | Other liquid | Solid/ mushy food |  |  |
| 0-1 | 0.4 | 22.8 | 51.3 | 0.4 | 16.9 | 228 |
| 2-3 | 1.2 | 31.8 | 51.2 | 5.6 | 30.8 | 263 |
| 4-5 | 3.1 | 33.1 | 54.6 | 10.6 | 29.1 | 236 |
| 6-7 | 2.8 | 36.0 | 48.1 | 29.9 | 25.7 | 208 |
| $8-9$ | 2.6 | 31.7 | 36.4 | 34.5 | 26.2 | 191 |
| 10-11 | 2.4 | 42.3 | 43.0 | 54.7 | 23.9 | 134 |
| 12-13 | 4.8 | 46.0 | 31.7 | 57.1 | 19.3 | 240 |
| 14-15 | 1.9 | 36.8 | 40.4 | 70.7 | 18.6 | 185 |
| 16-17 | 1.6 | 36.6 | 44.1 | 85.2 | 5.3 | 111 |
| 18-19 | 1.6 | 43.9 | 41.4 | 77.7 | 19.3 | 117 |
| 20-21 | 1.5 | 23.1 | 47.8 | 75.8 | 14.3 | 80 |
| 22-23 | 0.3 | 38.3 | 39.6 | 77.7 | 6.7 | 70 |
| 24-25 | 3.7 | 43.2 | 56.0 | 82.7 | 23.9 | 59 |
| 26-27 | (--) | (55.2) | (35.9) | (85.8) | (12.4) | 41 |
| 28-29 | (-) | (39.4) | (37.6) | (87.3) | (11.1) | 38 |
| 30-31 | (1.0) | (53.2) | (23.9) | (89.9) | (18.4) | 38 |
| 32-33 | (--) | (61.5) | (24.2) | (94.0) | (4.9) | 46 |
| 34-35 | (3.9) | (40.7) | (40.8) | (96.2) | (7.8) | 30 |

Note: Figures are for last 24 hours. Percents by type of supplement may sum to more than 100.0 since children may have received more than one type of supplement. Figures in parentheses are based on fewer than 50 unweighted cases.
-. Less than 0.05 percent

The effect of breastfeeding on the mother and child can also be seen by examining the duration and frequency of breastfeeding. The PDHS data show that the median duration of breastfeeding for all children bom in the five years preceding the survey was 20 months (Table 11.6). The mean values for breastfeeding calculated directly ( 19.8 months) or using the prevalence-incidence method ( 20.2 months) are very close to the median value. The mean duration of exclusive breastfeeding is three months and full breastfeeding is five months. ${ }^{2}$ The results suggest that exclusive breastfeeding is not a common practice in Pakistan except in NWFP. There are a number of differentials in breastfeeding. For example, rural mothers tend to breastfeed longer ( 21 months) than urban mothers ( 15 months). Male children are not breastfed as long ( 18 months) as female children ( 21 months), on the average. More than four-fifths of children less than six months of age were breastfed six or more times on the day preceding the interview. This last finding demonstrates the high intensity of breastfeeding in Pakistan.

[^22]
## Table 11.6 Median duration and frequency of breastfeeding

Median durations of any, exclusive and full breastfeeding and the percentage of children under six months of age who were breastfed six or more times in the 24 hours preceding the interview, according to selected background characteristics, Pakistan 1990-91

|  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Children under six months |  |  |  |  |

Note: Figures in parentheses are based on 25 to 49 unweighted cases.
$\mathrm{NA}=\mathrm{Not}$ applicable

* Based on fewer than 25 unweighted cases
${ }^{1}$ Median and mean based on current status
${ }^{2}$ Either exclusively breasffed or received only plain water
${ }^{3}$ Excludes 46 children with missing data on assistance at delivery
${ }^{4}$ Prevalence-incidence mean

All mothers with living children born in the five years preceding the survey were asked about the age at which formula or milk other than breast milk, water, other liquids or any food were first given to their children. Table 11.7 and Figure 11.4 show the age at which liquids or foods were fist given to children 24-59 months on a regular basis. One in five children was given formula or milk, and three-fourths were given water in the first two months of life. An important determinant of children's growth is the age at which they start receiving solid or mushy foods. One-quarter of all children started receiving such food on a regular basis at 4-6 months of age and the cumulative percentage rose rapidly at higher ages. About 40 percent of all children were never given formula, milk or other liquids on regular basis, while 17 percent never received solid or mushy food on a regular basis.

| Percent distribution of age at which liquids and foods were given regularly in the first two years of life to children born 24-59 months preceding the survey, Pakistar 1990-91 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Food given regularly |  |  |  |
| Age at introduction of liquids/foods | Formula or milk | Water | Other liquids | Solid or mushy food |
| Never given regularly | 38.4 | 8.1 | 38.6 | 17.1 |
| 0-1 month | 20.9 | 74.0 | 25.0 | 0.5 |
| 2-3 months | 6.7 | 6.6 | 7.6 | 2.0 |
| 4-6 months | 11.4 | 6.7 | 12.9 | 27.2 |
| 7-11 months | 6.7 | 2.1 | 8.2 | 20.5 |
| 12-17 months | 9.9 | 1.4 | 5.3 | 26.7 |
| 18-23 months | 5.1 | 0.2 | 1.4 | 5.2 |
| Don't know, missing | 0.8 | 0.9 | 1.0 | 0.8 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 |

Note: Figures are based on 3,708 children.

Information was also collected on the reasons for stopping breastfeeding for children age 24-59 months (see Table 11.8). The reason for stopping breastfeeding varies with the age at which breastfeeding was stopped. Less than 18 percent of the children stopped breastfeeding by the sixth month. Among these children, 35 percent of mothers reported that the child died and 15 percent reported their next pregnancy as the main reason for stopping breastfeeding. For children who were not being breastfed by age $6-17$ months, the majority of mothers reported that they stopped breastfeeding because they became pregnant again. Mother's illness and the refusal of the child to take the mother's milk were other factors responsible for stopping breastfeeding. In addition, mothers did not have sufficient milk in 6-7 percent of the cases. Besides pregnancy, the other major reason to stop breastfeeding after 17 months of age was that the child had reached the age of weaning.

Figure 11.4
Age at Which Liquids and Solid/Mushy
Food Were First Given to Children Age 24-59 Months


Table 11.8 Reasons for stopping breasffeeding
Percent distribution of reasons for stopping breastfeeding among ever-breastfed children born 24-59 months preceding the survey, who stopped breastfeeding within the first two years of life, Pakistan 1990-91

| Age breastreeding stopped | Mother ill, weak | Child ill, weak | Child died | Nipple, breast problem | No milk | Mother working | Child refused | Weaning age | Became pregnant | Other | Missing | Total | Number stopped breastfeeding |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $0-5$ months | 6.6 | 7.0 | 34.7 | 5.6 | 15.9 | 0.7 | 12.6 | 0.4 | 14.7 | 1.6 | 0.3 | 100.0 | 357 |
| 6-11 months | 8.8 | 1.7 | 7.7 | 3.1 | 7.4 | 0.8 | 9.6 | 1.4 | 57.8 | 1.7 | -- | 100.0 | 360 |
| 12-17 months | 5.8 | 1.4 | 1.8 | 1.1 | 6.1 | 0.8 | 8.8 | 6.1 | 65.1 | 1.0 | 1.9 | 100.0 | 644 |
| 18-23 months | 6.2 | 1.1 | 0.1 | 1.4 | 5.6 | 0.8 | 6.6 | 23.6 | 52.1 | 1.8 | 0.6 | 100.0 | 603 |
| Total | 6.6 | 2.4 | 8.3 | 2.4 | 8.0 | 0.8 | 9.0 | 9.6 | 50.6 | 1.5 | 0.9 | 100.0 | 1964 |

-- Less than 0.05 percent

### 11.2 Nutritional Status of Children

Assessment of nutritional status and related nutrition information is an important objective of the PDHS. Anthropometric measurements were used to assess growth and nutrition of young children. The measurement of children's height, weight, and arm circumference was undertaken after the children's shoes and clothes were removed. The validity of the anthropometric indices, however, depends on the accuracy of the measurements and the age data collected. Children under five years of age were weighed and measured by interviewers who were given special anthropometric training. They were taught how to weigh children (within 100 grams) using a hanging spring balance scale, and to how to measure the children's height (within 5 millimetres) using a measuring board. In the PDHS, the height of a child under 24 months of age was actually recumbent length, measured with the child lying down on an adjustable wooden measuring board as recommended by the World Health Organisation (WHO). The same board was used to measure the standing height of older children.

About 80 percent of the 5,776 children born in the period $1-59$ months preceding the survey were weighed and measured. The most common reason for non-measurement was cultural. Mothers, particularly in Balochistan and NWFP, did not want strangers to weigh or measure their young children. Another reason was that the child was not present in the home at the time of the interview. Excluded from the analysis are children whose month and year of birth were not reported by the mother, and those with grossly improbable weight or height measurements due to recording error.

The results presented here are based on 4,037 children age 1-59 months. Anthropometric data are particularly sensitive to errors in age reporting. In the survey, age in months was calculated from the information on the child's birth date given by the mother. These data in combination with height and weight information were evaluated using the international reference population of the U.S. National Centre for Health Statistics (NCHS) and the Centres for Disease Control (CDC), as recommended by the World Health Organisation (WHO). ${ }^{3}$ The nutritional status of children was evaluated by calculating the extent to which the anthropometric measurements deviate from measurements for the standard population of healthy well-fed children as defined by the NCHS/CDC. Three standard indices have been used to assess nutritional status:

- Height-for-age
- Weight-for-height
- Weight-for-age

Each of these indices provides somewhat different information about the nutritional status of a population of children. During growth, height and weight vary with age, and weight varies with height. Indicators have been developed to standardise the results for children of different ages and heights. Children who are chronically undernourished are short for their age. A child whose height-for-age is below minus two standard deviations ( -2 SD ) from the median of the reference population is considered stunted. Chronic undernutrition is a condition which is typically associated with adverse environmental conditions existing over a long period of time. The weight-for-height index measures acute undernourishment. A child whose weight-for-height falls below minus two standard deviations ( -2 SD) from the median of the reference population is classified as wasted or acutely undernourished. This condition is usually associated with short-term undernourishment as a result of disease or inadequate food supply or consumption. The weight-for-height index does not include age, and is thus free of bias due to age misreporting. Weight-for-age is a composite measure which captures both acute and chronic undermutrition. Children with a weight-for-age below minus two standard deviations (-2 SD) from the median of the reference popu-

[^23]lation are considered underweight. Results for each indicator are discussed separately below. In a healthy, well-fed population of children, it is expected that only 2.3 percent of children will fall below minus two standard deviations ( -2 SD ) from the median of the reference population for each of the three indices. Less than one percent of children are expected to be below minus three standard deviations.

Height-for-age: The results for stunting are shown in Tables 11.9 and 11.10 for different demographic and socioeconomic characteristics of the population surveyed. Thirty percent of children under five years of age are below minus three standard deviations ( -3 SD ) from the median of the reference population and half of the children are below minus two standard deviations ( -2 SD ) from the median. Thus, half of the children under five years of age are suffering from chronic malnutrition. Sex differences appear to be negligible, however, age is significantly correlated with the prevalence of stunting. Stunting is much less common in the first year of life than at ages 1-4. This indicates that as a child grows, the gain in height is less than the standard performance. There is a marked worsening in nutritional status during the first and second year of life. The degree of stunting does not level off until after age 47 months. Seventeen percent of children under six months of age are classified as stunted compared to over 60 percent of children over three years of age. Birth order shows a positive correlation with the prevalence of stunting. The extent of stunting was also examined by birth interval. As expected, the prevalence of stunting is lower among firstborn children and among children born after a long birth interval (over 47 months).

The prevalence of stunting is more prominent in rural areas than in urban areas (see Table 11.10). This difference may be explained by the socioeconomic status of the family and the accessibility of better nutrition and health services for the urban population. Similarly, the prevalence of stunting appears to be associated with the overall level of development of the provinces. The rate is lowest (44 percent) in Punjab, and highest in Balochistan ( 71 percent), the least developed province. Mother's education is negatively correlated with stunting. The prevalence of stunting is 56 percent among children of mothers with no education and only 18 percent among children whose mothers have at least some secondary education.

Weight-for-height: Children whose weight-for-height is below minus two standard deviations (-2 SD) from the median of the reference population are considered thin or wasted. Those who fall below minus three standard deviations ( -3 SD) from the median are classified as severely wasted. About 9 percent of children are moderately wasted and less than 2 percent are severely wasted. The prevalence of wasting does not vary substantially between the sexes, although it is slightly higher among boys. The largest differentials in wasting are seen for mothers' education, which is negatively related to wasting. Ten percent of the children of mothers with no education are classified as wasted compared to 4 percent of the children of mothers with at least some secondary school education.

Weight-for-age: The percentage of children classified as underweight is also given in Tables 11.9 and 11.10. Forty percent of children are below minus two standard deviations ( -2 SD ) from the median for the reference population. There is a positive relationship between the age of the child and the prevalence of underweight. The prevalence of underweight children grows dramatically until children reach one year of age (see Figure 11.5). This may be explained by the dependence of infants on breast milk during the first year and inadequate food supplementation thereafter. More than 40 percent of children are underweight for their age between their first and fifth birthdays. The proportion of children who are underweight is similar for males and females. There is some increase in the proportion of underweight children with increasing birth order. This increase may be due to the small amount of food available for allocation to each child in large families and the skewed distribution of food favouring older children. First-bom children and children born after a birth interval of more than 47 months are less likely to be underweight than children born after a short birth interval.

Table 11.9 Nutritional status by demographic characteristics
Percentage of children under five years of age classified as undernourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height and weight-for-age by selected demographic characteristics, Pakistan 1990-91

| Demographic characteristic | Height-for-age |  | Weight-for-height |  | Weight-for-age |  | Number of children |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { Percentage } \\ \text { below } \\ -3 \text { SD } \end{gathered}$ | $\begin{gathered} \hline \text { Percentage } \\ \text { below } \\ -2 S D^{1} \end{gathered}$ | $\begin{gathered} \text { Percentage } \\ \text { below } \\ -3 S D \end{gathered}$ | $\begin{aligned} & \text { Percentage } \\ & \text { below } \\ & -2 S D^{1} \end{aligned}$ | $\begin{aligned} & \text { Percentage } \\ & \text { below } \\ & -3 \text { SD } \end{aligned}$ | $\begin{gathered} \text { Percentage } \\ \text { below } \\ -2 S D^{1} \end{gathered}$ |  |
| Chlld's age |  |  |  |  |  |  |  |
| <6 months | 6.1 | 16.5 | 0.8 | 8.0 | 4.3 | 13.8 | 460 |
| 6-11 months | 14.6 | 29.8 | 2.1 | 11.4 | 13.7 | 34.4 | 452 |
| 12-23 months | 30.3 | 52.2 | 3.3 | 10.8 | 13.0 | 42.9 | 847 |
| 24-35 months | 35.7 | 56.7 | 1.1 | 9.6 | 19.4 | 45.8 | 841 |
| 36-47 months | 39.2 | 61.0 | 2.4 | 9.1 | 14.9 | 45.9 | 813 |
| 48-59 months | 39.3 | 62.8 | 0.3 | 6.1 | 12.4 | 46.9 | 625 |
| Child's sex |  |  |  |  |  |  |  |
| Male | 29.9 | 51.0 | 2.4 | 10.2 | 14.0 | 40.9 | 2058 |
| Female | 30.2 | 48.9 | 1.2 | 8.2 | 13.4 | 40.0 | 1979 |
| Birth order |  |  |  |  |  |  |  |
| 1 | 26.8 | 45.9 | 1.6 | 9.6 | 10.7 | 36.6 | 708 |
| 2-3 | 27.9 | 47.4 | 1.9 | 9.1 | 12.3 | 38.2 | 1304 |
| 4-5 | 30.1 | 49.8 | 2.2 | 8.9 | 12.7 | 39.9 | 972 |
| 6+ | 35.1 | 56.1 | 1.4 | 9.5 | 18.5 | 46.3 | 1053 |
| Birth interval |  |  |  |  |  |  |  |
| First birth | 26.7 | 45.8 | 1.6 | 9.6 | 10.6 | 36.6 | 709 |
| <24 months | 33.9 | 53.5 | 2.0 | 9.1 | 14.7 | 44.3 | 1042 |
| 24-47 months | 31.9 | 51.7 | 1.7 | 9.4 | 14.5 | 40.9 | 1663 |
| 48+ months | 22.7 | 44.3 | 1.6 | 8.5 | 13.7 | 37.2 | 623 |
| Total | 30.1 | 50.0 | 1.8 | 9.2 | 13.7 | 40.4 | 4037 |

Note: Figures are for children born in the period 1-59 months preceding the survey. Each index is expressed in terms of the number of standard deviation (SD) units from the median of the NCHS/CDC/WHO international reference population.
${ }^{1}$ Includes children who are below -3 SD

Table 11.10 Nutritional status by background characteristics
Percentage of children under five years of age classified as undernourished according to the three anthropometric indices of nutritional status: height-for-age, weight-for-height and weight-for-age by selected background characteristics, Pakistan 1990-91

| Background characteristic | Height-for-age |  | Weight-for-height |  | Weight-for-age |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { Percentage } \\ \text { below } \\ -3 \text { SD } \end{gathered}$ | $\begin{aligned} & \text { Percentage } \\ & \text { below } \\ & -2 S D^{1} \end{aligned}$ | $\begin{gathered} \text { Percentage } \\ \text { below } \\ -3 \text { SD } \end{gathered}$ | $\begin{gathered} \text { Percentage } \\ \text { below } \\ -2 S D^{1} \end{gathered}$ | Percentage below -3 SD | $\begin{aligned} & \text { Percentage } \\ & \text { below } \\ & -2 S D^{1} \end{aligned}$ |  |
| Residence |  |  |  |  |  |  |  |
| Total urban | 21.5 | 40.7 | 1.1 | 8.1 | 9.5 | 32.5 | 1394 |
| Major city | 18.8 | 38.3 | 0.3 | 7.6 | 7.9 | 29.6 | 811 |
| Other urban | 25.2 | 44.0 | 2.1 | 8.7 | 11.6 | 36.5 | 583 |
| Rural | 34.6 | 54.9 | 2.1 | 9.8 | 16.0 | 44.6 | 2642 |
| Province |  |  |  |  |  |  |  |
| Punjab | 25.7 | 44.2 | 2.2 | 10.2 | 12.3 | 37.3 | 2402 |
| Sindh | 35.4 | 56.0 | 0.8 | 8.7 | 17.3 | 48.2 | 938 |
| NWFP | 35.8 | 60.2 | 1.9 | 6.7 | 12.1 | 38.4 | 593 |
| Balochistan | 50.4 | 70.8 | 0.1 | 6.0 | 23.7 | 56.4 | 104 |
| Mother's education level |  |  |  |  |  |  |  |
| No education | 34.5 | 55.5 | 2.1 | 10.3 | 16.5 | 44.9 | 3057 |
| Primary | 23.4 | 43.8 | 1.7 | 7.5 | 7.1 | 37.1 | 441 |
| Middle | 15.3 | 33.2 | 0.6 | 5.3 | 5.0 | 25.8 | 200 |
| Secondary+ | 7.7 | 18.2 | -. | 3.6 | 2.5 | 13.0 | 338 |
| Total | 30.1 | 50.0 | 1.8 | 9.2 | 13.7 | 40.4 | 4037 |

Note: Figures are for children born in the period 1-59 months preceding the survey. Each index is expressed in terms of the number of standard deviation (SD) units from the median of the NCHS/CDC/WHO international reference population.
-- Less than 0.05 percent
${ }^{1}$ Includes children who are below -3 SD

Among the social factors associated with undernutrition, mother's education is negatively correlated with both moderate and severe underweight status in children (Table 11.10). Severe underweight status, i.e., weight-for-age below minus three standard deviations (-3 SD) from the median for the reference population, decreases from 17 percent for children of mothers with no education to 3 percent for those women with at least some secondary school education. With respect to place of residence, major cities have the smallest proportion of underweight children ( 30 percent); the proportion is higher in other urban ( 37 percent) and rural areas ( 45 percent). Similar to the case of stunting, fewer children are underweight in Punjab ( 37 percent) and more are underweight in Balochistan ( 56 percent).

Figure 11.5
Percentage of Children Under Five Who Are Underweight by Age


Note: Percentage of children below -2 SD
from the median of the international
reference population.
PDHS 1990-91

In summary, the nutritional status of children depends on a number factors, beginning with the mother's nutritional status. After birth, breastfeeding practices, socioeconomic and demographic factors, and environmental conditions (e.g., water and sanitation facilities) affect the nutritional status of children. Information on birth weight, breastfeeding, weaning and feeding practices was also gathered in the PDHS, however, an examination of the nutritional consequences of these factors is beyond the scope of this report.

In Pakistan, half of children under five years of age are chronically undernourished (see Figure 11.6). There is a marked deterioration in nutritional status as early as the first year of life. Among the other factors associated with nutritional status, mother's education is the most important, followed by the birth order of the child and place of residence. Children in Balochistan are most likely to be stunted or underweight. Mothers of these children need special education about infant feeding practices and nutritional intake so that they can improve the mental and physical growth of their children.

## Arm Circumference

Mid-upper arm circumference is easy to measure and compares favourably to other anthropometric measures for the assessment of the risk of death (Briend et al. 1987). Arm circumference has been adopted as a quick screening method for identifying undernourished children in the 1-5 year age group. If arm circumference is between 12.5 and 13.5 cm , the child is considered to be moderately undernourished; values below 12.5 cm indicate severe undernutrition (Shakir and Morley 1974), although cut-off points may vary between populations (Lindtjorn 1985). In the PDHS, arm circumference was measured for 79 percent of the children under age five. Among the measured children age $1-4$ years, 6 percent had an arm circumference of less than 12.5 cm and an additional 12 percent had an arm circumference between 12.5 and 13.5 cm . Therefore, nearly one in every five children was found to be moderately or severely undernourished according to this measure.

Figure 11.6
Undernutrition among Children Under Five Years of Age


Note: Percentage of childien below -2 SD from the median of the international reference population.

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## CHAPTER 12

# HUSBANDS' SURVEY 

Sultan S. Hashmi

A systematic subsample of one of every three households in the women's survey was selected to obtain information from the husbands of currently married women 15-49 years of age. The topics covered were: demographic, social and economic background; family planning knowledge, attitudes and practices; and fertility preferences. The questionnaire consisted of a subset of the questions used in the woman's questionnaire (see Appendix D). Only those husbands who had spent the night before the interview in the same household as their wives were interviewed in the survey.

The target for the survey was to interview the husbands of one-quarter of eligible women who had completed interviews. Because it was anticipated that the nonresponse rate would be higher for husbands than for women, one-third of all households (rather than one-quarter) were included in the husbands' subsample. Altogether, 1,757 husbands were identified as eligible, out of which 1,354 were interviewed. The response rate was only 77 percent for eligible husbands compared to 96 percent for eligible women. Nonresponse for husbands was primarily due to the absence of husbands from the household despite repeated visits by the interviewers (at least three visits per household). A small number of the husbands interviewed were married to more than one eligible woman. Therefore, when husbands are matched to their wives, the resulting sample is composed of 1,366 married couples. Consequently, the tables for husbands alone are based on 1,354 cases, whereas the tables for matched couples are based on 1,366 cases.

It is often alleged that in matters relating to family planning, the focus is too often on women, despite the fact that husbands are equal partners in the reproductive process and have greater responsibility for making family decisions. In addition, women often mention their husbands as a constraint on the use of contraception (Population Welfare Division 1986). Therefore, the PDHS included a husbands' survey as an integral part of the project. This is the first time since the 1968 National Impact Survey that men have been interviewed in a nationwide demographic survey.

The information presented in this chapter provides important data on issues relating to the attitude, behaviour and role of husbands with respect to family planning. These results can be useful for the planning of various components of the Population Welfare Programme-in particular, the information, education and communication (IEC) and service delivery components. In this chapter, husbands and wives are compared with respect to background characteristics and their knowledge, attitudes and practices regarding family planning. A more detailed analysis of husband-wife differentials will be published at a later date.

### 12.1 Background Characteristics

Table 12.1 presents the background characteristics of the husbands who were interviewed. Relatively few husbands were under 25 years of age and less than one percent were under 20. At the upper end of the age range, 17 percent of husbands were 50 years of age and over, while there were no wives beyond age 49 years (due to eligibility requirements). This indicates that many older men are married to women who are younger than themselves.

The pattern of older men marrying younger women can be seen in Table 12.2 and Figure 12.1. The wife was older than her husband in 5 percent of the cases; however, in the remaining 95 percent of the cases, the husband was the same age as his wife or older. In twothirds of the cases the husband was older than his wife by 5 years or more and in over onefourth of cases, the husband was 10 or more years older than his wife. More striking is the proportion of couples in which the husband was older than his wife by 15 or more years (11 percent). The mean difference in ages was nearly seven years in favour of males.

The distribution of husbands by place and province of residence is similar to that of ever-married women, implying that the subsample of husbands was not significantly different from the total sample of female respondents (see Tables 3.9 and 12.1). ${ }^{1}$ With respect to education, the husbands were substantially better educated than the women in the PDHS sample of ever-married women. About half of the husbands had been to school, com-

Table 12.1 Husbands' background characteristics
Percent distribution of husbands by selected background characteristics, Pakistan 1990-91

| Background <br> characteristic | Weighted <br> percent | Weighed <br> number of <br> husbands | Unweighted <br> number of <br> husbands |
| :--- | ---: | :---: | :---: |
| Age |  |  |  |
| $<20$ | 0.6 | 8 | 7 |
| $20-24$ | 7.4 | 100 | 94 |
| $25-29$ | 16.0 | 216 | 209 |
| $30-34$ | 18.2 | 246 | 217 |
| $35-39$ | 16.4 | 223 | 234 |
| $40-44$ | 12.9 | 175 | 184 |
| $45-49$ | 11.4 | 154 | 162 |
| S0+ | 17.2 | 233 | 247 |
| Residence |  |  |  |
| Total urban | 31.9 | 432 | 696 |
| Major city | 18.4 | 250 | 380 |
| Other urban | 13.5 | 183 | 316 |
| Rural | 68.1 | 922 | 658 |
| Province |  |  |  |
| Punjab | 59.2 | 801 | 461 |
| Sindh | 25.8 | 350 | 364 |
| NWFP | 11.2 | 151 | 313 |
| Balochistan | 3.8 | 52 | 216 |
| Education level attended |  |  |  |
| No education | 50.2 | 680 | 633 |
| Primary | 19.9 | 269 | 249 |
| Middle | 9.5 | 128 | 129 |
| Secondary | 20.4 | 276 | 343 |
| Occupation |  |  |  |
| Professional, technical | 5.3 | 72 | 101 |
| Admisistrative, managerial | 0.7 | 10 | 16 |
| Clerical | 4.2 | 56 | 79 |
| Sales | 13.4 | 181 | 235 |
| Service | 4.9 | 67 | 97 |
| Agriculture, fishing | 38.7 | 525 | 363 |
| Production, transportation, labor | 28.9 | 391 | 402 |
| Not classifiable | 3.9 | 52 | 61 |
| Total | 100.0 | 1354 | 1354 |
|  |  |  |  | pared to only one-fifth of the women. The gap is even more pronounced at higher levels of education. One-fifth of the husbands had a secondary or higher education, whereas only seven percent of ever-married women had attained that level of education.

