ONDO STATE, NIGERIA

DEMOGRAPHIC AND HEALTH SURVEY 1986

Medical/Preventive Health Division
Ministry of Health, Akure
Ondo State, Nigeria

DHS
Demographic and Health Surveys
Institute for Resource Development/
Macro Systems, Inc.

Ondo State, Nigeria Demographic and Health Survey 1986

Medical/Preventive Health Division
Ministry of Health, Akure
Ondo State, Nigeria

Institute for Resource Development/Macro Systems, Inc.
Columbia, Maryland

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This report presents the findings of the Ondo State Demographic and Health Survey (ODHS), implemented by the Government of Ondo State, through the Medical/Preventive Health Division of the Ministry of Health in 1986. The survey is part of the worldwide Demographic and Health Surveys (DHS) Program, which is designed to collect data on fertility, family planning, and maternal and child health. Additional information on this survey can be obtained from the Medical/Preventive Health Division, Ministry of Health, State Secretariat, PMB 712, Akure, Ondo State, Nigeria.

The Ondo State Demographic and Health Survey was carried out with the assistance of the Institute for Resource Development (IRD), a Macro Systems company with headquarters in Columbia, Maryland. Funding for the survey was provided by the U.S. Agency for International Development (Contract No. DPE-3023-C-00-4083-00). Additional information about the DHS Program can be obtained by writing to: DHS Program, IRD/Macro Systems, Inc., 8850 Stanford Boulevard, Suite 4000, Columbia, Maryland 21045, USA (Telephone: 301-290-2800, FAX: 301-290-2999, Telex: 87775).

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PREFACE

The Ondo State Demographic and Health Survey (ODHS) was conducted in one of the twenty-one states of the Federal Republic of Nigeria. The ODHS was carried out in all of the seventeen Local Government Areas of the State.

The publication of the final report of the ODHS has come at a time when the Ondo State Government is contemplating an overhaul of the health and welfare system which serves the riverine areas of the state. I therefore hope that results of the ODHS will assist the government in making decisions. It is also expected that the findings for the riverine population of Ondo State, as presented in this report, will be of value to other states of the Federation which face the problem of providing health services to such population groups.

Fieldwork for the Ondo State DHS was carried out from September 1986 to January 1987 by the Government of Ondo State through the Medical/Preventive Health Division of the Ministry of Health. The survey was jointly financed by the Ondo State Government and the United States Agency for International Development (USAID). Technical assistance for the survey was provided by the Institute for Resource Development, Inc. The Nigeria National Population Bureau (NPB) contributed senior project staff for technical support. The United Nations Children's Fund (UNICEF), Nigeria provided vehicles during the fieldwork phase of the survey.

The achievements recorded in this undertaking would not have been possible without the efforts and dedication of many administrative officials of the Federal Ministry of Health and both the Ondo State Ministries of Health and Finance and Economic Planning with the support of international agencies. I commend the efforts of those people and organizations who contributed to the success of the Ondo State Demographic and Health Survey. I wish to express my gratitude to the following people for their efforts:

Dr. Femi Fajewonyomi, former Honourable Commissioner of Health, Ondo State; Mr. Omolorun Modupe, Secretary to the Military Government and Head of Service; Dr. H.T. Aladesawe, ODHS Survey Director and Permanent Secretary, Ministry of Health, Ondo State; Dr. A. Adetunji, former Principal, School of Health Technology, Ondo State; Mrs. C. Adekunle, Technical Director of ODHS, National Population Bureau, Lagos; Mr. A. Akinyande, ODHS Field Supervisor, Ministry of Health, Ondo State; Mrs. J.A. Babalola, ODHS Data Processing Supervisor and Health Statistician, Ministry of Health, Ondo State; Dr. Ronald Schoenmaeckers, Ms. Anne R. Cross, Mr. Brian Taaffe, Ms. Jeanne Cushing, and Dr. Jeremiah M. Sullivan, DHS Programme Staff, Institute for Resource Development; Mr. Irwin Shorr and Dr. Christopher Scott, consultants to the DHS Programme.

Dr. T.A. Adebayo
Honourable Commissioner of Health
Akure, Ondo State, Nigeria

SUMMARY

The Ondo State Demographic and Health Survey (ODHS) was conducted by the Ondo State Ministry of Health (MOH) as part of the worldwide Demographic and Health Survey programme. The primary objective of the survey was to provide information about fertility, family planning, and maternal and child health to the MOH.

The ODHS was conducted from September 1986 to January 1987 and collected data from a representative sample of 4213 women aged 15-49. The overwhelming majority of survey respondents are Yoruba (88 percent); 84 percent are Christian; 40 percent live in urban areas, 52 percent in rural areas, and 8 percent in riverine areas.

Fertility

Fertility in Ondo State is high. The total fertility rate (TFR), which indicates the number of children that a woman would have in her lifetime if she experienced the fertility rates of a particular time period, was 6.0. The TFR was approximately the same in urban and rural areas (5.9 and 6.0). However, it was substantially higher for women with no education (6.7) or a primary education (7.1) than for women with a secondary or higher education (5.4).

The ODHS found evidence of recent declines in fertility. The evidence comes from a comparison of the TFR with the average number of children ever born to women who are at the end of their childbearing years. The TFR for Ondo State (6.0) was lower by about one child than the number of children ever born to women 40-49 (6.9).

Marriage is almost universal among the women of Ondo State, although the median age at first marriage is high (20 years for women age 25-49). In addition to the pattern of late marriage, ODHS data suggest recent increases in the age at first marriage. The proportion of women that reported being married by age 20 was lower for women in the age group 20-24 (38 percent) than for women age 25-29 (48 percent) or women age 30-34 (60 percent). Polygyny is common; among currently married women, 46 percent reported that their husbands had other wives.

The women of Ondo State reported relatively long durations of breastfeeding, amenorrhoea and sexual abstinence following the birth of a child. On average, women breastfeed 18 months, are amenorrhoeic 14 months, and practice abstinence for 23 months. The long period of abstinence following a birth is of particular importance in determining birth intervals for women.

Family Planning

Forty-eight percent of all women reported having knowledge of a contraceptive method. Knowledge of modern methods was about the same, 47 percent. There are clear differentials in knowledge by area of residence and education; urban women and more educated women have the highest levels of contraceptive knowledge.

Respondents most frequently reported knowledge of the pill (35 percent) and injection (35 percent); for the IUD, condom, and female sterilization, about 20 percent of respondents reported knowledge of each method.

Contraceptive prevalence is low in Ondo State. Ever-use was reported by only 15 percent of women, current use by 9 percent. Current users rely primarily on the pill and periodic abstinence (3

percent of women using each) and the condom (2 percent). Current use is higher for urban women, more educated women, and women with many living children. An interesting finding was that the level of current use for all women is higher than that of married women (9 versus 6 percent).

With respect to sources of supply, private sector sources (pharmacies, shops and physicians) supplied 38 percent of current users and public sector sources (government hospitals and health centers) provided supplies to 37 percent of current users.

The ODHS contained a number of questions which were intended to measure the level of approval of family planning. In response to a question about family planning messages on radio and television, 85 percent of respondents indicated that this was acceptable.

Almost one-quarter (23 percent) of married women wanted no more children, 38 percent wanted another child after two years, 20 percent wanted another child within two years and 18 percent were undecided about having another child or the preferred timing of another child. The fact that 61 percent of married women either wanted no more children or wanted to wait at least two years before having another child indicates a need for family planning services.

Infant and Child Mortality

The infant mortality rate (IMR) was 56 per 1,000 live births and the under five mortality rate was 108 per 1,000 for the period 1981-86. A strong mortality differential was found by the length of the birth interval. The IMR was almost twice as high for a birth following an interval of less than two years (80 per 1,000) than for a birth following an interval of two or more years (46 per 1,000).

Maternal and Child Health Care

The ODHS collected information on the health care received by women during pregnancy for births in the five years preceding the survey. Respondents reported receiving a prenatal checkup by a trained practitioner (doctor, nurse or midwife) for 80 percent of these births; women received a tetanus injection for 71 percent of births.

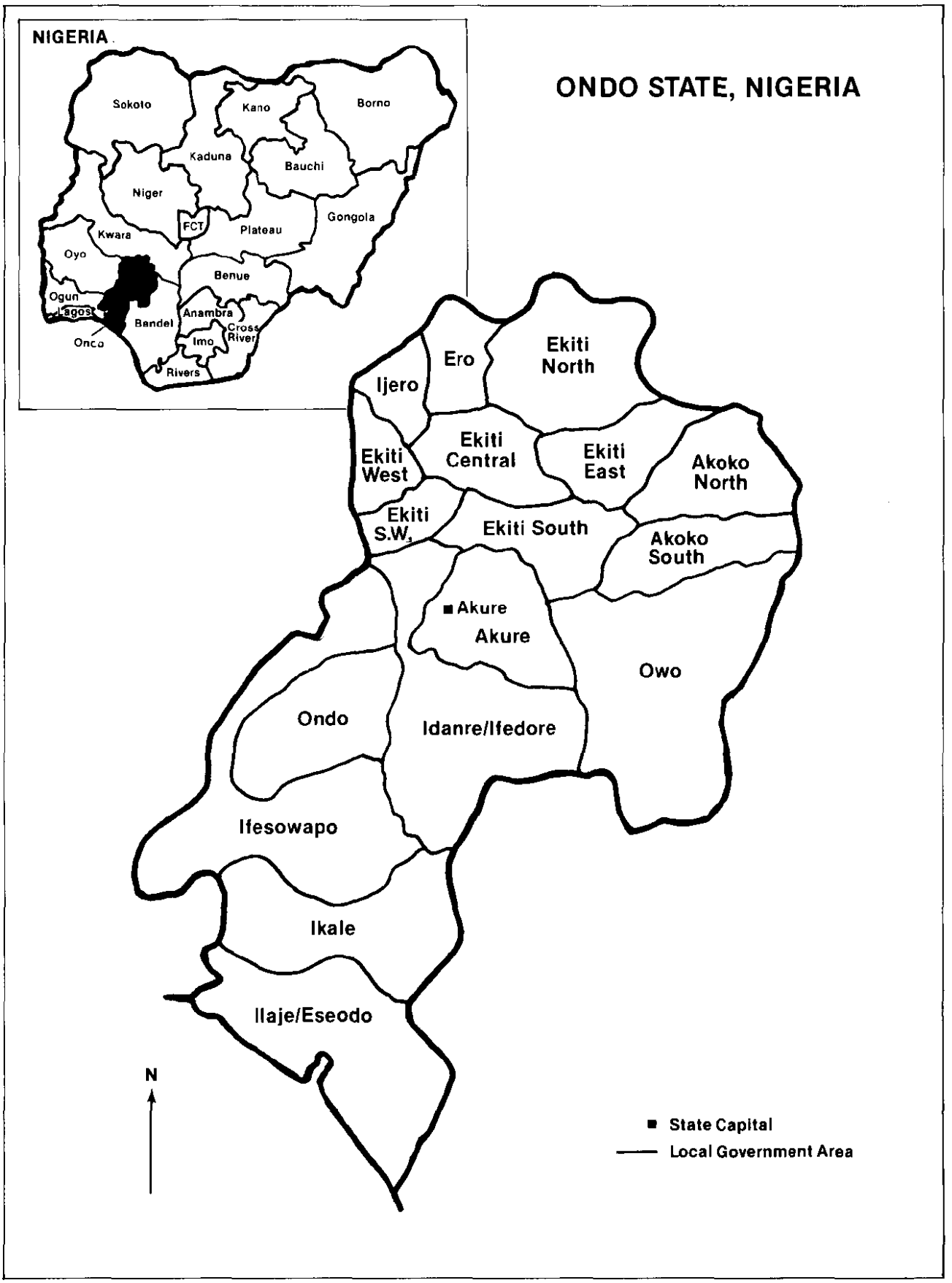
ODHS respondents were asked if they could show a health card for their children under age five and, if they could, information about immunisations was recorded on the survey questionnaire. For the children in the age group 12-23 months, mothers were able to show health cards for 37 percent of children. All of these children had received at least one immunisation and 70 percent were fully immunised (i.e., BCG, measles and three doses of DPT and polio).

Nutritional Status of Children

Height and weight data were collected for 1,387 children and used to calculate indices of nutritional status. The height-for-age index measures linear growth and is used to detect chronic undernutrition. A child who is two or more standard deviations below the reference mean for this index is considered short or stunted. In the ODHS, 32 percent of children were found to be stunted.

The weight-for-height index is used to detect recent or acute undernutrition. A child who is two or more standard deviations below the reference mean on this index is referred to as wasted. In the ODHS, 7 percent of children were found to be wasted.

A cross-tabulation of these two indices found that 2 percent of children were both stunted and wasted, that is to say, severely undernourished.


NIGERIA
Sokoto
Kano
Borno
Kaduna
Bauchi
Niger
FCT
Plateau
Gongola
Kwara
Oyo
Benue
Ogun
Lagos
Bendel
Anambra
Cross River
Imo
Onco
Rivers
ONDO STATE, NIGERIA
Ijero
Ero
Ekiti North
Ekiti West
Ekiti Central
Ekiti East
Akoko North
Ekiti S.W.
Ekiti South
Akoko South
Akure
Akure
Owo
Ondo
Idanre/Ifedore
Ifesowapo
Ikale
Ilaje/Eseodo
N
State Capital
Local Government Area

1. BACKGROUND

1.1 Geography and History of Nigeria

The Federal Republic of Nigeria is located on the coast of West Africa. It has a land area of 923,766 square kilometres. The officially accepted population figure from the 1963 census is 55.7 million. Estimates for 1986 indicate a population of about 100 million, making Nigeria the most populous country in Africa.

Nigeria gained independence from Britain in 1960 and the parliamentary system of government was adopted. In 1963, Nigeria was declared a Federal Republic. A major event in the post-independence period was a three-year civil war from which the Federation emerged intact in 1970.

Nigeria was divided into 12 states in 1967 and redivided into 19 States in 1976. The later date was the year that Ondo State was created out of the former Western State. Two additional states were created in 1987 so that Nigeria now consists of 22 administrative divisions: 21 states and Abuja, the federal capital territory.

1.2 Geography and Climate of Ondo State

Ondo State is located on the coast in the southwestern part of Nigeria (see map). It has two main vegetation belts: 1) the rain forest with tall evergreen trees and thick undergrowth, which extends from the south coast to about 50 miles inland (the riverine area of Ondo State) and 2) the deciduous forest, which is characterised by tall trees and thin undergrowth. There are two seasons: the rainy season from April to October and the dry season from November to March. Ondo State experiences heavy rainfall during the rainy season and high temperatures throughout the year--between 25 and 33 degrees Celsius.

1.3 Population and the Economy

Population estimates for Ondo State must be viewed with caution because there has been no official accepted population census in Nigeria since 1963 and because there is some controversy over the accuracy of the figures reported by that census (Ekanem, I.I., 1972). Nevertheless, according to the census figures, the population of the area now comprising Ondo State was 2.7 million in 1963. In developing the sample for the ODHS, the population of Ondo State was estimated by various procedures. The evidence available suggests that the population of Ondo State in 1986 was about 3.3 million.

The rate of natural population increase in Nigeria was 2.5 percent per annum in the 1960s, increasing to more than 3.0 percent by the early 1980s (Federal Ministry of Health, 1988). The rate for Ondo State was probably the same. Such rates would lead to a population characterised by a young age structure and a high dependency ratio. Fertility and mortality rates are not known for Ondo State. However, crude birth and death rates for all Nigeria are estimated to be 45-48 per 1,000 and 13-16 per 1,000 respectively. There is little reason to think that the rates for Ondo State differ greatly (National Population Bureau, 1984).

The population of Ondo State is predominately made up of Yorubas (85 to 90 percent) who are native to southwestern Nigeria. The population is also predominately Christian (85 to 90 percent).

Overall, the settlement pattern of Ondo is about 40 percent urban, 55 percent rural and 5 percent riverine. The urban population resides in seven major urban centers each with a population in excess of 50,000 and twenty smaller towns each with a population over 20,000. Commerce is a thriving activity in the urban areas where there is also some industry; the major industries being textiles, palm-oil and cocoa products, and building materials. In most of the state, farming is the main occupation.

Ondo State is divided into 17 Local Government Areas (see map), one of which, Ilaje Eseodo, is a riverine area. This is the low-lying area adjacent to the coast where the land is continually dissected by frequent branching of the Oluwa River. In the habitable area of Ijero Escodo, somewhat inland from the mangrove swamps of the coast, fishing villages are located along river banks. Access to many of these villages is mainly by boat.

1.4 Health Priorities and Programmes

The Ondo State Ministry of Health (MOH) is responsible for the health of all members of the population. The main strategy of the MOH has been the provision of primary health care with emphasis on maternal and child health care services. The MOH programme consists of prenatal, postnatal and child welfare clinics, which are held in health facilities on specific days of the week. Basic health education is an important activity at these clinics and an effort is made to promote breastfeeding, to instruct in the use of oral rehydration therapy and to teach good nutrition and food hygiene practices. Since 1983, a top priority has been the Expanded Programme of Immunisation in which children are immunised against six major childhood diseases: diphtheria, whooping cough, tetanus, tuberculosis, poliomyelitis and measles.

Basic health services are provided through facilities operated by the MOH (24 hospitals and 52 health centers), the Local Government Area Councils (191 maternity centers and 229 dispensaries), missionary groups (6 hospitals and 6 maternity centers) and private sector institutions (53 small hospitals, 70 health and maternity centers and numerous pharmacies). The capacity of the public sector and missionary facilities, in terms of in-patient beds, is as follows: hospitals, 2,200 beds; health centers, 500 beds; and maternity centers, 1,500 beds. While these facilities tend to be located in the urban areas, they are nevertheless well distributed throughout the state. Only the riverine area suffers from a relative shortage of health facilities.

1.5 Population and Family Planning Policies and Programmes

During the decade of the 1980s, there has been increasing concern over the high rate of population growth in Nigeria. Thus, in 1988, a policy fostering the provision of family planning services came into being with the adoption of the National Policy on Population for Development, Unity, Progress and Self-Reliance. An underlying principle of this policy is that "all couples and individuals have the basic right to decide freely and responsibly on the number and spacing of their children and to have the information, education and means to do so."

Notwithstanding the recent genesis of a national population policy, family planning services have been available in Ondo State for a number of years. Family planning activities were initiated by the Planned Parenthood Federation of Nigeria (PPFN) in 1969. By 1985, PPFN was providing family planning services free-of-charge through eight clinics in urban areas. In 1981, the provision of family planning services in a MOH hospital was begun by a project sponsored by the United Nations Fund for Population Activities. In 1984, the International Training in Health Programme (INTRAH) held a workshop to develop the capacity of the MOH to train staff to provide family planning services. By 1986, 150 nurses and midwives were trained and providing services throughout the state.

Although the reporting of family planning service statistics in Ondo State is incomplete, the available statistics indicate that by 1986, PPFN was providing services to about 4,000 new acceptors per year and the MOH was providing services to about 8,000 new acceptors per year.

1.6 Objectives of the Survey

The primary objective of the ODHS is to provide policymakers and planners with information on fertility, family planning, maternal and child health, and infant and child mortality. The data will be used to evaluate existing health and family planning programmes and to aid in the design of new programmes.

Another objective of the survey is to test the feasibility of conducting a population-based survey in Ondo State where, as with the rest of Nigeria, a sampling frame is available for only part of the State.

A third objective is to document recent changes in population characteristics and fertility and family planning practices in Ondo State.

1.7 Selection of Ondo State for a DHS Survey

The ODHS differs from most other surveys in the DHS Programme which are national in scope. Ondo State was chosen for a DHS survey for two reasons. First, the Ondo State MOH expressed a need for, and interest in, the type of data collected in DHS surveys. Second, the efforts of the National Population Board to provide a population-based sampling frame for Nigeria through the Enumeration Area Demarcation Exercise had progressed further in Ondo State than in any other state of Nigeria.

Without the Enumeration Area Demarcation Exercise, it would have been difficult to implement the ODHS. In 1985, when the survey was designed, it had been 22 years since the 1963 Population Census, the last officially accepted census of Nigeria. A census was attempted in 1973 but abandoned because of data irregularities. By 1980 there was considerable uncertainty about the size and distribution of the national population. To rectify this situation, the National Population Bureau began the Enumeration Area Demarcation Exercise in 1983. By 1985, this project had not progressed very far, except in Ondo State, where new enumeration areas had been created in 13 of the state's 17 Local Government Areas.

1.8 Organization of the Survey

The ODHS was funded by the United States Agency for International Development and implemented by the Ondo State Ministry of Health. Technical assistance was provided by the Institute for Resource Development, located in Columbia, Maryland. The National Population Bureau participated in the survey by providing one senior technical staff member from its Lagos office and the manpower for sample implementation from its Ondo State office. The United Nations Children's Fund provided vehicles during the fieldwork phase of the survey.

The ODHS survey activities took place over a 38 month period, from February 1986 to March 1989. The schedule of activities is shown in Table 1.1 and described in Appendix A.

Two survey instruments were used in the ODHS: a household schedule and an individual woman's questionnaire. Both were adapted from the Model "B" Core Questionnaires of the DHS Programme. The English version of the questionnaires is reproduced in Appendix C.

Table 1.1 Schedule of Activities for the Ondo State Demographic and Health Survey

Activity	Time Period	
Survey Design and Questionnaire Development	Feb-April	1986
Preparation of Sampling Frame	March-June	1986
Pretest	June-July	1986
Household Listing in Sample PSUs	July	1986
Printing Questionnaires	August	1986
Training for Main Survey	August-Sept	1986
Fieldwork for Main Survey	Sept 1986-Jan	1987
Data Entry and Editing	Sept 1986-Mar	1987
Tabulations for Preliminary Report	May	1987
Publication of Preliminary Report	August	1987
Special Tabulations of Owo LGA (for UNICEF)	September	1987
Tabulations for First Country Report	August-Nov	1987
Analysis and Report Preparation	Dec 1987-Mar	1989
Publication of First Country Report	April	1989

The sample was a stratified, self-weighting probability sample, representative of the entire state. The primary sampling units were enumeration areas created by the National Population Bureau and the second stage units were households. Table 1.2 shows the distribution of the 90 selected primary sampling units by Local Government Area and type of area (urban, rural or riverine). A household listing operation was carried out in these sampling units and household selection was done at the survey office in Akure using systematic random sampling. Details of the sample design are presented in Appendix A.

Eligibility for the woman's questionnaire was on a *de facto* basis: all women aged 15-49 who had stayed in a sample household during the previous night were eligible respondents. The sample design specified a target of 3,600 completed interviews from female respondents. For the survey, a total of 4,213 completed interviews were obtained.

1.9 Population Statistics for Ondo State

Population statistics for Ondo State are available from two national-level surveys of Nigeria: the 1980 National Demographic Sample Survey (NDSS) and the 1981-82 Nigeria Fertility Survey (NFS). The latter was conducted as part of the World Fertility Survey Programme.

Three relevant publications from these surveys are *National Demographic Sample Survey, Ondo State* (National Population Bureau and Institute for Resource Development/Westinghouse, 1988), *Principal Report of the Nigeria Fertility Survey* (National Population Bureau, 1984) and *Nigeria Fertility Survey, Ondo State Report* (National Population Bureau and Federal Ministry of Health, 1986). Unfortunately, the last report is based on only 389 female respondents, so the information available is limited. When appropriate, statistics from the above three sources are cited in this report.

Table 1.2 Number of Selected Primary Sampling Units by Local Government Area and Urban-Rural Residence, ODHS, 1986

Local Government Area	No. of Primary Sampling Units			
	Urban	Rural	Riverine	Total
1 Akure	8	1	-	9
2 Akoko North	3	4	-	7
3 Ekiti East	2	2	-	4
4 Ero	2	2	-	4
5 Ekiti South	3	1	-	4
6 Ekiti South-west	1	1	-	2
7 Ekiti Central	2	3	-	5
8 Ijero	2	1	-	3
9 Ekiti West	1	2	-	3
10 Akoko South	1	3	-	4
11 Ekiti North	2	4	-	6
12 Owo	3	5	-	8
13 Idanre Ifedore	2	3	-	5
14 Ondo	2	7	-	9
15 Ifesowapo	-	2	-	2
16 Ilaje Eseodo	-	-	9	9
17 Ikale	2	4	-	6
Total	36	45	9	90

1.10 Background Characteristics of ODHS Respondents

This section presents information on the demographic characteristics of ODHS respondents. Table 1.3 shows the distribution of respondents by selected characteristics along with Ondo State data from the 1980 National Demographic Sample Survey (NDSS).

Age

Data on age were obtained in the ODHS by asking respondents two questions, "In what month and year were you born?" and "How old were you at your last birthday?" Interviewers were instructed that, in cases where respondents could not provide a year of birth, it was essential to obtain information on age and they were trained in techniques of probing for age. As a last resort, interviewers were instructed to estimate the respondent's age.

The year of birth was recorded for eighty-five percent of respondents: both month and year for 66 percent and year only for 19 percent. Fifteen percent of respondents did not provide a year of birth. Age was recorded for all 4,213 respondents.

The age distribution of respondents in the ODHS and the NDSS, by five-year age groups, is shown in Table 1.3. Both distributions conform to the pattern characteristic of a high fertility population, i.e., more women in the younger than in the older age groups. However, the ODHS distribution is somewhat irregular; the percentage of women is high in the age group 15-19 (26 percent), declines to 13 percent for the age group 20-24, remains constant for the two following age groups, declines to 11 percent for the age group 35-39 and remains constant again for the two following age groups. This

contrasts with the NDSS distribution where, above age 25, the percentages in each successive age group gradually decline.

In terms of broad age groups, the distribution of respondents is about the same in the ODHS and the NDSS with the percentage under 30 being 53 and 56 percent, respectively. Moreover, the substantial decline in the percentage of women between age groups 15-19 and 20-24 in the ODHS is consistent with the enumeration of twice as many women in the age group 10-14 as in the age group 15-19 in the 1980 NDSS (National Population Bureau and Institute for Resource Development/Westinghouse [1988]). Thus, the ODHS survey found the same size difference between adjacent age groups as was found six years earlier in the NDSS. Nevertheless, peculiarities of the ODHS age distribution, particularly the flat spots over the broad ages from 20 to 34 and 35 to 49, suggest errors in age reporting and those errors may affect some of the survey results.

Table 1.3 Percent Distribution of Women Age 15-49 by Background Characteristics, 1980 NDSS for Ondo State and 1986 ODHS

Background Characteristic	1980 NDSS	1986 ODHS	Background Characteristic	1980 NDSS	1986 ODHS
Age			Religion		
15-19	21.6	26.3	Catholic	80.6	10.3
20-24	16.6	13.4	Protestant		74.4
25-29	17.6	13.3	Moslem	13.0	13.4
30-34	14.9	13.0	Traditional	5.3	1.0
35-39	13.2	11.4	None	1.2	0.9
40-44	9.7	11.3			
45-49	6.3	11.3	Ethnicity		
			Yoruba	87.8	85.8
Residence			Other	12.2	14.2
Urban	31.7	40.2			
Rural	68.3	52.0			
Riverine		7.8			
Education			Total Percent	100.0	100.0
None	53.5	36.9	Number of Women	5867	4213
Primary	20.5	23.8			
Secondary	19.2	33.4			
Post-Secondary	6.7	5.8			

Source: National Population Bureau and Institute for Resource Development/ Westinghouse [1988]: Tables I-2, I-3, I-4, I1-2.

Residence

The distribution of respondents by residence area was as follows: 40 percent urban, 52 percent rural, and 8 percent riverine. This represents a somewhat greater concentration of the population in urban areas than was found in the 1980 NDSS (32 percent) which suggests a net rural-to-urban migration flow in recent years.

Religion and Ethnicity

The majority of ODHS respondents reported that they were Christian (74 percent Protestant and 10 percent Catholic), another 13 percent reported that they were Muslim, and 2 percent followed either a traditional religion or had no religious affiliation. In terms of ethnicity, the women of Ondo State were overwhelming Yoruba (86 percent).

Education

All women were asked if they had ever attended school. Respondents who had attended school were asked the highest level of school attended (primary, secondary or post-secondary) and the highest class or year completed at that level. Thirty-seven percent of respondents reported no education; 24 percent reported completing between one and six years of primary education; 33 percent, between one and four years of secondary education and 6 percent reported post-secondary education. Relative to 1980 NDSS results, the ODHS shows a pronounced increase in secondary education. This reflects the success of the government's efforts to promote education since 1976 when the provision of free primary education was started.

Table 1.4 shows percent distributions of women by education, five-year age groups and urban-rural residence. The table indicates strong associations between educational attainment and age and between educational attainment and area of residence. Younger women have much higher levels of education than older women. For example, 80 percent of women aged 15-19 have a secondary or higher education while only 3 percent of women aged 45-49 attained that level. The association between education and area of residence, while significant, is not as pronounced as in the case of age. The proportion of women with a secondary or higher education increases from 22 percent in riverine areas to 48 percent in urban areas.

Table 1.4 Percent Distribution of Women by Education, According to Age and Area of Residence, ODHS, 1986

Background Characteristic	Education			Total	Number of Women
	None	Primary	Secondary +		
Age					
15-19	4.4	15.1	80.5	100.0	1109
20-24	13.0	23.5	63.5	100.0	563
25-29	30.7	30.4	38.9	100.0	560
30-34	49.8	36.3	13.9	100.0	548
35-39	56.1	33.5	10.4	100.0	478
40-44	67.2	24.3	8.6	100.0	478
45-49	83.7	13.0	3.3	100.0	477
Residence					
Urban	29.1	22.8	48.1	100.0	1695
Rural	40.4	24.8	34.8	100.0	2192
Riverine	54.0	23.6	22.4	100.0	326
Total	36.9	23.9	39.2	100.0	4213

Housing Characteristics

The ODHS collected a limited amount of information on the dwelling units in which respondents lived (Table 1.5). The flooring material of the dwelling units was either cement (73 percent), packed earth (21 percent), or wood planking (6 percent). Cement flooring was most common in urban areas (95 percent). A majority of respondents in rural areas (65 percent) also had cement flooring, while wood planking was most prevalent in riverine areas (63 percent) where homes are built on stilts over swampy terrain.

Table 1.5 Percent Distribution of Respondents by Housing Characteristics and Percentage Owning Certain Household Possessions, by Residence, ODHS, 1986

Housing Characteristic/Possession	Residence			
	Urban	Rural	Riverine	Total
Material of Floor				
Cement	95.1	65.4	10.1	73.1
Earth	4.2	33.2	27.3	21.1
Wood Planks	0.7	1.4	62.6	5.8
Drinking Water Source				
Piped to Home	10.6	2.0	0.0	5.3
Public Tap	55.1	17.6	0.0	31.3
Well	16.6	5.3	5.8	9.9
River/Spring	16.6	73.5	86.8	51.7
Tanker Truck	1.1	1.6	7.4	1.8
Source of Water for Household Use				
Piped to Home	10.4	1.8	0.0	5.2
Public Tap	39.4	12.4	0.0	22.3
Well	29.3	8.0	4.6	16.4
River/Spring	19.7	77.2	89.0	54.9
Tanker Truck	1.2	0.6	6.4	1.2
Total	100.0	100.0	100.0	100.0
Household Possessions				
Electricity	78.1	23.3	7.1	44.1
Television	40.1	9.1	6.1	21.4
Refrigerator	28.5	6.4	0.0	14.8
Radio	73.1	56.9	35.0	61.7
Bicycle	12.0	17.6	6.4	14.5
Motorcycle	26.4	27.8	8.3	25.7
Car	20.1	10.3	1.8	13.6
Tractor	0.4	1.1	1.2	0.9

Sources of Water

Information was also collected on the sources of water for drinking and for general household use. Sources of water differ considerably by area of residence. In urban areas, piped water is the primary source of drinking water--11 percent of respondents have water piped to their homes and another 55 percent obtain water from a public tap. In rural and riverine areas, water from rivers and springs is the main source of drinking water (74 and 87 percent, respectively). In both urban and rural areas, well water is relied on to a greater extent for general household use than for drinking. This reflects the fact that wells are more accessible than public taps throughout Ondo State.

Household Amenities/Possessions

Respondents were also asked about household amenities (electricity, television, refrigerator and radio) and about the ownership of specific vehicles of transportation by a household member (bicycle, motorcycle, car, and tractor). Electricity is available to the majority of women in urban areas (78 percent) but to a minority in rural (23 percent) and riverine (7 percent) areas. Television and refrigerators are common in urban areas (40 percent and 29 percent of respondents, respectively) but not in rural and riverine areas (less than 10 percent of respondents). Household possession of a radio is common in all areas, but more prevalent in urban (73 percent) and rural (57 percent) than in riverine (35 percent) areas.

In terms of vehicles, 20 percent of urban women and 10 percent of rural women resided in households in which a member owned a car; 25 percent of urban and rural women lived in households in which a member owned a motorcycle. These percentages were much lower in riverine areas.

2. MARRIAGE AND OTHER DETERMINANTS OF FERTILITY

2.1 Current Marital Status

In the ODHS, marriage is defined as including all stable unions regardless of the degree of formal recognition. Respondents were first asked if they had ever been married or lived with a man, and if yes, whether they were currently married, living with a man, widowed, divorced or separated. In all age groups, less than one percent of respondents reported themselves as living with a man; for that reason the categories "married" and "living with a man" are combined and presented as "married" throughout this report.

Table 2.1 shows the marital status of respondents at the time of the survey. Of all women aged 15-49, 30 percent had never married, 67 percent were currently married and 3 percent were widowed, divorced or separated. These findings are similar to those of the National Demographic Sample Survey where the comparable statistics were 27, 69 and 4 percent, respectively.

Table 2.1 Percent Distribution of All Women by Current Marital Status, According to Age, ODHS, 1986

Age of Women	Never Married	Married	Living Together	Widowed	Divorced	Separated	Total Percent	No. of Women
15 - 19	88.6	9.7	0.6	0.0	0.3	0.8	100.0	1109
20 - 24	40.1	57.2	0.7	0.0	0.0	2.0	100.0	563
25 - 29	7.3	89.8	0.9	0.7	0.4	0.9	100.0	560
30 - 34	0.0	98.2	0.0	1.3	0.2	0.4	100.0	548
35 - 39	0.0	96.9	0.2	2.1	0.6	0.2	100.0	478
40 - 44	0.0	95.2	0.2	4.4	0.0	0.2	100.0	478
45 - 49	0.0	88.9	0.2	9.6	0.2	1.1	100.0	477
Total	29.7	66.8	0.5	2.1	0.2	0.8	100.0	4213

The marital status distributions by age group show that the percentage of never married women is high for women aged 15-19 (89 percent), decreases rapidly in age groups 20-24 and 25-29 (40 and 7 percent, respectively) and is nil for women above age 30. The percentage of currently married women is low for women aged 15-19 (10 percent), increases rapidly, reaching 90 percent for women aged 25-29 and remains high for women at older ages. At every age, a high percentage of women are either never married or currently married, so the percentage widowed, divorced or separated is low (less than 5 percent) for all age groups except 45-49.

2.2 Polygyny

Polygyny, the marriage of more than one woman to the same man, is common in Nigeria. Data on this practice were collected by asking currently married women if their husbands had other wives. Table 2.2 shows that overall, 46 percent of currently married women are in a polygynous union, which is

consistent with the comparable statistic of 41 percent for southwestern Nigeria reported by the 1981-82 Nigeria Fertility Survey (National Population Bureau, 1984, Table 4.12).

Polygyny is associated with a distinct age pattern. The percentage of women in a polygynous union is lowest for women 15-19 (17 percent), increases at subsequent ages and reaches a maximum for women 45-49 (62 percent). The similarity of the ODHS statistics with those found by the 1981-82 Nigerian Fertility Survey for women of southwestern Nigeria (National Population Bureau, 1984) and by the 1980 NDSS for women of Ondo State (National Population Bureau and Federal Ministry of Health, 1986) suggests that the age pattern associated with polygyny is a life-cycle phenomenon.

Table 2.2 Percentage of Currently Married Women in Polygynous Unions, by Age, According to Background Characteristics, ODHS, 1986

Background Characteristic	Age							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Residence								
Urban	17.4	22.1	30.8	41.7	43.2	53.9	59.5	39.6
Rural	11.1	26.8	36.8	49.4	57.1	59.6	62.0	49.6
Riverine	29.2	26.5	59.4	57.6	69.4	76.0	69.7	55.8
Education								
None	29.0	33.3	44.4	49.4	58.6	61.8	62.6	55.2
Primary	16.1	26.4	39.6	50.8	51.6	55.9	56.4	45.2
Secondary +	11.3	19.3	22.5	23.7	25.0	41.0	64.3	23.3
Religion								
Catholic	5.9	17.4	31.1	42.2	41.3	64.3	72.7	42.1
Protestant	16.4	22.9	31.8	43.9	51.2	57.1	58.4	43.9
Muslim	25.0	37.2	57.1	57.6	63.9	56.9	69.8	56.9
Other/None	40.0	50.0	44.4	53.9	66.7	84.6	69.2	61.8
Total	17.4	24.5	35.4	46.3	52.9	58.6	61.9	46.1

Table 2.2 also contains statistics on the prevalence of polygyny by area of residence, education and religious affiliation. The percentage of women in polygynous unions is lower in urban areas (40 percent) than in rural (50 percent) or riverine (56 percent) areas. Polygyny is also inversely related to education, being lowest among women with secondary or more education (23 percent) and highest for women with no education (55 percent). Religious affiliation shows a less pronounced effect, with the percentage for Catholics (42 percent) and Protestants (44 percent) being somewhat lower than that for Muslims (57 percent). The relatively modest differentials in polygyny, except in the case of education, testify to its general acceptance throughout the population.

2.3 Age at First Marriage

Women who reported ever being in union were asked the month and year in which they began living with their first partner. If they could not report the year, they were asked the age when they began their first cohabiting relationship. Sixty-two percent of respondents reported the year and the month of first marriage, 20 percent reported the year only, and 18 percent reported the age at first marriage. From these data, statistics on age at first marriage were calculated. However, caution should be exercised when drawing conclusions, since some respondents, particularly older women, may have had difficulty recalling the date of first marriage or their age at first marriage, and interviewers had to probe for the information.

Table 2.3 shows the distribution of women in age groups by age at first union. For each age group starting at age 25, the median age at first marriage is also shown. (The median age at first marriage is not shown for age groups under age 25 because less than 50 percent of respondents had married (women 15-19) or some single members of the age group were younger than the median age at marriage of those who had married and, if they married, could lower the median age (women 20-24).)

Table 2.3 Percent Distribution of Women by Age at First Union and Median Age at First Union, According to Current Age, ODHS, 1986

Current Age	Never Married	Age at First Union						Total Percent	Number of Women	Median Age at 1st Union*
		< 15	15-17	18-19	20-21	22-24	25 +			
15 - 19	88.6	2.0	7.3	2.2	0.0	0.0	0.0	100.0	1109	-
20 - 24	40.1	4.6	14.2	19.5	15.1	6.4	0.0	100.0	563	-
25 - 29	7.3	7.0	22.1	18.9	19.8	19.3	5.5	100.0	560	20.2
30 - 34	0.0	10.4	29.2	20.4	17.5	15.3	7.1	100.0	548	18.9
35 - 39	0.0	5.4	25.1	23.2	22.4	14.6	9.2	100.0	478	19.7
40 - 44	0.0	8.2	24.9	20.5	20.1	16.1	10.3	100.0	478	19.7
45 - 49	0.0	2.5	20.8	28.5	21.8	15.7	10.7	100.0	477	19.9
Total	29.7	5.3	18.6	16.5	14.2	10.7	5.1	100.0	4213	-

* Defined as the age by which one-half of women have ever married

The median age at first marriage for women 25 to 49 is about 20 and shows little variation between five-year age groups. This suggests that age at first marriage was stable in Ondo State from about 1960 to 1980. However, for the period since 1980 there is evidence that age at first marriage has increased. The evidence comes from statistics on the proportion single at age 20 among women 20-24 and 25-29. Table 2.3 indicates that 62 percent of women 20-24 were single at age 20 while only 52 percent of women 25-29 were single at age 20.

Additional evidence of a recent change in the age at first marriage can be obtained by comparing statistics for Ondo State from the 1980 NDSS and the 1986 ODHS. The proportion of single women aged 15-19 increased from 80 percent in the NDSS to 89 percent in the ODHS, among women aged 20-24, 40 percent were single in both surveys (National Population Bureau and Institute for Resource Development/Westinghouse [1988]: Table III-1). Given the problem with age reporting in Nigeria, these

results must be interpreted with caution; however, they suggest recent increases in the age at first marriage in Ondo State.

Table 2.4 shows differentials in the median age at first marriage for women age 25-49 by area of residence, education and religious affiliation. Differences in the median age at marriage exist by area of residence and religious affiliation, but they are small and not always consistent across age groups. The finding of similar values of the median age at first marriage for Muslim (19.7) and Protestant women (19.8) in the ODHS is consistent with the findings of the 1981-82 Nigeria Fertility Survey for Ondo State (National Population Bureau and Federal Ministry of Health, 1986, Table 4). This is distinctly different from the findings of that survey at the national level where the median age at first marriage for Muslim women (15.3) is much lower than for Christian women (19.0) (National Population Bureau, 1984, Table 4.4). The findings for Ondo State are probably a case of the small Muslim minority adopting the norm of the overwhelming majority of the population.

Table 2.4 Median Age at First Union Among Women Aged 25-49 Years, by Current Age and Background Characteristics, ODHS, 1986

Background Characteristic	Current Age 25-29	30-34	35-39	40-44	45-49	Total
Residence						
Urban	20.5	19.3	20.2	20.1	20.1	20.1
Rural	20.2	18.4	19.3	19.5	19.7	19.5
Riverine	17.6	19.9	20.1	19.0	20.2	19.5
Education						
None	18.7	18.5	19.2	19.4	19.8	19.3
Primary	19.0	18.7	20.2	20.5	19.7	19.5
Secondary +	22.8	22.4	20.3	19.9	22.0	22.2
Religion						
Catholic	19.2	19.0	19.3	19.2	19.2	19.2
Protestant	20.4	19.0	19.7	19.8	19.9	19.8
Muslim	19.4	18.7	20.2	19.7	20.3	19.7
Other/None	20.7	18.5	19.2	18.3	20.0	19.2
Total	20.2	18.9	19.7	19.7	19.9	19.7

Pronounced differences in the median age at first marriage are associated with education. For women in the age group 25-49, the median age at first marriage is higher for women with secondary or more education (22.2) than for women with primary (19.5) or no education (19.3). The difference between women with secondary or more education and women with no education amounts to four years for women aged 25-29 (22.8 versus 18.7).

2.4 Breastfeeding, Postpartum Amenorrhoea, and Abstinence

Fertility is affected by a number of factors other than marriage, including breastfeeding, postpartum amenorrhoea and sexual abstinence. In the ODHS, information on these factors was obtained for all live births in the five-years preceding the survey. In this section information is reported for births within 36 months of the survey. Table 2.5 presents the proportion of babies who are still breastfeeding, the proportion of women still amenorrhoeic and the proportion of women abstaining from sexual intercourse by months since the birth. The proportion of women who are insusceptible to the risk of pregnancy (either amenorrhoeic or abstaining) is also presented.

Table 2.5 shows that the practice of breastfeeding is nearly universal in Ondo State and that it continues for a prolonged period. Three months after a birth, over 90 percent of mothers are breastfeeding and, a year after a birth, approximately 75 percent are still breastfeeding. Overall, the median duration of breastfeeding is 17 months. This extended period of breastfeeding is consistent with the estimate of 18 months from the 1981-82 Nigeria Fertility Survey for women of Ondo State (National Population Bureau and Federal Ministry of Health, 1986) and with recent median estimates for sub-Saharan countries such as Liberia, 17 months (Chieh-Johnson, D., *et al.*, 1988) and Senegal, 19 months (Ndiaye, S., *et al.*, 1988).

Table 2.5 Percentage of Births Whose Mothers Are Still Breastfeeding, Postpartum Amenorrhoeic, Abstaining, and Insusceptible, by Number of Months Since Birth, ODHS, 1986

Months Since Birth	Proportion of Births Whose Mothers Are: Breast-feeding	Amenor-rhoeic	Abstain-ing	Insus-ceptible	Number of Births*
Less than 2	94.9	90.7	96.9	97.9	97
2 - 3	92.5	86.8	94.3	97.2	106
4 - 5	94.4	80.8	94.4	97.6	125
6 - 7	83.3	67.6	84.3	87.0	108
8 - 9	88.0	63.9	81.2	84.2	133
10 - 11	84.4	59.4	76.6	81.3	128
12 - 13	71.7	48.3	69.2	74.2	120
14 - 15	74.2	43.0	68.0	71.9	128
16 - 17	56.1	31.8	68.2	71.0	107
18 - 19	34.3	20.4	47.2	50.0	108
20 - 21	35.2	13.6	47.7	47.7	88
22 - 23	14.5	7.2	44.6	45.8	83
24 - 25	12.9	7.1	29.4	31.8	85
26 - 27	3.3	3.3	29.7	29.7	91
28 - 29	1.0	2.0	17.7	17.7	102
30 - 31	5.6	3.7	21.3	22.2	108
32 - 33	4.6	2.3	23.9	23.9	88
34 - 35	3.3	2.2	21.1	21.1	90
Total	-	-	-	-	1895
Median	17.1	12.2	18.2	18.5	-

*Includes births occurring in the period 0-35 months prior to the survey.

Following the birth of a child, there is a period of time during which a woman is infecund--physiologically incapable of conception. This period can be approximately measured by the time from pregnancy termination to the return of the woman's menstrual cycle. The duration of postpartum amenorrhoea depends on a number of factors, such as the general health and nutritional status of the woman and her breastfeeding practices. Among healthy, well-nourished women who do not breastfeed at all, postpartum amenorrhoea usually lasts two to three months. However, intensive breastfeeding which is continued well after the birth of a child can extend this period to a year or more. The median duration of the postpartum amenorrhoea for women in Ondo State is 12 months. This is consistent with the estimate of 13 months from the 1981-82 NFS for women of Ondo State (National Population Bureau and Federal Ministry of Health, 1986).

In Ondo State the practice of sexual abstinence is almost universal following the birth of a child (Table 2.5). The median duration of abstinence is 18 months. The 1981-82 NFS reported a mean duration of abstinence of 21 months for women of Ondo State (National Population Bureau and Federal Ministry of Health, 1986).

The ODHS finding that the median duration of sexual abstinence is slightly longer than the median duration of breastfeeding, but substantially longer than the median duration of postpartum amenorrhoea implies that sexual abstinence plays a crucial role in determining pregnancy intervals. The relatively long period of insusceptibility characteristic of women in the Ondo State (median duration 19 months) is primarily due to the practice of sexual abstinence.

Table 2.6 presents the mean durations for breastfeeding, postpartum amenorrhoea, sexual abstinence, and insusceptibility for subgroups of the population. The mean durations were calculated by the "current status" method in which the number of women who had a birth in the last 36 months and were still breastfeeding (amenorrhoeic, abstaining or insusceptible) is divided by the average number of births per month in the last 36 months.

While there are important differences in the mean durations of breastfeeding and postpartum abstinence, the discussion here focuses on abstinence because it is the primary determinant of the length of insusceptibility for women in Ondo State. The mean duration of sexual abstinence is shorter for women under age 30 (20 months) than for women age 30 and above (25 months) and the insusceptible period is similarly shorter for younger women (21 months) than older (26 months) women. In terms of area of residence, abstinence is shorter for urban women (20 months) than for rural women (26 months) and shortest for riverine women (19 months). As a result, insusceptibility is about the same for urban and riverine women (22 and 21 months, respectively) but longer for rural women (27 months). In the case of religious affiliation, Catholic and Protestant women have shorter periods of abstinence (22 months) than Muslim women (27 months) and similar differences in insusceptibility (23 versus 28 months).

Education is by far the most important background characteristic affecting the period of postpartum insusceptibility for women of Ondo State. The durations of breastfeeding, postpartum amenorrhoea, and abstinence are longest for women with no education (20, 16 and 27 months, respectively), decrease by about 3 months for women with a primary education (18, 14 and 21 months, respectively) and by another 3 months for women with a secondary education (14, 11 and 18 months, respectively). The net result is a steady and substantial decrease in the length of insusceptibility between women with no education (29 months), women with a primary education (22 months) and women with a secondary education (19 months). All other factors being equal, this would mean that better educated women would have greater need for family planning methods to space their births.