The occupations of husbands are presented in Table 12.1. The PDHS occupation distribution conforms generally to the national pattern measured in the 1986-87 Labour Force Survey (Federal Bureau of Statistics 1987). Since 1986-87, there have been minor increases in the professional and technical occupations, sales, production and transportation, and corresponding decreases in agriculture and fishing. This reflects a shift from agricultural to nonagricultural occupations in the four-year period between the two surveys.

[^24]Table 12.2 Age difference between spouses
Percent distribution of the married couples by age difference between spouses and mean age difference between spouses, according to wife's age, Pakistan 1990-91

| Wife's age | Husband's age - wife's age (in years) |  |  |  |  | Total | Mean difference | Number of women |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Negative | 0-4 | 5-9 | 10-14 | $15+$ |  |  |  |
| 15-19 | -- | 40.7 | 32.5 | 15.9 | 10.9 | 100.0 | 7.8 | 98 |
| 20-24 | 2.1 | 43.4 | 30.9 | 13.0 | 10.6 | 100.0 | 6.7 | 222 |
| 25-29 | 5.8 | 37.6 | 37.2 | 13.9 | 5.5 | 100.0 | 6.1 | 306 |
| 30-34 | 6.3 | 34.8 | 34.2 | 15.0 | 9.7 | 100.0 | 6.4 | 219 |
| 35-39 | 4.7 | 36.8 | 32.1 | 9.7 | 16.7 | 100.0 | 7.3 | 209 |
| 40-44 | 9.0 | 21.9 | 35.2 | 20.5 | 13.5 | 100.0 | 7.2 | 180 |
| 45-49 | 9.3 | 24.9 | 33.1 | 23.2 | 9.5 | 100.0 | 6.7 | 132 |
| Total | 5.4 | 34.9 | 33.9 | 15.2 | 10.5 | 100.0 | 6.7 | 1366 |

-- Less than 0.05 percent

Figure 12.1
Age Difference Between Husbands and Wives


PDHS 1990-91

In general, younger husbands are better educated than older husbands, although husbands under age 30 are slightly less educated than those age $30-39$ (see Table 12.3). Thirty-four percent of the husbands 50 years of age or over had received some education, compared to 49 percent of those age 40-49,56 percent of those age $30-39$ and 52 percent of those under age 30. A similar age pattern is observed with respect to secondary or higher education.

By place of residence, more than two-thirds of husbands in urban areas had received some schooling compared to only 41 percent of rural husbands. Urban-rural differences are particularly pronounced for secondary and higher levels of education. In the urban areas, it would be expected that the highest percentage of educated husbands would be found in the major cities. But Table 12.3 shows that husbands in smaller urban areas were about as well educated as husbands in the major cities. Although the reasons for this phenomenon are not clear, it is possible that the presence of poorly educated rural migrants in the major cities tends to reduce the average level of education in those areas.

Table 12.3 also shows that slightly more than half of the husbands in Punjab and Sindh had some education, whereas somewhat less than half of the husbands in NWFP had received some education. Balochistan stands out as having by far the lowest average level of education. In Balochistan, only one-fifth of the husbands had been to school.

Table 12.3 Husband's level of education
Percent distribution of husbands by level of education attended, according to selected background characteristics, Pakistan 1990-91

| Background characteristic | Education level attended |  |  |  | Total | Number of husbands |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { No } \\ \text { education } \end{gathered}$ | Primary | Middle | Secondary or higher |  |  |
| Age |  |  |  |  |  |  |
| < 30 | 47.8 | 18.8 | 12.7 | 20.8 | 100.0 | 323 |
| 30-39 | 43.5 | 20.5 | 10.2 | 25.7 | 100.0 | 468 |
| 40-49 | 50.8 | 24.0 | 6.9 | 18.3 | 100.0 | 329 |
| 50+ | 66.4 | 14.2 | 7.3 | 12.1 | 100.0 | 233 |
| Residence |  |  |  |  |  |  |
| Total urban | 31.4 | 15.2 | 12.3 | 41.0 | 100.0 | 432 |
| Major city | 32.7 | 13.3 | 11.3 | 42.6 | 100.0 | 250 |
| Other urban | 29.6 | 17.9 | 13.8 | 38.7 | 100.0 | 183 |
| Rural | 59.1 | 22.0 | 8.2 | 10.8 | 100.0 | 922 |
| Province |  |  |  |  |  |  |
| Punjab | 48.4 | 18.4 | 11.9 | 21.3 | 100.0 | 801 |
| Sindh | 47.9 | 26.2 | 5.6 | 20.4 | 100.0 | 350 |
| NWFP | 54.9 | 18.2 | 8.0 | 18.8 | 100.0 | 151 |
| Balochistan | 81.3 | 5.3 | 2.7 | 10.7 | 100.0 | 52 |
| Occupation |  |  |  |  |  |  |
| Professional, technical, administrative, managerial | 15.4 | 16.6 | 7.1 | 60.9 | 100.0 | 82 |
| Clerical | 8.3 | 9.8 | 17.7 | 64.2 | 100.0 | 56 |
| Sales | 32.3 | 27.0 | 12.8 | 27.9 | 100.0 | 181 |
| Service | 39.4 | 17.9 | 6.3 | 36.4 | 100.0 | 67 |
| Agriculture, fishing | 68.8 | 18.2 | 6.5 | 6.6 | 100.0 | 525 |
| Production, transportation, labor | 52.1 | 22.4 | 10.3 | 15.3 | 100.0 | 391 |
| Not classifiable | 26.3 | 11.8 | 20.8 | 41.1 | 100.0 | 52 |
| Total | 50.2 | 19.9 | 9.5 | 20.4 | 100.0 | 1354 |

Husbands in white collar professions had received the highest level of education and farmers had the lowest. These differences are notable as they may have important implications for the level of fertility. More than two-thirds of agricultural workers and fishermen had no education. For the white collar occupations, it is surprising that one in six professional and technical workers and one in twelve clerical workers had no formal education.

### 12.2 Knowledge and Use of Contraception

About four-fifths of husbands knew of at least one method of contraception, two-thirds knew a source from which to obtain a contraceptive method, one-fourth reported that they or their spouses had used contraception sometime in the past and about one in seven were current users (see Table 12.4). Knowledge of modern methods was highest for female sterilisation ( 66 percent), followed by condoms ( 59 percent), the pill ( 55 percent), and injection ( 50 percent). The least known methods were male sterilisation ( 32 percent), the IUD ( 29 percent), and vaginal methods ( 13 percent). Knowledge of traditional methods ( 49 percent) was far less widespread than knowledge of modern methods ( 78 percent).

Knowledge of a source for obtaining a method (65 percent) was significantly lower than knowledge of the methods themselves ( 79 percent). This suggests the need for improving knowledge about family planning sources, which means strengthening the information and motivation components of the family planning programme.

Table 12.4 Knowledge and use of contraception
Percentage of husbands knowing any contraceptive method, the percentage knowing a source for a method, and the percentage who have ever used and are currently using a method, by specific method, Pakistan 1990-91

| Contraceptive method | Know any method |  |  | Know a source for method | Ever used | Currentlyusing |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Unprompted | Prompted |  |  |  |
| Any method | 79.3 | 50.8 | 28.5 | 65.1 | 24.7 | 15.1 |
| Any modern method | 77.7 | 48.4 | 29.4 | 62.4 | 18.2 | 10.1 |
| Pill | 54.9 | 24.1 | 30.8 | 37.6 | 4.6 | 0.8 |
| IUD | 28.6 | 6.8 | 21.8 | 20.9 | 2.9 | 1.4 |
| Injection | 50.0 | 19.5 | 30.5 | 36.9 | 2.9 | 0.5 |
| Vaginal method | 12.6 | 3.2 | 9.4 | 10.4 | 0.4 | -- |
| Condom | 58.8 | 32.3 | 26.4 | 50.1 | 12.1 | 3.6 |
| Female sterilisation | 65.7 | 26.1 | 39.6 | 48.6 | 4.0 | 3.8 |
| Male sterilisation | 31.7 | 9.3 | 22.4 | 22.7 | 0.1 | -- |
| Any traditonal method | 49.4 | 13.2 | 36.2 | NA | 15.7 | 5.0 |
| Periodic abstinence | 38.9 | 7.1 | 31.7 | 27.7 | 11.7 | 3.2 |
| Withdrawal | 39.9 | 8.5 | 31.3 | NA | 8.3 | 1.7 |
| Other | 1.6 | 1.6 | NA | NA | 0.3 | 0.2 |

Note: Figures are for 1,354 husbands.
-- Less than 0.05 percent
NA = Not applicable

The pattern of ever use and current use of contraception reported by husbands is also shown in Table 12.4. The most common current method reported by husbands is female sterilisation, followed closely by condoms and periodic abstinence. No other method was reported by more than two percent of husbands. The use of traditional methods, as reported by the husbands, is substantial; one-third of current users were relying on such methods. Since traditional methods are far less reliable than modern methods, an important goal of the family planning programme should be to shift users of traditional methods to more effective methods.

Table 12.5 and Figure 12.2 compare the contraceptive knowledge of husbands and wives. The proportion of couples in which both the husband and the wife had no knowledge of contraception was quite small (only 9 percent). Among the remaining couples, at least one spouse had knowledge of some method. For more than 60 percent of couples, both spouses knew one or more modern methods of family planning. The best known modern method for both husbands and wives was female sterilisation, while vaginal methods and male sterilisation were least well known. The second and third best known methods were the pill and injection, respectively. Male methods were more likely to be known by husbands and female methods were more likely to be known by wives.

Table 12.5 Knowledge of contraception among couples
Knowledge of contraception among married couples by specific method, Pakistan 1990-91

| Contraceptive method |  | Husband knows, wife does not know | Wife <br> knows, husband does not know | Neither knows | Total |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Any method | 62.1 | 17.2 | 12.0 | 8.7 | 100.0 |
| Any modern method | 61.3 | 16.4 | 13.2 | 9.0 | 100.0 |
| Pill | 40.9 | 14.1 | 20.8 | 24.2 | 100.0 |
| IUD | 20.1 | 8.3 | 30.6 | 41.0 | 100.0 |
| Injection | 36.4 | 13.8 | 23.2 | 26.6 | 100.0 |
| Vaginal method | 3.2 | 9.3 | 8.8 | 78.8 | 100.0 |
| Condom | 25.6 | 32.8 | 7.1 | 34.5 | 100.0 |
| Female sterilisation | 50.8 | 14.8 | 19.0 | 15.4 | 100.0 |
| Male sterilisation | 9.0 | 22.7 | 9.5 | 58.8 | 100.0 |
| Any traditional method | 14.2 | 35.1 | 8.9 | 41.8 | 100.0 |
| Periodic abstinence | 10.0 | 28.8 | 7.0 | 54.1 | 100.0 |
| Withdrawal | 8.2 | 31.4 | 5.8 | 54.6 | 100.0 |
| Other | 0.4 | 1.2 | 2.3 | 96.1 | 100.0 |

Note: Figures are for 1,366 couples.

Figure 12.2
Percentage of Couples in Which Both the Husband and Wife Know Specific Contraceptive Methods


Table 12.6 presents knowledge and use of modern contraception among husbands by background characteristics. Husbands residing in major cities and other urban areas were more likely to know about modem methods and the source for obtaining methods than husbands residing in rural areas. The same pattern is observed with regard to ever use and current use of contraception, with the highest level of use reported in major cities.

Differences among provinces with respect to knowledge of contraception are negligible. In every province, more than three-quarters of husbands reported some knowledge of modern family planning methods (Figure 12.3). Differences in knowledge of a source for a modern method, and differences in ever use and current use of modem methods are more pronounced. Husbands in Punjab and Sindh had more knowledge of family planning sources as well as higher ever-use and current use levels than husbands in NWFP and Balochistan. Husbands in Balochistan (which is less developed and sparsely populated) had very low levels of ever use and current use of contraception. The level of education has a strong positive association with all of the family planning indicators (see Table 12.6). The differences are particularly pronounced between husbands who had no education or had received a primary school education and those who had a middle school or higher education.

Knowledge of contraception is uniformly high, irrespective of the number of living children, ranging from 71 percent for husbands who had no living children to 84 percent for those who had two living children. Regarding the source of contraception, except for those with no living children, the contraceptive knowledge of husbands varies within a narrow range from 62 percent for those who had five living children to 68 percent for those who had three living children. Regarding ever use and current use of contraception, there is a positive relationship between the number of living children and use, except for husbands with six or more living children.

## Table 12.6 Knowledge and use of modern contraceptive methods

Percentage of husbands knowing at least one modem method, the percentage knowing a source for a modern method, and the percentage who have ever used and are currently using a modern method, according to selected background characteristics, Pakistan 1990-91

| Background characteristic | Know a modem method |  |  | Know source for modern method | Ever used modern method | Cursently using modern method | Number of husbands |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Unprompted | Prompted |  |  |  |  |
| Residence |  |  |  |  |  |  |  |
| Total urban | 87.2 | 59.4 | 27.8 | 80.5 | 36.9 | 18.9 | 432 |
| Major city | 87.5 | 53.4 | 34.1 | 81.7 | 41.8 | 20.5 | 250 |
| Other urban | 86.7 | 67.6 | 19.2 | 78.9 | 30.1 | 16.6 | 183 |
| Rural | 73.3 | 43.2 | 30.1 | 54.0 | 9.4 | 5.9 | 922 |
| Province |  |  |  |  |  |  |  |
| Punjab | 78.9 | 47.8 | 31.1 | 63.8 | 19.9 | 11.5 | 801 |
| Sindh | 75.4 | 49.2 | 26.2 | 64.9 | 18.3 | 9.1 | 350 |
| NWFP | 77.8 | 53.8 | 24.0 | 52.8 | 14.1 | 7.8 | 151 |
| Balochistan | 75.4 | 35.2 | 40.2 | 52.2 | 2.4 | 1.3 | 52 |
| Education level attended |  |  |  |  |  |  |  |
| No education | 68.6 | 34.9 | 33.7 | 45.9 | 9.8 | 5.4 | 680 |
| Primary | 75.1 | 49.4 | 25.7 | 64.0 | 12.9 | 6.9 | 269 |
| Middle | 94.6 | 66.1 | 28.6 | 82.7 | 31.6 | 19.0 | 128 |
| Secondary + | 95.0 | 72.2 | 22.7 | 92.1 | 37.7 | 20.5 | 276 |
| Number of living children ${ }^{1}$ |  |  |  |  |  |  |  |
| 0 | 71.2 | 40.3 | 30.9 | 43.4 | 2.4 | -- | 159 |
| 1 | 76.7 | 47.7 | 29.0 | 64.8 | 5.6 | 2.4 | 164 |
| 2 | 84.2 | 56.4 | 27.8 | 67.1 | 20.9 | 9.3 | 122 |
| 3 | 79.3 | 50.2 | 29.0 | 68.1 | 21.3 | 6.9 | 176 |
| 4 | 80.9 | 47.2 | 33.7 | 67.0 | 21.9 | 14.2 | 239 |
| 5 | 73.1 | 55.0 | 18.0 | 61.6 | 30.0 | 21.0 | 149 |
| $6+$ | 78.3 | 46.6 | 31.7 | 62.9 | 21.3 | 12.7 | 344 |
| Fertility desires ${ }^{2}$ |  |  |  |  |  |  |  |
| Want more children | 77.4 | 46.0 | 31.4 | 58.9 | 10.1 | 4.0 | 581 |
| Want no more children | 83.0 | 59.2 | 23.8 | 73.5 | 27.5 | 12.4 | 393 |
| Say wife can't get pregnant | (57.7) | (34.2) | (23.6) | (52.9) | (21.4) | (6.4) | 43 |
| Up to Allah | 68.4 | 29.7 | 38.7 | 45.2 | 5.8 | 3.1 | 238 |
| Undecided/don't know | (77.5) | (50.0) | (27.5) | (64.9) | (5.0) | (2.8) | 43 |
| Sterilised | (100.0) | (85.6) | (14.4) | (100.0) | (100.0) | (100.0) | 52 |
| Total | 77.7 | 48.4 | 29.4 | 62.4 | 18.2 | 10.1 | 1354 |

Note: Figures in parentheses are based on 25 to 49 unweighted cases.
-- Less than 0.05 percent
${ }^{1}$ Excludes 8 husbands with an unknown number of living children
${ }^{2}$ Excludes 9 husbands with missing information on fertility desires

Figure 12.3
Knowledge of Modern Contraceptive Methods, Knowledge of Sources and Current Use among Husbands by Province


Among husbands who said they did not want any more children, 83 percent knew at least one modern method of contraception and 74 percent knew a source for obtaining contraception. Only 12 percent, however, reported that they were currently using a method. This wide gap suggests that the family planning needs of respondents are not being met.

One way of evaluating the reliability of responses on current contraceptive use is to compare information supplied by husbands and their wives (see Table 12.7). In the aggregate, there is excellent agreement on the use of modern methods of contraception- 10 percent of husbands say they are currently using a modern method compared to 10.3 percent of wives. On the other hand, husbands are almost twice as likely to report current use of a traditional method of family planning. For individual couples, reporting of current contraceptive use is also more reliable for modern methods than for traditional methods.

Table 12.7 Current use of contraception reported by couples
Percent distribution of married couples by wife's reported current use of contraception, according to the husband's reported current use of contraception and type of method. Pakistan 1990-91

| Husband's reported use of contracetpion | Wife's reported use of contraception |  |  |  | Total | Percent | Number of husbands |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Currently using |  |  | Not currently using |  |  |  |
|  | Any method | Modern method | Traditional method |  |  |  |  |
| Currently using any method | 66.3 | 55.6 | 10.7 | 33.7 | 100.0 | 14.9 | 204 |
| Modern method | 84.9 | 78.9 | 6.0 | 15.1 | 100.0 | 10.0 | 136 |
| Traditional method | 29.2 | 9.1 | 20.1 | 70.8 | 100.0 | 5.0 | 68 |
| Not currently using | 3.7 | 2.4 | 1.3 | 96.3 | 100.0 | 85.1 | 1162 |
| Total | 13.1 | 10.3 | 2.7 | 86.9 | 100.0 | 100.0 | 1366 |

### 12.3 Prospective Users

Husbands who were nonusers of contraception were asked about their intended future use of contraception and their method preference. A large majority of husbands did not intend to use contraception at any time in the future. The major reason for not intending to use (cited by 47 percent of husbands) was the desire for more children (see Table 12.8). For 18 percent, religious constraints were the main factor, while 11 percent lacked knowledge of family planning. Another 5 percent gave a fatalistic response and the same percentage reported that they did not need contraception since they or their wives were sterile. There were differences in the reasons given for not intending to use contraception among younger and older men. For men under age 30, the overriding reason was the desire for more children; for men age 30 and over, the reasons were more varied and perceived religious prohibitions on family planning were a major consideration.

Table 12.8 Reasons for not intending to use contraception
Percent distribution of main reasons for not intending to use contraception among non-contracepting husbands who do not intend to use in the future, according to age, Pakistan 1990-91

| Main reason for not intending to use | Age |  | Total |
| :---: | :---: | :---: | :---: |
|  | $<30$ | 30+ |  |
| Want children | 80.9 | 35.3 | 46.8 |
| Lack of knowledge | 5.8 | 12.2 | 10.6 |
| Wife opposed | -- | 0.6 | 0.5 |
| Costs too much | -- | 1.5 | 1.1 |
| Worry about side effects | 0.4 | 2.4 | 1.9 |
| Health concerns | 0.6 | 1.2 | 1.0 |
| Hard to get methods | .- | 0.6 | 0.4 |
| Religion | 8.3 | 21.8 | 18.4 |
| Opposed to family planning | 0.6 | 2.0 | 1.6 |
| Fatalistic | 1.6 | 5.9 | 4.8 |
| Infrequent sex | -- | 4.2 | 3.2 |
| Hard for wife to get pregnant | 0.8 | 5.8 | 4.6 |
| Wife menopausal, had hysterectomy | -- | 2.1 | 1.6 |
| Inconvenient | -- | 0.2 | 0.2 |
| Other | 0.5 | 3.3 | 2.6 |
| Don't know, missing | 0.5 | 1.0 | 0.8 |
| Total | 100.0 | 100.0 | 100.0 |
| Number | 213 | 633 | 846 |

-- Less than 0.05 percent

About 15 percent of all husbands were not using contraception but intended to adopt family planning in the future. Three-fourths of these husbands wanted to start using contraception within the next 12 months (see Table 12.9). The contraceptive methods preferred by those who intended to use during the next 12 months were female sterilisation ( 22 percent), condoms ( 21 percent) and injection ( 13 percent). About one-fifth of this group wanted to use traditional and other methods, while 14 percent were undecided. None of the husbands mentioned male sterilisation as their preferred method. Among those who intended to use contraception after more than one year, 46 percent wanted to use either injection, condoms or female sterilisation, but 41 percent did not know what method they preferred to use.

| Percent distribution of contraceptive methods preferred by noncontracepting husbands who intend to use in the future, according to their intended timing of future use, Pakistan$1990.91$ |  |  |  |
| :---: | :---: | :---: | :---: |
|  | Intends | to use |  |
| Contraceptive method | In next 12 months | After 12 months | Total |
| Pill | 9.0 | 3.9 | 7.7 |
| IUD | 1.2 | -- | 0.9 |
| Injection | 12.5 | 17.4 | 13.7 |
| Condom | 20.8 | 15.3 | 19.4 |
| Female sterilisation | 22.3 | 13.3 | 20.0 |
| Periodic abstinence | 12.3 | -- | 9.2 |
| Withdrawal | 3.0 | 6.7 | 3.9 |
| Other | 4.8 | 2.3 | 4.2 |
| Don't know | 14.2 | 41.0 | 21.0 |
| Total | 100.0 | 100.0 | 100.0 |
| Number | 149 | 51 | 200 |

-- Less than 0.05 percent

### 12.4 Approval of Family Planning

Husbands as well as wives were asked about their approval of family planning and their perceptions about their spouses' attitudes toward family planning (see Tables 12.10 and 12.11). Overall, the majority of husbands ( 56 percent) approve of family planning, but a substantial minority ( 43 percent) disapprove. Wives have a more favourable attitude toward family planning than their husbands. Twice as many wives approve of family planning as disapprove. Since husbands usually have a predominant role in family decision making, the family planning programme should increase efforts to educate and motivate husbands.

Forty-three percent of the husbands thought that their wives approved of family planning, 20 percent thought that they did not approve and 33 percent did not know whether their wives approved or not. For the first two categories, the husbands' perceptions about their wives' attitudes were correct in most of the cases. In cases in which husbands did not know their wives' opinions, 54 percent of wives actually approved of family planning and 45 percent disapproved.

Wives were somewhat less knowledgeable about their spouse's opinion of family planning than were husbands. Specifically, husbands are more favourable toward family planning than their wives believe. In one-third of the cases in which the wife thinks her husband disapproves of family planning, the husband actually approves. Under such circumstances, improved communication between spouses may engender more favourable attitudes toward family planning overall.

Table 12.10 Wife's perception of husband's attitude toward family planning
Percent distribution of married couples by husband's reported approval or disapproval of family planning, according to wife's perception of husband's approval or disapproval, Pakistan 1990-91

| Wife's perception of husband's opinion | Husband's opinion |  |  | Total | Percent | Number of wives |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Husband approves | Husband disapproves | $\begin{aligned} & \text { Don't know, } \\ & \text { missing } \end{aligned}$ |  |  |  |
| Wife thinks husband approves | 93.1 | 6.6 | 0.3 | 100.0 | 29.7 | 406 |
| Wife thinks husband disapproves | 31.5 | 68.0 | 0.5 | 100.0 | 33.5 | 457 |
| Wife doesn't know husband's opinion | 42.7 | 56.3 | 1.0 | 100.0 | 32.6 | 445 |
| Missing | 93.0 | 7.0 | -- | 100.0 | 4.2 | 58 |
| Total | 56.1 | 43.3 | 0.6 | 100.0 | 100.0 | 1366 |

-- Less than 0.05 percent

Table 12.11 Husband's perception of wife's attitude toward family planning
Percent distribution of married couples by wife's reported approval or disapproval of family planning, according to husband's perception of wife's approval or disapproval, Pakistan 1990-91

| Husband's perception of wife's opinion | Wife's opinion |  |  | Total | Percent | $\begin{gathered} \text { Number } \\ \text { of } \\ \text { husbands } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Wife approves | Wife disapproves | Don't know, missing |  |  |  |
| Husband thinks wife approves | 95.6 | 3.6 | 0.8 | 100.0 | 43.1 | 589 |
| Husband thinks wife disapproves | 20.1 | 79.1 | 0.9 | 100.0 | 20.2 | 276 |
| Husband doesn't know wife's opinion | 53.7 | 44.9 | 1.4 | 100.0 | 32.7 | 447 |
| Missing | 93.0 | 4.9 | 2.1 | 100.0 | 4.0 | 54 |
| Total | 66.5 | 32.4 | 1.0 | 100.0 | 100.0 | 1366 |

### 12.5 Acceptability of Media Messages

Husbands were asked if they had heard a message about family planning on radio or television during the month preceding the survey and whether that message was effective in persuading couples to use family planning. In addition, husbands were asked whether or not they found it acceptable for family planning messages to be provided on radio or television. Table 12.12 shows that 64 percent of husbands reported that it was acceptable to have such messages broadcast on radio or television. The acceptability of electronic mass media messages is higher among younger men and those who live in urban areas. Among the provinces, the acceptability was highest in Punjab ( 68 percent) and Sindh ( 65 percent), followed by Balochistan ( 54 percent) and NWFP ( 47 percent). Generally, there is a positive association between the acceptability of media messages and the level of education.