Table 2.6 Mean Durations of Breastfeeding, Postpartum Amenorrhoea, Abstinence, and Insusceptibility by Background Characteristics, ODHS, 1986

Background Characteristic	Breastfeeding	Amenorrhoea	Abstinence	Insusceptibility	Number of Births
Age					
<30	18.1	13.4	20.2	21.3	858
30 +	18.4	14.5	24.9	26.3	1067
Residence					
Urban	16.3	12.5	20.2	21.6	841
Rural	19.8	15.1	25.8	26.8	932
Riverine	19.4	15.4	18.5	21.1	152
Education					
None	20.4	16.3	26.7	28.6	803
Primary	18.4	13.6	21.4	22.4	656
Secondary +	14.4	10.6	18.0	18.6	466
Religion					
Catholic	17.9	13.9	21.8	23.2	233
Protestant	17.6	13.4	22.0	23.4	1362
Muslim	21.0	16.4	27.0	27.8	297
Other/None	21.8	18.6	22.9	25.1	33
Total	18.2	14.0	22.8	24.1	1925

Note: Means are current status estimates based on births occurring in the period 0-35 months prior to the survey.

3. FERTILITY

3.1 Fertility Data in the ODHS

This chapter presents fertility indices describing different aspects of childbearing among women in Ondo State. First, statistics depicting fertility levels during the period 1981-86 are presented--total fertility rates and age-specific fertility rates. Then, statistics on the total number of children ever born are presented by age group. Finally, statistics on the median age at first birth are presented by age group and background characteristics.

Data on the childbearing experience of respondents were collected in several ways. First, women were asked their aggregate fertility in a series of six questions: the number of sons and daughters that live at home, the number of sons and daughters that live elsewhere and the number that had died. Second, data pertaining to specific births were collected with a truncated birth history for the six year period from 1981 to the survey date (i.e., respondents were asked to report their most recent live birth and each preceding live birth extending back in time to the birth immediately preceding 1981). For all reported births, information was obtained on month and year of birth, sex, name, survival status and, if dead, age at death. Third, respondents were asked the month and year of their first birth, if that birth occurred prior to the births enumerated in the truncated birth history.

The truncated birth history is an established procedure for the collection of retrospective fertility data. This approach is designed to provide data suitable for the estimation of fertility levels for a period immediately prior to a survey--in the case of the ODHS, for the period 1981-86. As with any retrospective procedure, the truncated birth history can suffer from event underreporting (in particular, the underreporting of children who die in early infancy) and misreporting of the dates of birth. The former problem is potentially serious for infant mortality estimation, while the latter problem primarily concerns fertility estimation. For example, when the truncated birth history approach is used, misreported birth dates can transfer events across the reference boundaries and bias period-specific fertility rates. In order to limit the effect of such misreporting, fertility data should be collected for a longer retrospective period than that for which fertility rates are actually calculated. In the ODHS, fertility data were collected for all births since 1981 and for the immediately preceding birth, while estimation of fertility rates is limited to the period since 1981.

3.2 Levels, Differentials and Trends in Fertility

Estimates of fertility levels are presented in terms of the total fertility rate (TFR) and the mean number of children ever born. The TFR is a period fertility index which indicates the number of children that a woman would have if she experienced throughout her lifetime the age-specific fertility rates of a particular time period. The mean number of children ever born is a retrospective fertility index which indicates the actual number of children women have had. Fertility trends can be determined by comparing the TFR for recent time periods with the number of children ever born to women aged 40-49.

In Table 3.1, TFRs for women up to age 45 are presented for two three-year calendar periods preceding the survey (1981-83 and 1984-86) and one five-year period preceding the survey (which, because the fieldwork for the survey was primarily done in late 1986, approximates 1982-86). The pair of three-year estimates suggest a substantial decline in fertility from 6.3 children per woman in 1981-83 to 5.6 children per woman in 1984-86; a decline of 0.7 children per woman. However, caution must be exercised in interpreting these three-year estimates. In the ODHS, interviewers were trained to probe for

the age of the child and the season of its birth when the respondent could not report a date of birth. This information was used by the interviewer to calculate the date of birth. Respondent digit preference in reporting the age of a child could have resulted in an erroneous concentration of births in the fourth and fifth years before the survey and an erroneous appearance of a fertility decline between 1981-83 and 1984-86. Final resolution of this issue is beyond the scope of this report. It is possible that the TFR did not decline by as much as 0.7 children per woman between 1981-83 and 1984-86. In these circumstances the most conservative approach is to rely on the intermediate estimate of the TFR for the longer time period: i.e., 6.0 for the five-year period preceding the survey.

Table 3.1 Total Fertility Rates for 1981-83, 1984-86, and the Five-Year Period Prior to the Survey, and Mean Number of Children Ever Born to Women Aged 40-49, According to Background Characteristics, ODHS, 1986

Background Characteristic	Total Fertility Rates*			Mean No. of Children Ever Born to Women 40-49
	1981-83	1984-86	0-4 Years Before	
Residence				
Urban	5.9	5.7	5.9	6.4
Rural	6.6	5.5	6.0	7.1
Riverine	6.3	6.1	6.4	7.7
Education				
None	6.9	6.3	6.7	7.0
Primary	7.3	6.8	7.1	7.0
Secondary +	5.9	5.1	5.4	6.1
Religion				
Catholic	6.7	6.4	6.6	7.5
Protestant	6.2	5.5	5.8	6.9
Muslim	6.6	6.0	6.4	6.7
Other/None	8.4	3.8	6.3	6.9
Total	6.3	5.6	6.0	6.9

* For women aged 15-44

Table 3.1 provides other evidence that fertility has declined over the last twenty years. The retrospective measure of fertility, the number of children ever born to women aged 40-49 (6.9), exceeds the TFR for the recent period (6.0). This indicates that fertility has declined about one child per woman over the last two decades. With respect to area of residence, differences between the TFR and children ever born are apparent in all areas, although somewhat smaller in urban (5.9 versus 6.4) than in rural (6.0 versus 7.1) and riverine areas (6.4 versus 7.7).

With respect to religious affiliation, the difference between the TFR and children ever born is less pronounced for Muslim women (6.4 versus 6.7) than for Catholic (6.6 versus 7.5) and Protestant women (5.8 versus 6.9). It appears that fertility change in Ondo State is being experienced to about the same extent by Catholic and Protestant women and to a much lesser extent by Muslim women. With respect to

educational attainment, differences between the TFR and children ever born are minor for women with no education (6.7 versus 7.0) and primary education (7.1 versus 7.0), but more substantial for women with secondary or more education (5.4 versus 6.1). This suggests that education has played an important role in bringing about the decline in fertility in Ondo State over the last twenty years. If this is so, the fact that the percentage of women with secondary or more education is much higher among younger than among older women (80 percent versus 3 percent, Table 1.4) suggests that further declines in fertility may occur.

Evidence for fertility decline in southwest Nigeria is recent. The Nigerian Fertility Survey found a TFR for southwestern Nigeria for the period 1977 to 1981 of 6.6 and a mean number of children ever born to women 45-49 of 6.0 (National Population Bureau, 1984, Tables 5.11 and 5.12). The relatively low estimate for the number of children ever born may have been due to underreporting of births by older women in the NFS or may reflect low fertility in the late 1960s during the Nigerian Civil War (when women 45-49 in 1981-82 were in their peak childbearing years). Notwithstanding the absence of a definitive explanation for the pattern of estimates from the Nigerian Fertility Survey, the ODHS estimates clearly indicate a fertility decline.

Differentials in fertility for population subgroups are also shown in Table 3.1. For the five-year period preceding the survey, there is little difference between the TFR for urban (5.9) and rural (6.0) areas and, while the TFR for riverine areas (6.4) is somewhat higher, it is based on relatively few woman-years of exposure. Differentials by religious affiliation indicate that fertility is higher for Catholic (6.6) and Muslim women (6.4) than for Protestant women (5.8).

The largest fertility differentials occur between education groups; the TFR is highest for women with a primary education (7.1), lowest for women with a secondary education (5.4) and intermediate for women with no education (6.7). The finding of higher fertility for women with a primary education than for women with no education is not uncommon in sub-Saharan countries and was found in the Liberia DHS survey (Chieh-Johnson, *et al.*, 1988). In the case of Ondo State, this differential is not due to a difference in the age at which childbearing begins, since age at first marriage and at first birth are about the same for women with no education and women with a primary education (Tables 2.4 and 3.6). Instead, the difference probably arises as a result of longer intervals between births for women with no education, who practice sexual abstinence for a longer period following the birth of a child than do women with a primary education (27 versus 21 months, Table 2.6).

3.3 Age-Specific Fertility Rates

Age-specific fertility rates for the five-year period immediately preceding the ODHS are shown in Table 3.2. Fertility is quite low for the age group 15-19 (61 per 1,000), rises to a peak for the 25-29 age group (301 per 1,000), remains high for women 30-34 (293 per 1,000) and declines thereafter. This pattern of fertility is similar to the pattern for southwestern Nigeria reported by the 1981-82 NFS--i.e., a broad-peaked fertility schedule with little variation in fertility between the ages of 20 and 35 (National Population Bureau, 1984, Table 5.12).

Age-specific rates for urban and rural areas are almost identical. The primary difference is the more rapid decline in fertility in urban areas for women 40-44 and 45-49. This sharper decline of fertility rates for older women in urban areas was found throughout Nigeria in the 1981-82 NFS (National Population Bureau, 1984, Table 5.12).

Table 3.2 Age-Specific Fertility Rates (Per 1000 Women) for the Five-Year Period Prior to the Survey, by Area of Residence, ODHS, 1986

Age of Women	Age-Specific Fertility Rates		
	Ondo State*	Urban	Rural
15-19	61	60	53
20-24	238	234	246
25-29	301	300	302
30-34	293	290	291
35-39	194	200	188
40-44	110	87	120
45-49	(40)	(28)	(45)
TFR (15-44)	6.0	5.9	6.0
TFR (15-49)	6.2	6.0	6.2

Note: Numbers in parentheses represent partially truncated rates.

* Includes riverine areas

3.4 Children Ever Born

Table 3.3 shows the mean number of children ever born--the cumulative childbearing experience--for women 15-49 by age group. Among all women, the mean number of children ever born is low for women 15-19 (0.1), remains low for women 20-24 (0.8) (reflecting the late age of marriage in Ondo State) and increases rapidly for older age groups so that the completed family size of women 45-49 is quite high (7.3). Among currently married women, the number of children ever born for women 15-19 (0.6) is higher than among all women, rises with age and reaches the same peak value in the age group 45-49 (7.3) as for all women, reflecting the near universality of marriage and the low rates of widowhood and divorce in Ondo State.

It is worth noting that in many surveys, statistics on children ever born rise steadily up to the age groups 35-40 or 40-44, at which point they decline. This pattern generally reflects underreporting of events by the oldest cohorts of women--most probably underreporting of children who have died or who have moved out of the home. The ODHS statistics show a steady rise in the number of children ever born with increasing age of women and a substantial increase between women aged 40-44 (6.5) and aged 45-49 (7.3). This suggests relatively complete reporting of data on children ever born.

Table 3.3 also shows the percent distribution of women by the number of children they have had. Fewer than 7 percent of women in the age group 15-19 have had a live birth, an indication of the late age at marriage and late onset of childbearing among the women of Ondo State. These distributions also indicate that the incidence of primary infertility, as measured by the proportion of women in the older ages who have had no births, is low--on the order of 1 percent. Finally, the source of the difference in the number of children ever born to women aged 40-44 (6.5) and 45-49 (7.3) is evident from the

distributions. The proportion with ten or more births is substantially lower among women 40-44 (10 percent) than among women 45-49 (17 percent).

Table 3.3 Percent Distribution of All Women and Currently Married Women by Number of Children Ever Born, According to Age, CDHS, 1986

	Number of Children Ever Born (CEB)													
Age	0	1	2	3	4	5	6	7	8	9	10+	Total	No. of Women	Mean No.of CEB
ALL WOMEN														
15-19	93.1	6.1	0.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	1109	0.1
20-24	50.6	27.7	14.2	5.0	2.1	0.2	0.2	0.0	0.0	0.0	0.0	100.0	563	0.8
25-29	11.1	18.6	21.6	19.1	13.7	8.4	4.3	2.3	0.9	0.0	0.0	100.0	560	2.7
30-34	0.7	2.9	9.3	15.3	20.0	19.4	16.5	9.3	4.0	1.3	1.3	100.0	548	4.6
35-39	0.4	2.3	2.1	7.3	10.7	19.9	21.5	16.9	9.6	4.8	4.4	100.0	478	5.9
40-44	0.4	2.3	1.5	2.3	7.5	20.5	17.8	17.4	11.5	9.2	9.6	100.0	478	6.5
45-49	1.3	1.0	0.8	3.1	5.9	10.1	17.6	14.0	17.8	10.9	17.4	100.0	477	7.3
Total	33.1	8.8	6.7	6.7	7.4	9.4	9.2	7.0	5.1	3.0	3.7	100.0	4213	3.3
CURRENTLY MARRIED WOMEN														
15-19	45.2	47.0	7.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	115	0.6
20-24	19.0	43.6	24.5	8.6	3.7	0.3	0.3	0.0	0.0	0.0	0.0	100.0	326	1.4
25-29	4.1	19.7	23.4	20.9	14.4	9.3	4.7	2.6	1.0	0.0	0.0	100.0	508	2.9
30-34	0.7	2.8	9.5	15.1	20.3	19.7	16.2	9.3	3.9	1.3	1.1	100.0	538	4.6
35-39	0.4	2.4	2.2	7.5	10.6	19.0	21.3	17.2	9.9	5.0	4.5	100.0	464	5.9
40-44	0.4	2.2	1.3	2.2	7.0	20.0	18.2	18.2	11.4	9.4	9.6	100.0	456	6.6
45-49	1.2	0.9	0.9	3.3	5.4	10.4	17.4	14.6	17.2	11.1	17.6	100.0	425	7.3
Total	5.2	11.9	9.8	9.7	10.5	13.3	13.0	10.2	7.0	4.2	5.2	100.0	2832	4.7

In many populations, age at first marriage is strongly associated with subsequent childbearing performance--women marrying at younger ages typically have more children than women marrying at older ages. Table 3.4 shows data on the cumulative fertility (number of children ever born) to ever-married women by age at first marriage and duration since first marriage. Among all ever-married women, the mean number of children ever born is one for women married 0-4 years and increases to 6.7 for women married 20-24 years. Among women first married between the ages of 15 and 25, differences in childbearing performance are minimal and the number of children ever born by marriage duration are about the same as for all women. Among these women, the number of children ever born at durations 25-29 and 30+ years increases to seven and eight, although the relationship between age at first marriage and children ever born is inconsistent for longer unions. Among women first marrying under age 15 or at age 25 and above, childbearing performance differs from that of all ever-married women. Women marrying under age 15 have fewer children at all durations of marriage than all ever-married women. On the other hand, women marrying at age 25 and above have more children ever born at durations 0-4 and 5-9 and about the same number of children ever born at durations 15-19 and 20-24 as all ever-married women. It appears that the relatively high fertility of these women immediately following marriage is compensated for by lower than average fertility at subsequent durations so that, at durations 15-24 years, their cumulative childbearing performance is about the same as for all ever-married women. This slowing of

the pace of childbearing probably results, in part, because of a decrease in the fecundability of these women by the time they reach marriage durations of 15 years and longer. For women first marrying at age 25 and above, the mean number of children ever born at durations 20-24 years can be considered their completed family size since they are unlikely to have significantly more children. This number (6.6) is significantly lower than the number of children ever born at marriage durations 25-29 and 30+ of women marrying between the ages of 15 and 25 and is an indication of the fertility inhibiting effect of late age at marriage.

Table 3.4 Mean Number of Children Ever Born to Ever-Married Women, by Age at First Marriage and Years Since First Marriage, ODHS, 1986

Years Since First Marriage	Age at First Marriage						
	<15	15-17	18-19	20-21	22-24	25+	Total
0-4	0.9	0.9	0.9	1.1	1.1	1.3	1.0
5-9	2.7	3.3	3.0	2.9	2.9	3.8	3.1
10-14	4.6	4.8	4.5	4.8	4.9	4.9	4.7
15-19	5.6	6.2	6.1	5.8	6.3	5.7	6.0
20-24	6.0	7.1	6.3	6.6	7.0	6.6	6.7
25-29	6.8	7.0	7.3	7.0	7.9	-	7.1
30+	6.9	8.7	8.0	-	-	-	8.2
Total	5.1	5.2	4.8	4.4	4.2	4.0	4.7

- Outside the age range of the survey

3.5 Age at First Birth

The age at onset of childbearing is an important demographic and health indicator for a population. From a demographic perspective, it indicates the extent to which the childbearing potential of women is being achieved; changes in age at first birth may foreshadow changes in fertility levels in a population. From a health perspective, early childbearing is associated with high levels of maternal and child morbidity and mortality. Table 3.5 presents statistics on the distribution of women by age at first birth for all age groups and on the median age at first birth for age groups above age 25. The value of the latter statistic is not shown for women under age 25 because less than half the respondents in those age groups have had a live birth.

In Ondo State, the median age at first birth is oldest for women 25-29 (21.1 years) and ranges between 20.2 and 20.5 years in subsequent age groups. The older age at first birth reported by women 25-29 indicates a trend toward later childbearing in recent years. The existence of a trend to a later age at onset of childbearing can be further investigated by reference to the statistics on the distribution of women by age at first birth. Table 3.5 indicates that the proportion of women who had a live birth by age 20 increases from 28 percent for women 20-24 to 39 and 47 percent for women 25-29 and 30-34, respectively. This is evidence that the shift to later childbearing evidenced by women 25-29 is being experienced, to an even greater extent, by women 20-24.

Table 3.5 Percent Distribution of All Women by Age at First Birth, According to Current Age, ODHS, 1986

Current Age	No Births	Age at First Birth						Total Percent	No. of Women	Median Age at First Birth
		<15	15-17	18-19	20-21	22-24	25+			
15-19	93.1	0.9	4.1	2.0	0.0	0.0	0.0	100.0	1109	-
20-24	50.8	3.4	9.4	15.5	15.3	5.7	0.0	100.0	563	-
25-29	11.1	4.6	18.4	16.4	18.8	23.7	7.0	100.0	560	21.1
30-34	0.9	5.8	20.4	21.2	20.6	19.5	11.5	100.0	548	20.2
35-39	0.6	3.8	15.9	23.4	21.3	18.6	16.3	100.0	478	20.5
40-44	0.4	6.9	19.9	17.4	17.8	19.9	17.8	100.0	478	20.5
45-49	1.3	1.5	15.9	24.7	21.4	19.3	15.9	100.0	477	20.5
Total	33.1	3.4	13.3	15.0	14.1	13.0	8.1	100.0	4213	-

Table 3.6 presents statistics on the median age at first birth for women aged 25-49 by background characteristics of women. The age at first birth is later in urban areas (20.9 years) than in rural or riverine areas (both 20.3 years) and later for Protestant (20.6 years) and Muslim (20.8) women than for Catholics (20.0 years). However, the greatest difference in the median age at first birth occurs in education. Among women 25-49, the median age is the same for women with no education as for women with a primary education (20.2) but much later for women with secondary or higher education (23.0). The difference is substantial and amounts to almost three years.

Table 3.6 Median Age at First Birth Among Women Aged 25-49 Years, by Current Age and Background Characteristics, ODHS, 1986

Background Characteristic	Current Age					Total
	25-29	30-34	35-39	40-44	45-49	
Residence						
Urban	21.5	20.6	21.0	20.7	20.7	20.9
Rural	21.1	19.7	20.2	20.4	20.4	20.3
Riverine	18.2	21.4	20.5	20.5	20.6	20.3
Education						
None	19.9	19.9	20.3	20.3	20.5	20.2
Primary	19.7	19.8	20.7	21.5	20.4	20.2
Secondary +	23.4	23.2	22.0	20.5	24.0	23.0
Religion						
Catholic	20.5	19.8	20.3	20.2	19.4	20.0
Protestant	21.4	20.3	20.4	20.6	20.6	20.6
Muslim	20.7	20.2	21.4	21.1	21.0	20.8
Other/None	20.0	20.5	19.6	18.0	20.0	19.8
Total	21.1	20.2	20.5	20.5	20.5	20.6

4. CONTRACEPTIVE KNOWLEDGE AND USE

4.1 Contraceptive Knowledge

Knowledge of contraceptive methods and of places where they can be obtained are preconditions for their use. A basic objective of the ODHS was to determine the level of knowledge of methods. Data on knowledge of family planning methods were collected first by asking respondents to name the ways that a man or woman could keep a woman from getting pregnant. If a respondent did not spontaneously mention a particular method, the method was described by the interviewer and the respondent was asked if she recognized the method. Descriptions were included in the questionnaire for seven modern methods (pill, IUD, injection, condom, vaginal methods (diaphragm, foam, and jelly), male and female sterilization, and two traditional methods--periodic abstinence (rhythm) and withdrawal. In addition, any other methods mentioned by the respondent, e.g., herbs, charms, were recorded. Finally, for any modern method that she recognized, the respondent was asked if she knew about a place or a person from which she could obtain the method. If she reported knowing about periodic abstinence, she was also asked if she knew a place or person from whom she could get information about the method.

Survey results indicate that only 48 percent of women in Ondo State know of a contraceptive method (Table 4.1). Injection is the most widely recognized method (36 percent), followed closely by the pill (35 percent). Female sterilization, the IUD, and condom are each recognized by about 20 percent of women, while smaller proportions have heard about periodic abstinence (12 percent), withdrawal (11 percent), vaginal methods (8 percent), and male sterilization (5 percent).

Knowledge of contraceptive methods is highest among women in their 20s and early 30s and lowest among teenagers and women over the age of 45. It is also slightly higher among married women than among all women, with the patterns of knowledge by method and by age being similar for married and all women.

Contraceptive knowledge varies considerably according to background characteristics of the woman, as is shown in Table 4.2. A total of 61 percent of married urban women have heard of at least one modern method, compared to 47 percent of married rural women and only 13 percent of married women living in riverine areas of the state. Education, too, seems to have an effect on contraceptive knowledge. Only 34 percent of married women with no education have heard of a modern method, compared to 59 percent of women with primary education and 80 percent of women with secondary education. Differentials by religious affiliation are not so large. Knowledge is somewhat lower among Muslim women (42 percent) than Protestant women (53 percent), with Catholic women intermediate (47 percent). The number of children a woman has does not appear to affect her knowledge of contraceptives, except that childless women are slightly less likely to have heard of a modern method of contraception than women with one or more children.

Women who had heard of specific contraceptive methods were asked what they thought was the main problem, if any, with using the method. Results are given in Table 4.3 by method. For all of the modern methods, half or more of respondents answered "don't know", which implies that many women may have heard of methods without knowing much about them. About one-quarter of women cited health reasons as the main problem with using the pill, IUD, injectable contraceptives, and male and female sterilization. One-quarter to one-third of women reported no problem for the condom, periodic abstinence, and withdrawal, however a greater proportion of women reported ineffectiveness as a problem for these methods than for other methods. Problems of access/availability, cost, disapproval of partner, and inconvenience were reported by only small proportions of women.