Table 12.12 Acceptability of mass media messages on family planning
Percentage of husbands who believe that it is acceptable to have messages about family planning on the radio or television by age and selected background characteristics, Pakistan 1990-91

| Background characteristic | Age |  |  | Total |
| :---: | :---: | :---: | :---: | :---: |
|  | $<30$ | 30-39 | 40+ |  |
| Residence |  |  |  |  |
| Total urban | 82.4 | 79.9 | 71.6 | 76.8 |
| Major city | 85.3 | 85.4 | 69.5 | 79.1 |
| Other urban | 76.5 | 72.3 | 73.9 | 73.8 |
| Rural | 65.3 | 55.7 | 56.5 | 58.4 |
| Province |  |  |  |  |
| Punjab | 74.6 | 66.2 | 65.1 | 67.7 |
| Sindh | 70.7 | 67.2 | 60.3 | 65.3 |
| NWFP | 61.3 | 39.1 | 46.9 | 47.3 |
| Balochistan | 31.6 | 71.3 | 55.3 | 54.4 |
| Education level attended |  |  |  |  |
| No education | 57.7 | 54.3 | 51.5 | 53.8 |
| Primary | 79.4 | 51.9 | 65.7 | 63.9 |
| Middle | (82.8) | (83.8) | (83.1) | 83.3 |
| Secondary+ | 83.1 | 80.1 | 82.6 | 81.7 |
| Total | 70.3 | 63.6 | 61.5 | 64.3 |

Note: Figures in parentheses are based on 25 to 49 unweighted cases.

Although the majority of husbands were favourable toward having family planning messages broadcast on radio or TV, only 40 percent of the husbands interviewed had actually heard such a message in the last month. Of the latter, 44 percent lived in urban areas and 56 percent lived in rural areas. Most of the husbands, irrespective of residence, thought that the family planning messages were effective (see Table 12.13). A larger percentage of those residing in major cities ( 88 percent) than those residing in other urban areas ( 78 percent) or rural areas ( 75 percent) thought that the messages were effective. Among the provinces, husbands residing in Punjab (84 percent) were more likely to think the messages were effective than those in Sindh ( 80 percent), Balochistan ( 60 percent) and NWFP ( 56 percent). A substantial percentage of husbands in NWFP (29 percent) and in Balochistan ( 28 percent) thought that the messages were ineffective. This suggests that attempts should be made to modify family planning messages in NWFP and Balochistan to make them more acceptable to the local population. The perceived effectiveness of family planning messages was high in all education groups and was not related to the husband's educational attainment.

Table 12.13 Perceived effectiveness of mass media messages on family planning
Among husbands who have heard a radio or television message about family planning, the percent distribution of perceived effectiveness of the message in persuading couples to use family planning by background characteristics, Pakistan 1990-91

| Background characteristic | Perceived effectiveness of mass media family planning messages |  |  |  | Total | Number of husbands |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Effective | Not effective | Don't know | Missing |  |  |
| Residence |  |  |  |  |  |  |
| Total urban | 84.1 | 11.5 | 3.7 | 0.7 | 100.0 | 239 |
| Major city | 87.5 | 10.9 | 1.5 | 0.1 | 100.0 | 156 |
| Other urban | 77.7 | 12.5 | 7.8 | 1.9 | 100.0 | 83 |
| Rural | 75.3 | 12.7 | 11.0 | 1.0 | 100.0 | 300 |
| Province |  |  |  |  |  |  |
| Punjab | 83.7 | 7.5 | 8.8 | -- | 100.0 | 282 |
| Sindh | 79.9 | 13.7 | 4.5 | 1.9 | 100.0 | 194 |
| NWFP | 55.8 | 28.6 | 14.3 | 1.2 | 100.0 | 51 |
| Balochistan | 59.6 | 27.6 | 8.2 | 4.5 | 100.0 | 12 |
| Education level attended |  |  |  |  |  |  |
| No education | 77.9 | 11.3 | 8.5 | 2.3 | 100.0 | 197 |
| Primary | 81.1 | 7.4 | 11.5 | -- | 100.0 | 100 |
| Middle | 75.6 | 13.1 | 11.1 | 0.2 | 100.0 | 71 |
| Secondary + | 81.0 | 15.5 | 3.4 | 0.1 | 100.0 | 171 |
| Total | 79.2 | 12.1 | 7.8 | 0.9 | 100.0 | 539 |

-- Less than 0.05 percent

### 12.6 Fertility Desires and Sex Preference for Children

Husbands were asked about the number and gender of their living children and their desire for more children. Table 12.14 shows that 21 percent of husbands wanted another child soon (within two years). This desire is inversely associated with the number of living children. Another 20 percent wanted another child later. The largest proportion of husbands ( 29 percent) did not want any more children at all. The desire to stop having children is positively associated with the number of living children. The percentage of husbands who want no more children is much larger than the 15 percent of husbands who reported current use of contraception. If those who wanted to postpone having another child are combined with those who did not want any more, the sum would constitute about half of all husbands. This suggests that there is an ample need for family planning, but that motivational programmes and service delivery are not keeping pace with the need.

Table 12.14 Reproductive intentions
Percent distribution of husband's desire for more children, according to number of living children, Pakistan 1990-91

| Desire for children | Number of living children ${ }^{1}$ |  |  |  |  |  |  |  | Total ${ }^{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | $7+$ |  |
| Want another soon ${ }^{3}$ | 67.4 | 41.5 | 27.9 | 19.3 | 14.2 | 8.5 | 8.8 | 4.1 | 21.4 |
| Want another later ${ }^{4}$ | 16.5 | 40.1 | 35.4 | 30.7 | 16.4 | 12.2 | 8.5 | 4.9 | 19.8 |
| Want another, undecided when ${ }^{5}$ | 2.9 | 1.2 | 2.0 | 1.5 | 3.9 | 0.1 | 1.8 | 0.3 | 1.6 |
| Undecided | -- | 0.1 | 2.9 | 3.3 | 3.0 | 2.4 | 8.9 | 4.7 | 3.2 |
| Up to Allah | 8.4 | 14.8 | 15.0 | 19.1 | 26.5 | 16.5 | 17.4 | 17.6 | 17.6 |
| Want no more | -. | 1.3 | 15.9 | 23.3 | 28.0 | 48.9 | 42.5 | 54.9 | 29.0 |
| Sterilised | -- | - | 0.8 | 0.4 | 3.2 | 7.5 | 7.3 | 8.9 | 3.8 |
| Declared infecund | 4.4 | 1.0 | -- | 2.3 | 4.4 | 3.4 | 4.4 | 4.6 | 3.2 |
| Missing | 0.5 | .- | .- | 0.2 | 0.5 | 0.5 | 0.3 | -- | 0.3 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 120 | 170 | 133 | 172 | 216 | 182 | 138 | 221 | 1354 |

-- Less than 0.05 percent
${ }^{1}$ Includes current pregnancy
${ }^{2}$ Total includes two husbands whose number of living children is unknown
${ }^{3}$ Wants next birth within two years
${ }^{4}$ Wants next birth after two or more years
${ }^{5}$ Includes timing up to Allah and other non-numeric responses

Table 12.15 Desire to limit future births
Percentage of husbands who want no more children, by number of living sons and daughters, Pakistan 1990-91

|  | Number of living daughters |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Number of <br> living sons | 0 | 1 | 2 | $3+$ | Total |
|  |  |  |  |  |  |
|  | -- | $(11.0)$ | $(11.4)$ | 2.4 |  |
| 1 | 5.7 | 16.0 | 23.5 | 24.4 | 16.7 |
| 2 | $(26.7)$ | 31.8 | 42.2 | 53.6 | 41.3 |
| $3+$ | $(27.5)$ | 58.4 | 66.0 | 59.1 | 57.1 |
| Total | 8.6 | 30.2 | 45.3 | 46.2 | 32.8 |

Note: Women who have been sterilised are considered to want no more children.
Figures in parentheses are based on 25 to 49 unweighted cases.

- Less than 0.05 percent

Table 12.15 presents husbands' desires to stop having children by the number of living sons and daughters. At each parity the proportion of husbands who want to stop having children increases with the number of living sons in the family. This pattern suggests there is a continuing preference for sons in Pakistan. At the higher parities, there is also some evidence of a desire to have at least one daughter.

In Table 12.16 and Figure 12.4, husbands and wives are compared with respect to their desire for more children. Among couples without children or with only one child, in at least four-fifths of the cases both the husband and wife want more children. The desire of couples for more children decreases as the number of children increases. For couples with two or more children, there is considerable disagreement about the desire to have more children. For example, for couples with three children, in 17 percent of the cases the husband wants to have more children while the wife does not. Couples with three to five children are least likely to agree on whether or not to have another child.

Table 12.16 Desire for more children by wives and their husbands
Percent distribution of couples by number of living children, according to desire for more children, Pakistan 1990-91

| Number of living children ${ }^{1}$ | Husband warts more |  |  | Husband wants no more |  |  | Husband says up to Allah |  |  | One or both undecided/ missing/wife can't get pregnant | Total | Percent who agree | Number of husbands |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Wife wants more | Wife wants no more | Wife <br> says <br> up to <br> Allah | Wife wants more | Wife <br> wants <br> no <br> more | Wife says up to Allah | Wife wants more | Wife wants no more | Wife says up to Allah |  |  |  |  |
| 0 | 84.7 | 2.0 | 0.8 | -- | -- | -- | 5.1 | -- | 3.1 | 4.3 | 100.0 | 87.8 | 122 |
| 1 | 79.7 | 2.5 | 5.0 | -- | 0.6 | 0.7 | 8.9 | -- | 0.5 | 2.1 | 100.0 | 80.8 | 171 |
| 2 | 57.5 | 6.8 | 4.8 | 6.6 | 6.3 | 1.5 | 4.0 | 2.3 | 5.0 | 5.1 | 100.0 | 68.8 | 137 |
| 3 | 27.5 | 16.9 | 4.9 | 3.2 | 16.7 | 2.0 | 4.8 | 9.4 | 3.9 | 10.7 | 100.0 | 48.1 | 174 |
| 4 | 15.5 | 12.1 | 7.8 | 1.9 | 25.8 | 2.3 | 9.8 | 10.8 | 3.6 | 10.4 | 100.0 | 44.9 | 217 |
| 5 | 8.5 | 8.4 | 4.5 | 14.7 | 37.5 | 3.8 | 2.9 | 6.5 | 5.0 | 8.4 | 100.0 | 51.0 | 183 |
| 6 | 8.3 | 3.1 | 7.3 | 1.2 | 43.5 | 3.7 | 3.5 | 8.5 | 5.6 | 15.3 | 100.0 | 57.4 | 140 |
| 7+ | 1.3 | 6.3 | 2.3 | 0.8 | 55.0 | 5.9 | 2.7 | 9.1 | 4.1 | 12.4 | 100.0 | 60.4 | 221 |
| Total ${ }^{2}$ | 31.5 | 7.7 | 4.8 | 3.6 | 25.3 | 2.7 | 5.3 | 6.4 | 3.8 | 8.9 | 100.0 | 60.6 | 1366 |

-- Less than 0.05 percent
${ }^{1}$ Includes current pregnancy reported by husband
${ }^{2}$ Total includes two husbands whose number of living children is unknown.

Figure 12.4

## Desire for More Children among Husbands and Wives by Number of Living Children



Note: Number of living chlldren
includes current pregnancy.

### 12.7 Ideal Number of Children for Husbands and Wives

Husbands as well as wives were asked about their ideal number of children and the results are presented in Table 12.17. About 60 percent of both husbands and wives said that the ideal number of children is up to Allah. Aside from the non-numeric responses, there is little agreement between husbands and wives about the exact number of children that would be considered ideal. For example, among women whose ideal was three children, 21 percent of their husbands also wanted three children but 17 percent of their husbands wanted fewer than three children and 18 percent wanted more than three. Overall, less than 10 percent of couples agree on a specific number of children that would be ideal for them (although the figure increases to 23 percent if only numeric responses are considered). Few couples believe that an ideal family would consist of a small number of children.

Table 12.17 Ideal number of children of wives and their husbands
Percent distribution of husband's ideal number of children, according to wife's ideal number of children, Pakistan 1990-91

Husband's ideal number of children


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## APPENDIX A

## PAKISTAN <br> DEMOGRAPHIC AND HEALTH SURVEY STAFF

## APPENDIX A

# PAKISTAN DEMOGRAPHIC AND HEALTH SURVEY STAFF 

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## APPENDIX B

## ESTIMATES OF SAMPLING ERRORS

## APPENDIX B

## ESTIMATES OF SAMPLING ERRORS

Estimates derived from a sample survey are affected by two types of errors: nonsampling error and sampling error. Nonsampling error is the result of mistakes made in implementing data collection and data processing, such as failure to locate and interview the correct household, misunderstanding of the questions on the part of either the interviewer or the respondent, and data entry errors. Although numerous efforts were made during the implementation of the PDHS to minimize these types of errors, nonsampling errors are impossible to avoid and difficult to evaluate statistically.

Sampling errors, on the other hand, can be evaluated statistically. The sample of women selected in the PDHS is only one of many samples that could have been selected from the same population, using the same design and expected sample size. Each one would have yielded results that differ somewhat from the actual sample selected. The sampling error is a measure of the variability between all possible samples. Although it is not known exactly, it can be estimated from the survey results.

Sampling error is usually measured in terms of the standard error for a particular statistic (mean, percentage, etc.), which is the square root of the variance. The standard error can be used to calculate confidence intervals within which the true value for the population can reasonably be assumed to fall. For example, for any given statistic calculated from a sample survey, the value of that statistic as measured in 95 percent of all possible samples of identical size and design will fall within a range of plus or minus two times the standard error of that statistic.

If the sample of women had been selected as a simple random sample, it would have been possible to use straightforward formulas for calculating sampling errors. However, the PDHS sample design was a two-stage stratified design, and, consequently, it was necessary to use more complex formulas. The computer package CLUSTERS, developed by the International Statistical Institute for the World Fertility Survey, was used to compute the sampling errors with the proper statistical methodology.

The CLUSTERS program treats any percentage or average as a ratio estimate, $r=y / x$, where $y$ represents the total sample value for variable $y$, and $x$ represents the total number of cases in the group or subgroup under consideration. The variance of $r$ is computed using the formula given below, with the standard error being the square root of the variance:

$$
\operatorname{var}(r)=\frac{1-f}{x^{2}} \sum_{k=1}^{H}\left[\frac{m_{h}}{m_{h}-1}\left(\sum_{l=1}^{m_{h}} z_{k=1}^{2}-\frac{z_{h}^{2}}{m_{h}}\right)\right]
$$

in which

$$
z_{k d}=y_{k d}-r \cdot x_{k} \text {, and } z_{k}=y_{k}-r \cdot x_{k}
$$

where
$h \quad$ represents the stratum which varies from 1 to H ,
$m_{h} \quad$ is the total number of enumeration areas (EAs) selected in the $h^{\text {hh }}$ stratum,
$y_{h i} \quad$ is the sum of the values of variable $y$ in EA $i$ in the $h^{\text {th }}$ stratum,
$x_{h j} \quad$ is the sum of the number of cases (women) in EA $i$ in the $h^{\text {th }}$ stratum, and
$f \quad$ is the overall sampling fraction, which is so small that CLUSTERS ignores it.

In addition to the standard errors, CLUSTERS computes the design effect (DEFT) for each estimate, which is defined as the ratio between the standard error using the given sample design and the standard error that would result if a simple random sample had been used. A DEFT value of 1.0 indicates that the sample design is as efficient as a simple random sample, while a value greater than 1.0 indicates the increase in the sampling error due to the use of a more complex and less statistically efficient design. CLUSTERS also computes the relative error and confidence limits for the estimates.

Sampling errors for the PDHS are calculated by group of eligible women and by group of husbands for selected variables considered to be of primary interest. The results are presented in this appendix for the whole country, for major cities, other urban and rural areas, for the four provinces (Punjab, Sindh, NWFP, and Balochistan), and (for women only) for three major age groups. For each variable, the type of statistic (mean or proportion) and the base population are given in Table B.1. Tables B. 2 through B. 13 present the value of the statistic (R), its standard error (SE), the number of unweighted ( N ) and weighted (WN) cases, the design effect (DEFT), the relative standard error ( $\mathrm{SE} / \mathrm{R}$ ), and the 95 percent confidence limits ( $\mathrm{R} \pm 2 \mathrm{SE}$ ) for each variable.

In general, the relative standard error for most estimates for the country as a whole is small, except for estimates of very small proportions. There are some differentials in the relative standard error for the estimates of sub-populations such as geographical areas. For example, for the variable living children, the relative standard error as a percent of the estimated mean for the whole country, for major cities and for Balochistan is 1.2 percent, 2.0 percent, and 4.5 percent, respectively.

The confidence interval has the following interpretation. For the contraceptive prevalence rate (the percentage of women currently using a method), the overall average from the national sample is .118 (that is, 11.8 percent) and its standard error is .005 . Therefore, to obtain the 95 percent confidence limits, one adds and subtracts twice the standard error to the sample estimate, i.e. . $118 \pm .010$, which means that there is a high probability ( 95 percent) that the true prevalence rate is between 108 and .129 (that is, 10.8-12.9 percent).

Table B. 1 List of selected variables for sampling errors, Pakistan DHS, 1990-91

WOMEN'S VARIABLE

| URBAN | Urban |
| :--- | :--- |
| NOEDUC | With no education |
| SECOND | With secondary education or higher |
| COUSIN | Married to first cousin |
| CUWORK | Currently working |
| SURVIV | Living children |
| KMETHO | Knowing any contraceptive method |
| KSOURC | Knowing source for any method |
| EVUSE | Ever used any contraceptive method |
| CUSING | Currently using any method |
| CUMOD | Currently using a modern method |
| CUIUD | Currently using IUD |
| CUCOND | Currently using condom |
| CUSTER | Currently using female sterilisation |
| PSOURC | Using public sector source |
| NOMORE | Wanting no more children |
| DELAY | Wanting to delay at least 2 years |
| IDEAL | Ideal number of children |
| ANTCAR | Mothers receiving antenatal care |
| NTETAN | Mothers no received tetanus injection |
| MEDELI | Received medical care at birth |
| RESPIR | Had acute respiratory illness in |
|  | last 2 weeks |
| FEVER | Had fever in last two weeks |
| DIARR1 | Had diarrhoea in last 24 hours |
| DIARR2 | Had diarrhoea in 2 last weeks |
| ORSTRE | Treated with ORS packets |
| MEDTRE | Consulted a medical facility |
| HCARD | Showing health card |
| BCG12 | Received BCG vaccination |
| DPT12 | Received DPT vaccination (3 doses) |
| POL12 | Received polio vaccination (3 doses) |
| MEAS12 | Received measles vaccination (3 doses) |
| FULVAC | Fully vaccinated |

HUSBANDS' VARIABLE

| HNOEDU | With no education |
| :--- | :--- |
| HSEC | With secondary education or higher |
| HKMETH | Knowing any contraceptive method |
| HKSOUR | Knowing source for any method |
| HEVUSE | Ever used any contraceptive method |
| HCUSIN | Currently using any method |
| HCUMOD | Currently using any modern method |
| HCUIUD | Currently using IUD |
| HCUCON | Currently using condom |
| HCUSTE | Currently using male sterilisation |
| HNOMOR | Wanting no more children |
| HDELAY | Wanting to delay at least 2 years |

## ESTIMATE

Proportion
Proportion Proportion
Proportion
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## Proportion

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ESTIMATE
Proportion Proportion Proportion Proportion Proportion Proportion Proportion Proportion Proportion Proportion Proportion Proportion

## BASE POPULATION

Ever-married women
Ever-married women
Ever-married women
Ever-married women
Ever-married women
Currently married women
Currently married women
Currently married women
Currently married women
Currently married women
Currently married women Currently married women Currently married women Currently married women Current users of modem methods Currently married women Currently married women Ever-married women with numerical response Births in last 5 years
Births in last 5 years
Births in last 5 years
Children under 5
Children under 5
Children under 5
Children under 5
Children under 5 with diarrhoea in last 2 weeks Children under 5 with diarrhoea in last 2 weeks Children 12-23 months
Children 12-23 months
Children 12-23 months
Children 12-23 months
Children 12-23 months
Children 12-23 months

BASE POPULATION
All husbands All husbands All husbands All husbands All husbands All husbands All husbands All husbands All husbands All husbands All husbands All husbands

Table B. 2 Sampling errors: Entire sample, Pakistan 1990-91

| Variable | Value (R) | Standard error (SE) | Number of cases <br> Unweighted Weighted <br> (N) <br> (WN) | Relative standard error (SER) | Standard deviation (SD) | Design effect (DEFT) | Relative error (SE/R) | Confidence limits |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | R-2SE | $\mathrm{R}+2 \mathrm{SE}$ |

WOMEN

| URBAN | . 305 | . 007 | 6611.0 | 6611.0 | . 006 | . 461 | 1.205 | . 022 | , 292 | . 319 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| NOEDUC | . 792 | . 009 | 6611.0 | 6611.0 | . 005 | . 406 | 1.872 | . 012 | . 773 | . 811 |
| SECOND | . 073 | . 006 | 6611.0 | 6611.0 | . 003 | . 261 | 1.856 | . 081 | . 061 | . 085 |
| COUSIN | . 503 | . 011 | 6611.0 | 6611.0 | . 006 | . 500 | 1.750 | . 021 | . 482 | . 525 |
| CUWORK | . 168 | . 007 | 6611.0 | 6611.0 | . 005 | . 374 | 1.605 | . 044 | . 153 | . 183 |
| SURVIV | 3.523 | . 043 | 6611.0 | 6611.0 | . 031 | 2.556 | 1.365 | . 012 | 3.437 | 3.609 |
| KMETHO | . 779 | . 009 | 6393.0 | 6364.1 | . 005 | . 415 | 1.793 | . 012 | . 760 | . 797 |
| KSOURC | . 463 | . 011 | 6393.0 | 6364.1 | . 006 | . 499 | 1.738 | . 023 | . 442 | . 485 |
| EVUSE | . 207 | . 007 | 6393.0 | 6364.1 | . 005 | . 405 | 1.449 | . 035 | . 192 | . 222 |
| CUSING | . 118 | . 005 | 6393.0 | 6364.1 | . 004 | . 323 | 1.345 | . 046 | . 108 | . 129 |
| CUMOD | . 090 | .005 | 6393.0 | 6364.1 | . 004 | . 286 | 1.295 | . 051 | .08] | . 099 |
| CUIUD | . 013 | . 002 | 6393.0 | 6364.1 | . 001 | . 111 | 1.633 | . 181 | . 008 | . 017 |
| CUCOND | . 027 | . 003 | 6393.0 | 6364.1 | . 002 | . 162 | 1.238 | . 093 | . 022 | . 032 |
| CUSTER | . 035 | . 003 | 6393.0 | 6364.1 | . 002 | . 185 | 1.392 | . 091 | . 029 | . 042 |
| PSOURC | . 557 | . 028 | 655.0 | 573.7 | . 019 | . 497 | 1.422 | . 050 | . 501 | . 612 |
| NOMORE | . 364 | . 009 | 6393.0 | 6364.1 | . 006 | . 481 | 1.436 | . 024 | . 346 | . 381 |
| DELAY | . 176 | . 008 | 6393.0 | 6364.1 | . 005 | . 381 | 1.579 | . 043 | . 161 | . 191 |
| IDEAL | 4.060 | . 050 | 2625.0 | 2587.3 | . 034 | 1.723 | 1.483 | . 012 | 3.961 | 4.160 |
| ANTCAR | . 292 | . 009 | 6352.0 | 6406.6 | . 007 | . 579 | 1.294 | . 032 | . 273 | . 311 |
| NTETAN | . 700 | . 011 | 6352.0 | 6406.6 | . 007 | . 577 | 1.450 | . 035 | . 279 | . 321 |
| MEDELI | . 188 | . 010 | 6352.0 | 6406.6 | . 006 | . 497 | 1.537 | . 051 | . 168 | . 207 |
| RESPIR | . 160 | . 009 | 5828.0 | 5775.6 | . 005 | . 411 | 1.657 | . 056 | . 142 | . 178 |
| FEVER | . 301 | . 009 | 5828.0 | 5775.6 | . 007 | . 514 | 1.313 | . 029 | . 283 | . 319 |
| DIARR1 | . 083 | . 006 | 5828.0 | 5775.6 | . 004 | . 288 | 1.644 | . 075 | . 071 | . 095 |
| DIARR2 | . 145 | . 008 | 5828.0 | 5775.6 | . 005 | . 382 | 1.510 | . 052 | . 130 | . 161 |
| ORSTRE | . 388 | . 027 | 781.0 | 840.3 | . 018 | . 498 | 1.497 | . 069 | . 335 | . 441 |
| MEDTRE | . 483 | . 020 | 781.0 | 840.3 | . 018 | . 511 | 1.117 | . 042 | . 442 | . 523 |
| HCARD | . 296 | . 020 | 1187.0 | 1214.7 | . 013 | . 454 | 1.482 | . 066 | . 257 | . 335 |
| BCG12 | . 697 | . 020 | 1187.0 | 1214.7 | . 013 | . 456 | 1.503 | . 029 | . 657 | . 736 |
| DPT12 | . 427 | . 020 | 1187.0 | 1214.7 | . 014 | . 491 | 1.414 | . 047 | . 387 | . 467 |
| POL12 | . 429 | . 020 | 1187.0 | 1214.7 | . 014 | . 491 | 1.427 | . 047 | . 389 | . 470 |
| MEAS12 | . 502 | . 021 | 1187.0 | 1214.7 | . 014 | . 496 | 1.475 | . 042 | . 459 | . 544 |
| FULVAC | . 351 | . 018 | 1187.0 | 1214.7 | . 014 | . 474 | 1.287 | . 050 | . 315 | . 386 |