Table 4.1 Percentage Knowing Any Method, Knowing Any Modern Method, and Knowing Specific Methods, Among All and Currently Married Women by Age, ODHS, 1986

Age	Percentage of Women Who Know: Any Method	Any Modern Method*	Pill	IUD	Injection	Diaphragm, Foam, Jelly	Condom	Female Steril.	Male Steril.	Periodic Abstinence	Withdrawal	Other	No. of Women
ALL WOMEN													
15-19	38.0	36.8	24.6	7.7	21.4	3.2	16.3	13.3	1.8	11.1	7.9	1.4	1109
20-24	55.8	54.9	42.3	20.4	43.0	10.7	27.9	27.5	7.1	20.1	20.6	3.2	563
25-29	59.8	58.7	45.5	32.3	48.4	13.7	29.6	27.0	8.2	18.8	18.2	5.9	560
30-34	56.2	55.5	43.8	28.6	46.7	10.0	22.4	27.4	6.4	12.8	11.7	5.3	548
35-39	53.3	52.5	38.9	27.6	45.0	9.6	17.8	25.9	5.9	10.5	8.8	4.0	478
40-44	47.1	46.2	32.0	21.1	37.7	7.9	12.6	23.4	4.2	7.1	6.3	4.0	478
45-49	36.9	34.2	22.6	13.2	24.3	2.5	7.1	17.0	2.7	5.9	4.0	5.5	477
All Ages	48.3	47.1	34.5	19.8	36.0	7.7	19.1	21.9	4.8	12.4	10.9	3.8	4213
CURRENTLY MARRIED WOMEN													
15-19	40.9	38.3	24.3	11.3	26.1	5.2	11.3	20.9	4.3	10.4	6.1	3.5	115
20-24	53.1	51.8	37.1	19.9	42.6	8.3	21.8	25.8	5.5	13.5	16.0	3.4	326
25-29	58.7	57.7	43.9	32.1	48.0	12.8	27.6	26.4	7.5	16.9	16.3	6.1	508
30-34	57.2	56.5	44.6	29.2	47.6	10.2	22.9	27.9	6.5	13.0	11.9	5.4	538
35-39	53.7	53.0	39.2	27.6	45.3	9.9	17.5	25.9	5.8	9.7	8.4	3.7	464
40-44	47.1	46.5	32.5	21.5	37.9	8.1	13.2	23.9	3.9	7.5	6.6	3.9	456
45-49	37.2	34.6	23.3	13.2	24.9	2.6	6.4	16.9	2.6	4.7	3.5	4.9	425
All Ages	51.1	50.0	36.8	24.0	40.9	8.7	18.2	24.5	5.4	11.0	10.2	4.6	2832

* Modern methods include pill, IUD, injection, diaphragm, foam, jelly, condom, and male and female sterilization.

Table 4.2 Percentage of Currently Married Women Knowing At Least One Modern Method, by Number of Living Children and Background Characteristics, ODHS, 1986

Background Characteristic	Number of Living Children							Total
	0	1	2	3	4	5	6+	
Residence								
Urban	53.7	58.0	71.1	60.2	56.7	58.6	65.2	60.8
Rural	36.9	52.0	43.0	47.8	46.5	47.7	47.6	47.0
Riverine	(16.7)	12.8	9.5	14.3	17.4	12.5	11.1	12.9
Education								
None	10.0	17.6	31.0	37.3	34.4	35.7	38.0	33.6
Primary	38.8	52.7	52.9	55.2	62.8	66.7	66.2	59.2
Secondary +	68.4	72.5	80.4	90.2	86.0	90.2	92.2	79.6
Religion								
Catholic	(44.4)	50.0	47.2	47.2	39.1	44.6	54.5	47.4
Protestant	49.6	55.9	58.2	55.7	52.2	51.3	49.1	52.8
Muslim	21.7	34.5	38.2	45.5	42.9	42.4	53.0	42.4
Other/None	(0.0)	(0.0)	(40.0)	(7.7)	(30.0)	(60.0)	(28.6)	23.5
Total	43.8	50.7	53.4	51.4	49.0	49.5	49.8	50.0

Note: Numbers in parentheses represent fewer than 20 cases.

Table 4.3 Percent Distribution of Women Who Have Ever Heard of a Contraceptive Method by the Main Problem Perceived in Using the Method, ODHS, 1986

Main Problem	Contraceptive Method								
	Pill	IUD	Injec-tion	Diaphragm, Foam, Jelly	Condom	Female Sterili-zation	Male Sterili-zation	Periodic Absti-nence	With-drawal
No Problem	15.7	6.7	8.2	12.1	24.1	5.0	5.0	39.8	32.8
Access/Availability	0.6	1.7	0.2	0.6	0.1	0.0	0.0	0.0	0.7
Costs Too Much	0.7	0.8	1.5	0.0	0.2	2.0	4.5	0.0	0.0
Health Concerns	25.1	23.0	25.0	16.1	6.1	30.1	26.7	2.3	2.6
Not Effective	1.4	2.9	1.1	4.0	13.0	0.0	0.0	14.0	19.3
Partner Disapproves	0.7	2.3	1.5	0.6	2.5	0.1	1.5	1.3	3.0
Inconvenient to Use	2.1	3.7	1.4	4.3	5.0	1.2	4.0	5.5	9.8
Other	1.1	0.6	0.7	0.3	0.2	1.0	2.5	0.0	0.9
Don't Know, Unstated	52.6	58.3	60.6	61.9	48.7	60.7	55.9	37.1	31.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Women	1453	834	1517	323	806	921	202	523	461

Women who had heard of methods were also asked where they would go to get the method if they wanted to use it. By far the most common response was a government hospital (Table 4.4), where half to three-quarters of women knowing a modern method said they would go to obtain the method. Government health centers and private doctors were also cited frequently as sources for most modern methods, while pharmacies and shops were mentioned as sources for the pill and condom. In order to get information about using periodic abstinence, the majority knowing the method said they would go to a government hospital (36 percent), to a private doctor (15 percent), or to nowhere at all (26 percent). It is interesting to note that almost all women who have heard of a method also know a place to obtain it--generally, only five percent or less said they didn't know where to go to get the method.

Table 4.4 Percent Distribution of Women Aged 15-49 Knowing a Contraceptive Method by Source Where They Would Obtain the Method, ODHS, 1986

	Contraceptive Method							
Source	Pill	IUD	Injec-tion	Diaphragm, Foam, Jelly	Condom	Female Sterili-zation	Male Sterili-zation	Periodic Absti-nence
Private Doctor	4.7	5.4	4.9	5.0	3.5	6.9	9.9	14.5
Govt. Hospital	64.6	75.3	75.3	70.3	47.1	82.3	79.2	36.3
Govt. Health Center	10.2	13.1	12.9	12.7	6.9	4.1	6.4	4.4
Mobile Clinic	0.1	0.7	0.6	0.3	0.0	0.0	0.0	0.4
Private Hospital	1.2	1.2	0.8	1.2	1.7	0.1	0.0	0.6
Pharmacy/Shop	13.8	0.6	0.3	5.9	33.0	0.1	1.0	0.4
Field Worker	0.1	0.0	0.1	0.0	0.1	0.0	0.0	1.3
None	0.2	0.1	0.1	0.3	0.6	0.2	0.5	25.6
Other	0.6	0.5	0.9	0.6	1.1	1.1	0.0	11.5
Don't Know	4.5	3.1	4.2	3.7	5.8	5.1	3.0	5.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Women	1453	834	1517	323	806	921	202	523

4.2 Ever Use of Contraception

Each respondent who had heard of a contraceptive method was asked if she had ever used it. As shown in Table 4.5, only 15 percent of all women and 13 percent of married women in Ondo State have ever used a contraceptive method. The pill (6 percent), periodic abstinence (5 percent), and condom (4 percent) are the methods used most commonly. Withdrawal has been used by 3 percent, injection by 2 percent, the IUD by 1 percent, and vaginal methods and sterilization by less than one percent of all women. For most methods, ever use is highest among women in their 20s. It is lower among married women than all women, however, the pattern by age and method is similar for both groups.

Table 4.5 Percentage of All and Currently Married Women Who Have Ever Used Family Planning Methods, by Method and Age, ODHS, 1986

Age	Contraceptive Method											
	Any Method	Any Modern Method*	Pill	IUD	Injection	Diaphragm, Foam, Jelly	Condom	Female Sterilization	Periodic Abstinence	Withdrawal	Other	No. of Women
ALL WOMEN												
15-19	14.3	10.7	6.0	0.0	1.1	0.3	6.0	0.0	4.5	2.7	0.4	1109
20-24	21.5	14.6	10.8	0.2	1.1	0.5	7.5	0.0	8.5	6.6	0.7	563
25-29	21.4	14.5	8.4	1.3	1.8	1.1	7.0	0.0	9.1	6.3	0.7	560
30-34	14.2	9.5	5.3	1.8	2.4	0.2	2.0	0.4	5.3	2.2	0.4	548
35-39	13.6	11.7	6.1	3.6	4.4	0.2	2.5	0.0	2.5	2.3	0.4	478
40-44	9.4	7.7	4.0	1.7	2.9	0.4	1.7	0.2	2.3	0.4	0.4	478
45-49	8.6	5.9	2.3	0.8	3.6	0.2	1.5	0.0	2.3	0.8	1.0	477
All Ages	14.9	10.8	6.2	1.1	2.2	0.4	4.4	0.1	5.0	3.1	0.5	4213
CURRENTLY MARRIED WOMEN												
15-19	11.3	7.0	4.3	0.0	0.9	0.0	1.7	0.0	4.3	1.7	1.7	115
20-24	14.1	9.2	5.8	0.3	0.9	0.6	4.6	0.0	4.3	4.3	0.9	326
25-29	18.5	12.2	6.7	1.4	1.4	1.0	5.9	0.0	7.1	4.7	0.6	508
30-34	14.5	9.7	5.4	1.9	2.4	0.2	2.0	0.4	5.4	2.2	0.4	538
35-39	13.1	11.4	5.8	3.4	4.3	0.2	2.6	0.0	2.2	2.2	0.2	464
40-44	9.4	7.7	4.2	1.8	2.6	0.4	1.8	0.2	2.4	0.4	0.4	456
45-49	8.0	5.6	2.4	0.9	3.8	0.2	1.2	0.0	1.9	0.9	0.9	425
All Ages	13.0	9.3	5.0	1.6	2.5	0.4	2.9	0.1	4.0	2.4	0.6	2832

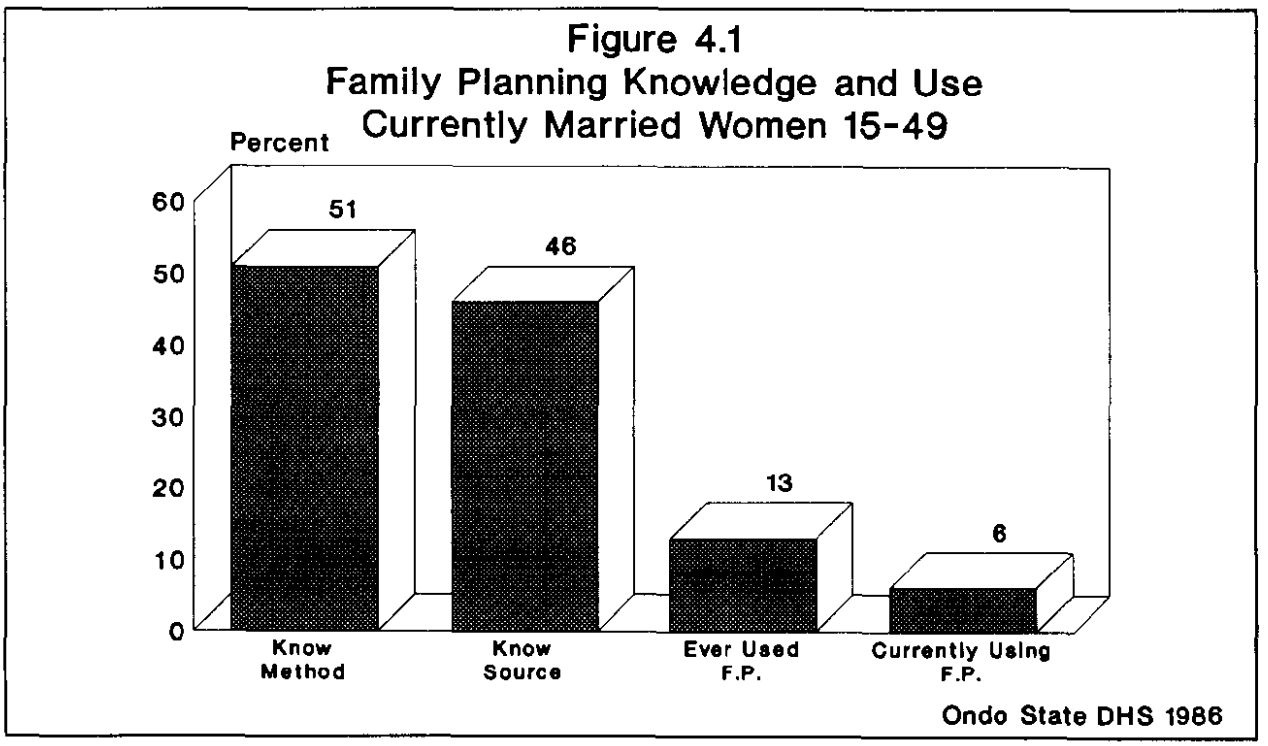
* Modern methods include pill, IUD, injection, diaphragm, foam, jelly, condom, and male and female sterilization.

4.3 Current Use of Contraception

Survey data indicate that nine percent of all women 15-49 in Ondo State are currently using a method of family planning (Table 4.6). About three percent of women (one-third of users) are using periodic abstinence and another three percent are using the pill. The condom is the next most widely used method, with just over one percent of women relying on it. Other methods such as injection, IUD, withdrawal, and vaginal methods are relied on by fewer than one percent of women. Figure 4.1 shows the rapid drop-off in knowledge of methods, knowledge of a source, ever use, and current use of family planning among married women.

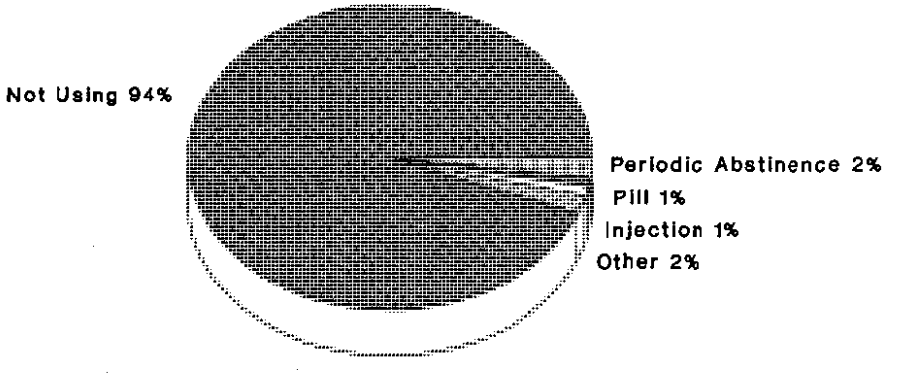
Table 4.6 Percent Distribution of All Women and Currently Married Women by Contraceptive Method Currently Used, According to Age, ODHS, 1986

Age	Contraceptive Method Currently Used: Any Method	Pill	IUD	Injection	Diaphragm, Foam, Jelly	Condom	Periodic Abstinence	Withdrawal	Other	Not Currently Using	Total	No. of Women
ALL WOMEN												
15-19	11.9	4.1	0.0	0.4	0.1	3.5	3.2	0.6	0.1	88.1	100.0	1109
20-24	13.0	4.4	0.2	0.0	0.0	2.7	4.4	0.9	0.4	87.0	100.0	563
25-29	10.4	3.0	0.4	0.9	0.2	0.4	4.5	0.9	0.2	89.6	100.0	560
30-34	7.3	1.6	0.9	1.1	0.0	0.5	2.7	0.0	0.4	92.7	100.0	548
35-39	7.1	1.9	1.5	1.5	0.0	0.4	1.7	0.0	0.0	92.9	100.0	478
40-44	4.8	0.8	0.8	1.9	0.2	0.2	0.6	0.0	0.2	95.2	100.0	478
45-49	4.6	0.8	0.2	1.9	0.0	0.2	1.3	0.0	0.2	95.4	100.0	477
All Ages	9.1	2.7	0.5	0.9	0.1	1.5	2.8	0.4	0.2	90.9	100.0	4213
CURRENTLY MARRIED WOMEN												
15-19	2.6	1.7	0.0	0.0	0.0	0.0	0.9	0.0	0.0	97.4	100.0	115
20-24	4.6	0.6	0.3	0.0	0.0	1.2	1.5	0.6	0.3	95.4	100.0	326
25-29	7.3	1.8	0.4	0.6	0.0	0.2	3.5	0.8	0.0	92.7	100.0	508
30-34	7.4	1.7	0.9	1.1	0.0	0.6	2.8	0.0	0.4	92.6	100.0	538
35-39	6.9	1.9	1.5	1.5	0.0	0.4	1.3	0.0	0.0	93.1	100.0	464
40-44	4.8	0.9	0.9	1.8	0.2	0.2	0.7	0.0	0.2	95.2	100.0	456
45-49	4.9	0.9	0.2	2.1	0.0	0.2	1.2	0.0	0.2	95.1	100.0	425
All Ages	6.0	1.4	0.7	1.2	0.0	0.4	1.9	0.2	0.2	94.0	100.0	2832



Contraceptive use is lower among married women than all women (6 vs. 9 percent). This is primarily due to the fact that younger married women are less likely to be using contraception than their unmarried counterparts. While levels of use among all women generally fall with age, they first rise and then fall among currently married women. Such a pattern implies that single women may be using contraception to avoid a premarital pregnancy, and that when women marry they want to start their families. It is also likely that a greater proportion of young married women are either pregnant or have recently delivered and thus are not at risk of getting pregnant again. These issues will be investigated further in later sections of this report. The pattern of use by method (Figure 4.2) is similar for married women and all women, except that married women are less likely to rely on the condom.

Figure 4.2
Current Use of Family Planning by Method
Currently Married Women 15-49



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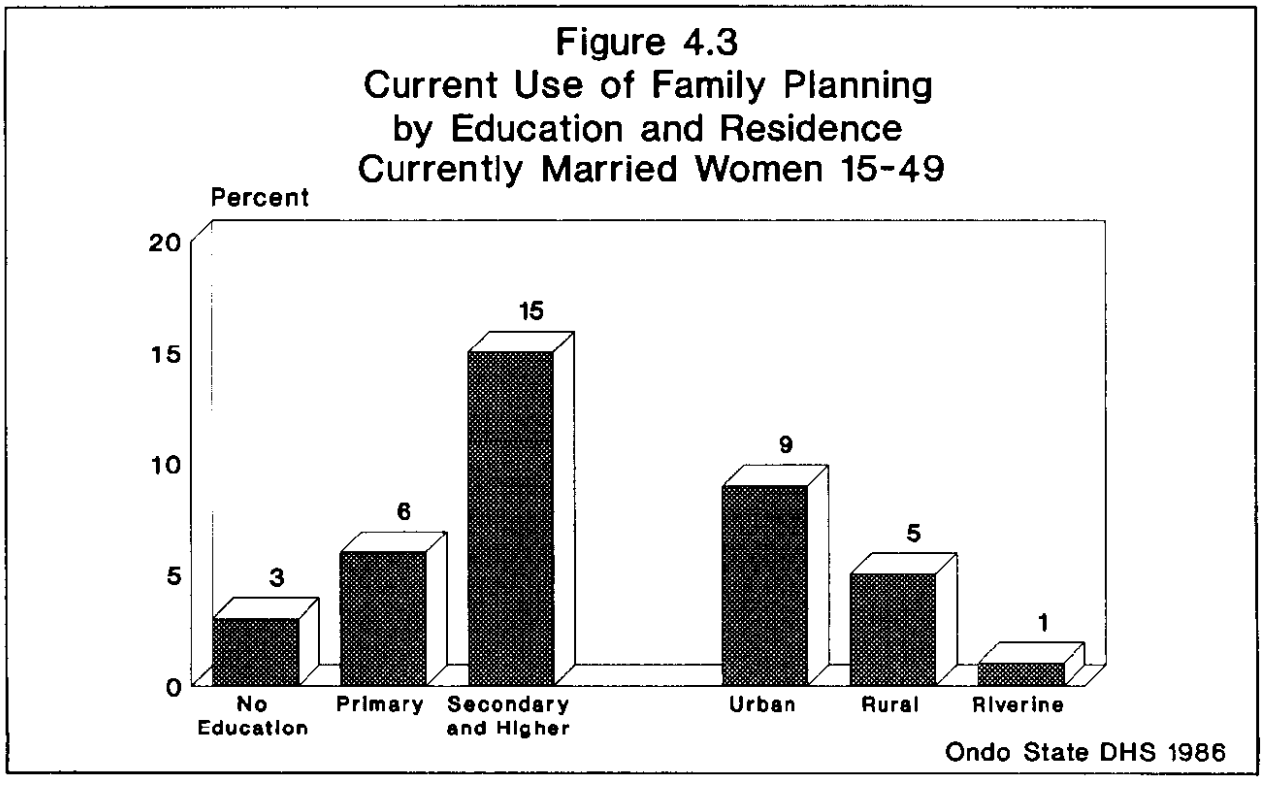
The pattern of contraceptive use by method and by background characteristics is presented in Table 4.7 for married women. The data show that urban women are almost twice as likely (9 percent) to be using a family planning method as rural women (5 percent), and nine times as likely as women in riverine areas (1 percent). Contraceptive use is higher among educated than uneducated women; 15 percent of married women with secondary education are using, compared to 6 percent of women with primary education and 3 percent of those with no education (Figure 4.3). Religious affiliation also appears to influence contraceptive use with Protestant women having a higher level of use than women of other religious affiliations. As expected, family planning use increases with the number of living children a woman has, from less than two percent of women with no children, to seven percent of women with four or more children.

Table 4.7 Percent Distribution of Currently Married Women by Contraceptive Method Currently Used, According to Background Characteristics, ODHS, 1986

Background Characteristic	Contraceptive Method Currently Used: Any Method	Pill	IUD	Injection	Diaphragm, Foam, Jelly	Condom	Periodic Abstinence	Withdrawal	Other	Not Currently Using	Total	No. of Women
Residence												
Urban	8.9	2.2	1.2	1.2	0.1	0.6	2.8	0.3	0.3	91.1	100.0	1144
Rural	4.5	0.9	0.4	1.3	0.0	0.3	1.4	0.1	0.1	95.5	100.0	1471
Riverine	0.9	0.5	0.0	0.0	0.0	0.0	0.5	0.0	0.0	99.1	100.0	217
Education												
None	2.9	0.6	0.2	1.0	0.0	0.1	1.0	0.0	0.1	97.1	100.0	1454
Primary	5.5	1.2	0.6	1.2	0.0	0.5	1.5	0.2	0.2	94.5	100.0	825
Secondary +	15.0	3.8	2.2	1.6	0.2	1.1	4.9	0.7	0.4	85.0	100.0	553
Religion												
Catholic	4.3	0.7	0.3	1.0	0.0	0.3	2.0	0.0	0.0	95.7	100.0	304
Protestant	7.0	1.6	0.8	1.3	0.0	0.5	2.1	0.3	0.2	93.0	100.0	2038
Muslim	2.8	0.9	0.2	0.7	0.0	0.0	0.9	0.0	0.0	97.2	100.0	422
Other/None	2.9	0.0	1.5	1.5	0.0	0.0	0.0	0.0	0.0	97.1	100.0	68
Living Children												
0	1.7	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	98.3	100.0	178
1	5.5	1.0	0.3	0.5	0.0	0.8	2.3	0.5	0.0	94.5	100.0	383
2	5.7	0.6	0.6	0.0	0.0	0.9	3.0	0.3	0.3	94.3	100.0	335
3	4.8	1.0	0.5	0.5	0.0	0.5	1.3	0.8	0.3	95.2	100.0	399
4+	7.0	1.7	1.0	1.9	0.1	0.3	1.9	0.0	0.2	93.0	100.0	1535
Total	6.0	1.4	0.7	1.2	0.0	0.4	1.9	0.2	0.2	94.0	100.0	2832



Periodic abstinence is the most widely used method among current users of family planning and the second most widely used method among women who have ever used a family planning method. Successful practice of this method depends on knowledge of when, in the monthly ovulatory cycle, a woman is most likely to become pregnant if exposed to sexual intercourse. In the ODHS, all respondents were asked when in the ovulatory cycle a woman is most at risk to becoming pregnant. These data can provide an indication of whether or not women have sufficient knowledge to use periodic abstinence effectively. Table 4.8 presents the distribution of responses for all women and for the small number of women who had ever used periodic abstinence. A broad interpretation of response categories would consider as correct either "in the middle of the cycle" or "right after the period ends." Under this definition, almost 65 percent of all women in Ondo State and about 85 percent of those who have ever used periodic abstinence would be considered sufficiently knowledgeable to practice the method. While it is encouraging that women who have used periodic abstinence are more knowledgeable about the ovulatory cycle than women in general, it must be noted that one in seven of these women lacks the knowledge to effectively use periodic abstinence and that figure would be considerably higher if the criteria for determining knowledge were stricter and limited to the response "in the middle of the cycle."