HUSBANDS

|  |  |  |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| HNOEDU | .502 | .019 | 1354.0 | 1354.0 | .014 | .500 | 1.366 | .037 | .465 | .540 |
| HSEC | .204 | .015 | 1354.0 | 1354.0 | .011 | .403 | 1.403 | .075 | .173 | .235 |
| HKMETH | .793 | .020 | 1354.0 | 1354.0 | .011 | .405 | 1.795 | .025 | .754 | .833 |
| HKSOUR | .651 | .022 | 1354.0 | 1354.0 | .013 | .477 | 1.705 | .034 | .607 | .695 |
| HEVUSE | .247 | .017 | 1354.0 | 1354.0 | .012 | .432 | 1.411 | .067 | .214 | .280 |
| HCUSN | .151 | .014 | 1354.0 | 1354.0 | .010 | .358 | 1.396 | .090 | .124 | .178 |
| HCUMOD | .101 | .010 | 1354.0 | 1354.0 | .008 | .301 | 1.276 | .104 | .080 | .121 |
| HCUIUD | .014 | .004 | 1354.0 | 1354.0 | .003 | .118 | 1.179 | .267 | .007 | .022 |
| HCUCON | .036 | .006 | 1354.0 | 1354.0 | .005 | .185 | 1.166 | .165 | .024 | .047 |
| HCUSTE | .038 | .007 | 1354.0 | 1354.0 | .005 | .192 | 1.409 | .192 | .024 | .053 |
| HNOMOR | .290 | .017 | 1354.0 | 1354.0 | .012 | .454 | 1.342 | .057 | .257 | .323 |
| HDELAY | .198 | .016 | 1354.0 | 1354.0 | .011 | .399 | 1.435 | .079 | .167 | .229 |

Table B. 3 Sampling errors: Urban areas, Pakistan 1990-91

| Variable | Value (R) | Standard error (SE) | Number of cases |  | Design effect (DEFT) | Relative error (SE/R) | Confidence limits |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Unweighted (N) | Weighted (WN) |  |  | R-2SE | $\mathrm{R}+2 \mathrm{SE}$ |
| WOMEN |  |  |  |  |  |  |  |  |
| URBAN | 1.000 | . 000 | 3384.0 | 2019.1 | . 000 | . 000 | 1.000 | 1.000 |
| NOEDUC | . 550 | . 018 | 3384.0 | 2019.1 | 2.135 | . 033 | . 513 | . 586 |
| SECOND | . 211 | . 018 | 3384.0 | 2019.1 | 2.577 | . 086 | . 175 | . 247 |
| COUSIN | . 410 | . 011 | 3384.0 | 2019.1 | 1.330 | . 027 | . 387 | . 432 |
| CUWORK | . 130 | . 009 | 3384.0 | 2019.1 | 1.606 | . 071 | . 112 | . 149 |
| SURVIV | 3.716 | . 062 | 3384.0 | 2019.1 | 1.421 | . 017 | 3.592 | 3.840 |
| KMETHO | . 913 | . 007 | 3256.0 | 1929.8 | 1.349 | . 007 | . 900 | . 927 |
| KSOURC | . 722 | . 011 | 3256.0 | 1929.8 | 1.442 | . 016 | . 700 | . 745 |
| EVUSE | . 417 | . 013 | 3256.0 | 1929.8 | 1.461 | . 030 | . 392 | . 442 |
| CUSING | . 257 | . 012 | 3256.0 | 1929.8 | 1.515 | . 045 | . 234 | . 281 |
| CUMOD | . 187 | . 009 | 3256.0 | 1929.8 | 1.343 | . 049 | . 168 | . 205 |
| CUIUD | . 020 | . 003 | 3256.0 | 1929.8 | 1.177 | . 145 | . 014 | . 026 |
| CUCOND | . 067 | . 006 | 3256.0 | 1929.8 | 1.376 | . 090 | . 055 | . 079 |
| CUSTER | . 073 | . 008 | 3256.0 | 1929.8 | 1.720 | . 108 | . 057 | . 089 |
| PSOURC | . 497 | . 031 | 512.0 | 360.5 | 1.397 | .062 | . 435 | . 558 |
| NOMORE | . 449 | . 012 | 3256.0 | 1929.8 | 1.425 | . 028 | . 424 | . 474 |
| DELAY | . 163 | . 009 | 3256.0 | 1929.8 | 1.350 | . 054 | . 146 | . 181 |
| IDEAL | 3.725 | . 047 | 1679.0 | 1188.8 | 1.385 | . 012 | 3.632 | 3.818 |
| ANTCAR | . 596 | . 017 | 3306.0 | 1980.2 | 1.584 | . 029 | . 561 | . 631 |
| NTETAN | . 469 | . 017 | 3306.0 | 1980.2 | 1.528 | . 032 | . 497 | . 565 |
| MEDELI | . 423 | . 020 | 3306.0 | 1980.2 | 1.888 | . 048 | . 382 | . 464 |
| RESPIR | . 138 | . 009 | 3062.0 | 1835.2 | 1.331 | . 067 | . 120 | . 157 |
| FEVER | . 309 | . 014 | 3062.0 | 1835.2 | 1.519 | . 046 | . 280 | . 337 |
| DIARR1 | . 077 | . 010 | 3062.0 | 1835.2 | 1.859 | . 126 | . 058 | . 097 |
| DIARR2 | . 150 | . 012 | 3062.0 | 1835.2 | 1.740 | . 083 | . 125 | . 175 |
| ORSTRE | . 469 | . 038 | 415.0 | 275.6 | 1.504 | . 080 | . 394 | . 544 |
| MEDTRE | . 627 | . 031 | 415.0 | 275.6 | 1.277 | . 050 | . 565 | . 689 |
| HCARD | . 347 | . 020 | 615.0 | 383.1 | 1.031 | . 057 | . 308 | . 386 |
| BCG12 | . 842 | . 025 | 615.0 | 383.1 | 1.765 | . 030 | . 791 | . 893 |
| DPT12 | . 554 | . 026 | 615.0 | 383.1 | 1.342 | . 048 | . 501 | . 607 |
| POL12 | . 554 | . 026 | 615.0 | 383.1 | 1.342 | . 048 | . 501 | . 607 |
| MEAS12 | . 646 | . 031 | 615.0 | 383.1 | 1.618 | . 048 | . 584 | . 707 |
| FULVAC | . 456 | . 029 | 615.0 | 383.1 | 1.440 | . 062 | . 399 | . 513 |
| HUSBANDS |  |  |  |  |  |  |  |  |
| HNOEDU | . 314 | . 023 | 696.0 | 432.2 | 1.298 | . 073 | . 269 | . 360 |
| HSEC | . 410 | . 031 | 696.0 | 432.2 | 1.687 | . 077 | . 347 | . 473 |
| HKMETH | . 882 | . 019 | 696.0 | 432.2 | 1.524 | . 021 | . 844 | . 919 |
| HKSOUR | . 820 | . 022 | 696.0 | 432.2 | 1.529 | . 027 | . 776 | . 865 |
| HEVUSE | . 455 | . 028 | 696.0 | 432.2 | 1.463 | . 061 | . 399 | . 510 |
| HCUSIN | . 269 | . 025 | 696.0 | 432.2 | 1.465 | . 092 | . 220 | . 318 |
| HCUMOD | . 189 | . 023 | 696.0 | 432.2 | 1.568 | . 123 | . 142 | . 235 |
| HCUIUD | . 032 | . 009 | 696.0 | 432.2 | 1.396 | . 290 | . 014 | . 051 |
| HCUCON | . 070 | . 013 | 696.0 | 432.2 | 1.334 | . 184 | . 045 | . 096 |
| HCUSTE | . 061 | . 014 | 696.0 | 432.2 | 1.501 | . 224 | . 034 | . 088 |
| HNOMOR | . 375 | . 027 | 696.0 | 432.2 | 1.443 | . 071 | . 322 | . 428 |
| HDELAY | . 171 | . 021 | 696.0 | 432.2 | 1.483 | . 124 | . 129 | . 214 |

Table B. 4 Sampling errors: Major cities, Pakistan 1990-91

| Variable | Value <br> (R) | Standard error (SE) | Number of cases |  | Design effect (DEFT) | Relative error (SE/R) | Confidence limits |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Unweighted (N) | Weighted (WN) |  |  | R-2SE | $\mathrm{R}+2 \mathrm{SE}$ |
| WOMEN |  |  |  |  |  |  |  |  |
| URBAN | 1.000 | . 000 | 1820.0 | 1151.1 | . 000 | . 000 | 1.000 | 1.000 |
| NOEDUC | . 477 | . 025 | 1820.0 | 1151.1 | 2.175 | . 053 | . 426 | . 528 |
| SECOND | . 259 | . 024 | 1820.0 | 1151.1 | 2.326 | . 092 | . 212 | . 307 |
| COUSIN | . 376 | . 016 | 1820.0 | 1151.1 | 1.371 | . 041 | . 344 | . 407 |
| CUWORK | . 129 | . 014 | 1820.0 | 1151.1 | 1.798 | . 110 | . 101 | . 157 |
| SURVIV | 3.686 | . 072 | 1820.0 | 1151.1 | 1.200 | . 020 | 3.542 | 3.829 |
| KMETHO | . 945 | . 008 | 1744.0 | 1098.1 | 1.448 | . 008 | . 929 | . 961 |
| KSOURC | . 786 | . 012 | 1744.0 | 1098.1 | 1.253 | . 016 | . 761 | . 811 |
| EVUSE | . 492 | . 017 | 1744.0 | 1098.1 | 1.409 | . 034 | . 458 | . 526 |
| CUSING | . 310 | . 017 | 1744.0 | 1098.1 | 1.506 | . 054 | . 277 | . 343 |
| CUMOD | . 223 | . 012 | 1744.0 | 1098.1 | 1.165 | . 052 | . 200 | . 246 |
| CUIUD | . 024 | . 005 | 1744.0 | 1098.1 | 1.248 | . 191 | . 015 | . 033 |
| CUCOND | . 089 | . 010 | 1744.0 | 1098.1 | 1.412 | . 108 | . 070 | . 108 |
| CUSTER | . 085 | . 012 | 1744.0 | 1098.1 | 1.778 | . 140 | . 061 | . 108 |
| PSOURC | . 487 | . 038 | 347.0 | 244.6 | 1.432 | . 079 | . 410 | . 564 |
| NOMORE | . 457 | . 016 | 1744.0 | 1098.1 | 1.373 | . 036 | . 424 | . 490 |
| DELAY | . 168 | . 013 | 1744.0 | 1098.1 | 1.417 | . 075 | . 143 | . 194 |
| IDEAL | 3.586 | . 051 | 1100.0 | 799.1 | 1.380 | . 014 | 3.485 | 3.688 |
| ANTCAR | . 702 | . 020 | 1808.0 | 1139.9 | 1.391 | . 028 | . 663 | . 742 |
| NTETAN | . 424 | . 019 | 1808.0 | 1139.9 | 1.292 | . 034 | . 537 | . 615 |
| MEDELI | . 511 | . 028 | 1808.0 | 1139.9 | 1.852 | . 054 | . 456 | . 567 |
| RESPIR | . 123 | . 013 | 1671.0 | 1054.5 | 1.368 | . 103 | . 098 | . 148 |
| FEVER | . 312 | . 020 | 1671.0 | 1054.5 | 1.558 | . 064 | . 272 | . 352 |
| DIARR1 | . 075 | . 011 | 1671.0 | 1054.5 | 1.622 | . 149 | . 053 | . 098 |
| DIARR2 | . 151 | . 015 | 1671.0 | 1054.5 | 1.578 | . 101 | . 120 | . 181 |
| ORSTRE | . 538 | . 043 | 238.0 | 158.7 | 1.221 | . 080 | . 452 | . 625 |
| MEDTRE | . 656 | . 043 | 238.0 | 158.7 | 1.320 | . 066 | . 570 | . 742 |
| HCARD | . 345 | . 025 | 335.0 | 215.0 | . 966 | . 073 | . 294 | . 395 |
| BCG12 | . 835 | . 034 | 335.0 | 215.0 | 1.683 | . 041 | . 767 | . 903 |
| DPT12 | . 529 | . 031 | 335.0 | 215.0 | 1.142 | . 059 | . 467 | . 591 |
| POL12 | . 529 | . 031 | 335.0 | 215.0 | 1.142 | . 059 | . 467 | . 591 |
| MEAS12 | . 644 | . 035 | 335.0 | 215.0 | 1.357 | . 055 | . 573 | . 715 |
| FULVAC | . 437 | . 032 | 335.0 | 215.0 | 1.184 | . 073 | . 374 | . 501 |
| HUSBANDS |  |  |  |  |  |  |  |  |
| HNOEDU | . 327 | . 030 | 380.0 | 249.7 | 1.247 | . 092 | . 267 | . 388 |
| HSEC | . 426 | . 040 | 380.0 | 249.7 | 1.591 | . 095 | . 346 | . 507 |
| HKMETH | . 892 | . 024 | 380.0 | 249.7 | 1.486 | . 027 | . 845 | . 939 |
| HKSOUR | . 843 | . 028 | 380.0 | 249.7 | 1.523 | . 034 | . 786 | . 900 |
| HEVUSE | . 503 | . 034 | 380.0 | 249.7 | 1.329 | . 068 | . 435 | . 571 |
| HCUSIN | . 281 | . 032 | 380.0 | 249.7 | 1.408 | . 116 | . 216 | . 346 |
| HCUMOD | . 205 | . 028 | 380.0 | 249.7 | 1.349 | . 136 | . 149 | . 261 |
| HCUIUD | . 041 | . 014 | 380.0 | 249.7 | 1.332 | . 332 | . 014 | . 068 |
| HCUCON | . 090 | . 019 | 380.0 | 249.7 | 1.288 | . 211 | . 052 | . 128 |
| HCUSTE | . 056 | . 013 | 380.0 | 249.7 | 1.130 | . 237 | . 030 | . 083 |
| HNOMOR | . 355 | . 035 | 380.0 | 249.7 | 1.422 | . 098 | . 285 | . 425 |
| HDELAY | . 189 | . 031 | 380.0 | 249.7 | 1.561 | . 166 | . 126 | . 252 |

Table B. 5 Sampling errors: Other urban areas, Pakistan 1990-91


Table B. 6 Sampling errors: Rural areas, Pakistan 1990-91

| Variable | Value (R) | Standard error (SE) | Number of cases |  | Design effect (DEFT) | Relative error (SER) | Confidence limits |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Unweighted <br> (N) | Weighted (WN) |  |  | Connide | $\frac{e \text { limits }}{\mathrm{R}+2 \mathrm{SE}}$ |
| WOMEN |  |  |  |  |  |  |  |  |
| URBAN | . 000 | . 000 | 3227.0 | 4591.9 | . 000 | . 000 | . 000 | . 000 |
| NOEDUC | . 899 | . 010 | 3227.0 | 4591.9 | 1.882 | . 011 | . 879 | . 919 |
| SECOND | . 013 | . 003 | 3227.0 | 4591.9 | 1.492 | . 231 | . 007 | . 019 |
| COUSIN | . 544 | . 015 | 3227.0 | 4591.9 | 1.662 | . 027 | . 515 | . 573 |
| CUWORK | . 185 | . 010 | 3227.0 | 4591.9 | 1.447 | . 054 | . 165 | . 204 |
| SURVIV | 3.438 | . 055 | 3227.0 | 4591.9 | 1.216 | . 016 | 3.329 | 3.548 |
| KMETHO | . 720 | . 013 | 3137.0 | 4434.3 | 1.620 | . 018 | . 694 | . 746 |
| KSOURC | . 351 | . 015 | 3137.0 | 4434.3 | 1.707 | . 041 | . 322 | . 380 |
| EVUSE | . 116 | . 008 | 3137.0 | 4434.3 | 1.482 | . 073 | . 099 | . 133 |
| CUSING | . 058 | . 006 | 3137.0 | 4434.3 | 1.349 | . 097 | . 047 | . 069 |
| CUMOD | . 048 | . 005 | 3137.0 | 4434.3 | 1.375 | . 109 | . 038 | . 059 |
| CUIUD | . 009 | . 003 | 3137.0 | 4434.3 | 1.763 | . 323 | . 003 | . 015 |
| CUCOND | . 010 | . 002 | 3137.0 | 4434.3 | 1.390 | . 252 | . 005 | . 014 |
| CUSTER | . 019 | . 003 | 3137.0 | 4434.3 | 1.269 | . 163 | . 013 | . 025 |
| PSOURC | . 658 | . 052 | 143.0 | 213.2 | 1.319 | . 080 | . 553 | . 763 |
| NOMORE | . 327 | . 011 | 3137.0 | 4434.3 | 1.312 | . 034 | . 305 | . 349 |
| DELAY | . 181 | . 010 | 3137.0 | 4434.3 | 1.464 | . 056 | . 161 | . 201 |
| IDEAL | 4.345 | . 087 | 946.0 | 1398.5 | 1.384 | . 020 | 4.172 | 4.518 |
| ANTCAR | . 156 | . 011 | 3046.0 | 4426.4 | 1.397 | . 070 | . 134 | . 178 |
| NTETAN | . 803 | . 013 | 3046.0 | 4426.4 | 1.507 | . 068 | . 170 | . 224 |
| MEDELI | . 082 | . 010 | 3046.0 | 4426.4 | 1.650 | . 125 | . 062 | . 103 |
| RESPIR | . 170 | . 012 | 2766.0 | 3940.3 | 1.548 | . 072 | . 146 | . 195 |
| FEVER | . 297 | . 011 | 2766.0 | 3940.3 | 1.152 | . 038 | . 275 | . 320 |
| DIARR1 | . 085 | . 008 | 2766.0 | 3940.3 | 1.454 | . 092 | . 070 | . 101 |
| DIARR2 | . 143 | . 009 | 2766.0 | 3940.3 | 1.332 | . 066 | . 124 | . 162 |
| ORSTRE | . 348 | . 035 | 366.0 | 564.8 | 1.412 | . 102 | . 277 | . 419 |
| MEDTRE | . 412 | . 026 | 366.0 | 564.8 | 1.019 | . 063 | . 360 | . 464 |
| HCARD | . 273 | . 027 | 572.0 | 831.6 | 1.488 | . 101 | . 218 | . 328 |
| BCG12 | . 629 | . 027 | 572.0 | 831.6 | 1.360 | . 043 | . 575 | . 684 |
| DPT12 | . 369 | . 026 | 572.0 | 831.6 | 1.312 | . 071 | . 316 | . 421 |
| POL12 | . 372 | . 027 | 572.0 | 831.6 | 1.325 | . 071 | . 319 | . 425 |
| MEAS12 | . 436 | . 028 | 572.0 | 831.6 | 1.354 | . 064 | . 380 | . 491 |
| FULVAC | . 302 | . 022 | 572.0 | 831.6 | 1.161 | . 073 | . 258 | . 346 |
| HUSBANDS |  |  |  |  |  |  |  |  |
| HNOEDU | . 591 | . 025 | 658.0 | 921.8 | 1.327 | . 043 | . 540 | . 641 |
| HSEC | . 108 | . 015 | 658.0 | 921.8 | 1.201 | . 135 | . 079 | . 137 |
| HKMETH | . 752 | . 028 | 658.0 | 921.8 | 1.644 | . 037 | . 696 | . 807 |
| HKSOUR | . 571 | . 031 | 658.0 | 921.8 | 1.612 | . 054 | . 509 | . 634 |
| HEVUSE | . 150 | . 018 | 658.0 | 921.8 | 1.320 | . 123 | . 113 | . 187 |
| HCUSIN | . 096 | . 015 | 658.0 | 921.8 | 1.322 | . 159 | . 065 | . 126 |
| HCUMOD | . 059 | . 010 | 658.0 | 921.8 | 1.093 | . 170 | . 039 | . 079 |
| HCUIUD | . 006 | . 003 | 658.0 | 921.8 | 1.143 | . 586 | -. 001 | . 012 |
| HCUCON | . 019 | . 006 | 658.0 | 921.8 | 1.106 | . 308 | . 007 | . 031 |
| HCUSTE | . 028 | . 009 | 658.0 | 921.8 | 1.354 | . 313 | . 010 | . 045 |
| HNOMOR | . 250 | . 021 | 658.0 | 921.8 | 1.250 | . 084 | . 208 | . 293 |
| HDELAY | . 211 | . 021 | 658.0 | 921.8 | 1.291 | . 097 | . 170 | . 252 |

Table B. 7 Sampling errors: Punjab, Pakistan 1990-91

| Variable | Value <br> (R) | Standard error (SE) | Number of cases |  | Design effect (DEFT) | Relative error (SE/R) | Confidence limits |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |
|  |  |  | (N) | (WN) |  |  | R-2SE | R+2SE |
| WOMEN |  |  |  |  |  |  |  |  |
| URBAN | . 284 | . 009 | 2207.0 | 3948.1 | . 896 | . 030 | . 267 | . 301 |
| NOEDUC | . 765 | . 014 | 2207.0 | 3948.1 | 1.573 | . 019 | . 737 | . 793 |
| SECOND | . 080 | . 009 | 2207.0 | 3948.1 | 1.519 | . 110 | . 062 | . 098 |
| COUSIN | . 530 | . 016 | 2207.0 | 3948.1 | 1.481 | . 030 | . 498 | . 561 |
| CUWORK | . 158 | . 010 | 2207.0 | 3948.1 | 1.348 | . 066 | . 137 | . 179 |
| SURVIV | 3.409 | . 062 | 2207.0 | 3948.1 | 1.161 | . 018 | 3.286 | 3.533 |
| KMETHO | . 806 | . 013 | 2110.0 | 3767.9 | 1.486 | . 016 | . 780 | . 831 |
| KSOURC | . 478 | . 015 | 2110.0 | 3767.9 | 1.347 | . 031 | . 448 | . 507 |
| EVUSE | . 229 | . 011 | 2110.0 | 3767.9 | 1.148 | . 046 | . 208 | . 250 |
| CUSING | . 130 | . 008 | 2110.0 | 3767.9 | 1.026 | . 058 | . 115 | . 145 |
| CUMOD | . 098 | . 007 | 2110.0 | 3767.9 | 1.058 | . 070 | . 085 | . 112 |
| CUIUD | . 015 | . 004 | 2110.0 | 3767.9 | 1.370 | . 243 | . 008 | . 022 |
| CUCOND | . 030 | . 004 | 2110.0 | 3767.9 | 1.014 | . 126 | . 022 | . 038 |
| CUSTER | . 038 | . 005 | 2110.0 | 3767.9 | 1.170 | . 127 | . 029 | . 048 |
| PSOURC | . 561 | . 040 | 263.0 | 370.1 | 1.293 | . 071 | . 482 | . 641 |
| NOMORE | . 405 | . 012 | 2110.0 | 3767.9 | 1.158 | . 031 | . 380 | . 429 |
| DELAY | . 204 | . 011 | 2110.0 | 3767.9 | 1.305 | . 056 | . 181 | . 227 |
| IDEAL | 3.982 | . 059 | 1087.0 | 1670.5 | 1.292 | . 015 | 3.863 | 4.101 |
| ANTCAR | . 239 | . 013 | 2193.0 | 3932.6 | 1.115 | . 054 | . 213 | . 264 |
| NTETAN | . 698 | . 014 | 2193.0 | 3932.6 | 1.164 | . 048 | . 273 | . 331 |
| MEDELI | . 164 | . 013 | 2193.0 | 3932.6 | 1.302 | . 080 | . 138 | . 190 |
| RESPIR | . 170 | . 013 | 1983.0 | 3515.6 | 1.398 | . 078 | . 143 | . 196 |
| FEVER | . 308 | . 012 | 1983.0 | 3515.6 | 1.048 | . 040 | . 283 | . 332 |
| DIARR1 | . 080 | . 009 | 1983.0 | 3515.6 | 1.403 | . 112 | . 063 | . 098 |
| DIARR2 | . 144 | . 011 | 1983.0 | 3515.6 | 1.261 | . 076 | . 122 | . 165 |
| ORSTRE | . 357 | . 039 | 284.0 | 504.8 | 1.320 | . 110 | . 279 | . 436 |
| MEDTRE | . 439 | . 028 | 284.0 | 504.8 | . 905 | . 064 | . 382 | . 495 |
| HCARD | . 312 | . 028 | 427.0 | 762.6 | 1.230 | . 089 | . 256 | . 367 |
| BCG12 | . 758 | . 026 | 427.0 | 762.6 | 1.271 | . 035 | . 705 | . 811 |
| DPT12 | . 467 | . 029 | 427.0 | 762.6 | 1.189 | . 062 | . 409 | . 524 |
| POL12 | . 469 | . 029 | 427.0 | 762.6 | 1.201 | . 062 | . 411 | . 527 |
| MEAS12 | . 544 | . 031 | 427.0 | 762.6 | 1.291 | . 057 | . 482 | . 606 |
| FULVAC | . 386 | . 025 | 427.0 | 762.6 | 1.069 | . 066 | . 336 | . 437 |
| HUSBANDS |  |  |  |  |  |  |  |  |
| HNOEDU | . 484 | . 028 | 461.0 | 801.4 | 1.182 | . 057 | . 429 | . 539 |
| HSEC | . 213 | . 024 | 461.0 | 801.4 | 1.232 | . 110 | . 166 | . 260 |
| HKMETH | . 806 | . 029 | 461.0 | 801.4 | 1.581 | . 036 | . 747 | . 864 |
| HKSOUR | . 660 | . 034 | 461.0 | 801.4 | 1.525 | . 051 | . 593 | . 728 |
| HEVUSE | . 278 | . 025 | 461.0 | 801.4 | 1.220 | . 092 | . 227 | . 329 |
| HCUSIN | . 182 | . 021 | 461.0 | 801.4 | 1.178 | . 117 | . 139 | . 224 |
| HCUMOD | . 115 | . 016 | 461.0 | 801.4 | 1.078 | . 140 | . 082 | . 147 |
| HCUIUD | . 020 | . 006 | 461.0 | 801.4 | . 949 | . 309 | . 008 | . 032 |
| HCUCON | . 036 | . 009 | 461.0 | 801.4 | . 992 | . 239 | . 019 | . 053 |
| HCUSTE | . 045 | . 012 | 461.0 | 801.4 | 1.196 | . 258 | . 022 | . 068 |
| HNOMOR | . 340 | . 024 | 461.0 | 801.4 | 1.090 | . 071 | . 292 | . 388 |
| HDELAY | . 215 | . 023 | 461.0 | 801.4 | 1.200 | . 107 | . 169 | . 261 |