Table 4.8 Percent Distribution of All Women and Women Who Have Ever Used Periodic Abstinence by Knowledge of the Fertile Period During the Ovulatory Cycle, ODHS, 1986

Fertile Period	All Women	Ever Users of Periodic Abstinence
During Menstrual Period	0.5	0.0
Right After Period Ends	43.6	48.6
In Middle of Cycle	20.7	37.3
Just Before Period Begins	2.0	1.4
At Any Time	19.7	10.4
Other	13.6	2.4
Total	100.0	100.0
Number of Women	4213	212

4.4 Trends in Family Planning Knowledge and Use

Table 4.9 presents data on contraceptive knowledge and use from the 1981-82 Nigeria Fertility Survey (NFS) and the ODHS. Although the NFS was a national-level survey, the data presented here are restricted to Ondo State and are from a relatively small sample (389 weighted respondents). Also, in the NFS, respondents who had never menstruated or initiated sexual relations were not asked questions concerning family planning. Thus, caution should be taken in comparing the two surveys.

The data indicate that knowledge of modern methods of family planning has increased in Ondo State since 1981-82. Knowledge of traditional methods has either remained the same or decreased. Ever use of modern methods has increased substantially in the five years between surveys, from 3.5 percent in 1981-82 to 10.8 percent in 1986. There was a small decline in ever use of tradltional methods. Since respondents in the ODHS were not asked about prolonged abstinence, the two surveys are not fully comparable.

Current use of contraceptives has increased from 1 to 9 percent of women of reproductive age. The increase includes both modern and traditional methods.

Table 4.9 Knowledge, Ever Use, and Current Use of Specific Contraceptive Methods Among All Women 15-49, Nigerian Fertility Survey (Ondo State), 1981-82 and ODHS, 1986

	Percent Knowing:		Percent Ever Using:		Percent Currently Using:	
Method	NFS (OS) 1981-82	ODHS 1986	NFS (OS) 1981-82	ODHS 1986	NFS (OS) 1981-82	ODHS 1986
Any Method	42.7	48.3	23.1	14.9	1.0	9.1
Any Modern Method	32.7	47.1	3.5	10.8	1.0	5.7
Pill	18.1	34.5	2.2	6.2	0.7	2.7
IUD	5.4	19.8	0.0	1.1	0.0	0.5
Injectables	17.0	36.0	0.3	2.2	0.3	0.9
Diaphragm, Foam, Jelly	3.2	7.7	0.0	0.4	0.0	0.1
Condom	7.5	19.1	0.9	4.4	0.0	1.5
Female Sterilization	8.8	21.9	0.0	0.1	0.0	0.0
Male Sterilization	3.7	4.8	0.0	0.0	0.0	0.0
Any Traditional Method	9.9	-	19.6	-	0.0	3.4
Periodic Abstinence	16.9	12.4	7.6	5.0	0.0	2.8
Withdrawal	11.0	10.9	4.5	3.1	0.0	0.4
Prolonged Abstinence	23.7	-	15.5	-	-	-
Other	-	3.8	-	0.5	-	0.2
Number of Women	329*	4213	329*	4213	329*	4213

Note: Figures on ever-use from the NFS include prolonged abstinence, while figures on current use exclude it, so as to be comparable to the ODHS.
* Excludes women who had never menstruated or had sexual relations.
\- Not available
Source: National Population Bureau and Federal Ministry of Health, 1986: Tables 15 and 17.

4.5 Sources of Contraceptive Methods

Information on the sources for contraceptive methods was obtained by asking current users where they had obtained their methods the last time. Overall, the most frequently cited source was government hospitals, which supply 31 percent of users (Table 4.10 and Figure 4.4). With another 6 percent of users relying on government health centers, a total of 37 percent rely on public sources for services. Private sector sources provide services to 38 percent of users, with pharmacies and shops accounting for the largest share (19 percent). Almost one-quarter of users (22 percent)--primarily those relying on periodic abstinence--said that they did not go anywhere to obtain their contraceptive method.

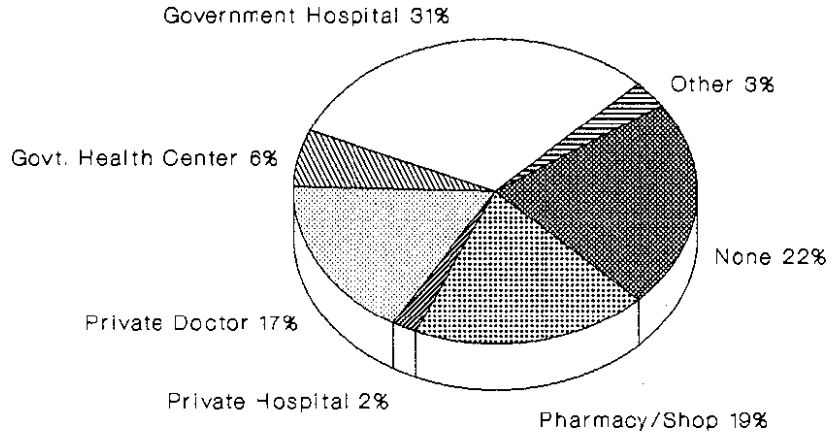
The sources relied on by users vary with the method used. Most pill users obtain their supplies either from government hospitals or pharmacies and shops, while the majority of condom users obtain supplies from pharmacies or shops. As expected, most users of the IUD and injection cite government hospitals as their source.

Table 4.10 Percent Distribution of Current Contraceptive Users by the Most Recent Source of Supply, According to the Method Used, ODHS, 1986

	Supply Methods			Clinic Methods				
Source of Supply	Pill	Condom	Total*	IUD	Injec-tion	Total	Periodic Absti-nence	Total*
Private Doctor	15.9	11.1	14.5	5.0	12.5	10.0	24.8	17.1
Government Hospital	37.2	15.9	30.2	90.0	60.0	70.0	13.7	31.5
Govt. Health Center	4.4	3.2	3.9	5.0	25.0	18.3	1.7	5.6
Mobile Clinic	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.3
Private Hospital	4.4	3.2	3.9	0.0	2.5	1.7	0.9	2.5
Pharmacy/Shop	29.2	54.0	37.4	0.0	0.0	0.0	0.0	18.8
Field Worker	0.9	6.3	2.8	0.0	0.0	0.0	3.4	2.5
None	8.0	6.3	7.3	0.0	0.0	0.0	54.7	21.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of Women	113	63	179	20	40	60	117	356

*Includes three users of vaginal methods (diaphragm, foam, or jelly).

Figure 4.4
Source of Family Planning Supply
Current Users



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4.6 Attitudes About Pregnancy and Reasons for Nonuse

All respondents who were not pregnant, not using family planning, and who reported being sexually active during the month prior to interview, were asked if they would mind if they became pregnant in the next few weeks. Two-thirds of the women said they would not mind, while one-third said they would mind (Table 4.11). There is no definite pattern according to the number of living children a woman has.

Table 4.11 Among Women Who Are Not Pregnant, Not Using Contraception, and Are Sexually Active, the Percent Distribution by Attitude Toward Becoming Pregnant in the Next Few Weeks, According to Number of Living Children, ODHS, 1986

Number of Living Children	Would Not Mind	Would Mind	Total	Number of Women
0	65.8	34.2	100.0	174
1	74.0	26.0	100.0	73
2	63.2	36.8	100.0	76
3	77.8	22.2	100.0	72
4 +	61.9	38.1	100.0	281
Total	66.1	33.9	100.0	676

Women who stated that they did not want to get pregnant in the next few weeks were asked why they were not using a method to avoid pregnancy. As is shown in Table 4.12, health concerns are the most common reason given for nonuse (27 percent); they are also the most common reason given when women are asked about the main problem with each method (Table 4.3 above). Lack of knowledge of a method or of a source for obtaining a method (16 percent) is the next most common reason given. Disapproval of either the woman or her partner was cited in 13 percent of cases. Less than 5 percent of women gave reasons such as cost, religion, inconvenience, infrequent sexual activity, menopause, etc. Altogether, half of the women gave a reason for nonuse which could be addressed by family planning programmes, such as health concerns, lack of knowledge, cost, access, etc.

There is little difference in the reasons given by women under age 30 and those age 30 and over, except that older women are less likely to say that they do not know a method or a source and more likely to say they or their partners are opposed to family planning.

Table 4.12 Among Women Who Are Not Pregnant, Not Using Contraception, and Who Would Not Be Happy If They Became Pregnant, the Percent Distribution By the Main Reason for Nonuse, According to Age, ODHS, 1986

Reason for Nonuse	Under 30 Years	30 or More	Total
Health Concerns	27.3	27.0	27.1
Lacks Knowledge or Source	20.5	13.5	16.2
Access/Availability	1.1	0.7	0.9
Costs Too Much	2.3	0.7	1.3
Inconvenient to Use	4.5	4.3	4.4
Opposed to Family Planning	5.7	9.9	8.3
Partner Disapproves	3.4	6.4	5.2
Religion	4.5	4.3	4.4
Fatalistic	0.0	2.1	1.3
Infrequent Sex	4.5	2.1	3.1
Postpartum/Breastfeeding	2.3	0.0	0.9
Menopausal/Subfecund	0.0	5.0	3.1
Other	8.0	13.5	11.4
Don't Know	15.9	10.6	12.7
Total	100.0	100.0	100.0
Number	88	141	229

4.7 Intention to Use Contraception in the Future

Women who were not using a contraceptive method at the time of the ODHS interview were asked if they thought that they would do something to keep from getting pregnant at any time in the future. Those who answered affirmatively, were asked which method they preferred to use and whether they intended to use in the next twelve months or not.

Table 4.13 shows that 32 percent of currently married nonusers intend to use at some time in the future, 53 percent do not intend to use, and 15 percent are unsure. Of those who intend to use, the majority said that they thought that they would not use within the next 12 months. The proportion of married nonusers who say they intend to use in the future does not vary much according to the number of children a woman has, however, of those who say they plan to use, the proportion who say they intend to use in the next 12 months increases as the number of children increases.

Table 4.13 Percent Distribution of Currently Married Nonusers by Intention to Use in the Future, According to Number of Living Children, ODHS, 1986

Intention to Use in Future	Number of Living Children *					
	0	1	2	3	4+	Total
Use in Next 12 Months	3.4	3.3	2.8	6.9	12.2	8.5
Use Later	32.0	25.1	30.4	21.6	16.9	21.3
Use, Unsure When	0.6	0.8	0.9	2.6	3.2	2.3
Unsure if Will Use	17.7	18.2	16.8	17.9	13.3	15.3
Does Not Intend to Use	46.3	52.5	49.1	50.9	54.5	52.5
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of Women	175	362	316	379	1425	2659

* Includes current pregnancy

Injection is the most popular method among nonusers who intend to use a method in the future (39 percent), with the pill and the IUD (13 percent each) next most favored (Table 4.14). Method preference does not vary much by whether respondents plan to use in the next 12 months or later.

Table 4.14 For Currently Married Nonusers Who Intend to Use a Contraceptive Method in the Future, Percent Distribution by Preferred Method, According to Intention to Use in Next Twelve Months or Later, ODHS, 1986

Method	Use in Next 12 Months	Use Later	Total
Pill	16.3	11.1	12.6
IUD	13.7	12.9	13.1
Injection	35.7	40.9	39.4
Diaphragm, Foam, Jelly	1.3	0.2	0.5
Condom	2.2	0.5	1.0
Female Sterilization	1.8	2.8	2.5
Periodic Abstinence	4.8	1.1	2.1
Withdrawal	0.4	0.2	0.3
Other	7.5	9.3	8.8
Not Sure	16.3	21.0	19.6
Total	100.0	100.0	100.0
Number of Women	227	567	794

4.8 Approval of Family Planning

Respondents in the ODHS were asked a number of questions which were intended to measure their level of approval of family planning. All women were asked if they thought it was acceptable for family planning information to be provided on radio or television. They were also asked if they approved of couples using a method to avoid a pregnancy. Finally, currently married women were asked if they thought that their husbands/partners approved of couples using family planning and how often they had talked to their husbands about family planning in the past year.

Table 4.15 shows that 85 percent of women in Ondo State find family planning messages on radio and television to be acceptable. Only 8 percent of women think such messages are unacceptable, and 7 percent do not have an opinion. Acceptance does not vary appreciably by age of woman or by urban-rural residence. Women in riverine areas, women with no education, and Catholic women tend to be somewhat less accepting of family planning messages than other women.

Table 4.16 presents data on wives' and husbands' attitudes about use of family planning. Overall, three-quarters of married women who have heard of a contraceptive method approve of couples using family planning; one-quarter do not approve. Just over 40 percent of these women say that their husband approves of family planning use, another 18 percent say their husband disapproves and 40 percent say they don't know their husband's attitude. According to the wives, only 41 percent of couples jointly approve of family planning, while 8 percent jointly disapprove.

Table 4.15 Percentage of All Women Who Believe That it is Acceptable to Have Family Planning Messages on the Radio or Television, by Background Characteristics, ODHS, 1986

Background Characteristic	Percentage	Background Characteristic	Percentage
Age		Education	
15-19	84.7	None	80.1
20-24	87.4	Primary	84.1
25-29	85.9	Secondary +	90.6
30-34	82.1		
35-39	86.0	Religion	
40-44	84.5	Catholic	79.6
45-49	86.4	Protestant	86.9
		Muslim	82.6
Residence		Other/None	66.3
Urban	86.5		
Rural	86.4		
Riverine	69.9	Total	85.2

Table 4.16 Percentage of Currently Married Women Knowing at Least One Contraceptive Method, by Husband's and Wife's Attitudes Towards Family Planning Use, ODHS, 1986

Wife's Attitude	Husband's Attitude			
	Approves	Disapproves	Doesn't know	Total
Approves	40.6	9.9	26.4	76.9
Disapproves	1.0	8.3	13.8	23.1
Total	41.6	18.2	40.2	100.0

Table 4.17 shows the percent of married women knowing a family planning method who think that their husband approves of family planning according to background characteristics. Differences in approval by urban-rural residence, religion and age are minor; however, better-educated women are more likely to say that their husband approves.

Table 4.18 presents data on the proportion of married women who have discussed family planning with their husband in the year prior to the survey. Overall, two out of five women have discussed family planning with their husband at least once. Better-educated women are more likely to discuss family planning than less educated women.

Table 4.17 Percentage of Currently Married Women Knowing at Least One Contraceptive Method Who Think That Their Husband Approves of Family Planning Use, by Background Characteristics, ODHS, 1986

Background Characteristic	Percentage	Background Characteristic	Percentage
Age		Education	
15-19	36.2	None	29.0
20-24	45.1	Primary	40.2
25-29	48.3	Secondary +	57.2
30-34	38.0		
35-39	41.4	Religion	
40-44	40.5	Catholic	42.6
45-49	34.8	Protestant	43.1
		Muslim	34.1
Residence		Other/None	(11.1)
Urban	44.9		
Rural	37.9		
Riverine	44.8	Total	41.5

Note: Numbers in parentheses represent fewer than 20 cases.

Table 4.18 Percentage of Currently Married Women Knowing at Least One Contraceptive Method, Who Have Discussed Family Planning With Their Husband at Least Once in the Past Year, by Woman's Age and Background Characteristics, ODHS, 1986

Background Characteristic	Age of Woman							
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	Total
Residence								
Urban	20.8	41.5	48.8	40.9	46.2	41.2	52.8	43.9
Rural	(26.3)	44.0	43.9	28.5	47.2	41.6	34.0	39.4
Riverine	(75.0)	(0.0)	(0.0)	(71.4)	(20.0)	(60.0)	(50.0)	44.8
Education								
None	(0.0)	(23.1)	24.5	25.5	36.5	37.9	37.4	32.9
Primary	(16.7)	35.8	42.3	38.5	48.5	44.8	40.0	41.4
Secondary +	35.5	46.7	55.9	49.3	63.6	50.0	(69.2)	52.0
Religion								
Catholic	(33.3)	37.5	48.1	30.3	(55.6)	50.0	35.0	41.2
Protestant	28.6	43.4	46.5	40.1	45.5	42.2	38.9	42.7
Muslim	(16.7)	(36.8)	42.9	25.6	47.5	30.4	46.2	37.3
Other/None	-	(0.0)	-	(0.0)	(0.0)	(50.0)	(75.0)	(33.3)
Total	27.7	41.6	46.3	36.4	46.2	41.9	40.5	41.7

Note: Numbers in parentheses represent fewer than 20 cases; dashes (-) indicate no cases.

5. FERTILITY PREFERENCES

5.1 Future Fertility Preferences

In the ODHS interview, all currently married women were asked whether they wanted to have another child, and, if so, how long they wanted to wait before having the next child. Married women who were pregnant at the time of the interview were asked if they wanted a another child after the one they were expecting. The purpose of these questions was to investigate the fertility desires of women of childbearing age, with a view to assessing the need for family planning services. Women who want to cease childbearing or postpone their next child can be thought of as being in need of contraception.

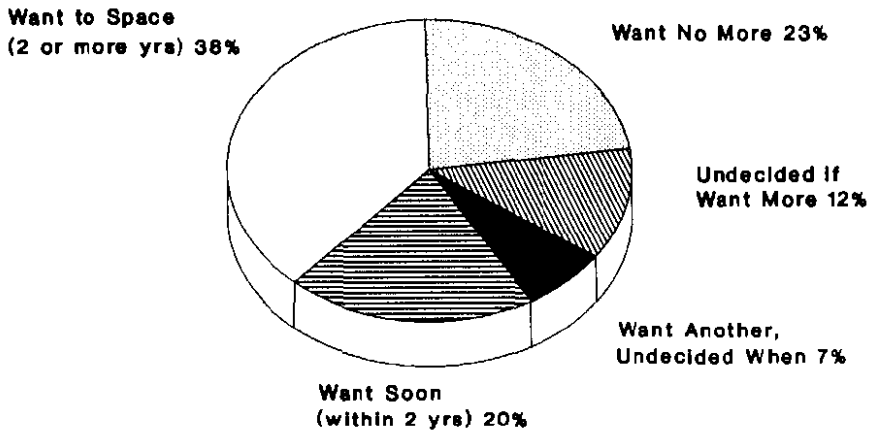
Table 5.1 and Figure 5.1 show the percent distribution of married women by whether they want another child and, if so, how long they want to wait to have their next child. Almost one-quarter (23 percent) of married women in Ondo State do not want to have any more children, 11 percent are undecided about having another child, and 65 percent want another child. Among those wanting another child, more than half want to wait two or more years before having the child.

Table 5.1 Percent Distribution of Currently Married Women 15-49 by Desire for More Children According to Number of Living Children, ODHS, 1986

Desire For More Children	Number of Living Children *							
	0	1	2	3	4	5	6+	Total
Want No More	1.3	1.7	5.3	11.3	22.3	34.0	49.2	23.3
Want Another Within 2 Yrs.	73.4	25.7	31.8	20.2	20.9	11.7	8.7	19.8
Want Another After 2+ Yrs.	13.9	58.3	51.6	49.0	37.8	30.4	20.2	38.0
Want Another, Don't Know When	10.1	12.6	9.5	9.9	7.6	3.8	3.6	7.4
Undecided if Want Another	1.3	1.7	1.8	9.6	11.5	20.2	18.4	11.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Women	79	420	337	406	445	480	665	2832

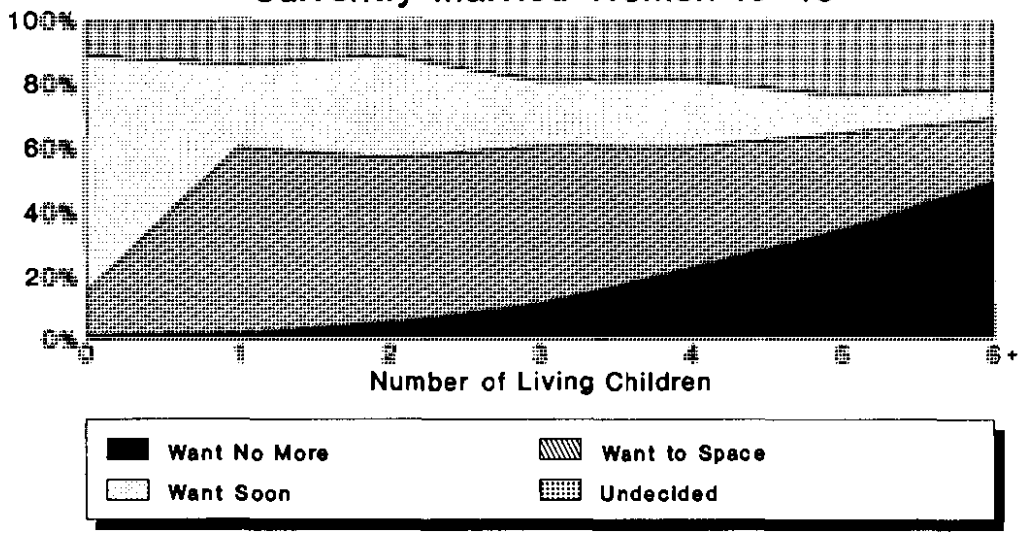
* Includes current pregnancy

Figure 5.1
Fertility Preferences
Currently Married Women 15-49



Ondo State DHS 1986

Figure 5.2
Fertility Preferences by Number of Living Children
Currently Married Women 15-49



Ondo State DHS 1986

The fact that 65 percent of women want another child reflects the high value placed on children in Ondo State; however, the fact that 61 percent of women either want no more children or want to wait at least two years before having another child, suggests a need for family planning services. If those who are undecided about either whether or when to have another child are included, the proportion of married women who are potential candidates for family planning services rises to 80 percent.

Since future fertility preferences are significantly influenced by the number of children a woman already has, Table 5.1 and Figure 5.2 show the data on fertility preferences by the number of living children women have, including the current pregnancy for all pregnant women. The proportion of women wanting no more children is only 5 percent or less for women with less than three children, but it increases steeply to almost 50 percent of women with six or more children. The proportion of women who are undecided about having another child is also quite high for women with five or more children (about 20 percent). Equally revealing is the high proportion of women who want to space their next child. Over half of women with 1-3 children want to wait at least two years before having their next child. These women constitute a sizable group who are potentially in need of family planning services for spacing purposes.

Fertility preferences are shown by age group of women in Table 5.2. Since age and number of children are positively correlated, it is not surprising that similar trends are evident in Tables 5.2 and 5.3. As is true of women with 1-3 children, the proportion of women aged 15-19, 20-24, and 25-29 who want to wait two or more years before having their next child is high (60 percent), again suggesting a need for family planning services for spacing purposes among younger married women. The desire to stop childbearing rises with age, from less than one percent of women under age 25 to 72 percent of women aged 45-49.

Table 5.2 Percent Distribution of Currently Married Women by Desire for More Children, According to Age, ODHS, 1986

Desire For More Children	Current Age							
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	Total
Want No More	0.0	0.9	2.4	9.1	19.8	44.1	71.5	23.3
Want Another Within 2 Yrs.	21.7	24.2	23.2	23.2	20.9	17.1	9.4	19.8
Want Another After 2+ Yrs.	61.7	59.2	59.3	47.0	34.7	14.7	7.3	38.0
Want Another, Don't Know When	13.9	15.3	9.6	8.0	5.2	4.4	1.6	7.4
Undecided if Want Another	2.6	0.3	5.5	12.6	19.4	19.7	10.1	11.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Women	115	326	508	538	464	456	425	2832

In order to examine fertility preferences by background characteristics, a single index--the percentage of women who want no more children--is presented in Table 5.3 by number of living children. The proportion of women who want no more children varies considerably by area of residence, with relatively lower proportions of women in riverine areas wanting to stop childbearing. This is as expected, and probably reflects the greater isolation and more traditional thinking of these women with respect to childbearing. However, the fact that more rural women want no more children than urban women (26 vs. 22 percent) is surprising. This is due to the fact that women in rural areas generally have more children than urban women; as shown in Table 5.3, there is little difference between the proportions of urban and rural women wanting no more children when the number of living children is taken into account.