Table B. 8 Sampling errors: Sindh, Pakistan 1990-91

| Variable | Value (R) | Standard error (SE) | Number of cases |  | Design effect (DEFT) | Relative error (SE/R) | Confidence limits |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |
|  |  |  | (N) | (WN) |  |  | R-2SE | R+2SE |
| WOMEN |  |  |  |  |  |  |  |  |
| URBAN | . 469 | . 018 | 1798.0 | 1529.1 | 1.518 | . 038 | . 434 | . 505 |
| NOEDUC | . 768 | . 016 | 1798.0 | 1529.1 | 1.568 | . 020 | . 737 | . 799 |
| SECOND | . 092 | . 012 | 1798.0 | 1529.1 | 1.759 | . 131 | . 068 | . 116 |
| COUSIN | . 497 | . 019 | 1798.0 | 1529.1 | 1.604 | . 038 | . 459 | . 534 |
| CUWORK | . 249 | . 014 | 1798.0 | 1529.1 | 1.332 | . 055 | . 222 | . 276 |
| SURVIV | 3.764 | . 073 | 1798.0 | 1529.1 | 1.158 | . 019 | 3.618 | 3.909 |
| KMETHO | . 744 | . 015 | 1741.0 | 1486.0 | 1.476 | . 021 | . 713 | . 775 |
| KSOURC | . 472 | . 022 | 1741.0 | 1486.0 | 1.841 | . 047 | . 428 | . 517 |
| EVUSE | . 218 | . 015 | 1741.0 | 1486.0 | 1.496 | . 068 | . 189 | . 248 |
| CUSING | . 124 | . 012 | 1741.0 | 1486.0 | 1.506 | . 096 | . 101 | . 148 |
| CUMOD | . 091 | . 008 | 1741.0 | 1486.0 | 1.162 | . 088 | . 075 | . 107 |
| CUIUD | . 009 | . 002 | 1741.0 | 1486.0 | 1.083 | . 269 | . 004 | . 014 |
| CUCOND | . 034 | . 005 | 1741.0 | 1486.0 | 1.095 | . 139 | . 025 | . 044 |
| CUSTER | . 035 | . 004 | 1741.0 | 1486.0 | . 848 | . 107 | . 027 | . 042 |
| PSOURC | . 494 | . 037 | 189.0 | 134.5 | 1.004 | . 074 | . 421 | . 568 |
| NOMORE | . 323 | . 016 | 1741.0 | 1486.0 | 1.386 | . 048 | . 292 | . 354 |
| DELAY | . 145 | . 011 | 1741.0 | 1486.0 | 1.342 | . 078 | . 122 | . 168 |
| IDEAL | 3.986 | . 122 | 753.0 | 590.1 | 1.658 | . 031 | 3.742 | 4.231 |
| ANTCAR | . 500 | . 017 | 1650.0 | 1363.7 | 1.035 | . 033 | . 467 | . 533 |
| NTETAN | . 594 | . 022 | 1650.0 | 1363.7 | 1.400 | . 054 | . 363 | . 450 |
| MEDELI | . 322 | . 023 | 1650.0 | 1363.7 | 1.533 | . 071 | . 276 | . 368 |
| RESPIR | . 172 | . 016 | 1508.0 | 1222.4 | 1.446 | . 094 | . 140 | . 204 |
| FEVER | . 342 | . 019 | 1508.0 | 1222.4 | 1.384 | . 055 | . 304 | . 379 |
| DIARR1 | . 106 | . 012 | 1508.0 | 1222.4 | 1.374 | . 111 | . 082 | . 129 |
| DIARR2 | . 196 | . 015 | 1508.0 | 1222.4 | 1.305 | . 074 | . 167 | . 225 |
| ORSTRE | . 484 | . 037 | 284.0 | 239.1 | 1.128 | . 076 | . 410 | . 558 |
| MEDTRE | . 597 | . 033 | 284.0 | 239.1 | 1.055 | . 055 | . 532 | . 662 |
| HCARD | . 257 | . 022 | 298.0 | 244.5 | . 849 | . 086 | . 212 | . 301 |
| BCG12 | . 602 | . 033 | 298.0 | 244.5 | 1.151 | . 055 | . 535 | . 668 |
| DPT12 | . 330 | . 028 | 298.0 | 244.5 | 1.007 | . 085 | . 274 | . 386 |
| POL12 | . 330 | . 028 | 298.0 | 244.5 | 1.007 | . 085 | . 274 | . 386 |
| MEAS12 | . 412 | . 029 | 298.0 | 244.5 | . 985 | . 070 | . 355 | . 469 |
| FULVAC | . 253 | . 025 | 298.0 | 244.5 | . 986 | . 100 | . 202 | . 303 |
| HUSBANDS |  |  |  |  |  |  |  |  |
| HNOEDU | . 479 | . 028 | 364.0 | 349.7 | 1.054 | . 058 | . 424 | . 534 |
| HSEC | . 204 | . 022 | 364.0 | 349.7 | 1.055 | . 109 | . 159 | . 248 |
| HKMETH | . 772 | . 033 | 364.0 | 349.7 | 1.491 | . 042 | . 707 | . 838 |
| HKSOUR | . 672 | . 030 | 364.0 | 349.7 | 1.198 | . 044 | . 613 | . 732 |
| HEVUSE | . 241 | . 026 | 364.0 | 349.7 | 1.140 | . 106 | . 190 | . 292 |
| HCUSIN | . 125 | . 020 | 364.0 | 349.7 | 1.180 | . 164 | . 084 | . 166 |
| HCUMOD | . 091 | . 016 | 364.0 | 349.7 | 1.070 | . 178 | . 059 | . 123 |
| HCUIUD | . 004 | . 003 | 364.0 | 349.7 | . 820 | . 712 | -. 002 | . 009 |
| HCUCON | . 040 | . 010 | 364.0 | 349.7 | 1.006 | . 258 | . 019 | . 061 |
| HCUSTE | . 035 | . 010 | 364.0 | 349.7 | 1.033 | . 286 | . 015 | . 055 |
| HNOMOR | . 252 | . 027 | 364.0 | 349.7 | 1.199 | . 108 | . 198 | . 307 |
| HDELAY | . 159 | . 025 | 364.0 | 349.7 | 1.300 | . 157 | . 109 | . 208 |

Table B. 9 Sampling errors: NWFP, Pakistan 1990-91

| Variable | Value (R) | Standard error (SE) | Number of cases |  | Design effect (DEFT) | Relative error (SE/R) | Confidence limits |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Unweighted <br> (N) | Weighted (WN) |  |  | R-2SE | $\overline{\mathrm{R}+2 \mathrm{SE}}$ |
| WOMEN |  |  |  |  |  |  |  |  |
| URBAN | . 160 | . 008 | 1665.0 | 878.3 | . 855 | . 048 | . 145 | . 175 |
| NOEDUC | . 906 | . 011 | 1665.0 | 878.3 | 1.609 | . 013 | . 883 | . 929 |
| SECOND | . 029 | . 005 | 1665.0 | 878.3 | 1.139 | . 160 | . 020 | . 039 |
| COUSIN | . 383 | . 020 | 1665.0 | 878.3 | 1.656 | . 052 | . 343 | . 422 |
| CUWORK | . 039 | . 006 | 1665.0 | 878.3 | 1.334 | . 162 | . 026 | . 052 |
| SURVIV | 3.640 | . 082 | 1665.0 | 878.3 | 1.268 | . 023 | 3.475 | 3.804 |
| KMETHO | . 836 | . 020 | 1620.0 | 856.4 | 2.202 | . 024 | . 796 | . 877 |
| KSOURC | . 451 | . 026 | 1620.0 | 856.4 | 2.083 | . 057 | . 400 | . 503 |
| EVUSE | . 141 | . 012 | 1620.0 | 856.4 | 1.413 | . 087 | . 116 | . 165 |
| CUSING | . 086 | . 009 | 1620.0 | 856.4 | 1.342 | . 109 | . 067 | . 104 |
| CUMOD | . 076 | . 008 | 1620.0 | 856.4 | 1.280 | . 111 | . 059 | . 092 |
| CUIUD | . 011 | . 003 | 1620.0 | 856.4 | 1.254 | . 301 | . 004 | . 017 |
| CUCOND | . 008 | . 002 | 1620.0 | 856.4 | . 966 | . 260 | . 004 | . 013 |
| CUSTER | . 032 | . 008 | 1620.0 | 856.4 | 1.848 | . 252 | . 016 | . 048 |
| PSOURC | . 649 | . 047 | 165.0 | 64.8 | 1.258 | . 072 | . 555 | . 742 |
| NOMORE | . 335 | . 019 | 1620.0 | 856.4 | 1.599 | . 056 | . 297 | . 372 |
| DELAY | . 131 | . 007 | 1620.0 | 856.4 | . 838 | . 054 | . 117 | . 145 |
| IDEAL | 4.336 | . 117 | 579.0 | 284.9 | 1.564 | . 027 | 4.101 | 4.571 |
| ANTCAR | . 186 | . 018 | 1609.0 | 864.5 | 1.545 | . 098 | . 149 | . 222 |
| NTETAN | . 819 | . 021 | 1609.0 | 864.5 | 1.754 | . 114 | . 140 | . 222 |
| MEDELI | . 116 | . 011 | 1609.0 | 864.5 | 1.178 | . 097 | . 093 | . 138 |
| RESPIR | . 122 | . 011 | 1505.0 | 815.3 | 1.141 | . 086 | . 101 | . 143 |
| FEVER | . 249 | . 014 | 1505.0 | 815.3 | 1.131 | . 057 | . 221 | . 277 |
| DIARR1 | . 070 | . 009 | 1505.0 | 815.3 | 1.463 | . 135 | . 051 | . 089 |
| DIARR2 | . 096 | . 009 | 1505.0 | 815.3 | 1.165 | . 091 | . 078 | . 113 |
| ORSTRE | . 312 | . 042 | 139.0 | 78.0 | 1.086 | . 135 | . 228 | . 396 |
| MEDTRE | . 415 | . 045 | 139.0 | 78.0 | 1.090 | . 108 | . 326 | . 505 |
| HCARD | . 313 | . 052 | 301.0 | 164.9 | 1.973 | . 166 | . 209 | . 418 |
| BCG12 | . 638 | . 039 | 301.0 | 164.9 | 1.432 | . 062 | . 559 | . 717 |
| DPT12 | . 440 | . 046 | 301.0 | 164.9 | 1.622 | . 105 | . 348 | . 531 |
| POL12 | . 445 | . 047 | 301.0 | 164.9 | 1.658 | . 106 | . 351 | . 539 |
| MEAS12 | . 482 | . 033 | 301.0 | 164.9 | 1.157 | . 069 | . 416 | . 548 |
| FULVAC | . 376 | . 039 | 301.0 | 164.9 | 1.405 | . 103 | . 299 | . 454 |
| HUSBANDS |  |  |  |  |  |  |  |  |
| HNOEDU | . 549 | . 033 | 313.0 | 151.3 | 1.176 | . 060 | . 483 |  |
| HSEC | . 188 | . 027 | 313.0 | 151.3 | 1.236 | . 145 | . 134 | . 243 |
| HKMETH | . 778 | . 029 | 313.0 | 151.3 | 1.219 | . 037 | . 720 | . 835 |
| HKSOUR | . 528 | . 044 | 313.0 | 151.3 | 1.569 | . 084 | . 440 | . 617 |
| HEVUSE | . 165 | . 024 | 313.0 | 151.3 | 1.127 | . 143 | . 118 | . 213 |
| HCUSIN | . 093 | . 017 | 313.0 | 151.3 | 1.028 | . 182 | . 059 | . 127 |
| HCUMOD | . 078 | . 016 | 313.0 | 151.3 | 1.062 | . 206 | . 046 | . 111 |
| HCUIUD | . 010 | . 006 | 313.0 | 151.3 | 1.070 | . 612 | -. 002 | . 022 |
| HCUCON | . 035 | . 011 | 313.0 | 151.3 | 1.029 | . 306 | . 013 | . 056 |
| HCUSTE | . 024 | . 010 | 313.0 | 151.3 | 1.136 | . 408 | . 004 | . 044 |
| HNOMOR | . 194 | . 026 | 313.0 | 151.3 | 1.164 | . 134 | . 142 | . 246 |
| HDELAY | . 256 | . 031 | 313.0 | 151.3 | 1.266 | . 122 | . 193 | . 319 |


| Variable | Value (R) | Standard error (SE) | Number of cases |  | Design effect (DEFT) | Relative error (SE/R) | Confidence limits |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |
|  |  |  | (N) | (WN) |  |  | R-2SE | R+2SE |
| WOMEN |  |  |  |  |  |  |  |  |
| URBAN | . 158 | . 020 | 941.0 | 255.4 | 1.676 | . 126 | . 118 | . 198 |
| NOEDUC | . 963 | . 008 | 941.0 | 255.4 | 1.363 | . 009 | . 946 | . 980 |
| SECOND | . 012 | . 002 | 941.0 | 255.4 | . 677 | . 198 | . 007 | . 017 |
| COUSIN | . 544 | . 043 | 941.0 | 255.4 | 2.674 | . 080 | . 457 | . 631 |
| CUWORK | . 289 | . 043 | 941.0 | 255.4 | 2.914 | . 149 | . 203 | . 375 |
| SURVIV | 3.443 | . 155 | 941.0 | 255.4 | 1.950 | . 045 | 3.133 | 3.754 |
| KMETHO | . 385 | . 056 | 922.0 | 253.8 | 3.493 | . 146 | . 273 | . 497 |
| KSOURC | . 239 | . 043 | 922.0 | 253.8 | 3.030 | . 178 | . 154 | . 324 |
| EVUSE | . 043 | . 008 | 922.0 | 253.8 | 1.202 | . 188 | . 027 | . 059 |
| CUSING | . 020 | . 006 | 922.0 | 253.8 | 1.301 | . 301 | . 008 | . 032 |
| CUMOD | . 017 | . 006 | 922.0 | 253.8 | 1.351 | . 340 | . 005 | . 028 |
| CUIUD | . 005 | . 003 | 922.0 | 253.8 | 1.227 | . 601 | -. 001 | . 010 |
| CUCOND | . 002 | . 000 | 922.0 | 253.8 | . 000 | . 000 | . 002 | . 002 |
| CUSTER | . 003 | . 002 | 922.0 | 253.8 | . 872 | . 507 | -. 000 | . 006 |
| PSOURC | . 721 | . 117 | 38.0 | 4.3 | 1.580 | . 162 | . 488 | . 954 |
| NOMORE | . 089 | . 018 | 922.0 | 253.8 | 1.895 | . 200 | . 053 | . 125 |
| DELAY | . 087 | . 021 | 922.0 | 253.8 | 2.252 | . 241 | . 045 | . 128 |
| IDEAL | 6.332 | . 316 | 206.0 | 41.9 | 1.919 | . 050 | 5.700 | 6.963 |
| ANTCAR | . 360 | . 046 | 900.0 | 245.8 | 2.165 | . 126 | . 269 | . 451 |
| NTETAN | . 893 | . 026 | 900.0 | 245.8 | 2.077 | . 238 | . 056 | . 158 |
| MEDELI | . 075 | . 018 | 900.0 | 245.8 | 1.606 | . 236 | . 040 | . 111 |
| RESPIR | . 083 | . 017 | 832.0 | 222.3 | 1.692 | . 203 | . 049 | . 116 |
| FEVER | . 161 | . 018 | 832.0 | 222.3 | 1.321 | . 110 | . 126 | . 196 |
| DIARR1 | . 045 | . 015 | 832.0 | 222.3 | 2.120 | . 337 | . 015 | . 076 |
| DIARR2 | . 083 | . 024 | 832.0 | 222.3 | 2.244 | . 293 | . 034 | . 131 |
| ORSTRE | . 302 | . 069 | 74.0 | 18.4 | 1.176 | . 229 | . 164 | . 441 |
| MEDTRE | . 483 | . 093 | 74.0 | 18.4 | 1.370 | . 192 | . 297 | . 668 |
| HCARD | . 186 | . 049 | 161.0 | 42.7 | 1.576 | . 263 | . 088 | . 284 |
| BCG12 | . 371 | . 113 | 161.0 | 42.7 | 2.942 | . 305 | . 144 | . 598 |
| DPT12 | . 229 | . 082 | 161.0 | 42.7 | 2.451 | . 359 | . 064 | . 393 |
| POL12 | . 234 | . 081 | 161.0 | 42.7 | 2.404 | . 347 | . 072 | . 396 |
| MEAS12 | . 341 | . 068 | 161.0 | 42.7 | 1.786 | . 198 | . 206 | . 476 |
| FULVAC | . 178 | . 065 | 161.0 | 42.7 | 2.119 | . 363 | . 049 | . 308 |
| HUSBANDS |  |  |  |  |  |  |  |  |
| HNOEDU | . 813 | . 051 | 216.0 | 51.6 | 1.922 | . 063 | . 711 | . 915 |
| HSEC | . 107 | . 032 | 216.0 | 51.6 | 1.514 | . 298 | . 043 | . 171 |
| HKMETH | . 783 | . 074 | 216.0 | 51.6 | 2.636 | . 095 | . 635 | . 931 |
| HKSOUR | . 717 | . 063 | 216.0 | 51.6 | 2.067 | . 088 | . 590 | . 844 |
| HEVUSE | . 057 | . 026 | 216.0 | 51.6 | 1.651 | . 458 | . 005 | . 109 |
| HCUSIN | . 021 | . 010 | 216.0 | 51.6 | 1.005 | . 470 | . 001 | . 040 |
| HCUMOD | . 013 | . 008 | 216.0 | 51.6 | 1.023 | . 598 | . 003 | . 029 |
| HCUIUD | . 008 | . 008 | 216.0 | 51.6 | 1.271 | . 972 | -. 007 | . 023 |
| HCUCON | . 001 | . 001 | 216.0 | 51.6 | . 502 | 1.014 | -. 001 | . 003 |
| HCUSTE | . 004 | . 003 | 216.0 | 51.6 | . 651 | . 735 | -. 002 | . 009 |
| HNOMOR | . 056 | . 021 | 216.0 | 51.6 | 1.333 | . 373 | . 014 | . 098 |
| HDELAY | . 033 | . 018 | 216.0 | 51.6 | 1.505 | . 558 | . 004 | . 069 |

Table B. 11 Sampling errors: Age group 15-24, Pakistan 1990-91

| Variable | $\begin{gathered} \text { Value } \\ (\mathrm{R}) \end{gathered}$ | $\begin{aligned} & \text { Standard } \\ & \text { error } \\ & \text { (SE) } \end{aligned}$ | Number of cases |  | $\begin{aligned} & \text { Design } \\ & \text { effect } \\ & \text { (DEFT) } \end{aligned}$ | Relative error (SE/R) | Confidence limits |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Unweighted <br> (N) | Weighted (WN) |  |  | R-2SE | $\mathrm{R}+2 \mathrm{SE}$ |
| WOMEN |  |  |  |  |  |  |  |  |
| URBAN | . 260 | . 014 | 1471.0 | 1487.3 | 1.215 | . 053 | . 232 | . 288 |
| NOEDUC | . 770 | . 017 | 1471.0 | 1487.3 | 1.515 | . 022 | . 736 | . 803 |
| SECOND | . 062 | . 009 | 1471.0 | 1487.3 | 1.353 | . 137 | . 045 | . 079 |
| COUSIN | . 560 | . 020 | 1471.0 | 1487.3 | 1.518 | . 035 | . 521 | . 600 |
| CUWORK | . 143 | . 014 | 1471.0 | 1487.3 | 1.544 | . 099 | . 115 | . 171 |
| surviv | 1.158 | . 038 | 1471.0 | 1487.3 | 1.282 | . 033 | 1.081 | 1.234 |
| KMETHO | . 725 | . 017 | 1447.0 | 1459.0 | 1.418 | . 023 | . 692 | . 759 |
| KSOURC | . 383 | . 019 | 1447.0 | 1459.0 | 1.491 | . 050 | . 345 | . 422 |
| EVUSE | . 101 | . 010 | 1447.0 | 1459.0 | 1.219 | . 096 | . 082 | . 120 |
| CUSING | . 052 | . 006 | 1447.0 | 1459.0 | 1.096 | . 123 | . 039 | . 065 |
| CUMOD | . 033 | . 006 | 1447.0 | 1459.0 | 1.213 | . 173 | . 021 | . 044 |
| CUIUD | . 006 | . 003 | 1447.0 | 1459.0 | 1.393 | . 467 | . 000 | . 012 |
| CUCOND | . 013 | . 003 | 1447.0 | 1459.0 | 1.158 | . 264 | . 006 | . 020 |
| CUSTER | . 003 | . 002 | 1447.0 | 1459.0 | 1.082 | . 486 | . 000 | . 007 |
| PSOURC | . 382 | . 084 | 59.0 | 47.9 | 1.309 | . 219 | . 214 | . 549 |
| NOMORE | . 393 | . 011 | 1447.0 | 1459.0 | 1.474 | . 121 | . 070 | . 115 |
| delay | . 358 | . 018 | 1447.0 | 1459.0 | 1.406 | . 050 | . 322 | . 393 |
| DEAL | 3.839 | . 072 | 634.0 | 631.8 | 1.322 | . 019 | 3.696 | 3.982 |
| ANTCAR | . 321 | . 021 | 1518.0 | 1496.0 | 1.344 | . 064 | . 280 | . 362 |
| NTETAN | . 664 | . 020 | 1518.0 | 1496.0 | 1.307 | . 059 | . 297 | . 376 |
| MEDELI | . 206 | . 016 | 1518.0 | 1496.0 | 1.234 | . 079 | . 173 | . 238 |
| RESPIR | . 167 | . 018 | 1376.0 | 1341.4 | 1.516 | . 107 | . 132 | . 203 |
| FEVER | . 317 | . 018 | 1376.0 | 1341.4 | 1.278 | . 058 | . 280 | . 354 |
| DIARR1 | . 119 | . 014 | 1376.0 | 1341.4 | 1.488 | . 115 | . 092 | . 147 |
| DIARR2 | . 198 | . 016 | 1376.0 | 1341.4 | 1.335 | . 080 | . 166 | . 229 |
| ORSTRE | . 340 | . 048 | 236.0 | 265.2 | 1.501 | . 140 | . 245 | . 435 |
| MEDTRE | . 449 | . 048 | 236.0 | 265.2 | 1.459 | . 107 | . 353 | . 544 |
| HCARD | . 254 | . 030 | 323.0 | 304.8 | 1.179 | . 117 | . 195 | . 314 |
| BCG12 | . 695 | . 033 | 323.0 | 304.8 | 1.259 | . 048 | . 629 | . 762 |
| DPT12 | . 343 | . 034 | 323.0 | 304.8 | 1.241 | . 099 | . 275 | . 412 |
| POL12 | . 344 | . 034 | 323.0 | 304.8 | 1.241 | . 099 | . 276 | . 412 |
| MEAS12 | . 479 | . 041 | 323.0 | 304.8 | 1.426 | . 086 | . 396 | . 561 |
| FULVAC | . 274 | . 033 | 323.0 | 304.8 | 1.291 | . 121 | . 208 | . 340 |

Table B. 12 Sampling errors: Age group 25-34, Pakistan 1990-91

| Variable | Value (R) | $\begin{aligned} & \text { Standard } \\ & \text { error } \\ & \text { (SE) } \end{aligned}$ | Number of cases |  | Design effect (DEFT) | Relative error (SE/R) | Confidence limits |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Unweighted <br> (N) | Weighted (WN) |  |  | R-2SE | $R+2 S E$ |
| WOMEN |  |  |  |  |  |  |  |  |
| URBAN | . 310 | . 011 | 2669.0 | 2681.7 | 1.231 | . 036 | . 288 | . 332 |
| NOEDUC | . 766 | . 013 | 2669.0 | 2681.7 | 1.526 | . 016 | . 741 | . 791 |
| SECOND | . 096 | . 010 | 2669.0 | 2681.7 | 1.816 | . 108 | . 075 | . 116 |
| COUSIN | . 499 | . 017 | 2669.0 | 2681.7 | 1.758 | . 034 | . 465 | . 533 |
| CUWORK | . 165 | . 010 | 2669.0 | 2681.7 | 1.379 | . 060 | . 145 | . 185 |
| SURVIV | 3.211 | . 055 | 2669.0 | 2681.7 | 1.443 | . 017 | 3.102 | 3.321 |
| KMETHO | . 793 | . 013 | 2606.0 | 2598.9 | 1.680 | . 017 | . 767 | . 820 |
| KSOURC | . 471 | . 014 | 2606.0 | 2598.9 | 1.480 | . 031 | . 442 | . 500 |
| EVUSE | . 212 | . 010 | 2606.0 | 2598.9 | 1.310 | . 049 | . 191 | . 233 |
| CUSING | . 113 | . 008 | 2606.0 | 2598.9 | 1.348 | . 074 | . 096 | . 130 |
| CUMOD | . 083 | . 006 | 2606.0 | 2598.9 | 1.184 | . 077 | . 071 | . 096 |
| CUIUD | . 018 | . 004 | 2606.0 | 2598.9 | 1.591 | . 229 | . 010 | . 027 |
| CUCOND | . 036 | . 005 | 2606.0 | 2598.9 | 1.277 | . 130 | . 026 | . 045 |
| CUSTER | . 017 | . 003 | 2606.0 | 2598.9 | 1.078 | . 162 | . 011 | . 022 |
| PSOURC | . 448 | . 048 | 269.0 | 216.7 | 1.586 | . 108 | . 351 | . 544 |
| NOMORE | . 314 | . 013 | 2606.0 | 2598.9 | 1.474 | . 043 | . 287 | . 340 |
| DELAY | . 197 | . 011 | 2606.0 | 2598.9 | 1.455 | . 058 | . 174 | . 219 |
| IDEAL | 4.039 | . 069 | 1132.0 | 1131.3 | 1.318 | . 017 | 3.902 | 4.177 |
| ANTCAR | . 309 | . 013 | 3402.0 | 3457.1 | 1.263 | . 042 | . 283 | . 335 |
| NTETAN | . 688 | . 015 | 3402.0 | 3457.1 | 1.435 | . 047 | . 282 | . 341 |
| MEDELI | . 205 | . 013 | 3402.0 | 3457.1 | 1.409 | . 062 | . 180 | . 231 |
| RESPIR | . 155 | . 009 | 3113.0 | 3107.6 | 1.293 | . 060 | . 136 | . 173 |
| FEVER | . 285 | . 011 | 3113.0 | 3107.6 | 1.263 | . 040 | . 262 | . 308 |
| DIARR1 | . 071 | . 007 | 3113.0 | 3107.6 | 1.517 | . 103 | . 057 | . 086 |
| DIARR2 | . 126 | . 010 | 3113.0 | 3107.6 | 1.565 | . 081 | . 106 | . 147 |
| ORSTRE | . 421 | . 032 | 379.0 | 392.9 | 1.207 | . 075 | . 358 | . 484 |
| MEDTRE | . 522 | . 030 | 379.0 | 392.9 | 1.121 | . 058 | . 462 | . 582 |
| HCARD | . 339 | . 029 | 620.0 | 647.5 | 1.526 | . 084 | . 282 | . 397 |
| BCG12 | . 706 | . 026 | 620.0 | 647.5 | 1.450 | . 037 | . 654 | . 758 |
| DPT12 | . 447 | . 027 | 620.0 | 647.5 | 1.374 | . 060 | . 393 | . 501 |
| POL12 | . 451 | . 027 | 620.0 | 647.5 | 1.387 | . 061 | . 396 | . 506 |
| MEAS12 | . 527 | . 025 | 620.0 | 647.5 | 1.264 | . 047 | . 477 | . 577 |
| FULVAC | . 374 | . 026 | 620.0 | 647.5 | 1.335 | . 068 | . 323 | . 425 |