Table 5.3 Percentage of Currently Married Women 15-49 Who Want No More Children by Number of Living Children and Background Characteristics, ODHS, 1986

Background Characteristic	Number of Living Children *							Total
	0	1	2	3	4	5	6+	
Residence								
Urban	2.4	1.0	4.6	12.6	20.8	35.1	50.9	21.5
Rural	0.0	2.7	6.3	11.2	25.4	34.3	51.9	26.3
Riverine	(0.0)	0.0	4.0	0.0	3.7	22.2	29.0	12.9
Education								
None	3.2	4.1	12.0	19.5	27.7	41.3	50.4	32.3
Primary	0.0	0.9	2.9	3.9	9.5	20.0	40.7	15.0
Secondary +	0.0	0.5	0.0	3.7	33.3	31.0	67.3	12.3
Religion								
Catholic	0.0	2.0	5.7	10.3	20.0	26.7	37.7	19.1
Protestant	1.7	1.7	4.5	11.9	24.3	36.1	52.2	25.0
Muslim	0.0	1.7	9.4	9.0	12.7	27.9	42.2	18.5
Other/None	(0.0)	(0.0)	(0.0)	(18.2)	(25.0)	(50.0)	(43.8)	23.5
Total	1.3	1.7	5.3	11.3	22.3	34.0	49.2	23.3

Note: Numbers in parentheses are based on fewer than 20 cases.
* Includes current pregnancy

The characteristic with the greatest influence on fertility preferences is educational level. Surprisingly, married women with no education are generally more likely to want to stop childbearing than women with primary or secondary education, regardless of the number of children they already have. Among women with fewer than 4 children, those with primary education are more likely to want to stop childbearing than those with secondary education, however, among women with 4 or more children, a greater proportion of those with secondary education want no more children than those with primary education only. As for differences in fertility preferences by religion, Protestant women are generally more likely to want to stop childbearing than either Catholic or Muslim women, regardless of the number of children they already have.

Table 5.4 looks at the proportion of married women who are in need of family planning services, that is, they either want no more children or they want to delay having their next child for at least two years, **and** they are not using family planning. Because contraceptive use is so low in Ondo State, the figures given in Table 5.4 are almost identical to those presented in previous tables for the proportions of married women wanting no more children or wanting to postpone their next child. In other words, almost all the women who want to limit or delay childbearing are in need of family planning services, because such a small proportion of them are using contraception. Of course, some of them may not be in immediate need of family planning services because some of them may be pregnant, amenorrheic, or not sexually active.

The table shows that 75 percent of married women in Ondo State are in need of family planning services, roughly one-third because they want no more children, and two-thirds because they want to space their next birth. Not only do these figures represent a high overall level of need for services, but it is also noteworthy that the large majority are in need of methods for spacing births as opposed to limiting the number of births. Need is greatest among women with no education, and least among women with secondary or more education.

Table 5.4 Among Currently Married Women, the Percent Who Are In Need of Family Planning, and the Percent Who Are In Need and Plan to Use a Contraceptive Method in the Future, by Background Characteristics, ODHS 1986

	In Need of Family Planning[1]			In Need and Intend To Use Contraception		
Background Characteristic	Want No More Children	Want to Postpone/ Undecided[2]	Total In Need	Want No More Children	Want to Postpone/ Undecided[2]	Total in Need and Intending To Use
Residence						
Urban	18.1	54.3	72.4	5.2	21.1	26.3
Rural	24.6	52.1	76.8	5.5	17.1	22.6
Riverine	12.9	63.6	76.5	2.8	8.3	11.1
Education						
None	30.7	48.8	79.4	5.0	11.7	16.7
Primary	13.2	60.2	73.5	6.7	21.6	28.2
Secondary +	7.6	57.9	65.5	3.4	29.3	32.7
Religion						
Catholic	17.8	58.9	76.6	3.9	17.4	21.4
Protestant	22.4	52.4	74.8	5.5	18.5	24.0
Muslim	17.3	58.1	75.4	4.7	18.2	23.0
Other/None	20.6	50.0	70.6	2.9	4.4	7.4
Total	21.1	53.9	75.0	5.2	18.0	23.2

[1] Women in need are defined as those who are not currently using family planning and who want no more births or want to postpone the next birth for at least two or more years.

[2] Includes women undecided about whether to have another birth or about timing for the next birth.

Table 5.4 also indicates that less than one-third of women in need of family planning services intend to use a method sometime in the future (23 percent out of 75 percent). A somewhat larger proportion of women who are in need because they want to postpone their next birth intend to use in the future (18 out of 54 percent) than of those in need because they want to stop childbearing altogether (5 out of 21 percent).

5.2 Ideal Number of Children

In order to assess fertility preferences in Ondo State, all ODHS respondents were asked: "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?" Women with children were asked the entire question, while those with no children were asked the question excluding the phrase in parentheses. The question measures two things--first, among women who have just started childbearing, the data give an idea of the total number of children these women hope to have in the future; secondl, among older women with more children, the data provide an idea of the level of unwanted fertility.

It is important to note that some women have difficulty in answering such a hypothetical question, presumably more so in cultures in which control over fertility is a new concept. The fact that two-fifths of women in Ondo State gave a non-numerical response ("As many as God gives me", "Don't know", etc.) is evidence of this difficulty. Also, it is usually assumed with this question that some women report their actual number of children as their ideal number, since they find it difficult to admit that they would not want some of their children if they could choose again.

Table 5.5 Percent Distribution of All Women by Ideal Number of Children and Mean Ideal Number of Children for All Women and Currently Married Women, According to Number Living Children, ODHS, 1986

Ideal Number of Children	Number of Living Children *							All Women
	0	1	2	3	4	5	6+	
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.4	0.9	0.6	0.0	0.4	0.4	0.4	0.4
3	4.7	2.4	2.3	1.7	0.6	1.2	0.9	2.4
4	22.2	17.3	11.2	9.7	7.9	3.6	4.8	12.8
5	22.2	19.7	20.6	15.2	11.4	12.2	5.5	16.0
6+	23.4	25.2	20.6	29.5	32.4	33.6	41.2	29.1
Non-Numeric Rsp.	27.2	34.6	44.7	43.9	47.2	49.0	47.3	39.2
Total Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Women	1326	457	349	421	466	500	694	4213
Mean Ideal No., All Women	5.2	5.4	5.3	5.9	6.1	6.3	7.0	5.7
Mean Ideal No., Married Women	5.9	5.4	5.3	5.9	6.1	6.3	7.1	6.1

* Includes current pregnancy

The distribution of women by ideal and actual number of children is presented in Table 5.5. Aside from the 39 percent of respondents who did not give a numerical response, the bulk of women said they would want to have 6 or more children (29 percent). Almost no one stated an ideal of fewer than 4 children. The mean ideal family size is 5.7 children among all women and 6.1 children for married women. Women who already have several children state higher ideal family sizes than women with fewer children--in fact, the mean ideal number of children rises from 5.3 among women with 2 children to 7.0 among women with 6 or more children. This may be due either to the fact that women who want more children actually end up having them, or to the phenomenon mentioned above, that women rationalize the number of children that they already have. Despite the generally pronatalist attitude of women in Ondo State, there is some evidence of unwanted fertility in that 12 percent of women with 6 or more children report lower ideal numbers of children.

Table 5.6 indicates that there is variation in mean ideal numbers of children by age and background characteristics of women. The most outstanding difference is by area of residence; while both urban and rural women report an ideal family size of about six children, women in riverine areas favor having well over 7 children on average. This pronatalist attitude of riverine women holds across all age groups.

Table 5.6 Mean Ideal Number of Children for All Women by Age and Background Characteristics, ODHS, 1986

Background Characteristic	Age							All Ages
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Residence								
Urban	5.3	4.9	5.3	6.0	6.5	6.1	6.2	5.6
Rural	5.1	5.2	5.3	6.5	6.3	6.4	6.6	5.7
Riverine	7.4	7.1	7.0	7.2	8.4	7.8	7.6	7.5
Education								
None	6.7	5.4	6.5	6.6	6.8	6.5	6.6	6.6
Primary	6.0	5.6	5.5	6.3	6.5	6.4	6.8	6.1
Secondary +	5.2	5.0	4.8	5.4	5.6	5.3	(5.7)	5.1
Religion								
Catholic	5.5	5.2	5.5	6.5	6.1	6.3	7.8	5.9
Protestant	5.3	5.1	5.2	6.1	6.6	6.3	6.4	5.7
Muslim	5.7	5.3	6.1	6.6	6.3	6.7	6.6	6.0
Other/None	(7.8)	(8.0)	(5.0)	(7.3)	(7.3)	(7.0)	(7.4)	7.2
Total	5.4	5.2	5.3	6.3	6.5	6.3	6.6	5.7

Note: Numbers in parentheses represent fewer than 20 cases.

Women with secondary education prefer smaller families than less educated women, and women with primary education report higher ideal family sizes than women with no education in most age groups. With regard to religion, Muslim women in almost every age group desire larger families than Catholic or Protestant women.

6. MORTALITY AND HEALTH

6.1 Mortality

In the ODHS, mortality data were collected primarily for the purpose of estimating infant and child mortality rates. In this section mortality rates are calculated, using direct estimation procedures, for:

Infant mortality, the probability of dying between birth and exact age one;

Child mortality, the probability of dying between age one and exact age five;

Under five mortality, the probability of dying between birth and exact age five.

Rates are calculated on a period basis (i.e., utilizing information on deaths and exposure to mortality during a specific time period) rather than on a birth cohort basis. A complete description of the methodology for computing period-specific mortality probabilities is given elsewhere (Rutstein, 1984).

Birth History Survivorship Data

The data for the estimation of mortality rates were collected in the reproduction section of the individual woman's questionnaire. The data were obtained in the form of a truncated birth history in which questions were asked about the sex, date of birth, survivorship status and, if appropriate, age at death of the respondent's live births.

The truncated birth history collected information on all births which occurred to respondents during the time period 1981-86. As a result of this procedure, the observed person-years of exposure to mortality are less for the older childhood ages (ages 3 and 4) than for the younger childhood ages (ages 1 and 2). The decline in the number of persons exposed to mortality should not substantially increase the sampling variance of the estimated child mortality rates because older children contribute relatively little to the overall child mortality rate. Nevertheless, in the tables of this chapter, any reported mortality rate which is based on fewer than 500 person-years of exposure is enclosed in parentheses.

Data Quality

The truncated birth history is susceptible to the same types of data collection errors as are other retrospective procedures; namely, underreporting of events, misreporting of age at death, and misreporting of date of birth. Event underreporting and age at death misreporting are the more serious sources of error for mortality estimation. The ODHS data were investigated with respect to these two sources of error by testing their internal consistency. However, it should be stated that the power of internal consistency checks for detecting error is quite limited so that, while they can detect gross defects, they cannot detect less serious data problems and cannot definitively establish the accuracy of the data collected.

Underreporting of deaths is most likely in the case of babies who die in early infancy. In the ODHS, age at death was recorded in one of three units: days, for deaths in the first month of life; months, for deaths under two years of age; and years, for deaths at age two and above. A test to detect underreporting of early infant deaths was made by forming the ratio of deaths under seven days to all deaths in the first month of life. Since mortality is known to decline steeply with age throughout early infancy, the value of this ratio should exceed 0.25. For the period 1981-86, the values of this ratio from

the ODHS are well in excess of 0.25, indicating that gross underreporting of babies who died in early infancy is not a problem:

Males	Females	Both Sexes
0.73	0.64	.70

Age at death misreporting can result in a net transfer of events between infancy and early childhood and can bias mortality estimates. The possibility of such misreporting was investigated by looking for heaping of deaths at 12 months in the distribution of deaths by age. The distribution is as follows:

Deaths by Age During 1981-86

Age in Months	Males	Females	Both Sexes
6	10	10	20
7	4	3	7
8	5	4	9
9	4	9	13
10	1	5	6
11	3	4	7
12	6	5	11
13	3	1	4
14	1	1	2
15	4	2	6
16	2	0	2
17	0	1	1
18	8	9	17

There is some indication of heaping of deaths at 12 months of age (11 deaths at 12 months versus 7 at 11 months and 4 at 13 months) but it is not significant relative to the total of 214 infant deaths reported for the 1981-86 period.

Mortality Levels 1981-1986

Table 6.1 displays infant and child mortality rates for Ondo State for the period 1981-1986. For Ondo State, the infant mortality rate is 56 deaths per 1,000 live births and the child mortality rate is about the same, 55 per 1,000. The overall probability of dying between birth and age five is 108 per 1,000 (i.e., about one in every ten children dies before reaching five years of age). Sex-specific rates are similar in magnitude with male rates being higher than female rates -- a differential found in most populations. The rates by area of residence indicate somewhat lower infant and child mortality in urban areas (54 and 49 per 1,000, respectively) than in rural areas (57 and 61 per 1,000, respectively). These differences are not great and may be due to sampling variance. The rates for riverine areas are, on the other hand, decidedly higher for infants (70 per 1,000) but lower for children age 1-4 (38 per 1,000). However, these rates are based on fewer than 500 person-years of exposure and should be viewed with caution.

Table 6.1 Infant and Child Mortality Estimates 1981-1986, ODHS, 1986

Background Characteristic	Infant Mortality (1q0)	Child Mortality (4q1)	Under Five Mortality (5q0)
Sex of Child			
Male	59	58	114
Female	53	51	101
Residence			
Urban	54	49	100
Rural	57	61	115
Riverine	(70)	(38)	(105)
Total	56	55	108

Note: Rates presented include deaths and exposure for 1986 through the calendar month preceding the month of interview.

Note: Rates in parenthesis are based on fewer than 500 person-years of exposure.

Mortality Differentials 1981-1986

Mortality differentials by education, mother's age at birth, birth order, and previous birth interval are presented in Table 6.2. The rates by education indicate lower infant mortality for women with no education (54 per 1,000) than for women with a primary education (64 per 1,000), although the difference is not great and could reflect sampling variance rather than a true differential. The child mortality rates are the same for women with no education and with a primary education (57 per 1,000). On the other hand, for women with a secondary or higher education, the infant and child mortality rates are decidedly lower (40 and 15 per 1,000, respectively).

Differentials also exist in the mortality rates by demographic characteristics of the mother. With respect to age, children born to women under age 20 are more likely to die in infancy (93 per 1,000) and early childhood (74 per 1,000) than children born to women 20 to 34 (about 51 per 1,000 for both infants and children age 1-4). Elevated rates are also apparent for births to women age 35 and over (61 per 1,000 for infants and 58 per 1,000 for children age 1-4). In terms of birth order, infant mortality rates are elevated for first births (78 per 1,000) and births of order 7+ (63 per 1,000) relative to births of orders 2 through 6 (about 50 per 1,000). With respect to the preceding birth interval, substantial infant mortality differentials exist between births occurring within two years of a previous birth (80 per 1,000) and births occurring after an interval of two years or more (46 per 1,000).

Table 6.2 Infant and Child Mortality 1981-1986, by Background Characteristics, ODHS, 1986

Background Characteristic	Infant Mortality (1q0)	Child Mortality (4q1)	Under Five Mortality (5q0)
Education			
None	54	57	109
Primary	64	57	117
Secondary +	(40)	(15)	(54)
Mother's Age at Birth			
Less than 20	93	74	160
20-29	51	53	102
30-34	51	48	97
35+	61	58	115
Birth Order			
1	78	(54)	128
2-3	48	47	93
4-6	51	59	107
7+	63	(56)	(116)
Birth Interval*			
Less than 2 yrs.	80	(35)	(112)
2-3 years	47	60	105
4 or more years	45	(68)	(110)
Total	56	55	108

Note: Rates presented include deaths and exposure for 1986 through the calendar month preceding the month of interview.

Note: Rates in parenthesis are based on fewer than 500 person-years of exposure.

* Based on births of order two and higher.

Another perspective on infant and child mortality can be obtained by calculating statistics on the proportion dead of children ever born. Overall, the proportion dead of children ever born to women 15-49 is .20 (Table 6.3). In other words, one in five children born to women 15-49 have died. As expected, this proportion varies considerably by age of women. Fewer than one in 12 children born to women 15-19 have died while women 45-49 have lost over one-quarter of their children. The higher proportion dead of children ever born among older women reflects the fact that their children were born longer ago and have been exposed longer to the risk of mortality.

Table 6.3 Mean Number of Children Ever Born, Surviving, and Dead, and Proportion of Children Dead Among Those Ever Born, by Age of Women, ODHS, 1986

Age of Women	Mean Number of Children: Ever Born	Surviving	Dead	Proportion Dead	Number of Women
15-19	0.08	0.07	0.01	0.080	1109
20-24	0.82	0.71	0.10	0.124	563
25-29	2.65	2.30	0.34	0.129	560
30-34	4.65	3.84	0.80	0.173	548
35-39	5.86	4.78	1.08	0.184	478
40-44	6.53	5.06	1.47	0.225	478
45-49	7.24	5.26	1.98	0.274	477
Total	3.31	2.63	0.68	0.205	4213

6.2 Maternity Care

In order to obtain information on the type of prenatal care received by Ondo State women, respondents were asked if they saw anyone for a checkup during each pregnancy (resulting in a live birth) during the five years preceding the survey. Respondents were also asked if anyone assisted with the delivery of each birth. If a prenatal checkup or assistance at delivery was received, they were asked who rendered the care. In cases where maternity care was rendered by more than one individual, the most qualified of the providers was recorded by the interviewer. Nevertheless, it is pertinent to remark that in Ondo State, relatives who render maternity services to their relations might not differ appreciably from traditional birth attendants (TBAs); relatives are unlikely to give birthing assistance unless they have received either "formal" or "informal" training in such.

Neonatal tetanus has been identified as a major cause of infant deaths in developing countries. In the ODHS, mothers were asked if they received an injection during pregnancy to prevent the baby from getting tetanus ("jerking"). The responses rely on the mother's recall of events during the pregnancy and on her ability to distinguish a tetanus toxoid vaccination from other injections she might have received. Still, the proportion of women receiving a tetanus toxoid vaccination during pregnancy provides a useful measure for assessing the coverage of a community's maternal and child health services. It also provides a yardstick for estimating the number of pregnant women who attend maternity health centres and for whom health education in other facets of primary health care could be delivered.

Table 6.4 shows the percent distribution of births in the last five years by type of prenatal care received by the mother and the percentage of births whose mothers received tetanus toxoid injections during pregnancy. The figures indicate that prenatal care is widespread in Ondo State. For 80 percent of births the mother received prenatal care from a doctor, nurse or midwife; only 15 percent of mothers did not receive a prenatal checkup. For seventy-one percent of births, the mothers were vaccinated against tetanus. However, there is one segment of the population which receives relatively little prenatal health care. In the riverine areas, for 70 percent of births, the mothers did not receive a prenatal checkup and for only 13 percent of births were they vaccinated against tetanus during pregnancy. These data point to the need for improved health services for the riverine people of the State.

Table 6.4 Percent Distribution of Births in the Last Five Years by Type of Prenatal Care for the Mother and Percentage of Births Before Which the Mother Received a Tetanus Toxoid Injection, by Background Characteristics, ODHS, 1986

Background Characteristic	Type of Prenatal Care									
	Nurse or Doctor	Midwife	Birth Attend-ant	Rela-tive	Other	No One	Missing	Total Percent	Percent Receiving Tetanus Injection	No. of Births
Age										
<30	13.7	67.6	1.9	1.3	1.6	13.5	0.3	100.0	72.7	1230
30 +	11.9	67.2	1.3	1.6	2.5	15.3	0.2	100.0	70.3	2019
Residence										
Urban	16.5	72.4	1.2	0.3	2.5	6.7	0.4	100.0	80.4	1360
Rural	10.8	71.6	0.9	2.0	2.2	12.5	0.1	100.0	72.6	1635
Riverine	3.9	13.4	7.5	4.7	0.4	70.1	0.0	100.0	13.0	254
Education										
None	8.1	64.4	2.3	2.3	2.6	20.0	0.3	100.0	61.9	1473
Primary	13.6	69.0	0.7	1.1	2.4	13.1	0.2	100.0	73.8	1105
Secondary +	21.0	71.2	1.0	0.3	1.0	5.1	0.3	100.0	87.6	671
Religion										
Catholic	11.5	72.2	1.3	1.1	0.3	13.1	0.5	100.0	76.7	374
Protestant	12.4	66.5	1.4	1.6	2.9	15.0	0.2	100.0	70.9	2292
Muslim	15.4	69.5	1.8	1.2	0.6	11.2	0.4	100.0	70.5	508
Other/None	6.7	54.7	4.0	1.3	0.0	33.3	0.0	100.0	57.3	75
Total	12.6	67.4	1.5	1.5	2.2	14.6	0.3	100.0	71.2	3249

While for most births, the women of Ondo State received assistance at delivery from either a doctor (3 percent), nurse or midwife (56 percent), birth attendant or relative (29 percent), there are noticeable differences between population subgroups with respect to the type of attendant at delivery (Table 6.5). Older women, women in the riverine areas, women with no education and women in the other or no religion category are less likely to be assisted at delivery by either a doctor, nurse or a midwife.

Table 6.5 . Percent Distribution of Births in the Last Five Years by Type of Assistance at Delivery, by Background Characteristics, ODHS, 1986

Background Characteristic	Type of Assistance at Delivery								
	Doctor	Nurse or Midwife	Birth Attend-ant	Rela-tive	Other	No One	Miss-ing	Total Percent	No. of Births
Age									
<30	3.8	57.1	3.9	23.4	6.5	5.2	0.1	100.0	1230
30 +	2.6	54.7	2.9	27.3	5.9	6.6	0.0	100.0	2019
Residence									
Urban	3.5	64.6	2.9	18.2	8.8	2.1	0.1	100.0	1360
Rural	3.1	55.5	2.6	27.1	4.7	7.0	0.0	100.0	1635
Riverine	0.4	8.7	9.8	58.7	1.6	20.9	0.0	100.0	254
Education									
None	1.7	44.7	4.4	35.4	5.3	8.5	0.0	100.0	1473
Primary	3.6	57.5	2.5	23.2	8.0	5.2	0.1	100.0	1105
Secondary +	5.0	76.5	1.9	9.2	5.1	2.2	0.0	100.0	671
Religion									
Catholic	2.4	62.8	4.0	24.9	2.4	3.5	0.0	100.0	374
Protestant	2.7	56.5	2.8	24.2	7.4	6.2	0.0	100.0	2292
Muslim	5.5	49.4	3.7	30.3	4.1	6.9	0.0	100.0	508
Other/None	0.0	33.3	9.3	49.3	0.0	8.0	0.0	100.0	75
Total	3.1	55.6	3.3	25.8	6.2	6.1	0.0	100.0	3249

6.3 Child Health Indicators

The ODHS Survey obtained information on immunisation coverage and the incidence and treatment of diarrhoea, fever and respiratory ailments among children under five. Data collection was limited to the children of women interviewed in the survey. Therefore, information is unavailable for children whose mothers were dead, living out of the state, institutionalized, or who, for any other reason, were not interviewed in the survey. Although the immunisation status and the morbidity experiences of children excluded from the survey probably differs from that of children whose mothers were interviewed, the number of such children is small. Thus, the results presented here are considered to describe the health status of children under five in Ondo State.

Immunisation of Children

In the survey, women who had children under five years of age were asked if these children had health cards. If the answer was affirmative, the date of each immunisation was copied from the card onto the questionnaire by the interviewer. The immunisation data were collected for tuberculosis (BCG), diphtheria, whooping cough (pertussis) and tetanus (DPT), poliomyelitis and measles. If a child had no card, or the interviewer could not examine the card, the mother was asked if the child had ever received a vaccination. For these children, information about specific immunisations was not obtained.

Table 6.6 indicates that health cards were seen for only about 25 percent of children under the age of five. All children with cards had received at least one vaccination. An additional 46 percent of children did not have a card available but were reported by their mothers to have been immunised. Thus, about 70 percent of children under the age of five in Ondo State may be presumed to have received at least one immunisation.

Information on specific immunisations is shown in Table 6.6. The World Health Organisation's (WHO) recommended schedule for childhood immunisation is given below (Sherris et al., 1986). According to this schedule children should be fully immunised by one year of age.

Age	Immunisations
Birth	BCG
6 weeks	DPT, Polio
10 weeks	DPT, Polio
14 weeks	DPT, Polio
9 months	Measles

The ODHS indicates that among children age 12-23 months with immunisation cards (an age group that according to WHO standards should be fully immunised), almost 100 percent had received a BCG vaccination and the first dose of DPT and polio vaccine. About 75 percent had been vaccinated against measles. The proportions decrease between the first and third dose for both DPT and polio. Of children 12-23 months with immunisation cards, 67 percent were fully immunised (i.e., had received BCG, three doses each of DPT and polio, and measles).