Table B. 13 Sampling errors: Age group 35-49, Pakistan 1990-91

| Variable | Value (R) | Standard error (SE) | Number of cases |  | Design effect (DEFT) | Relative error (SE/R) | Confidence limits |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Unweighted (N) | Weighted (WN) |  |  | Connide | $\overline{R+2 S E}$ |
| WOMEN |  |  |  |  |  |  |  |  |
| URBAN | . 328 | . 010 | 2471.0 | 2442.1 | 1.108 | . 032 | . 307 | . 349 |
| NOEDUC | . 835 | . 012 | 2471.0 | 2442.1 | 1.610 | . 014 | . 810 | . 859 |
| SECOND | . 056 | . 007 | 2471.0 | 2442.1 | 1.481 | . 122 | . 042 | . 070 |
| COUSIN | . 472 | . 014 | 2471.0 | 2442.1 | 1.398 | . 030 | . 444 | . 501 |
| CUWORK | . 187 | . 011 | 2471.0 | 2442.1 | 1.340 | . 056 | . 166 | . 208 |
| SURVIV | 5.306 | . 064 | 2471.0 | 2442.1 | 1.305 | . 012 | 5.178 | 5.434 |
| KMETHO | . 796 | . 012 | 2340.0 | 2306.1 | 1.383 | . 014 | . 773 | . 819 |
| KSOURC | . 505 | . 016 | 2340.0 | 2306.1 | 1.507 | . 031 | . 474 | . 536 |
| EVUSE | . 268 | . 013 | 2340.0 | 2306.1 | 1.406 | . 048 | . 242 | . 294 |
| CUSING | . 167 | . 010 | 2340.0 | 2306.1 | 1.260 | . 058 | . 147 | . 186 |
| CUMOD | . 134 | . 009 | 2340.0 | 2306.1 | 1.276 | . 067 | . 116 | . 152 |
| CUIUD | . 010 | . 003 | 2340.0 | 2306.1 | 1.414 | . 286 | . 004 | . 016 |
| CUCOND | . 026 | . 005 | 2340.0 | 2306.1 | 1.450 | . 183 | . 017 | . 036 |
| CUSTER | . 077 | . 007 | 2340.0 | 2306.1 | 1.336 | . 096 | . 062 | . 091 |
| PSOURC | . 660 | . 039 | 327.0 | 309.1 | 1.475 | . 059 | . 583 | . 738 |
| NOMORE | . 592 | . 013 | 2340.0 | 2306.1 | 1.327 | . 023 | . 565 | . 619 |
| DELAY | . 037 | . 005 | 2340.0 | 2306.1 | 1.273 | . 134 | . 027 | . 047 |
| IDEAL | 4.259 | . 076 | 859.0 | 824.3 | 1.178 | . 018 | 4.106 | 4.411 |
| ANTCAR | . 222 | . 017 | 1432.0 | 1453.5 | 1.252 | . 075 | . 188 | . 255 |
| NTETAN | . 764 | . 018 | 1432.0 | 1453.5 | 1.318 | . 075 | . 201 | . 271 |
| MEDELI | . 126 | . 012 | 1432.0 | 1453.5 | 1.122 | . 093 | . 103 | . 150 |
| RESPIR | . 165 | . 016 | 1339.0 | 1326.5 | 1.457 | . 097 | . 133 | . 198 |
| FEVER | . 322 | . 019 | 1339.0 | 1326.5 | 1.339 | . 057 | . 285 | . 359 |
| DIARR1 | . 073 | . 010 | 1339.0 | 1326.5 | 1.328 | . 135 | . 053 | . 093 |
| DIARR2 | . 137 | . 014 | 1339.0 | 1326.5 | 1.497 | . 105 | . 108 | . 166 |
| ORSTRE | . 386 | . 050 | 166.0 | 182.2 | 1.359 | . 130 | . 286 | . 487 |
| MEDTRE | . 447 | . 048 | 166.0 | 182.2 | 1.262 | . 108 | . 351 | . 544 |
| HCARD | . 239 | . 034 | 244.0 | 262.4 | 1.287 | . 141 | . 172 | . 306 |
| BCG12 | . 675 | . 038 | 244.0 | 262.4 | 1.322 | . 056 | . 599 | . 751 |
| DPT12 | . 475 | . 040 | 244.0 | 262.4 | 1.288 | . 083 | . 395 | . 554 |
| POL12 | . 475 | . 040 | 244.0 | 262.4 | 1.288 | . 083 | . 395 | . 554 |
| MEAS12 | . 466 | . 039 | 244.0 | 262.4 | 1.282 | . 084 | . 388 | . 545 |
| FULVAC | . 383 | . 038 | 244.0 | 262.4 | 1.270 | . 099 | . 307 | . 459 |

## APPENDIX C

## DATA QUALITY TABLES

## APPENDIX C

## DATA QUALITY TABLES

| Table C. 1 Age distribution of houschold population |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Single-year age distribution of the de facto household population by sex (weighted), Pakistan 1990-91 |  |  |  |  |
|  | Males |  | Females |  |
| Age | Number | Percent | Number | Percent |
| <1 | 714 | 3.0 | 642 | 2.9 |
| 1 | 598 | 2.5 | 558 | 2.5 |
| 2 | 643 | 2.7 | 598 | 2.7 |
| 3 | 589 | 2.5 | 639 | 2.9 |
| 4 | 587 | 2.5 | 546 | 2.5 |
| 5 | 845 | 3.6 | 806 | 3.7 |
| 6 | 930 | 3.9 | 805 | 3.7 |
| 7 | 807 | 3.4 | 835 | 3.8 |
| 8 | 946 | 4.0 | 810 | 3.7 |
| 9 | 575 | 2.4 | 584 | 2.7 |
| 10 | 888 | 3.7 | 787 | 3.6 |
| 11 | 462 | 1.9 | 446 | 2.0 |
| 12 | 834 | 3.5 | 714 | 3.3 |
| 13 | 527 | 2.2 | 483 | 2.2 |
| 14 | 563 | 2.4 | 569 | 2.6 |
| 15 | 565 | 2.4 | 476 | 2.2 |
| 16 | 540 | 2.3 | 498 | 2.3 |
| 17 | 398 | 1.7 | 309 | 1.4 |
| 18 | 630 | 2.7 | 675 | 3.1 |
| 19 | 315 | 1.3 | 261 | 1.2 |
| 20 | 601 | 2.5 | 675 | 3.1 |
| 21 | 252 | 1.1 | 204 | 0.9 |
| 22 | 478 | 2.0 | 430 | 2.0 |
| 23 | 261 | 1.1 | 260 | 1.2 |
| 24 | 290 | 1.2 | 230 | 1.0 |
| 25 | 660 | 2.8 | 728 | 3.3 |
| 26 | 297 | 1.3 | 312 | 1.4 |
| 27 | 204 | 0.9 | 217 | 1.0 |
| 28 | 298 | 1.3 | 314 | 1.4 |
| 29 | 101 | 0.4 | 98 | 0.4 |
| 30 | 729 | 3.1 | 626 | 2.9 |
| 31 | 74 | 0.3 | 107 | 0.5 |
| 32 | 245 | 1.0 | 222 | 1.0 |
| 33 | 107 | 0.5 | 139 | 0.6 |
| 34 | 114 | 0.5 | 113 | 0.5 |
| 35 | 660 | 2.8 | 547 | 2.5 |
| 36 | 150 | 0.6 | 131 | 0.6 |
| 37 | 76 | 0.3 | 100 | 0.5 |
| 38 | 133 | 0.6 | 132 | 0.6 |
| 39 | 64 | 0.3 | 86 | 0.4 |
| 40 | 599 | 2.5 | 409 | 1.9 |

## Table C. 1 Household age distribution (continued)

Single-year age distribution of the de facto household population by sex (weighted), Pakistan 1990-91

| Age | Males |  | Females |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Number | Percent | Number | Percent |
| 41 | 68 | 0.3 | 96 | 0.4 |
| 42 | 133 | 0.6 | 159 | 0.7 |
| 43 | 90 | 0.4 | 110 | 0.5 |
| 44 | 62 | 0.3 | 97 | 0.4 |
| 45 | 456 | 1.9 | 313 | 1.4 |
| 46 | 92 | 0.4 | 95 | 0.4 |
| 47 | 78 | 0.3 | 75 | 0.3 |
| 48 | 96 | 0.4 | 90 | 0.4 |
| 49 | 44 | 0.2 | 29 | 0.1 |
| 50 | 398 | 1.7 | 308 | 1.4 |
| 51 | 64 | 0.3 | 133 | 0.6 |
| 52 | 118 | 0.5 | 189 | 0.9 |
| 53 | 56 | 0.2 | 109 | 0.5 |
| 54 | 42 | 0.2 | 66 | 0.3 |
| 55 | 280 | 1.2 | 374 | 1.7 |
| 56 | 89 | 0.4 | 83 | 0.4 |
| 57 | 33 | 0.1 | 49 | 0.2 |
| 58 | 61 | 0.3 | 67 | 0.3 |
| 59 | 43 | 0.2 | 24 | 0.1 |
| 60 | 523 | 2.2 | 405 | 1.8 |
| 61 | 47 | 0.2 | 38 | 0.2 |
| 62 | 68 | 0.3 | 33 | 0.1 |
| 63 | 40 | 0.2 | 34 | 0.2 |
| 64 | 30 | 0.1 | 20 | 0.1 |
| 65 | 308 | 1.3 | 233 | 1.1 |
| 66 | 33 | 0.1 | 17 | 0.1 |
| 67 | 34 | 0.1 | 31 | 0.1 |
| 68 | 35 | 0.1 | 31 | 0.1 |
| 69 | 16 | 0.1 | 20 | 0.1 |
| 70+ | 971 | 4.1 | 506 | 2.3 |
| Don't know, missing | 14 | 0.1 | 10 | -- |
| Total | 23773 | 100.0 | 21965 | 100.0 |

Note: The de facto population includes all usual residents and nonresidents who slept in the household the night before interview. -- Less than 0.05 percent

Table C. 2 Age distribution of eligible and interviewed women
Percent distribution in five-year age groups of the de facto household population of all women and ever-married women aged 10-54 and of interviewed women age 15-49, and percentage of eligible women who were interviewed (weighted), Pakistan 1990-91

| Age group | All women | Evermarried women | Interviewed women |  | Percentage interviewed |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Number | Percent |  |
| 10-14 | 2998 | NA | NA | NA | NA |
| 15-19 | 2219 | 420 | 414 | 6.6 | 98.7 |
| 20-24 | 1798 | 1086 | 1015 | 16.2 | 93.5 |
| 25-29 | 1669 | 1466 | 1419 | 22.6 | 96.8 |
| 30-34 | 1207 | 1162 | 1123 | 17.9 | 96.7 |
| 35-39 | 996 | 976 | 925 | 14.7 | 94.8 |
| 40-44 | 871 | 850 | 797 | 12.7 | 93.8 |
| 45-49 | 602 | 590 | 582 | 9.3 | 98.7 |
| 50-54 | 805 | 799 | NA | NA | NA |
| 15-49 | 9363 | 6549 | 6277 | 100.0 | 95.8 |

Note: The de facto population includes all usual residents and non-residents who slept in the household the night before the interview. Weights for both households and interviewed women are household weights.
NA = Not applicable

## Table C. 3 Completeness of reporting

Percentage of observations missing information for selected demographic and health questions (weighted), Pakistan 1990-91

| Subject | Reference group | Percentage <br> missing <br> information | Number <br> of <br> cases |
| :--- | :--- | :---: | :---: |
| Birth date <br> Month only <br> Month and year | Last 15 years | 8.0 | 20527 |
| Age at death | Last 15 years | 0.2 | 20527 |
| Age/date at first union ${ }^{1}$ | Ever-married women | 0.6 | 2494 |
| Respondent's education | Births in last 0-59 months | 0.6 | 6611 |
| Child's size at birth | Living children age 1-59 months | -- | 6611 |
| Anthropometry ${ }^{2}$ | 1.5 | 6490 |  |
| Height <br> Weight | 20.5 | 5776 |  |
| Diarrhoea in last 2 weeks | Living children age 1-59 months | -- | 5776 |

-- Less than 0.05 percent
${ }^{1}$ Both year and age missing
${ }^{2}$ Child not measured

## Table C. 4 Births by calendar year

Distribution of births by calendar year for living (L), dead (D), and all (T) children, according to reporting completeness, sex ratio at birth, and ratio of births by calendar year (weighted), Pakistan 1990-91

| Year | Number of births |  |  | Percent with complete birth date ${ }^{1}$ |  |  | Sex ratio at birth ${ }^{2}$ |  |  | Calendar year ratio ${ }^{3}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | L | D | T | L | D | T | L. | D | T | L | D | T |
| 1991 | 212 | 17 | 228 | 100.0 | 100.0 | 100.0 | 148.1 | 58.6 | 138.3 | NA | NA | NA |
| 1990 | 1427 | 78 | 1505 | 98.0 | 92.4 | 97.7 | 109.4 | 67.9 | 106.8 | NA | NA | NA |
| 1989 | 1072 | 128 | 1199 | 97.6 | 91.5 | 96.9 | 90.8 | 159.7 | 96.4 | 82.2 | 111.0 | 84.5 |
| 1988 | 1180 | 151 | 1332 | 97.3 | 92.4 | 96.8 | 123.4 | 118.6 | 122.8 | 107.8 | 109.5 | 108.0 |
| 1987 | 1118 | 149 | 1267 | 95.6 | 83.3 | 94.1 | 97.0 | 163.7 | 103.1 | 106.1 | 113.8 | 106.9 |
| 1986 | 927 | 111 | 1038 | 93.7 | 94.3 | 93.8 | 96.5 | 100.9 | 96.9 | 64.8 | 54.1 | 63.4 |
| 1985 | 1745 | 260 | 2005 | 93.0 | 81.7 | 91.5 | 102.1 | 105.9 | 102.6 | 141.8 | 152.2 | 143.0 |
| 1984 | 1535 | 231 | 1766 | 91.2 | 85.2 | 90.4 | 105.7 | 122.5 | 107.8 | 95.1 | 104.2 | 96.2 |
| 1983 | 1482 | 183 | 1665 | 91.0 | 84.3 | 90.3 | 93.2 | 124.0 | 96.2 | 98.9 | 86.1 | 97.3 |
| 1982 | 1461 | 195 | 1657 | 90.9 | 84.3 | 90.2 | 102.1 | 93.7 | 101.1 | 116.4 | 97.1 | 113.7 |
| 1987-91 | 5009 | 523 | 5532 | 97.3 | 89.8 | 96.6 | 106.6 | 125.4 | 108.3 | NA | NA | NA |
| 1982-86 | 7150 | 980 | 8130 | 91.9 | 84.9 | 91.0 | 100.2 | 109.6 | 101.3 | NA | NA | NA |
| 1977-81 | 5131 | 836 | 5967 | 90.3 | 86.1 | 89.7 | 109.7 | 83.2 | 105.5 | NA | NA | NA |
| 1972-76 | 3425 | 631 | 4056 | 89.0 | 81.0 | 87.7 | 109.7 | 99.1 | 107.9 | NA | NA | NA |
| Before 1972 | 2577 | 608 | 3185 | 85.8 | 77.7 | 84.2 | 108.0 | 116.2 | 109.6 | NA | NA | NA |
| All | 23292 | 3578 | 26870 | 91.6 | 84.0 | 90.6 | 105.9 | 104.0 | 105.6 | NA | NA | NA |

NA = Not applicable
${ }^{1}$ Both year and month of birth given
${ }^{2}\left(B_{m} / B_{f}\right) \times 100$, where $B_{m}$ and $B_{f}$ are the numbers of male and female births, respectively
$\left.{ }^{3}\left[2 \mathrm{~B}_{\mathrm{x}} / \mathrm{B}_{\mathrm{x}-1}+\mathrm{B}_{\mathrm{x}+1}\right)\right] \times 100$, where $\mathrm{B}_{\mathrm{x}}$ is the number of births in calendar year x

## Table C. 5 Reporting of age at death in days

Distribution of reported deaths under one month of age by age at death in days and the percentage of neonatal deaths reported to occur at ages $0-6$ days, for five-year periods of birth preceding the survey (weighted), Pakistan 1990-91

| Age at death (days) | Years preceding survey |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0-4 | 5-9 | 10-14 | 15-19 | 0-19 |
| <1 | 47 | 73 | 65 | 28 | 213 |
| 1 | 68 | 75 | 60 | 27 | 230 |
| 2 | 17 | 36 | 18 | 8 | 79 |
| 3 | 25 | 49 | 35 | 8 | 117 |
| 4 | 8 | 22 | 14 | 11 | 54 |
| 5 | 17 | 30 | 8 | 11 | 65 |
| 6 | 14 | 24 | 22 | 12 | 72 |
| 7 | 20 | 21 | 29 | 21 | 91 |
| 8 | 13 | 42 | 13 | 19 | 87 |
| 9 | 3 | 8 | 10 | 3 | 24 |
| 10 | 16 | 18 | 18 | 6 | 59 |
| 11 | 8 | 4 | 6 | 4 | 21 |
| 12 | 1 | 11 | 9 | 9 | 29 |
| 13 | 3 | 5 | 0 | 3 | 11 |
| 14 | 3 | 2 | 3 | 7 | 15 |
| 15 | 15 | 15 | 11 | 3 | 44 |
| 16 | 9 | 10 | 1 | 6 | 26 |
| 17 | 1 | 6 | 2 | 1 | 10 |
| 18 | 3 | 2 | 4 | 1 | 10 |
| 19 | 0 | 1 | 1 | 2 | 4 |
| 20 | 6 | 11 | 6 | 3 | 26 |
| 21 | 0 | 1 | 0 | 6 | 8 |
| 22 | 3 | 1 | 2 | 0 | 5 |
| 23 | 0 | 1 | 0 | 0 | 1 |
| 24 | 1 | 1 | 0 | 0 | 2 |
| 25 | 4 | 1 | 1 | 2 | 8 |
| 26 | 0 | 1 | 3 | 0 | 4 |
| 27 | 2 | 0 | 0 | 0 | 2 |
| 28 | 0 | 0 | 0 | 0 | 0 |
| 29 | 0 | 0 | 2 | 0 | 2 |
| 30 | 2 | 6 | 3 | 3 | 15 |
| Missing | 3 | 0 | 0 | 0 | 3 |
| Percent early neonatal ${ }^{1}$ | 63.3 | 64.7 | 63.8 | 51.3 | 62.1 |
| Total 0-30 | 309 | 476 | 349 | 203 | 1337 |

${ }^{1} 0-6$ days $/ 0-30$ days

## Table C. 6 Reporting of age at death in months

Distribution of reported deaths under two years of age by age at death in months and the percentage of infant deaths reported to occur at ages under one month, for five-year periods of birth preceding the survey (weighted), Pakistan 1990-91

| Age at death (months) | Years preceding survey |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0-4 | 5-9 | 10-14 | 15-19 | 0-19 |
| $<1^{\text {a }}$ | 312 | 476 | 349 | 203 | 1340 |
| 1 | 48 | 57 | 44 | 40 | 189 |
| 2 | 34 | 78 | 32 | 17 | 160 |
| 3 | 35 | 33 | 28 | 16 | 113 |
| 4 | 14 | 36 | 23 | 7 | 79 |
| 5 | 9 | 27 | 17 | 7 | 60 |
| 6 | 25 | 37 | 23 | 15 | 100 |
| 7 | 4 | 24 | 15 | 12 | 56 |
| 8 | 14 | 14 | 12 | 5 | 45 |
| 9 | 20 | 5 | 15 | 14 | 55 |
| 10 | 16 | 14 | 12 | 11 | 53 |
| 11 | 3 | 10 | 6 | 7 | 25 |
| 12 | 11 | 13 | 2 | 6 | 32 |
| 13 | 1 | 1 | 0 | 0 | 2 |
| 14 | 1 | 2 | 1 | 0 | 5 |
| 15 | 0 | 11 | 2 | 3 | 17 |
| 16 | 5 | 0 | 0 | 3 | 8 |
| 17 | 0 | 2 | 1 | 0 | 3 |
| 18 | 5 | 19 | 12 | 6 | 42 |
| 19 | 0 | 0 | 0 | 0 | 0 |
| 20 | 0 | 0 | 0 | 0 | 0 |
| 21 | 0 | 1 | 0 | 1 | 2 |
| 22 | 1 | 0 | 0 | 0 | 1 |
| 23 | 0 | 0 | 0 | 0 | 0 |
| Missing | 0 | 1 | 1 | 1 | 4 |
| 1 year | 43 | 60 | 46 | 43 | 193 |
| Percent neonatal ${ }^{\text {b }}$ | 67.3 | 65.7 | 68.2 | 68.7 | 67.2 |
| Total 0-23 months | 534 | 812 | 575 | 354 | 2275 |

[^25]
## APPENDIX D

## QUESTIONNAIRES




| $\begin{aligned} & \text { NAME } \\ & \text { DATE } \end{aligned}$ | FIELD EDITED BY | OFFICE EDITED BY | KEYED BY | KEYED BY |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |

HOUSEMOTD SCHEDUE
Wow we would tike some informition about the people who ysully live in your hounchold or who are etayine with you now.