For the investigation of differentials in the proportion of children who were fully immunised, children aged 12-59 months were selected as the base, since children under one year had not had the opportunity to be fully vaccinated. As seen in Table 6.6, both residence and educational status of the mother are associated with immunisation coverage. The highest rates of full immunisation are reported for children of urban women (67 percent) and children of women with secondary or more education (77 percent). Catholic mothers are somewhat more likely to possess health cards for their children while women in the other or no religion category are least likely to possess health cards.

Table 6.6 Among All Children Under Five, the Percentage With Health Cards, the Percentage Who Are Recorded as Immunised on the Health Card or Who Are Reported by the Mother as Having Been Immunised, and Among Children With Health Cards, the Percentage for Whom BCG, DPT, Polio and Measles Immunisations Are Recorded on the Health Card, According to Background Characteristics, ODHS, 1986

Background Characteristic	Percent of Children: With Health Cards	Immunised as Recorded on Health Cards	Immunised as Reported by Mother	Percent of Children With Health Cards Who Have Received: BCG	DPT 1	DPT 2	DPT 3	Polio 1	Polio 2	Polio 3	Measles	Fully Immunised	No. of Children
ALL CHILDREN UNDER 5													
Age in Months													
< 6	38.3	38.3	19.0	99.1	77.1	36.7	9.2	77.1	36.7	9.2	0.9	0.0	285
6 - 11	39.8	39.8	31.4	99.3	98.5	84.7	61.3	98.5	84.7	62.8	26.3	23.4	344
12 - 23	36.9	36.9	36.4	99.5	98.2	87.2	75.2	98.6	87.2	75.2	75.2	67.4	591
24 - 35	24.5	24.5	53.3	98.4	19.2	86.5	74.6	98.4	89.7	74.6	78.1	70.6	514
36 - 47	11.7	11.7	53.7	94.7	98.7	84.0	58.7	98.7	84.0	58.7	81.3	56.0	644
48 - 59	9.7	9.7	61.0	100.0	94.9	89.8	67.8	96.6	89.8	67.8	69.5	55.9	608
Total	24.3	24.3	45.8	98.8	95.0	78.9	60.2	95.2	79.4	60.5	57.2	47.4	2986
CHILDREN 12-59 MONTHS													
Residence													
Urban	25.7	25.7	55.8	99.2	97.3	86.4	72.8	97.7	87.6	72.4	78.6	67.3	1000
Rural	18.6	18.6	53.1	97.7	99.1	87.3	70.1	99.1	87.8	70.6	79.2	62.4	1186
Riverine	0.0	0.0	10.5	-	-	-	-	-	-	-	-	-	171
Education													
None	15.6	15.6	46.8	98.3	97.7	86.1	67.4	97.1	87.2	67.4	76.7	61.6	1103
Primary	22.2	22.2	51.9	98.9	97.8	83.2	66.9	98.9	83.7	66.3	75.3	60.1	803
Secondary +	28.4	28.4	60.5	98.4	99.2	93.0	83.6	99.2	93.8	84.4	86.7	76.6	451
Religion													
Catholic	23.8	23.8	47.6	98.5	95.4	86.2	72.3	96.9	87.7	72.3	80.0	66.2	273
Protestant	19.5	19.5	50.9	98.1	99.1	87.6	71.1	99.1	88.2	71.1	80.8	65.2	1654
Muslim	21.5	21.5	56.1	100.0	98.8	87.7	74.1	98.8	88.9	74.1	72.8	64.2	376
Other/None	18.5	18.5	44.4	100.0	80.0	60.0	60.0	80.0	60.0	60.0	60.0	60.0	54
Total	20.3	20.3	51.2	98.5	98.1	86.8	71.6	98.3	87.7	71.6	78.9	65.1	2357

Child Morbidity and Treatment

Information was collected for all children under age five on the prevalence of diarrhoea in the two weeks preceding the survey and on the prevalence of fever and respiratory ailments in the four weeks before the survey. The types of treatment given were also recorded. The data on diarrhoea, fever and respiratory illness are adequate for measuring the period prevalence of each illness (i.e., the percentage of children under 5 years whose mothers reported that they suffered from the illness under investigation during the reference period).

Table 6.7 Among Children Under Five Years, the Percentage Reported by the Mother as Having Had Diarrhoea in the Two Weeks Preceding the Survey and, Among Children With Diarrhoea, the Percentage Receiving Various Treatments, According to Background Characteristics of Child and Mother, ODHS, 1986

Background Characteristic	Percent Having Diarrhoea in Last 2 Weeks	No. of Children	Among Children with Diarrhoea, Percent Receiving Various Treatments					Number of Children With Diarrhoea
			Consult Medical Facility	ORS Packets	ORT Home Solution	Other Treatment	No Treatment	
Age of Child								
< 6 mos.	4.9	285	64.3	0.0	42.9	71.4	0.0	14
6 - 11 mos.	7.9	344	25.9	3.7	29.6	70.4	11.1	27
12 - 23 mos.	8.3	590	38.8	0.0	18.4	71.4	10.2	49
24 - 35 mos.	4.7	514	58.3	4.2	16.7	70.8	12.5	24
36 - 47 mos.	4.2	645	29.6	0.0	18.5	85.2	14.8	27
48 - 59 mos.	1.8	608	54.6	0.0	27.3	45.5	27.3	11
Sex								
Boy	5.6	1524	37.2	0.0	26.7	74.4	10.5	86
Girl	4.5	1462	47.0	3.0	18.2	68.2	13.6	66
Residence								
Urban	4.8	1263	51.7	0.0	28.3	70.0	8.3	60
Rural	5.1	1495	38.2	2.6	23.7	72.4	13.2	76
Riverine	7.0	228	18.8	0.0	0.0	75.0	18.8	16
Education								
None	4.9	1357	43.9	1.5	13.6	63.6	15.2	66
Primary	6.4	1014	43.1	1.5	24.6	75.4	12.3	65
Secondary +	3.4	615	28.6	0.0	47.6	85.7	0.0	21
Religion								
Catholic	5.2	347	55.6	0.0	16.7	72.2	5.6	18
Protestant	5.5	2102	39.1	1.7	24.4	73.0	11.3	115
Muslim	3.8	474	38.9	0.0	22.2	61.1	22.2	18
Other/None	1.6	63	100.0	0.0	0.0	100.0	0.0	1
Total	5.1	2986	41.5	1.3	23.0	71.7	11.8	152

In considering the morbidity information, it is important to bear in mind that the subjective evaluation of the mother on the health condition of her child is reflected in the data collected. For example, in some homes, mothers believe that diarrhoea is no illness but a "natural cleaning mechanism for the body." Thus, diarrhoea may not be regarded as "running stomach" or "stooling" until a child becomes severely dehydrated, develops a temperature, and is very ill. Morbidity measures are also affected by the accuracy of the mother's recall concerning when an illness occurred. Both the failure to report an illness which occurred within the reference period and the reporting of an episode which occurred prior to the reference period would affect the accuracy of a prevalence estimate.

Diarrhoea

Table 6.7 shows the percentage of children under age five who had diarrhoea in the two weeks preceding the survey. As reported by their mothers, 1 out of 20 children in this age group suffered at least one bout of diarrhoea during the reference period. Diarrhoea prevalence varied with the age of the child; the highest rate was for children between the ages of 6 and 23 months. Prevalence rates did not differ substantially by the sex of the child. Regarding background characteristics, the percentage of children with diarrhoea was highest in the riverine area and for children whose mothers had a primary education.

Table 6.7 indicates what treatment, if any, was used by mothers to treat the diarrhoea. Forty-two percent were taken to a medical facility, 23 percent were given a homemade salt and sugar solution (oral rehydration therapy), 1.3 percent were treated with a solution prepared from ORS packets, and 12 percent received no treatment at all. However, differences in the treatment of diarrhoea did not follow the expected pattern. For example, a smaller proportion of children whose mothers have a secondary or more education (29 percent) consulted a medical facility when their children had diarrhoea than mothers with either primary (43 percent) or no education (44 percent). However, caution should be exercised when interpreting this finding because of the small number of cases of diarrhoea reported by mothers with secondary or more education and the relatively high sampling variance of the proportion consulting a doctor for treatment.

Among mothers of children under age five, the percentage who know about oral rehydration therapy (ORT)--either commercially prepared packets of salts (ORS) or home solution--increases with the level of education (Table 6.8). Almost 70 percent of women with secondary education know about ORT, compared to 40 percent of women with primary education and less than 30 percent of uneducated mothers. Also, knowledge of ORT was greater among urban than rural women while women in riverine areas were least likely to know about ORT. Kowledge of ORT based on religon was about the same for Catholic, Protestant and Muslim women, but decidely lower among the small number of women in the other/none religious category.

Table 6.8 Among Mothers of Children Under Five Years, the Percentage Who Know About ORT by Education, According to Background Characteristics, ODHS, 1986

Background Characteristic	Education			Total
	None	Primary	Secondary +	
Residence				
Urban	41.1	49.0	74.8	53.6
Rural	22.2	34.8	54.8	31.0
Riverine	4.2	10.0	0.0	5.8
Religion				
Catholic	30.0	36.0	80.0	40.8
Protestant	25.5	39.9	66.5	40.0
Muslim	31.5	44.7	64.3	37.5
Other/None	11.8	20.0	100.0	17.4
Total	26.9	39.6	67.9	39.2

Fever

Table 6.9 shows the percentage of children under age five who had fever in the four weeks preceding the survey. It is worth noting that malaria is endemic to Ondo State and the reporting of fever could well indicate an episode of malaria. Twenty-two percent of children under five were reported as having had fever during the four weeks preceding the survey. Age was related to the occurrence of fever, with the greatest prevalence (26 percent) occurring among children 12 to 23 months. The prevalence of fever showed little variation based on background characteristics; but surprisingly, it was lowest in the riverine area. Over 40 percent of children with fever in the four weeks preceding the survey were treated with antimalarial medicine. Only a small percent (2 percent) of children with fever received no treatment.

Table 6.9 Among Children Under Five Years, the Percentage Who Are Reported by the Mother as Having Had Fever in the Past Four Weeks and, Among Children Who Had Fever, the Percentage Receiving Various Treatments, According to Background Characteristics, ODHS, 1986

Background Characteristic	Percent Having Fever in Last 4 Weeks	Among Children With Fever, Percent Receiving Various Treatments					Number of Children Under Five
		Consult Medical Facility	Anti-malarial	Anti-biotic	Other Medicine	No Treatment	
Age of Child							
< 6 mos.	12.3	37.1	28.6	0.0	85.7	0.0	285
6 - 11 mos.	24.1	36.1	50.6	0.0	89.2	2.4	344
12 - 23 mos.	26.4	35.3	45.5	0.0	87.2	1.3	590
24 - 35 mos.	26.1	40.3	32.8	0.0	91.8	0.0	514
36 - 47 mos.	21.7	26.4	39.3	0.0	94.3	2.9	645
48 - 59 mos.	19.2	34.2	47.9	0.0	92.3	1.7	608
Sex of Child							
Boy	22.6	36.2	43.5	0.0	90.7	1.5	1524
Girl	21.9	32.5	40.0	0.0	90.6	1.6	1462
Residence							
Urban	22.3	42.2	43.3	0.0	88.3	0.4	1263
Rural	24.3	29.7	40.1	0.0	94.2	1.4	1495
Riverine	8.3	10.5	52.6	0.0	57.9	21.1	228
Education							
None	20.9	29.7	36.0	0.0	89.1	3.2	1357
Primary	24.6	34.5	45.0	0.0	93.6	0.4	1014
Secondary +	21.6	44.4	48.1	0.0	88.7	0.0	615
Religion							
Catholic	19.9	43.5	40.6	0.0	89.9	1.5	347
Protestant	22.4	34.6	41.8	0.0	91.5	1.7	2102
Muslim	24.5	31.0	42.2	0.0	87.1	0.9	474
Other/None	14.3	0.0	44.4	0.0	100.0	0.0	63
Total	22.3	34.4	41.8	0.0	90.7	1.5	2986

Cough/Difficult Breathing

The ODHS collected information on the prevalence of respiratory illness by inquiring from the mothers of children under age five whether the child had severe coughing and/or difficult breathing in the four weeks preceding the survey. Table 6.10 shows that seven percent of children under age five suffered from severe cough and/or difficult breathing in the month before the survey. Age was related to the respiratory-related ailment; the highest prevalence (11 percent) occurring among children age 6-11 months. The data indicate little difference in the prevalence of severe coughing and/or difficult breathing by sex of child, residence, education, and religion of mother.

About 67 percent of children who had a respiratory problem received cough syrup, 35 percent were taken to a medical facility, 23 percent received antibiotics, and 31 percent received other medicine. Only 4 percent received no treatment.

Table 6.10 Among Children Under Five Years, the Percentage Who Are Reported by the Mother as Having Suffered from Severe Cough and/or Difficult Breathing in the Past Four Weeks and, Among Children Who Suffered from Severe Cough and/or Difficult Breathing, the Percentage Receiving Various Treatments, According to Background Characteristics, ODHS, 1986

Background Characteristic	Percent Having Cough in Last 4 Weeks	Among Children With Cough, Percent Receiving Various Treatments					Number of Children Under Five
		Consult Medical Facility	Anti-biotic	Cough syrup	Other Medicine	No Treatment	
Age of Child							
< 6	7.7	36.4	22.7	81.8	31.8	4.5	285
6 - 11	10.8	27.0	21.6	78.4	24.3	0.0	344
12 - 23	10.2	33.3	36.7	65.0	20.0	6.7	590
24 - 35	5.3	48.2	18.5	63.0	44.4	7.4	514
36 - 47	3.7	20.8	12.5	54.2	29.2	4.2	645
48 - 59	5.8	45.7	11.4	60.0	48.6	2.9	608
Sex of Child							
Boy	6.4	35.1	26.8	71.1	28.9	3.1	1524
Girl	7.4	35.2	19.4	63.0	33.3	5.6	1462
Residence							
Urban	6.7	38.1	17.9	63.1	25.0	6.0	1263
Rural	2.4	34.2	25.2	72.1	34.2	3.6	1495
Riverine	4.4	20.0	40.0	40.0	50.0	0.0	228
Education							
None	7.2	30.9	16.5	62.9	29.9	6.2	1357
Primary	7.3	40.5	25.7	67.6	31.1	4.1	1014
Secondary +	5.5	35.3	35.3	76.5	35.3	0.0	615
Religion							
Catholic	7.5	42.3	23.1	50.0	26.9	11.5	347
Protestant	7.0	34.7	23.1	72.1	30.6	3.4	2102
Muslim	5.7	33.3	22.2	59.3	33.3	3.7	474
Other/None	7.9	20.0	20.0	40.0	60.0	0.0	63
Total	6.9	35.1	22.9	66.8	31.2	4.4	2986

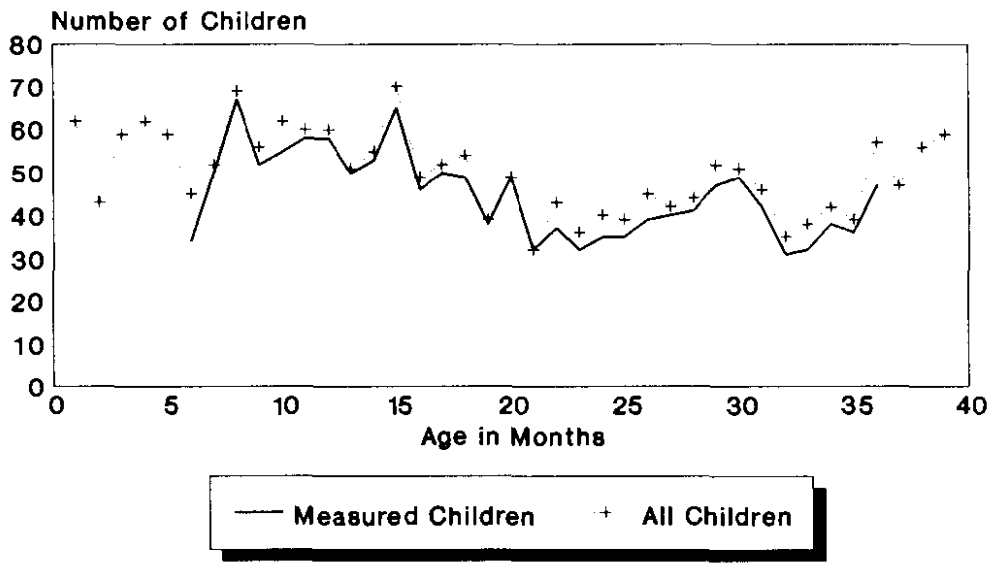
6.4 Anthropometric Data

The assessment of the nutritional status of children in the ODHS is based on height and weight data and age (in months). Procedures for converting such information into nutritional indices are well-established. The data necessary for calculating these indices were collected for children age 6-36 months of women interviewed in the survey. The interviewers responsible for collecting the height and weight data were provided with standardized equipment and special training to ensure that they would be able to collect accurate data (See Appendix A.3).

While age in years is sufficient for most demographic analyses, age in months is required for anthropometric assessment. This is because a child can be misclassified as severely undernourished or overnourished if his/her reported age is in error by just a few months. In Ondo State it is common for mothers not to know the precise ages of their children. When this occurred, the interviewer was instructed to aid the respondent to estimate the birth date of the child on the basis of a local events calendar. The degree to which there are errors in the ODHS age data can, to some extent, be assessed by examining the data for age heaping. Figure 6.1 shows the number of children age 6 to 36 months of respondents in the ODHS survey. To the extent that heaping occurs in a data set, it usually occurs at months 6, 12, 18, 24, 30 and 36. There is no discernible pattern of heaping in Figure 6.1.

In the ODHS, 1504 children between the ages of 6 and 36 months were identified and 1402 (93 percent) were weighed and measured. No children were missing information on the month and year of birth. However, fifteen cases were excluded from the analysis because the anthropometric indices were improbably too high or too low, suggesting an error in the recording of information. Analysis was carried out on 1387 cases.

Figure 6.1
Age Distribution of Measured Children and All Children



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Nutritional Status

Nutritional status assessment is based on the concept that in a well-nourished population, there will be a distribution of children of a given age with respect to height and weight. In terms of a particular index (say, height-for-age), the distribution will approximate the normal curve. About 68.2 percent of children will have a height-for-age within 1 standard deviation of the mean. About 13.6 percent will be between +1 and +2 standard deviations from the mean and another 13.6 percent between -1 and -2 standard deviations from the mean. Finally, about 2.3 percent will be more than +2 standard deviations from the mean and another 2.3 percent will be more than -2 standard deviations from the mean.

The nutritional indices presented in this report are based on the WHO/CDC/NCHS reference population (U.S. Department of Health, Education and Welfare, 1976). Thus, the children in Ondo State are classified into nutrition status categories in terms of the mean and standard deviation values of that reference population. Four nutritional indices are presented in this report.

- Height-for-age. A child who is 2 or more standard deviations below the mean of the reference population is considered short for his/her age which could reflect the cumulative effect of chronic malnutrition. Such a child is referred to as "stunted".

- Weight-for-height. A child who is 2 or more standard deviations below the mean of the reference population is considered thin which could reflect a recent episode of illness resulting in acute malnutrition. Such a child is referred to as "wasted".

- Height-for-age by weight-for-height. This index is a cross tabulation of the above two indices and can identify a child who is both chronically and acutely malnourished. A child who is 2 or more standard deviations below the mean of the reference population on both indices is considered severely malnourished.

- Weight-for-age. A child who is 2 or more standard deviations below the mean of the reference population could reflect chronic malnutrition, a recent acute episode of malnutrition or both. Thus, this index provides less precise information than the previously described indices. Nevertheless, weight-for-age is reported because it may be useful for comparison with other data on the nutritional status of children in Ondo State.

Height-for-Age

Table 6.11 shows the percent of children 6-36 months by various standard deviation categories from the mean of the reference population in terms of height-for-age. To make interpretation of anthropometric data easier, the World Health Organisation has classified children whose height-for-age is between 2 and 3 standard deviations below the reference mean as moderately stunted and children whose height-for-age is 3 or more standard deviations below the reference mean as severely stunted. Table 6.11 indicates that 19.5 percent are moderately stunted and 12.9 percent are severely stunted.

Stunting is evident in equal proportions among males and females, but by other background characteristics there are some important differentials. Stunting increases considerably when progressing from younger to older children. The percent that are severely stunted is lowest for children age 6-11 months (2 percent), increases sharply for children age 12-23 months (11 percent) and is still greater for children age 24-36 months (22 percent). Twins are highly likely to be stunted: 38 percent are severely stunted. By area of residence there is little difference between children living in riverine areas and in rural areas but somewhat less stunting among urban children. There is little difference in the degree of stunting by education of mother.

Table 6.11 Percent Distribution of Children Aged 6-36 Months by Standard Deviation Category of Height-for-Age Using the International NCHS/CDC/WHO Reference, According to Background Characteristics, ODHS, 1986

Background Characteristic	Standard Deviations from NCHS/CDC/WHO Reference							
	-3.00 or more	-2.00 to -2.99	-1.00 to -1.99	-0.99 to +0.99	+1.00 to +1.99	+2.00 or more	Total Percent	Number of Children 6-36 Months
International Reference	0.6	1.7	13.6	68.2	13.6	2.3	100.0	
Sex of Child								
Male	12.7	20.4	32.5	31.1	2.5	1.0	100.0	727
Female	13.2	18.6	29.1	35.8	1.7	1.7	100.0	660
Age of Child								
6-11 mos.	2.2	8.9	29.4	52.2	5.1	2.2	100.0	316
12-23 mos.	11.1	21.3	33.3	31.3	1.4	1.6	100.0	559
24-36 mos.	21.5	24.2	29.1	23.8	1.0	0.4	100.0	512
Birth Interval*								
First Births	16.5	19.9	32.5	30.7	0.0	0.4	100.0	231
< 2 years	13.6	17.6	33.5	33.0	1.7	0.6	100.0	176
2-3 years	12.4	19.9	29.6	33.4	2.9	1.7	100.0	749
4 years +	10.4	19.5	31.2	35.9	1.7	1.3	100.0	231
Twins	37.5	17.2	26.6	17.2	1.6	0.0	100.0	64
Residence								
Urban	10.2	15.3	34.7	36.5	2.1	1.1	100.0	619
Rural	15.0	23.4	27.0	31.6	1.9	1.2	100.0	675
Riverine	16.1	19.4	33.3	24.7	3.2	3.2	100.0	93
Education								
None	12.8	21.1	28.9	34.1	2.0	1.2	100.0	596
Primary	14.5	17.1	34.0	30.6	2.4	1.5	100.0	468
Secondary +	10.8	20.1	30.0	35.9	1.9	1.2	100.0	323
All Children	12.9	19.5	30.9	33.3	2.1	1.3	100.0	1387

* Twins are included in the preceding birth interval statistic; both twins have the same interval. Twins are also presented as a separate category.

Weight-for-Height

Weight-for-height is a measure of undernutrition of recent onset. About 7 percent of the children have a weight-for-height index 2 or more standard deviations below the reference mean and are classified as wasted (Table 6.12).

Table 6.12 Percent Distribution of Children Aged 6-36 Months by Standard Deviation Category of Weight-for-Height Using the International NCHS/CDC/WHO Reference, According to Background Characteristics, ODHS, 1986

Background Characteristic	Standard Deviations from NCHS/CDC/WHO Reference						Total Percent	Number of Children 6-36 Months
	-3.00 or more	-2.00 to -2.99	-1.00 to -1.99	-0.99 to +0.99	+1.00 to +1.99	+2.00 or more		
International Reference	0.6	1.7	13.6	68.2	13.6	2.3	100.0	
Sex of Child								
Male	0.8	5.9	24.3	64.2	4.5	0.1	100.0	727
Female	0.5	5.6	27.4	62.3	3.5	0.8	100.0	660
Age of Child								
6-11 mos.	0.3	3.8	26.3	62.0	6.6	0.9	100.0	316
12-23 mos.	0.5	8.1	29.9	58.3	2.9	0.4	100.0	559
24-36 mos.	1.0	4.5	21.1	69.5	3.7	0.2	100.0	512
Birth Interval*								
First Births	1.3	7.4	27.3	60.2	3.5	0.4	100.0	231
< 2 years	0.6	5.1	27.3	60.8	6.3	0.0	100.0	176
2-3 years	0.5	5.6	25.0	64.4	3.9	0.7	100.0	749
4 years +	0.4	5.2	26.0	64.9	3.5	0.0	100.0	231
Twins	4.7	9.4	32.8	48.4	4.7	0.0	100.0	64
Residence								
Urban	0.3	4.2	23.3	66.9	4.8	0.5	100.0	619
Rural	0.7	5.8	26.7	63.0	3.6	0.3	100.0	675
Riverine	2.2	16.1	36.6	41.9	2.2	1.1	100.0	93
Education								
None	0.8	5.5	28.0	61.2	4.0	0.3	100.0	596
Primary	0.4	6.6	25.2	63.0	4.1	0.6	100.0	468
Secondary +	0.6	5.0	22.6	67.5	4.0	0.3	100.0	323
Recent Morbidity**								
Diarrhoea	1.1	17.0	27.7	48.9	5.3	0.0	100.0	94
Fever	0.3	5.5	26.8	63.0	4.1	0.3	100.0	365
Cough	0.8	7.3	27.6	60.2	3.3	0.8	100.0	123
All Children	0.7	6.1	26.3	62.4	4.1	0.4	100.0	1387

* Twins are included in the preceding birth interval statistic; both twins have the same interval. Twins are also presented as a separate category.