| \％o． | OUESTIONS AMO FILTERS | cooing categories skip |
| :---: | :---: | :---: |
| ${ }^{\text {H1 }}$ | What is the source of water your household uses for handweshing and dishweshing？ <br> آَّ <br>  | PIPED JMTO RESIDEMCE． <br> PIPED OMTO PROPERTY ．．．．．．．．．．．．．．． 01 $\square$ <br> PUBLIC TAP． <br> ．．．．．．．．．．．．．．．．．．．． 03 <br> WELL WITH HANDPUMP／TUEE vELL．．． 04 WELL WITMOUT PUMP ．．．．．．．．．．．．．．． 05 RIVER，KAREZ，SPRING，CANAL， <br> subface mater．．．．．．．．．．．．．．．．．．．．． 06 <br> TAMKER TRUCK，OTHER VEMDOR．．．．． 07 <br> Ralmbater． <br> OTHER $\qquad$ 09 <br> （SPECIFY） |
|  |  | nimutes． $\qquad$ PREMISES． $\qquad$ |
|  |  |  |
| H 4 | What is the source of drinking weter for members of your household？ | PIPED into residence．．．．．．．．．．．．． 01 <br> PIPED OWTO PROPERTY．．．．．．．．．．．．．．． 02 <br> PUBLIC TAP．．．．．．．．．．．．．．．．．．．．．．．．．． 03 <br> WELL WITH HAMDPUMP／TUBE WELL．．． 04 <br> WELL WITHOUT PUMP．．．．．．．．．．．．．．．． 05 <br> RIVER，KAREZ，SPRING，CANAL， <br> SURFACE HATER <br> tanker truck，other vendor．．．．． 06 <br> RAIMLATER．．．．．．．．．．．．．．．．．．．．．．．．．．．．．． 08 <br> OTHER $\qquad$ 09 <br> （SPECIFY） |
|  | What kind of toilet facility does your household have？ آبِ 9 |  |
|  | Does your household have：： <br> Electricity？ <br> A radio？ <br> 年。 <br> A television？ <br> A fridge？ <br> A room cooler？ <br> A meshing machine？ <br> A water pump <br>  |  |
|  |  |  |
| H8 | Now many rooms in your household are used for sleeping？ آَت | ROOWS． |
|  | main material of outer malls． <br> （record oaservatiow．） | BAKED BRICKS／CEMENTED BLOCKS／ CEMENT．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．． 1 UMBAKED bRICKS AMD MD．．．．．．．．．．． 2 HO00／BAMBCO． OTHER $\qquad$ （SPECIFY） |
| H10 | main material of roof． <br> （RECORD Deservatiow．） | RCC／REC．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．． 1 <br> 1－IROW／n000／BRICK．．．．．．．．．．．．．．．．．．． 2 <br> ASBESTOS／IROW SHEETS．．．．．．．．．．．．．．． 3 <br> 4000／Lame00． <br> OTHER $\qquad$ <br> （SPECIFY） |


| IDENTIFICATION |  |
| :---: | :---: |
| PLACE NAME |  |
| NAME OF HEAD OF HOUSEHOLD |  |
| PROVINCE. |  |
| URBAN/RURAL (urban=2, rural=2) |  |
| MAJOR CITY/DIVISION/DISTRICT. |  |
| CLUSTER NUMBER. |  |
| HOUSEHOLD NUMBER. |  |
| MAJOR CITY/SMALL CITY,TOWN/VILLAGE. . . . (major city=1/small city,town=2/village= |  |
| NAME AND LINE \# OF WOMAN |  |
| NAME \& LINE \# OF HUSBAND (IF ELIGIBLE) |  |



| $\begin{aligned} & \text { NAME } \\ & \text { DATE } \end{aligned}$ | FIELD EDITED BY | OFFICE EDITED BY | KEYED BY | KEYED BY |
| :---: | :---: | :---: | :---: | :---: |
|  | $\cdots$ |  |  |  |
|  |  |  |  |  |


| Mo. | QUESTIONS AND FILTERS | CODING CATEGORIES |
| :---: | :---: | :---: |
| 104 | RECORD THE CURRENT TIME. | HOUR $\qquad$ <br> MINUTES. $\qquad$ $\square$ |
| 102 | First I would like to ask some questions about you and your household. for most of the time until you were 12 years old, did you live in a city or in village? <br> 原採 <br>  | CITY............................... 11 VILLAGE................... 2 |
| 103 | How long have you been living continuously in (NAME OF CURRENT PLACE OF RESIDENCE)? <br> (i) (NAME OF CURRENT place of residemce) in <br>  | YEARS. $\qquad$ $\square$ <br> alluays. $\qquad$ VISITOR 95 $\square$ 105 |
| 104 | Just before you moved here, did you live in a city or in a village? <br>  هارُّ بی ؟ |  |
| 105 | In what month and year were you born? | MONTH. $\qquad$ $\square$ DK MONTH. $\qquad$ <br> YEAR $\qquad$ $\square$ <br> DK YEAR. $\qquad$ |
| 106 | How old are you in completed years? <br> COMPARE AND CORRECT 105 AMD/OR ,106 IF INCONSISTENT. | AGE IN COMPLETED YEARS.... $\square$ |
|  | Are you now married, widowed, divorced, or separated? <br>  ! | MARR IED. . . . . . . . . . . . . . . . . . . . . . . . . 1 <br> has marriage comtract, But <br> MEVER LIVED TOGETMER............. 2 <br> HIDOWED.................................... ${ }^{3}$ <br> DIVCRCED. . . . . . . . . . . . . . . . . . . . . . . . 4 <br> SEParated................................. 5 <br> MEVER MARMIED.......................... $\qquad$ EMO |
| 108 |  | Once. . . . . . . . . . . . . . . . . . . . . . . . . . 1 |
|  |  |  |
|  | Have you ever attended school? | YES.......................................... 1 <br> NO $\qquad$ $2 \longrightarrow 114$ |


| mo． | Questiows ano fllters | Cooing catecories $\quad$ Skip |
| :---: | :---: | :---: |
|  | What is the highest tevel of school you attenoed： primery，middle，socondery，or higher？ <br>  ！ロット く |  |
| 112 | What is the highest class you completed at that levelp <br>  | class．．．．．．．．．．．．．$\square$ |
|  | CMECK 111： <br> MIDOLE <br> Primary OR agove |  |
|  | Can you read and understand a（etter or newspaper easily，with difficulty，or not at all？ <br> كو آبِ خعل <br> ！！！ | EASICY $\square$ <br> HITM DIFFICULTY 1 <br> mot at all .2 |
|  | Can you write a simple letter？ | res．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．． 1 |
|  |  | res．．．．．．．．．．．．．．．．．．．．．．．．．．．．． 1 |
|  | Do you usually listen to－radio at least once a meek？ | res．．．．．．．．．．．．．．．．．．．．．．．．．．．．． 1 |
|  | Do you uswally match telerision at least once a week？ |  |
|  | CHECK WOUSE HOLO OUESTIOWMAIRE，COLCMN（4）： <br> womi is a visitor <br> （ $\operatorname{COOE}$ O＂2＂IN CO．4） | $\underset{1}{{\underset{1}{2}}^{201}}$ |
|  | Now let＇s talk about the household where you usually live．What is the source of water your household uses for handwashing and dishwashing？ <br> انَ ، پ． ！ | PIPED INTO RESIDENCE． <br> PIPED OWTO PROPERIY． $\square$ 122 <br> public tap． <br> WELL WIYM HAMDPUMP／TUBE WELL <br> שLl WIthout pump．．．．．．．．．．．．．．．． 05 <br> qiver，karez，sprimg，canal． SURFACE MATER． <br> tanker truck，ot mer venoor．．．．． 07 rainhater．． $\qquad$ 08 OTHER 09 |
|  | How long does it take to 90 there，get water． and cone beck？ <br>  |  |
|  | Does your household get drinking weter from this seme source？ |  |





211 Now I would like to talk to you sbout all of your births, whether still alive or not, starting with the first one you had.



| 01 <br> (NAME) | $\begin{gathered} \text { SING... } 1 \\ \text { MULT. . . } 2 \end{gathered}$ | $\begin{aligned} & \text { BOY... } 1 \\ & \text { GIRL. . } 2 \end{aligned}$ | MONTH.. <br> YEAR... $\square$ |  | AGE IN years |  | FATHER. . . . . . . . 1 (GO WEXT BIRTH) OTHER RELATIVE. 2 (GO NEXT GIRTH) SOMEONE ELSE... 3 (GO NEXT BIRTK) | Dars.... 1 <br> H:ONTHS. . 2 <br> YEARS... 3 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 02 <br> (WAME) | SING... 1 <br> MULT... 2 | $\begin{aligned} & \text { BOY... } 1 \\ & \text { GIRL.. } 2 \end{aligned}$ | MONTH. . YEAR... $\square$ |  | AGE IN years |  | FATHER........... 1 (GO NEXT BIRTH) other relative. 2 (GO NEXT BIRTH) SOMEONE ELSE... 3 (GO MEXT BIRTH) | DAYS.... 1 <br> MOWTHS.. 2 <br> yEARS... 3 |  |
| 03 <br> (NAME) | SING... 1 <br> MULT . . . 2 | $\begin{aligned} & \text { BOY... } 1 \\ & \text { GIRL.. } 2 \end{aligned}$ | MONTH. . YEAR... $\square$ |  | AGE IN yEARS |  | FATHER.......... 1 (CO NEXT BIRTH) OTHER RELATIVE. 2 (GO NEXT BIRYH) SOMEONE ELSE... 3 (GO NEXT BIRTH) | DAYS.... 1 <br> HOWTHS.. 2 <br> years... 3 | $+$ |
| $04$ <br> (WAME) | SING... 1 <br> MULT. . . 2 | $\begin{aligned} & \text { BOY. . . } 1 \\ & \text { GIRL. . } 2 \end{aligned}$ | MONTH. YEAR... $\square$ |  | AGE IN YEARS | $\begin{gathered} \text { YES. } \ldots \ldots .1 \\ \text { (GO TO NEXT } \\ \text { BIRTH) } \\ \text { wo....... } \end{gathered}$ | FATHER........... 1 <br> (GO NEXT BIRTH) OTHER RELATIVE. 2 (GO MEXT BIRTH) SCMEDWE ELSE... 3 (GO NEXT BIRTH) | DAYS.... 1 <br> MOWTHS. . 2 <br> years... 3 |  |
| $\underbrace{05}_{\text {(NAME) }}$ | SING... MULT. . . 2 | $\begin{aligned} & \text { BOY... } 1 \\ & \text { GIRL.. } 2 \end{aligned}$ | MONTH. <br> YEAR... |  | AGE IN YEARS |  | FATHER........... 1 <br> (GO NEXT BIRTH) OTHER RELATIVE. 2 (GO NEXT BIRTH) SOMEONE ELSE... 3 (GO NEXI BIRTH) | DAYS.... 1 <br> MONTHS.. 2 <br> YEARS... 3 |  |
| 06 <br> (NAME) | SING.. 1 <br> mult. . . 2 | $\begin{aligned} & \text { BOY... } 1 \\ & \text { GIRL.. } 2 \end{aligned}$ | MOWTH. . YEAR... $\square$ |  | AGE IN YEARS |  | father........... 1 <br> (GO NEXT BIRTH) other relative.z (GO NEXT BIRTH) SOMEONE ELSE... 3 (GO NEXT BIRTH) | DAYS.... 1 <br> mONTHS. . 2 <br> YEARS... 3 |  |
| 07 <br> (NAME) | SING... 1 <br> MULT. . . 2 | $\begin{aligned} & \text { BOY... } 1 \\ & \text { GIRL. . } 2 \end{aligned}$ | MONTH. . yEAR... $\square$ |  | AGE IN YEARS |  | FATHER........... 1 <br> (GO NEXT BIRTH) other relative.z (GO NEXT BIRTH) SOMEOWE ELSE... 3 (GO NEXI BIRTH) | DAYS.... 1 <br> mowiths.. 2 <br> YEARS... 3 |  |





301 |Wow I mould like to talk bout fanity plarning - the various mays or methods that a couple can use to deley or avoid a pregnency. Uhich mye or methode have you haterd ebout?

CIRCLE CODE I IN 302 FOR EACH METMOD MEMTIOWED SPOMTANEOUSLY.
then proceed dom the column, readimg the mame and description of each metmod mot mentiowed spowtaneously. CIRCLE COOE 2 IF ME THOD IS RECOCWIZED, AMD COOE 3 IF MOT RECOGNIZED.
THEN, FOR EACH METHCD WITH CCOE I OR 2 CIRCLED IM 302, ASK $303-304$ BEFORE PROCEEDING TO THE NEXT METHCO.

|  | 302 Have you ever heard of (WETHOD)? <br>  <br> ! <br> READ OESCRIPTIOM OF EACN METHCD | 303 have you ever uned (METHCO)? <br> (nETMCO) <br>  | 304 Do you know where - person could go to get (METHCO)? <br> (METMCO)' ? |
| :---: | :---: | :---: | :---: |
| 01 PILL Wamen can take a pill every dey. - ور" | YES/SPOMT. . . . . . . . . . . . . . . . . . . 1 <br> YES/PROQED....................... . . 2 <br> NO. | $\begin{aligned} & \text { res.................... } 1 \\ & \text { no..................... . } 2 \end{aligned}$ | res................................. 1 wo................................. |
| 02 110 women can have loop or coil placed inside then by a | YES/SPOWT. $\qquad$ YES/PROAED $\qquad$ <br> mo. $\qquad$ | $\begin{aligned} & \text { res.................... } 1 \\ & \text { no..................... } 2 \end{aligned}$ | YES. $\qquad$ <br> no. $\qquad$ |
| 03 INJECTIOWS Women can have an injection by doctor or nuree wich stope them from becoming pregnent for several months. <br> (\%) <br>  <br>  | YEs/Spour ............................. 1 <br> YES/PROAED $\qquad$ <br> mo. $\qquad$ | $\begin{aligned} & \text { res. . . . . . . . . . . . . . . } 1 \\ & \text { wo. . . . . . . . . . . . . . . . } 2 \end{aligned}$ | yes.................................. 1 no.................................. 2 |
| DIAPHRAGM, FONH, JELLY women cen plece a sponge, suppository. diaphragm, jelly or cream inside them before intercourse. <br>  <br> < <br>  | YES/SPONT. $\qquad$ <br> YES/PROBEO $\qquad$ <br> wo. $\qquad$ | $\begin{aligned} & \text { res.................... } 1 \\ & \text { wo..................... } 2 \end{aligned}$ | $\begin{aligned} & \text { res. . . . . . . . . . . . . . . . . . . . . . . . } 1 \\ & \text { wо. . . . . . . . . . . . . . . . . . . . . . . . } 2 \end{aligned}$ |
| 05 COwDON Men can use a rubber sheath during sexual intercourse. <br> (守 <br>  | YES/SPOWT $\qquad$ <br> YES/PROEED $\qquad$ <br> wo. $\qquad$ | $\begin{aligned} & \text { res. . . . . . . . . . . . . . . } 1 \\ & \text { no. . . . . . . . . . . . . . . . } 2 \end{aligned}$ | res.......................... 1 |




| MO. | QuESTIOWS AMD FILTERS | CODING CATEGORIES |
| :---: | :---: | :---: |
| 313 | Which method mas that? |  |
|  | Did the provider talk to you about any methods other than the pill? |  |
|  | Which method or methode? <br> كـ <br> (CIRCLE ALL MENTIONED) |  |
|  | Were you satisfied with the information you got from the provider on the method(s) you discussed or not? | ves............................... 1 |
|  | CHECX 224: |  |
|  | CHECK 107: <br> CURREMTLY MARRIED <br> MOT CURRENTLY MARRIED <br> (CCOE 1 IN 107) (COOE 2-5 IN 107) | ${\underset{\rightarrow}{\rightarrow} 343}$ |
|  | CMECK 303 (06): | $\left.\right\|_{\rightarrow 322 A}$ |
|  | Are you currently doing something or using any method to delay or avoid getting pregnant? <br> لِّ آِّ |  |
| 321 | What is the main reason you are not using a method to delay or avoid getting pregnent? | WANTS (MORE) CWILDREM. <br> LACK of KNOULEDCE................... 02 <br> Husgand OPPOSED. . . . . . . . . . . . . . . . 03 <br> COST TOO МUСМ. . . . . . . . . . . . . . . . . . . 04 <br> LORRY ABOUT SIDE EFFECTS. . . . . . 05 <br> HEALTH COWCERNS.................... 06 <br> MARD TO GET METHCOS. . . . . . . . . . . . 07 <br> RELIGIOW. . . . . . . . . . . . . . . . . . . . . . . 08 <br> OPPOSED TO FAMILY PLANNING..... 09 <br> FATALISTIC........................... . 10 <br> OTHER PEOPLE OPPOSED............... 11 <br> INFREQUENT SEX....................... 12 <br> OIFFICULT TO GET PREGMANY....... 13 <br> MENOPAUSAL/MAD HYSTERECTOMY.... 14 <br> INCONVENIENT . . . . . . . . . . . . . . . . . . . . 15 <br> HUSBAND ABSEMT. . . . . . . . . . . . . . . . . 17 <br> BREASTFEEDING. . . . . . . . . . . . . . . . . . . 18 <br> OTHER $\qquad$ 19 <br> (SPECIFY) <br> DK. <br> . .98 <br> 98- |


| мо. | Questions and filters | CODING CATEGORIES $\quad$ SKIP |
| :---: | :---: | :---: |
| 322 | Which method are you using? <br>  <br> CIRCLE 'DS' FOR FEMALE STERJLIZATION. |  |
|  | At the time you last got pille, did you consult - doctor, aurse or tamily plarning worker? آت (仿 |  |
| 324 | May I see the peckage of pills you are using now? <br>  <br> (rECORD MAME OF brand.) | package seen -326 <br> BRAND NAME $\qquad$ <br> package not seen..................... 2 |
| 325 | Do you know the brand name of the pills you are now using? now using? <br> (RECORD MANE OF BRAND.) |  |
| 326 | How much does one packet of pills cost you? | RUPEES $\qquad$ $\square$ $\square$ <br> FREE .9998 $\rightarrow+331$ <br> DK. -331 |
| 327 | May I see the peckage of condom you are using now? <br> (RECORD MANE OF BRAND.) | PACKACE SEEN <br> BRAMD RAME <br> PACKAGE NOT SEEN.................... 2 |
|  | Do you know the brand nane of the condome you are now using? <br> (RECORD MANE OF BRAMO.) | BRAMD WANE $\qquad$ $\square$ <br> DK. $\qquad$ .98 |


| NO. | QUESTIOWS AND FILTERS | COOING CATEGORIES $\begin{array}{r}\text { SKIP } \\ \hline 10\end{array}$ |
| :---: | :---: | :---: |
| 329 | How much does one condon cost you? <br>  | RUPEES $\qquad$ $\square$ $\square$ I free. .9996 DK. $\rightarrow 331$ |
| 330 | How much did it cost for the (1L0 insertion/ sterilization operstion/last injection)? | RUPEES. $\qquad$ $\square$ $\square$ <br> fREE. $\qquad$ 999996 DK. .999998 |
| 331 | CHECK 322: <br> SHE/HE STERILIZED <br> $\checkmark$ <br> Where did the sterilization take place? <br> USING ANOTHER METHOD <br> $\checkmark$ <br> Where did you obtain (METHOD) the last time? <br> آق <br> culvirn <br> ! 6 " <br> (NAME OF HOSPITAL, CLINIC OR CENTER, IF COOE 01-05) | GOVERUMENT HOSPITAL/RHSC. ....... 01 <br> RHC/BHL/GOVERNMEMT CLIMIC....... 02 <br> Family telfare center........... . 03 <br> NEO CENTER...................... . . . . . 04 <br> PRIVATE HOSPITAL OR CLINIC..... 05 <br> MOBILE CLINIC/EXTENSIOW TEAM... 06 <br> FIELD HORKER. <br> or.. <br> PRIVATE DOCTOR .................... . . . 08 <br> HAKIM/HOMOEOPATH. . . . . . . . . . . . . . . 09 <br> DRUGSIORE. . . . . . . . . . . . . . . . . . . . . 10 <br> SHOP (OTHER THAN DRUGSTORE).... 11 <br> TRADITIONAL BIRTH ATTENDANT.... 12 <br> FRIENDS/RELATIVES.................. . . 13 <br> OTHER $\qquad$ 14 <br> (SPECIFY) <br> DK. $-334$ |
|  | How long does it take to travel from your home to this place? <br> it <br> if less than 60 minutes, record minutes. <br> OTHERWISE, RECORD HOURS. | MINUTES $\qquad$ hours $\qquad$ $\square$ OK. $\qquad$ |
|  | Is it easy or difficult to get there? <br>  | EASY. $\qquad$ <br> DIFFICULT $\qquad$ |
| 334 | CHECK 322:   <br>    <br> USING   <br> SHE/ME $\square$ ANOTHER <br> STERILIZED | $\rightarrow 336$ |
| 335 | In what month and year was the sterilization operation performed? <br>  | MONTH $\qquad$ |
| 336 | for how many months have you been using (CURRENT METHCD) cont inuously? <br>  <br> If Less than 1 mowth, record '00'. | МОнТ SS . $\qquad$ <br> 8 YEARS OR LONGER. $\square$ - 347 |



| MO. | OUESTIONS AMD FILTERS | COOING CATECORIES | $\begin{array}{r} K I P \\ \text { TO } \end{array}$ |
| :---: | :---: | :---: | :---: |
| 343 | Do you know of source there you cen obtain <br> a method of fanily plaming? <br> سمّ أَ <br>  | YES. no. | $-347$ |
| 346 | What source is that? <br>  <br> CMAME OF WOSPITAL, CIIMIC OR CENTER, If CODE 01-05) | GOVERMWEMT MOSPITAL/RHSC........ 04 <br> RUC/RNU/GOVERWMENT CLINJC...... 02 <br> FANILY LELFARE CENTER............. 03 MCO CENTER. <br> mivare no ipipai ön ëtimię....... <br> MOMILE CLIMIC/EXTENSIOW TEAM...O6 <br> FIELD YORKER......................... . . 07 <br> PRIVATE DOCTCR. . . . . . . . . . . . . . . . . 08 <br> MAXIM/MONOEDPATH. . . . . . . . . . . . . . . . 09 <br> DRUCSTORE. . . . . . . . . . . . . . . . . . . . . . 10 <br> SHOP (OTHER TMAM DRUGSTORE).... 11 <br> TRADITIOMAL DIRTH ATTEMDANT.... 12 <br> FRIEMOS/RELATIVES. . . . . . . . . . . . . . . 13 <br> OTMER $\qquad$ 14 <br> (SPECIFY) | $a_{\rightarrow 347}$ <br> $+367$ |
| 345 | How tong does it take to travel from your hom to this plece? آ؟ <br> IF LESS THAN 60 MIMUTES, WECOMD RINUTES. OTHERWISE, RECDRD MOURS. | MIMUTES. $\qquad$ HOURS. $\qquad$ $\square$ DK. |  |
| 346 | Is it easy or difficult to get there? |  |  |
|  | In the last month, have. <br> you heerd message <br> about fanity plenning on: |  |  |
| 348 | CHECK 347: <br> HEARD MESSAGE <br> MOT MEARD (ANY YES IN 347) messace |  | $\rightarrow 350$ |
|  | Do you think that the massege you heard was effective or not effective in persueding couples to use feally plenning? <br>  <br> ذ <br> ¢ |  |  |
|  | Is it acceptable to you or not for fanity plamine information to be provided on the radio or television? <br>  <br>  |  |  |



|  |  | WNE LAST BIRTK |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | How meny months pregnant were you when you first bew sommone for en entenatal check on that pregnency? <br>  <br>  <br>  | MOWTHS. $\qquad$ $\square$ <br> OK. $\qquad$ | MOWTHS. $\qquad$ $\square$ <br> DK. $\qquad$ | MOWTMS. $\qquad$ $\square$ DK. $\qquad$ |
|  | \| Mow many antenatal visits ${ }^{\text {did you have during }}$ that pregnancy? | mumber of visits. $\qquad$ $\square$ DK. $\qquad$ | mumber of visits. $\square$ DK. $\qquad$ (SKIP TO 411) | mumber of vislis. $\square$ DK. $\qquad$ <br> (SKIP 10 611) |
|  | Did anyone advise you to eat more food than usual during that pregnancy? <br> 尾 |  |  |  |
|  | Were you weighed at any time during that pregnancy? <br>  \{ | YES...................... 1 |  |  |
|  | When you were pregnant with (NAME) were you given an injection in the arm to prevent the baby from getting tetanus, that is, convulsions after birth? <br>  <br>  <br>  <br> ! | YES. $\qquad$ <br> wo. $\qquad$ <br> (Skip To 413) DK. <br> (SKIP 10 4. $\square$ | YES. $\qquad$ <br> no. $\qquad$ <br> (SKIP TO 413) DK $\square$ |  |
|  |  |  | riwes................ $\square^{\square}$ 0K.................... ${ }^{8}$ | times............... $\square^{\square}$ |
|  | Where did you give birth to (NAME)? <br>  |  |  |  |
| 414 | Who delivered (MAME) or assisted with the delivery? <br> Anyone else? <br> , اك (HAME) <br> " <br>  <br> (CIRCLE ALL PERSOWS ASSISTING) |  | DOCTOR........................ 1 <br> NURSE. .......................... 1 <br> LadY mealith visitor....... 1 <br> fantly welfare worker.... 1 <br> trained (traditional) <br> BIRTH ATtEMDANT.......... 1 <br> traditiowal birth <br> attendant. $\qquad$ <br> OTHER .1 $\qquad$ <br> (SPECIFY) <br> NO OME $\qquad$ <br> (SKIP TO 416) | DOCTOR........................ 1 <br> NURSE . . . . . . . . . . . . . . . . . . . 1 <br> LADY HEALTH VISITOR....... 1 <br> family melfare worker.... 1 <br> TRAIMED (TRADITIONAL) <br> BIRTM ATTENDANT.......... 1 <br> TRADITIONAL BIRTM <br> AITEMDANT. <br> ................... 1 <br> OTHER $\qquad$ <br> (SPEC1FY) <br> mo ONE. $\qquad$ <br> (SKIP 10 416) |









26




|  | mave LAST BIRTH | MAME MEXT－TO－LAST BIRTM | $\qquad$ |
| :---: | :---: | :---: | :---: |
|  | yes．．．．．．．．．．．．．．．．．．．．． 1 mo．．．．．．．．．．．．．．．．．． 2 dx．．．．．．．．．．．．．．．．．．${ }^{\text {a }}$ |  |  |
| 476CHECK 427／433： <br>  <br>  <br>  <br> LAST CHILO STILL <br> RREASTFED7 |  |  |  |
| 477 During（MAME）＇s diarrhea， did you change the frequency of breast feeding？ <br> （mane） <br> 促 <br> ：ك |  |  |  |
| Did you increase the frequency of breast feeding or cestace the frequency or did you top completely？ <br> －水 身 | INCREASED．．．．．．．．．．．．．．．． 1 REDUCED．．．．．．．．．．．． STOPPED COMPLETEIY．．．．．． |  |  |
| （As）de from breastmi（k） Wes（NAME）given the same mount to drink as before the dierrhee，or more，or less？ <br>  <br> ज． <br> مشله سِ دكا <br> 秋 |  |  |  |
| Vas（MANE）given the same mount of food as before the diarrhea，or more，or less？ <br>  ， ؛ |  |  |  |
| Was（WAME）given a fluid made from a special packet？ <br> （mane） FORS | yes．．．．．．．．．．．．．．．．．．．． 1 mo．．．．．．．．．．．．．．．．．．． 2 Dx．．．．．．．．．．．．．．．．．．． 8 | YES．．．．．．．．．．．．．．．．．．．．．．． 1 n0．．．．．．．．．．．．．．．．．．． 2 0K．．．．．．．．．．．．．．．．．．． 8 |  |


|  |  | manc LAST 日IRTH | mave MEXT-TO-LAST BIRTH | SECONO-FROM-LAST BIRTM *NWE $\qquad$ |
| :---: | :---: | :---: | :---: | :---: |
| 482 | vas (WAWE) given any of the foltowing during the diarrhes: (MAME rw <br> ع <br> nice weter $\boldsymbol{T}_{1}$ ! <br> Lassi? <br> ? <br> A home-mede fluid made from suger, salt and watery <br>  <br> سمرده الر <br> Any other home-made fluid? <br> " |  |  |  |
| 483 | CHECK 481 AND 482: <br> CHILD GIVEN <br> FLUID FRON PACKET (481) <br> ANO/OR ANY <br> MONE-MADE FLUID (482)? |  |  |  |
| 484 | For how meny days was (NAME) given this fluid) (MNAE) <br> If less than 1 day, Record $\mathbf{~ 0 0 .}$ | oars. $\qquad$ DK. $\qquad$ | DAYS. $\qquad$ $\square$ OK. $\qquad$ | DAYS. $\qquad$ $\square$ DK. $\qquad$ |
| 485 | Was enything given for the dierrhea (other than this fluid)? <br> (0.2 ? |  |  |  |
| 486 | What was given to treat the diarrhea? <br> Anything else? <br>  <br>  <br> (CIRCLE ALL MENTIDNED) | ANT:BIOTIC PILL OR <br> SYRUP......................... 1 <br> OTHER PILL OR <br> SYRUP......................... . 1 <br> UNKHOW PILL OR <br> SYRUP........................ <br> INJECTIOW. $\qquad$ <br> (I.V.) INTRAVENOUS. $\qquad$ <br> HOME REMEDIES/ <br> herbal medicines. $\qquad$ <br> OTHER $\qquad$ 1 <br> (SPEC1FY) | ANTI8IOTIC PILL OR <br> SYRUP........................ 1 <br> OTHER PIGL OR <br> SYRUP......................... 1 <br> UWKNOWN PILL OR <br> SYRUP.......................... 1 <br> IWJECTIOW. <br> (l.V.) 1nTRAVENOUS........ 1 <br> HOME REMEDIES/ <br> HERBAL MEDICINES.......... 1 <br> OTHER $\qquad$ <br> (SPECIFY) | ANTIBIOTIC PILL OR <br> SYRUP........................ 1 <br> OTHER PILL OR <br> SYRUP......................... 1 <br> UNKNOWN PILL OR <br> SYRUP........................ 1 <br> IMJECTIOW. <br> (I.V.) InTRAVENOUS....... 1 <br> HOME REMEDIES/ <br> herbal medicimes. $\qquad$ <br> OIHER $\qquad$ <br> (SPECIFY) |
| 487 | Did you seek sodvice or treatment for the diarrhea? | YES. $\qquad$ <br> мо. <br> (Skip to 489 )......... | YES. $\qquad$ <br> но. $\qquad$ <br> (SKIP TO 489) |  |


|  |  | LAST OIRTH <br> mane | MANE WEXT-TO-LAST EIRTM | SECOMD-FRON-LASY EIRTM MANE $\qquad$ |
| :---: | :---: | :---: | :---: | :---: |
| 488 | From thom did you seek sodice or treatment? <br> Anyone else? <br> (CIRCLE ALL MEWTIONED) | COVERMWENT MOSPITAL....... 1 <br> RHC/OMN/GOVT CLIMIC....... 1 <br> PRIVATE MOSPITAL/CLINIC.. I <br> PRIVATE Dector.............. <br> FAMILY WELFARE WORER.... 1 <br> LADY HEALTH VISITOH....... 1 <br> номоеораї. . . . . . . . . . . . . . . 1 <br> maxin. <br> .......................... 1 <br> FAITH HEALER................. 1 <br> DRUGSTORE. <br> . . . . . . . . . . . . . . 1 <br> SHOP (OTNER TMAM <br> DRUGSTORE ). . . . . . . . . . . . . . . 1 <br> OTHER $\qquad$ <br> (SPECIFY) | COVERWHENY HOSPITAL....... 1 <br> RHC/EMJ/GOVT CLIMIC....... 1 <br> PRIVATE HOSPITAL/CLINIC..I <br> PRIVATE DOCTOR............. 1 <br> FANILY WELFARE WCAKER.... 1 <br> LADY MEALTH VISITCR....... I <br> НОМОЕ ОРАТН. . . . . . . . . . . . . . . 1 <br> nakim. <br> .......................... 1 <br> FAITK HEALER................ 1 <br> DRLGSTORE . . . . . . . . . . . . . . . . 1 <br> SHCP (OTMER THAN <br> DRUGSTORE)................... 1 <br> OTMER $\qquad$ <br> (SPECIFY) | COVERMMENT HOSPITAL....... 1 <br> RHC/BMI/GONT CLIMIC....... 1 <br> PRIVATE HOSPITAL/CLIMIC.. 1 <br> PRIVATE DOCTOR............. 1 <br> FAMILY WELFARE HOAKER..... 1 <br> LADY MEALTH VISITOR...... 1 <br> ноNоE OPATH. . . . . . . . . . . . . . . 1 <br> makIM. <br> . . . . . . . . . . . . . . . . 1 <br> FAITH HEALER................ 1 <br> DRUGSTORE. . . . . . . . . . . . . . . . 1 <br> SHOP COTMER THAM <br> DRUGSTDRE). $\qquad$ <br> OTHER $\qquad$ <br> (SPECIFY) |
|  |  |  |  |  |
|  |  |  |  |  |
| Have you ever heard of a special product called ors or Wimkol (or LOCAL MAWE) you cen get for the treatment of diarriee? <br> mo. |  |  |  |  |
|  | Have you over seen a packet <br> (SWOW PACKEIS) | this before? |  |  |
|  | Have you ever prepered a soluti peckets to treat diarrhee in <br> (SHOW PACKETS) | on with one of these urself or someone else? |  |  |








| W0． | OUESTIONS ANO FILTERS | CCOING CATEGORIES | $\begin{array}{r} \text { 5KIP } \\ 1 \\ \hline \end{array}$ |
| :---: | :---: | :---: | :---: |
| 619 | How many of these children would you like to be boys and how many would you like to be girls？ | EITMER <br> MUMBER． $\square$ $\square$ $\square$ <br> up to cod，allan． $\qquad$ .999995 OTNE $\qquad$ 99996 |  |
| 620 | We would like to know how much sehooling you would tike your children to hove．（IF WOT STERILIZED：Coneider the children you already have and also any children that you might have in the future）．First，let＇s talk about sons．What is the highest level of school that you would like ary of your sone to attend？ <br>  <br> 尼 <br>  <br>  <br>  |  |  |
|  | And how about daughters？that is the highest level of schooting that you would like any of your deughters to attend？ <br>  （ ！ | WONE．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．． 1 <br> PRIMARY SCHOOL．．．．．．．．．．．．．．．．．．．．．．．． 2 <br> NIDDLE SCHOOL ．．．．．．．．．．．．．．．．．．． 3 <br> SECONDARY SCMOOL ．．．．．．．．．．．．．．．． 4 <br> MIGHER． <br> OTMER $\qquad$ 6 <br> （SPECIFY） <br> DK． <br> C．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．． 8 |  |
|  | What do you think is the ideal age at marriage for boys？ | JDEAL AGE IM YEARS $\qquad$ $\square$ <br> OTHER $\qquad$ 96 （SPECIFY） |  |
|  | And that is the ideal age at marriage for girls？ (少 | IDEAL AGE IH YEARS．．．．．．．．．． <br> OTHER $\qquad$ 9 （SPECIFY） |  |
| 624 | If you needed to go to health clinic or a hospital， could you go by yourself or mould you need to be accompenied by someone？ <br> 屏 <br> ！ | COULD $\mathbf{C O}$ BY SELF ．．．．．．．．．．．．．．． 1 <br> HOULD MEED TO DE ACCOMPANIED．． 2 <br> $1 T$ DEPEMDS $\qquad$ |  |



| mo． | Questions ano filters |  |
| :---: | :---: | :---: |
| 709 | Aside from your own howsework，ore you currently working？ <br> الخگた آَ | res $\qquad$ |
| 710 | As you know，some women take up jobe for which they are paid in cash or kind．Others sell things，have a emsili business or work on the fanity farm or in the fanily butiness． <br> Are you currently doing any of these things or any other work？ <br> －年 <br>  انتِ <br> －我 <br> كَّ <br>  |  |
|  | if you could find a sultable job，mould you like to work？ |  |
|  | What is your occupetion，that is， what kind of work do you do？ |  |
|  | In your current work，do you mork for a member of your family，for someone else，or are you self－employed？ <br>  ك |  |
|  | Do you earn cash for this work？ <br> PROBE：Do you make morney for working？ <br> كِ آَ بك اسِس <br> P PROBE： | YES． $\qquad$ <br> wo． $\qquad$ .2 |
|  | Do you do this work at home or away from home？ | ноше．．．．．．．．．．．．．．．．．．．．．．．．． 1 <br> Ащау．．．．．．．．．．．．．．．．．．．．．．． 2 |



SECLIOM 8. HELGHT AND WEIGHI

801 CHECX 215, 216:


INTERVIEVER: IM 802-804, RECORD THE LIME WUMEERS, MANES, AND BIRTM Dates of all living children gorn since jancary 1, 1966 starting HITM THE YOUNGEST CHILD. THEN RECORD 805-811 FOR EACH CHILD.

|  |  | 12 <br> NEXT - T0youngest LIVING CHILD | $\text { 3] SECOND-TO- } \begin{aligned} & \text { YOUNGEST } \\ & \text { LIVING CHILD } \end{aligned}$ |
| :---: | :---: | :---: | :---: |
| $802$ <br> LINE MO. FROM 0.212 |  | $\square$ | $1$ |
| 803 MAME FROM 0.212 | (HANE) | (MANE) | (MAWE) |
| 804 <br> DATE <br> OF EIRTM <br> FROM 0.215 <br> AND ASK <br> FOR DAY | DAY. MOWTH. YEAR | DAY. ~ONTM YEAR $\square$ | DAY. MONTM YEAR $\square$ |
| 805 HEIGHT (in cm.) |  |  |  |
| 806 <br> HEIGMT: <br> LYING OR <br> STAMDING | LYIMG. ........... 1 <br> STAMDIMG. . . . . . 2 | tYJMG. ........... 1 <br> STAMDING. ....... 2 | LYING. ........... 1 <br> STANDING........ 2 |
| $807$ <br> wEIGHT (in kg.) | $\square \cdot \square$ | $\square . \square$ | $\square \cdot \square$ |
| 808 ARM CIRCLMFER. (in cm.) |  | $\square \cdot \square$ | $\square \cdot \square$ |
| $\begin{aligned} & 809 \\ & \text { BCG SCAR } \end{aligned}$ ON ARM | SCAR SEEW....... 1 <br> NO SCAR......... 2 | SCAR SEEN....... 1 <br> WO SCAR......... 2 | SCAR SEEN....... 1 <br> wo SCAR......... 2 |
| 810 <br> DATE <br> CHILO <br> VEICHED AMD MEASURED | DAY MOWTH YEAR $\square$ | DAY <br> MOWTH <br> YEAR $\square$ | DAY. <br> MOMTH <br> YEAR $\square$ |
| $\begin{aligned} & 811 \\ & \text { RESULT } \end{aligned}$ | CHILD MEASURED. 1 <br> CHILD SICK..... 2 <br> CHILD WOT <br> PRESENT........ 3 <br> CHILD REFUSED. ${ }^{4}$ <br> MOTHER REFUSED. 5 <br> OTNER. . . . ...... . 6 <br> (SPECIFY) | CHILD MEASURED. 1 <br> CHILD SICK..... 2 <br> CNILD WOT <br> PRESENT........ 3 <br> CHILD REFUSED. . 4 <br> MOTHER REFUSED. 5 <br> OTMER............ 6 $\qquad$ <br> (SPECIFY) | CHILD measured. 1 <br> CHILD SICX..... 2 <br> CHILD WOT <br> PRESENT........ 3 <br> CHILD REFUSED. . 4 <br> MOTHER REFUSED. 5 <br> OTHER. . . . . . . . . . 6 <br> (SPECIFY) |
| 812 <br> mave of measurer: |  | mane of ASSISYANT: |  |

$\qquad$
Any Other Comments:
$\qquad$

SUPERVISOR'S OBSERVATIONS
$\qquad$
$\qquad$
$\qquad$
$\qquad$
Name of Supervisor:
Date:

EDITOR'S OBSERVATIONS
$\qquad$
$\qquad$
$\qquad$
$\qquad$



```
    LANGUAGE OF QUESTIONNAIRE
```



```
    TRANSLATOR USED. . ................
    01 URDU 03 SINDHI 05 BALUCHI 07 SIRAIKI
    02 PUNJABI 04 PUSHTO O6 BROHI O8 OTHER__(SPECIFY)
```

|  | FIELD EDITED BY | OFFICE EDITED BY | KEYED BY | KEYED BY |
| :---: | :---: | :---: | :---: | :---: |
| NAME DATE | - |  |  |  |




201 Now 1 would like to talk about fanily planning－the various ways or methods that a couple can use to delay or avoid a pregnancy．Which ways or methods hove you heard about？

CIRCLE CODE 1 IN 202 fOR EACH METHOD MENTIONED SPOWTANEOUSLY．
then proceed down the column，reading ihe mame and description of each methoo not mentioned spowtaneously． CIRCLE COOE 2 IF METHOD IS RECOGNIZED，AND CODE 3 IF NOT RECOGNIZED．
then，for each methoo with cooe i or 2 circled in 202，ASK 203－204 before proceeding to the mexi methoo．

|  | 202 Have you ever heard of（METNCD）？ <br>  4＋ن 心 <br> READ DESCRIPTIOM OF EACH METHCO | 203 Have you ever used（METHOD）？ <br> （METHOD）U． <br>  | 204 Do you know where －person could go to get（METHCO）？ <br> （METHOD）كِ جـ |
| :---: | :---: | :---: | :---: |
| 01）PILL Women can take a pill every day．山乡 كـ سكت | YES／SPOWT ．．．．．．．．．．．．．．．．．．． 1 <br> YES／PROBED．．．．．．．．．．．．．．．．． 2 <br> NO． $\qquad$ .3 | $\begin{aligned} & \text { YES. . . . . . . . . . . . . . . } 1 \\ & \text { no. . . . . . . . . . . . . . . . . } 2 \end{aligned}$ | $\begin{aligned} & \text { YES . . . . . . . . . . . . . . . . . . . . . . . . } \\ & \text { NO. . . . . . . . . . . . . . . . . . . . . . . . . . } \end{aligned}$ |
| 02 two women can have a loop or coil placed inside them by a doctor or nurse． |  | $\begin{aligned} & \text { YES. . . . . . . . . . . . . . } 1 \\ & \text { no. . . . . . . . . . . . . . . . } 2 \end{aligned}$ | $\begin{aligned} & \text { YES. . . . . . . . . . . . . . . . . . . . . . . . } \\ & \text { no. . . . . . . . . . . . . . . . . . . . . . . } 2 \end{aligned}$ |
| 03 INJECTIONS Women can have an injection by a doctor or murse which stops them from becoming pregnant for several months． <br>  <br>  <br>  |  | $\begin{aligned} & \text { res..................... . . } 1 \\ & \text { no. . . . . . . . . . . . . . . } 2 \end{aligned}$ | $\begin{aligned} & \text { YES . . . . . . . . . . . . . . . . . . . . . . . . . } 1 \\ & \text { nO. . . . . . . . . . . . . . . . . . . . . . . . } 2 \end{aligned}$ |
| 04 DIAPHRACM，FOWM，JELLY women can place a sponge，suppository， diaphragm，jelly or cream in－ side them before intercourse． | $\begin{aligned} & \text { YES/SPOWT . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . } \\ & \text { YES/PRREED } \\ & \text { NO. . . . . } \end{aligned}$ | $\begin{aligned} & \text { ves. . . . . . . . . . . . . . . . } \\ & \text { мo. . . . . . . . . . . . . . . . } 2 \end{aligned}$ | $\begin{aligned} & \text { YES . . . . . . . . . . . . . . . . . . . . . . . . } 1 \\ & \text { мо. . . . . . . . . . . . . . . . . . . . . . . . . } \end{aligned}$ |
| 05 COwDON Men can use a rubber sheath during sexual inter－ course． | YES／SPRONT ．．．．．．．．．．．．．．．．．．．． 1 YES／PROBED．．．．．．．．．．．．．．．．．． 3 | $\begin{aligned} & \text { YES . . . . . . . . . . . . . . . } 1 \\ & \text { No. . . . . . . . . . . . . . . . } 2 \end{aligned}$ | $\begin{aligned} & \text { YES . . . . . . . . . . . . . . . . . . . . . . . . . } 1 \\ & \text { но. . . . . . . . . . . . . . . . . . . . . . . . . . } 2 \end{aligned}$ |




| MO. | QUESTIONS AND FILTERS | COOING CATEGORIES $\quad$ SK1P |
| :---: | :---: | :---: |
| 213 $213 A$ | Which method are you using? <br>  <br> CIRCLE 'O7' FOK male sterilization. |  |
| 214 | Do you know the brand name of the pills your wife is now using? <br>  <br> آ <br> (RECORD NAME OF BRANO.) | BRANO NAME $\qquad$ $\square$ <br> DK. $\qquad$ .98 |
| 215 | How much does one packet of pills cost you? | RUPEES. $\qquad$ $\square$ $\square$ 1 <br> fre $\qquad$ DK. $\qquad$ 9998 $-219$ |
| 216 | May I see the package of condoms you sre using now? <br>  (RECORD NAME OF BRAND.) | package seen <br> package mot seen $\qquad$ |
| 217 | Do you know the brand name of the condoms you are now using? <br> (RECORD NAME OF BRAND.) | BRAND NAME $\qquad$ $\square$ <br> DK. $\qquad$ |
| 218 | How much does one condon cost you? آ ك |  |



| WO. | QuESTIOWS AND FILTERS | COOING CATEGORIES $\quad$SKIP |
| :---: | :---: | :---: |
| 225 | Do you intend to use a method ta delay or avoid - pregnency at ary time in the future? <br>  $0,1,6 \dot{\prime}$, 4 ch ت |  |
| 226 | What is the min reeson you do not intend to use method? <br> كِ <br>  | WANTS CHILDREN...................... . . 01 <br> LACK OF KNOULEDGE <br> UIFE OPPOSED.......................... 03 <br> COST TOO MUCH. <br> HORRY ABOUT SIOE EFFECTS......... . . 05 <br> HEALTH CONCERNS. <br> hard to get methoos. RELIGION. OPPOSED TO FAMILY PLANNING..... $09 \longrightarrow 231$ FATALISTIC.......................... . . 10 OTHER PEOPLE OPPOSED.............. 11 JMFRE OUENT SEX....................... 12 HARD FOR WIFE TO GET PREGNANT.. 13 WIFE MENOPAUSAL/HAD HYSIRECTMY. 14 INCONYENIENT........................ 15 OTHER $\qquad$ 16 <br> DK. <br> K. |
| 227 | If the decision were entirely up to you, would you want to use a method to delay or avoid a pregnancy at any time in the future? <br> jug U كـ я |  |
| 228 |  |  |
| 229 | then you use a method, wich method mould you prefer to use? |  |
| 230 | Where con you get (WETHOD MENTIONED IM 229)? <br>  | GOVERUMENT HOSPITAL/RHSC........ 01 RHC/BNU/GOVERNHENT CLINIC....... 02 <br> FAMILY MELFARE CENTER............ 03 <br> NGO CENTER.......................... . . 04 <br> PRIVATE MOSPITAL OR CLINIC..... 05 <br> MOBILE CLINIC/EXTENSION TEAM... 06 <br> FIELD WORKER. $\qquad$ $\qquad$ $\longrightarrow 235$ <br> PRIVATE DOCTOR. $\qquad$ 08. <br> HAKIM / HOMOEOPATH DRUGSTORE. . <br> SHOP (OTHER THAN DRUGSTORE) 11 <br> TRADITIONAL BIRTH ATTENDANT. . . . 12 $\qquad$ <br> FRIENDS/RELATIVES. OTHER $\qquad$ $\qquad$ 14 <br> (SPECIFY) $\square$ $-235$ <br> DK. <br> DK..................................... 98 |


| W0. | QUESTIONS AND FILTERS | CODING CATEGORIES | $\begin{array}{r} \text { SKIP } \\ \text { TO } \end{array}$ |
| :---: | :---: | :---: | :---: |
| 231 | Do you know of a place where you can obtain - method of fanity plaming? <br> كا ! ب. | YES....................................... 1 no.......................................... | $235$ |
| 232 | Where is that? <br> (NAME OF NOSPITAL, CLIWIC OR CEMTER IF CODE O1-05) | GOVERNMENT HOSPITAL/RHSC. ....... 01 RHC/BHU/GOVERNHENT CLINIC...... 02 faMILY WELFARE CENTER........... . . 03 MGO CEMTER. . . . . . . . . . . . . . . . . . . . . 04 PRIVATE MOSPITAL OR CLINIC..... 05 mOBILE CLINIC/EXIENSIOW IEAM... 06 FIELD WORKER. . . . . . . . . . . . . . . . . . . 07 PRIVATE DOCTOR. . . . . . . . . . . . . . . . . . 08 HAK IM/HOMOEOPATH. . . . . . . . . . . . . . . 09 DRUGSTORE............................... 10 SHOP (OTHER THAN DRUGSTORE)..... 11 TRADITIOWAL BIRTH ATTENDANT.... 12 FRIENOS/RELATIVES.................... 13 OIHER $\qquad$ 14 | $-235$ $-235$ |
|  | How long does it take to travel from your home to this place? <br>  <br> if less than 60 minutes, recond mimutes. OTHERHISE, RECORD NOURS. |  |  |
|  | Is it easy or difficult to get there? | EASY.............................. 1 |  |
|  | In the last month, have you heard a message about family plarning on: <br> : <br>  <br> the radio? <br> television? |  |  |
| 236 | CHECK 235: <br> heard message NOT HEARD <br> (ANY YES IN 235) MESSAGE |  | $\rightarrow 238$ |
|  | Do you think that the message you heard was effective or not effective in persuading couples to use family planning? <br> Gyیu <br> 多 <br> ! |  |  |
|  | Is it acceptable or not acceptable to you for famly plaming information ta be pravided on the radio or television? \|' <br>  يرمبـا كى ساكّى | ACCEPTABLE. . . . . . . . . . . . . . . . . . 1 NOT ACCEPTABLE. $2 . . . . . . . . . . . . . . . . . . . . . . . . . . . ~$ |  |

## SECTION 3: MARRIAGE







# Comments About Respondent: 

$\qquad$
$\qquad$

Comments on Specific Questions: $\qquad$
$\qquad$

Any Other Comments:
$\qquad$
$\qquad$
$\qquad$

SUPERYISOR'S ORSERVATIONS
$\qquad$
$\qquad$
$\qquad$
$\qquad$
Name of Supervisor:
Date: $\qquad$

EDITOR'S OBSERVATIONS
$\qquad$
$\qquad$
$\qquad$
$\qquad$


[^0]:    Tabie 2.1 Sample coverage for urban and rural areas combined
    Coverage of primary sampling units (PSUs), secondary sampling units (SSUs), eligible women and eligible husbands, Pakistan 1990-91

[^1]:    ${ }^{1}$ Respondents to the household questionnaire were asked to identify the head of the household themselves. No standard definition was provided since the objective was to determine who was the head of the household according to the respondent's own definition of that concept.

[^2]:    -- Less than 0.05 percent

    * Based on fewer than 25 unweighted cases. Number not shown.

[^3]:    ${ }^{2}$ Flush toilets are defined as toiless in which water is carried down waste pipes, whether the water is piped into the toilet or poured in by buckets.

[^4]:    "Never worked" means that the woman is not currently working and she did not work either before marriage or just after marriage.

[^5]:    ${ }^{1}$ It should be noted, however, that the average TFR estimated by the Pakistan Demographic Survey for 1984-1988 ( 6.9 children per woman) would suggest that fertility has not yet begun to decline in Pakistan (Federal Bureau of Statistics 1990).

[^6]:    ${ }^{2}$ The results for women age 45-49 should be interpreted cautiously since in demographic surveys older women often omit their first birth (particularly if the child died) or report the timing of their first birth erroneously.

[^7]:    -- Less than 0.05 percent

[^8]:    ${ }^{1}$ In the PDHS, no reference period was defined for current use. The woman was asked whether she or her husband were currently using a method.

[^9]:    Note: Table excludes women who do not know a source. Table also excludes those who mentioned friends, relatives, or others as the source. Although the time to get to a mobile clinic or field worker was not asked, it is assumed that these sources are within 15 minutes of the woman's home. Nonusers of modem methods and ever-married women who know a contraceptive method exclude current users of traditional methods.

[^10]:    -- Less than 0.05 percent
    ${ }^{1}$ Includes current pregnancy

[^11]:    ${ }^{1}$ It should be noted, however, that the greater proportion of consanguineous marriages among younger women may partially reflect the fact that such marriages are more common for women who marry at younger ages. The percentage of consanguineous marriages for the younger age cohorts may decline over time as more women in those cohorts get married.

[^12]:    ${ }^{1}$ These figures include sterilised women who make up 5 percent of women at parity four and 9 percent of women at parity six.

[^13]:    ${ }^{2}$ See the footnotes for Table 8.5 for definitions of the concepts used in this section.

[^14]:    ${ }^{3}$ It is assumed that a birth was wanted if the mother's ideal number of children at the time of the survey was less than the number of living children at the time of the pregnancy or if she gave a non-numeric response (e.g., "up to Allah") to the question on ideal number of children.

[^15]:    ${ }^{1}$ A detailed description of the method for calculating the probabilitics presented here is given in Rutstcin (1984). The mortality estimates are not rates, but are true probabilities, calculated according to the conventional life table approach. For any calendar period, deaths and exposure in that period are first tabulated for the age intervals $0,1-2,3-5$, 6-11,12-23,24-35,36-47, and 48-59 months. Then age interval specific probabilities of survival are calculated. Finally, probabilities of mortality for larger age segments are produced by multiplying the relevant age interval survival probabilities together and subtracting the product from one:

[^16]:    ${ }^{2}$ On the other hand, female mortality may have been decreasing at a faster pace than male mortality, which could partially account for the unusual pattern seen here.

[^17]:    ${ }^{3}$ It can be argued that these deaths are more likely to be drawn from the $12-23$ month age segment than deaths reported at " 12 months," which presumably are drawn from both older and younger ages (reflected in the deficit at 11 months). This is based on the notion that a report of " 1 year" would commonly translate to having reached the first birthday (i.e.,one completed year or 12-23 months). Any adjustment procedure that would involve reassigning a fraction of these deaths from the post-infant to infant age segment is, thus, undertaken with a great deal of uncertainty.

[^18]:    4 The procedure assigns an age at death equal $t$ that of the last death of the same birth order in the data file.
    ${ }^{5}$ The estimated infant mortality rate based on births and deaths for a period of 12 complete months preceding the 1984-85 PCPS was 106.

[^19]:    ${ }^{1}$ It should be noted that the vaccination rates reported in the PDHS are lower than of those reported in the 1991 EPI coverage survey conducted jointly by WHO/UNICEF and the Government of Pakistan which estimated immunisation coverage to be 86 percent for children age 12-23 months with vaccination cards. The PDHS results, however, are more in line with the preliminary results of the 1991 Pakistan Integrated Household Survey.

[^20]:    Note: Figures are for children born in the period 1-59 months preceding the survey.
    ${ }^{1}$ Includes hospital, clinic, Rural Health Centre, Basic Health Unit, private doctor, Farnily Welfare Worker and Lady Health Visitor

[^21]:    ${ }^{1}$ This information was collected only for the last-born child.

[^22]:    ${ }^{2}$ The mean duration of full breastfeeding for last-born children in the $1984-85$ PCPS was 6.9 months.

[^23]:    ${ }^{3}$ Developed by the U.S. Centres for Disease Control based on data from the U.S. National Centre for Health Statistics (Dibley et al. 1987a, 1987b).

[^24]:    ${ }^{1}$ It should be noted that this comparison is not based on matched sets of couples. Rather, it is based on a comparison of all interviewed husbands with all ever-married women interviewed in the women's survey.

[^25]:    ${ }^{2}$ Includes deaths under 1 month reported in days
    ${ }^{\mathrm{b}}$ Under 1 month/under 1 year