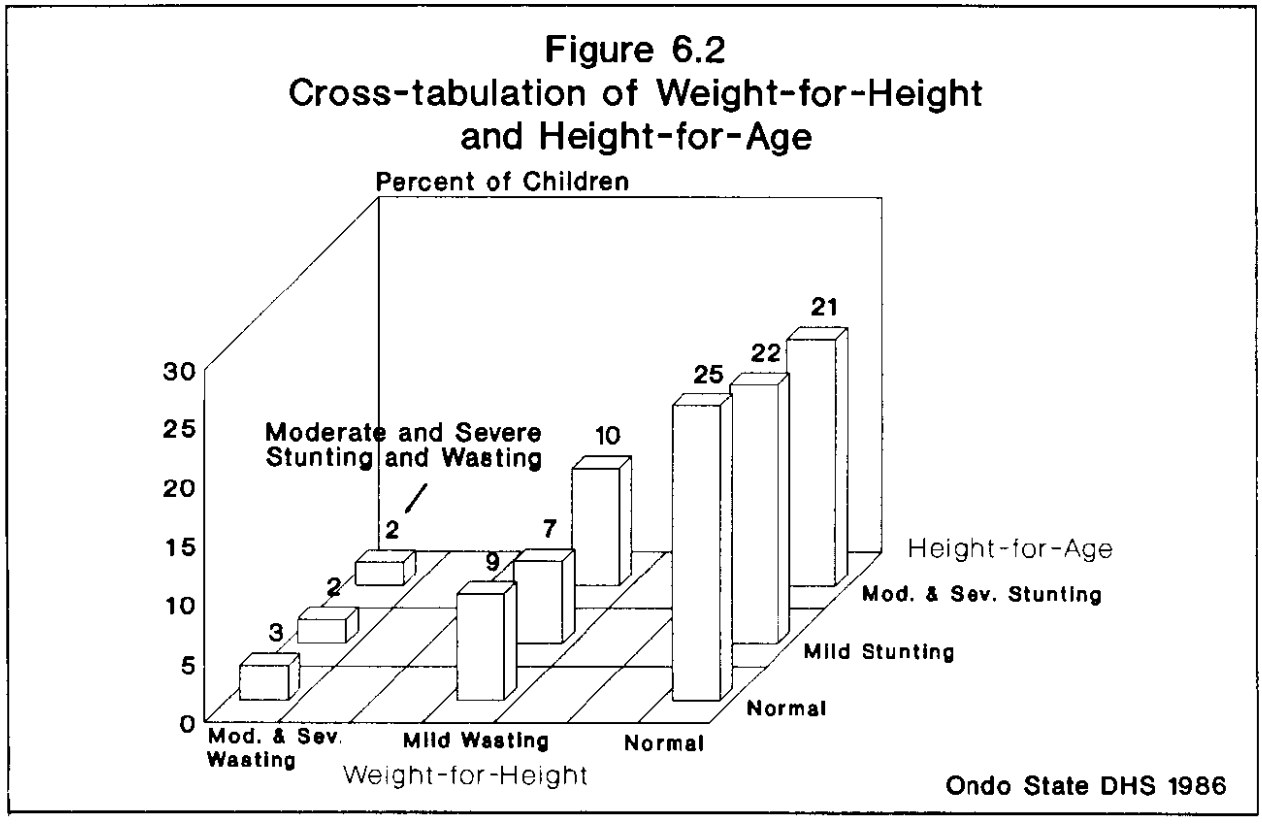
**The reference periods were 2 weeks for diarrhoea and 4 weeks for fever and cough.

Differentials in wasting for population subgroups are also shown in Table 6.12. No differential is found in the case of sex. Significant differentials are found in the case of age. Wasting increases when progressing from children age 6-11 months (4 percent) to children 12-23 months (9 percent), but decreases for children age 24-36 months (6 percent). Wasting is only weakly associated with the length of the birth interval, although, a greater percentage of first births suffer from wasting than second and higher order births. As is found for the stunting index, the prevalence of wasting is much higher for twins (14 percent) than for all children (7 percent). Wasting is also higher for children in the riverine area than for children in the urban and rural areas. Among children with recent diarrhoea, 18 percent are wasted, reflecting the importance of diarrhoea in contributing to malnutrition.

Height-for Age by Weight-for-Height

The relationship between stunting and wasting, or chronic and acute undernutrition, is shown in Figure 6.2. The figure depicts children classified according to their status with respect to both height-for-age and weight-for-height. It reveals that approximately 2 percent of children age 6 to 36 months are both stunted and wasted (i.e., fall 2 standard deviations or more below the mean of the reference population in terms of height-for-age and weight-for-age). They are the most severely undernourished children in the population.

Figure 6.2 is also useful for demonstrating the amount of hidden chronic undernutrition in the childhood population. A child who is stunted but not wasted will not be recognized as being undernourished by the casual observer: a child who appears to be a healthy two year old, may in fact be a stunted three year old. The survey found that 21 percent of children were moderately or severely stunted and normal with respect to weight-for-height.



Weight-for-Age

Table 6.13 shows the percent of children by various standard deviation categories from the mean of the reference population in terms of weight-for-age. Because weight-for-age is a composite index which reflects long term chronic undernutrition and recent acute undernutrition, it does not provide information beyond that already presented in the tables on height-for-age and weight-for-height.

Table 6.13 Percent Distribution of Children Aged 6-36 Months by Standard Deviation Category of Weight-for-Age Using the International NCHS/CDC/WHO Reference, According to Background Characteristics, ODHS, 1986

Background Characteristic	Standard Deviations from NCHS/CDC/WHO Reference							
	-3.00 or more	-2.00 to -2.99	-1.00 to -1.99	-0.99 to +0.99	+1.00 to +1.99	+2.00 or more	Total Percent	No. of Children 6-36 Months
International Reference	0.6	1.7	13.6	68.2	13.6	2.3	100.0	
Sex of Child								
Male	5.9	22.3	34.7	35.2	1.8	0.1	100.0	727
Female	5.3	22.7	37.1	32.9	1.7	0.3	100.0	660
Age of Child								
6-11 mos.	3.5	13.9	37.0	40.5	4.7	0.3	100.0	316
12-23 mos.	6.1	22.5	38.6	31.1	1.3	0.4	100.0	559
24-36 mos.	6.4	27.7	32.0	33.4	0.4	0.0	100.0	512
Birth Interval*								
First Births	10.4	26.0	31.6	31.6	0.0	0.4	100.0	231
< 2 years	5.7	21.6	35.2	36.4	1.1	0.0	100.0	176
2-3 years	4.3	23.5	35.4	34.4	2.3	0.1	100.0	749
4 years +	5.2	16.5	42.0	33.8	2.2	0.4	100.0	231
Twins	14.1	46.9	23.4	14.1	1.6	0.0	100.0	64
Residence								
Urban	3.4	17.9	36.2	40.4	1.8	0.3	100.0	619
Rural	7.0	25.8	34.8	30.7	1.6	0.1	100.0	675
Riverine	10.8	29.0	40.9	17.2	2.2	0.0	100.0	93
Education								
None	4.9	23.2	38.4	32.2	1.0	0.3	100.0	596
Primary	6.6	22.2	34.2	33.5	2.8	0.2	100.0	468
Secondary +	5.6	21.2	33.4	38.4	1.5	0.0	100.0	323
Recent Morbidity**								
Diarrhoea	7.4	30.9	29.8	30.9	1.1	0.0	100.0	94
Fever	5.7	20.3	41.5	29.3	3.3	0.0	100.0	365
Cough	4.4	24.4	34.2	33.7	2.5	0.8	100.0	123
All Children	5.6	22.5	35.8	34.1	1.7	0.2	100.0	1387

* Twins are included in the preceding birth interval statistic; both twins have the same interval. Twins are also presented as a separate category.

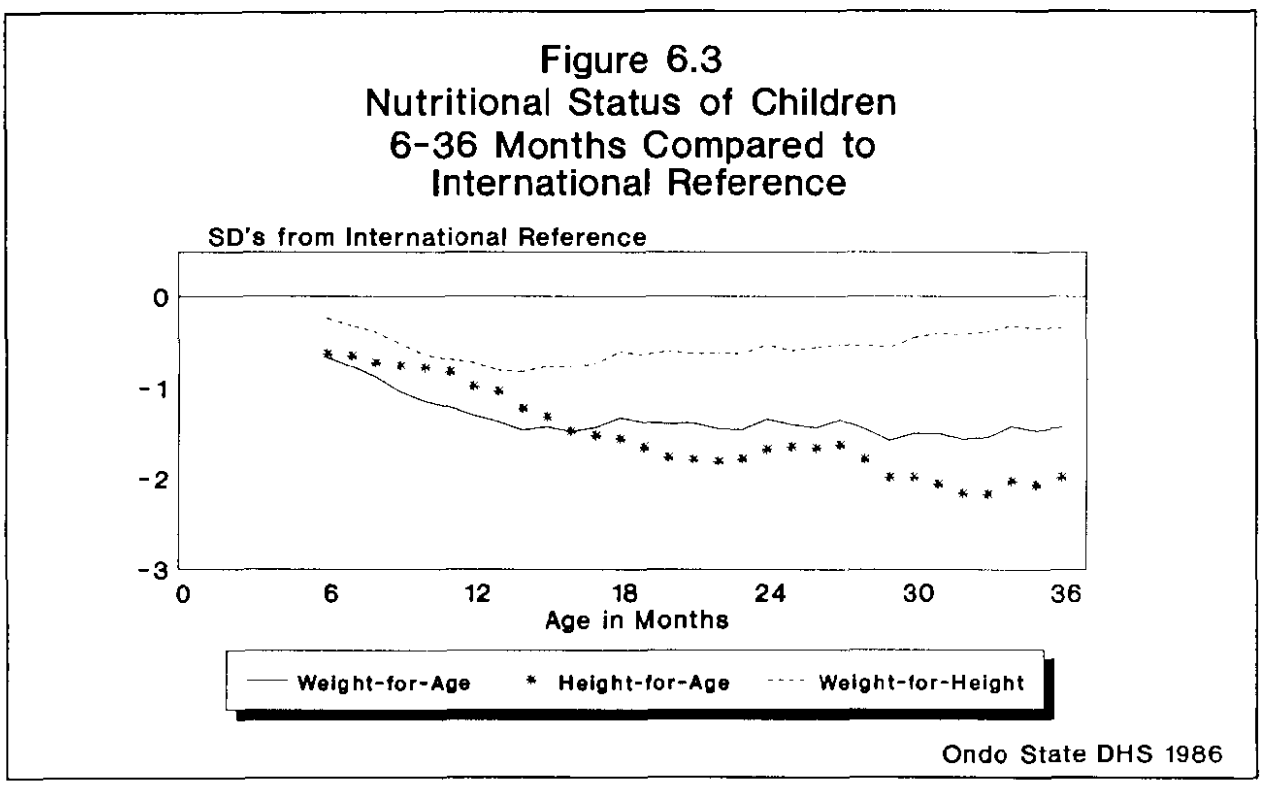
**The reference periods were 2 weeks for diarrhoea and 4 weeks for fever and cough.

Summary of Nutritional Status by Age

Figure 6.3 provides a summary of the nutritional status of children in Ondo State by age. The figure shows the mean standard deviation score of all children from the mean of the reference population in terms of height-for-age, weight-for-age and weight-for-height.

The height-for-age index indicates a mean value which is about -0.6 standard deviations from the reference mean at six months and about -2.0 standard deviations from the reference mean at thirty-six months. The weight-for-age index shows a similar trend with age being about -0.6 standard deviation from the reference mean at six months of age and about -1.5 standard deviations at thirty-six months. On the other hand, the weight-for-height index is only -0.2 standard deviations from the reference mean at six months, falls to -0.8 standard deviations at fourteen months and is back at about -0.3 standard deviations at thirty-six months.

Each of these indices presents a different perspective on the nutritional problems of children in Ondo State. The weight-for-height index shows that undernutrition of recent onset is most common in children 12-18 months of age. The height-for-age index shows that undernutrition of longer standing (stunting) is most pronounced in children 30-36 months. However, at this age the weight-for-height index is close to the reference population mean, and the children do not appear undernourished.



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APPENDIX A

SURVEY DESIGN

APPENDIX A

SURVEY DESIGN

A.1 Sample Design and Implementation

The sample specifications for the ODHS called for a self-weighting sample of approximately 3,600 women 15-49 representative of the entire state. Considering the cultural homogeneity of Ondo State, it was decided that an efficient design would be achieved with 90 primary sampling units (PSUs). Thus, the overall sampling fraction for the ODHS was

$$F = \frac{3960}{\text{(Population of Ondo State) (.22)}}$$

where 3960 is the target sample size increased by 10 percent for nonresponse, and

.22 is an estimate of the proportion of women 15-49 in the population (National Population Bureau, 1984).

A two-stage sampling procedure was used. In the first stage, census enumeration areas (EAs), were selected with sampling fraction f(1). In the second stage, households were selected with sampling fraction f(2). Within selected households, eligibility for the woman's questionnaire was on a *de facto* basis: all women 15-49 who stayed in the household the previous night were eligible respondents.

Sampling Frame

The sampling frame for PSU selection consisted of two lists of enumeration areas. One list covered 13 of the 17 Local Government Areas (LGAs) of Ondo State and was created between 1984 and 1986 as part of Enumeration Area Demarcation Exercise of the National Population Bureau. The other list, covering 4 LGAs, consisted of the enumeration areas created for the 1973 Population Census and updated for the ODHS. EAs in the sampling frame showed little variation in measure of size, so that it was unnecessary to consider selection of the first stage with probability proportional to size.

First Stage Selection

Within each Local Government Area, the EAs were listed with urban areas first in order to achieve some implicit stratification. A systematic sample of 90 EAs was then selected using the following procedure. The total of 7,638 EAs was divided by 90 to give 85 (f (1) = .0118); a random number was selected between 1 and 85; then EAs were selected from the list at the fixed interval of 85, starting with the random number.

Household Listing

The next step was to list households in the selected EAs. During the listing operation, the number of persons residing in each household was recorded. At this stage, it was observed that the EA

populations obtained from the listing were systematically smaller by about 46 percent (Table A.2) than those from the Demarcation Exercise. This discrepancy suggested that the Demarcation Exercise was producing serious overestimates of the population. An adjustment was therefore introduced for this in the next step.

Second Stage Selection

The relationship between sample selection fractions is as follows:

$$f(2) = F/f(1).$$

Thus, before f(2) could be calculated, a value for the overall sampling fraction, F, was needed and this required an estimate of the population of Ondo State. At the time of second stage sample selection (August 1986), three sources of population information were available: the 1963 Population Census, the Enumeration Area Demarcation Exercise and the household listing operation of the ODHS survey. As shown in Table A.1, the population estimate for the 13 LGAs covered by the Enumeration Area Demarcation Exercise (2,674,734) indicates an increase of 22 percent over the 1963 Census Population for those LGAs (2,193,603). Assuming equal growth in the 4 remaining LGAs, a total population estimate for Ondo State would be 3,329,856 (2,729,390*1.22).

Table A.1 Population Estimates for Ondo State, by Local Government Area

Local Government Area		Population Estimate: 1963 Census	Population Estimate: EA Demarcation Exercise 1984-86
01	Akure	129,415	400,435
02	Akoko North	153,311	282,165
03	Ekiti East	123,649	156,720
04	Ero	224,055	173,277
05	Ekiti South	220,076	151,619
06	Ekiti Southwest	124,044	87,304
07	Ekiti Central	262,337	212,410
08	Ijero	133,963	117,490
09	Ekiti West	171,347	143,555
10	Akoko South	131,508	165,735
11	Ekiti North	181,455	253,111
12	Owo	189,847	322,273
13	Idanre Ifedore	148,596	208,640
14	Ondo*	148,734	--
15	Ifesowapo*	109,330	--
16	Ilaje Eseodo*	93,926	--
17	Ikale*	183,797	--
TOTALS -	All LGAs	2,729,390	--
	LGAs 01-13	2,193,603	2,674,734

*The EA Demarcation Exercise was not completed in four LGAs at the time of sample selection.

However, as shown in Table A.2, the results from the ODHS household listing operation indicate that the estimates from the Enumeration Area Demarcation Exercise were 46 percent too high. Thus, for sampling purposes, an appropriate population estimate would be 1,797,090 (3,327,945*.54). This estimate was used to calculate f(2) and I(2), the second stage sampling interval.

$$I(2) = 1/f(2) = 1/.8488 = 1.18.$$

Table A.2 Population Estimates in Selected Enumeration Areas, EA Demarcation Exercise and ODHS Household Listing

Local Government Area	Number of EAs in sample	Estimated Population in Selected EAs: EA Demarcation Exercise 1984-86	Estimated Population in Selected EAs: DHS Household Listing 1986	Ratio
01 Akure	9	4,956	3,401	.69
02 Akoko North	7	3,472	1,807	.52
03 Ekiti East	4	1,696	821	.48
04 Ero	4	1,821	520	.29
05 Ekiti South	4	1,688	775	.46
06 Ekiti Southwest	2	1,190	547	.46
07 Ekiti Central	5	2,687	1,749	.65
08 Ijero	3	1,307	522	.40
09 Ekiti West	3	1,690	1,247	.74
10 Akoko South	4	2,122	1,309	.62
11 Ekiti North	6	3,130	1,234	.39
12 Owo	8	3,759	1,740	.46
13 Idanre Ifedore	5	2,283	1,177	.52
14 Ondo*	9	--	--	--
15 Ifesowapo*	2	--	--	--
16 Ilaje Eseodo*	9	--	--	--
17 Ikale*	6	--	--	--
TOTAL	90	31,800	16,849	.54

* Population estimates not available at time of sample selection. Estimates were obtained while the DHS data collection was underway during a combined updating/listing exercise. This exercise was carried out by NPB/Akure and was restricted to EAs selected in the DHS sample. The household listing was conducted using DHS forms and procedures.

A.2 Questionnaire Design and Pretest

Questionnaires

Two questionnaires were used in the ODHS: a household schedule and an individual questionnaire for women. Both were adapted from the model questionnaires of the DHS Programme (Institute for Resource Development, 1987).

The household schedule collected basic information on household members and visitors who slept in the household the night preceding the survey, including name, whether a usual resident or a visitor, sex, age and, for children 15 years and below, presence of natural parents in the household.

The individual questionnaire contained eight sections and collected data on:

- Fertility - including a truncated birth history covering the six years preceding the survey and questions on desired number of children, and future childbearing intentions;

- Fertility regulation - including knowledge and use of family planning, sources of family planning methods, and reasons for nonuse of family planning;

- Maternal and child health - including prenatal care, breastfeeding, weaning practices, incidence of childhood diseases (such as fever, diarrhoea, and respiratory illness), immunisation status for children, and height and weight of children aged 6-36 months.

A significant difference between the ODHS and other DHS surveys is the use of a truncated birth history rather than a full birth history.

The questionnaires were printed in Yoruba, the first language of over 85 percent of the population of Ondo State. English versions of the questionnaires are reproduced in Appendix C.

Pretest

The pretest was conducted in June and July 1986. Pretest training consisted of one week of classroom instruction and one week of anthropometric measurement training and practice interviewing. A total of 16 people were trained. Trainers for the pretest consisted of the senior survey staff and two DHS staff members, including a specialist in anthropometric measurement.

Pretest fieldwork took place in three locations, lasted two weeks and covered 250 urban and rural households. Two teams conducted interviews: each consisted of a supervisor and five interviewers. Completed questionnaires were edited in the field by the senior survey staff and returned to the survey office for manual tabulation of results.

A.3 Main Survey

Training for the Main Survey

Training for the main survey took place in August 1986. As the ODHS interviewers were responsible for collecting data on the height and weight of children, anthropometric training was included in the training schedule. The four week training period was divided into one week of classroom instruction on the survey questionnaires, one week of practice interviewing with village women, one week of training in anthropometric measurement techniques and a final week of practice interviewing. Anthropometric training and subsequent fieldwork were conducted with standardized equipment: hanging spring scales for weighing children and portable wooden measuring boards for measuring their recumbent length. Trainees were taught to measure in teams of two and to follow the procedures specified in the manual "How to Weigh and Measure Children" (United Nations, 1986). At the end of the training period, all interviewers were tested on the accuracy with which they measured children.

A total of 32 field staff participated in the training: four supervisors (one female and three males), four female editors, sixteen female interviewers and eight data entry clerks. About one-third of these had participated in the pretest. In addition, two tutors from the School of Health Technology, Ondo State, were trained in anthropometric measurement and worked with the interviewing teams throughout fieldwork. Training was conducted by the senior survey staff and three staff members from DHS headquarters, including a specialist in anthropometric measurement.

Fieldwork

Fieldwork began September 5, 1986 and continued into January 1987. Data collection was accomplished by four teams each consisting of a supervisor, a field editor, four interviewers and a driver. Based on experience with the pretest, it was decided that anthropometric measurement of children would be done in respondents' homes rather than at a central location in each sample cluster. Since the DHS protocol requires that anthropometric measurements be made by two trained persons (a measurer and an assistant), this required that two measuring boards and two scales be provided to each field team and that interviewers work in pairs when taking these measurements. The task of measurer was assigned to the interviewer who conducted the interview and could identify the children to be measured; the task of assistant was assigned to the other interviewer.

Response Rates

The number of households selected for the ODHS sample was 3836. Of these, 3521 households were located in the field and 3437 completed questionnaires were obtained (household response rate of 98 percent). The completed household questionnaires identified 4239 eligible respondents. Completed interviews were obtained for 4213 of these (eligible women's response rate of 99 percent). The overall survey response rate, the product of the household and the eligible women's response rate, was 97 percent. Response rates were approximately the same in urban, rural and riverine areas. Details of the calculation of the response rates are presented in Table A.3.

Interview Time per Respondent

Time was recorded at the beginning and end of each interview. The recorded times exclude time spent making introductions, completing the household schedule and measuring children. Overall, the mean interviewing time per respondent was 31 minutes. The distribution of interviews by time was as follows: under 15 minutes, 8 percent; 15-44 minutes, 83 percent; 45-59 minutes; 7 percent and 60+ minutes, 2 percent.

Additional Respondents for UNICEF

In addition to the 4213 respondents in the ODHS sample, another 394 women were interviewed from Owo Local Government Area. The additional interviews were conducted at the request of UNICEF Nigeria which has implemented pilot immunisation and oral rehydration therapy projects in Owo LGA. Tabulations based on all respondents from Owo LGA (229 from the original ODHS sample plus the 394 additional interviews) were provided to UNICEF in August 1987. In order to retain the advantages of a self-weighting sample, the additional interviews are not considered part of the ODHS and were excluded from the tabulations of the ODHS Preliminary Report and from this report.

A.4 Data Processing

Data Processing Facilities

A data processing center with four IBM microcomputers was established at the Ondo State Ministry of Health. Data processing was accomplished using Entry Point, Concor, SPSS/PC and a software package developed by DHS, the Integrated System for Survey Analysis (ISSA). An edited data file was available four months after completion of fieldwork. Technical assistance for data processing was provided by DHS staff during four country visits, which totaled two person-months of time.

Imputation

It is the policy of the DHS Programme not to impute missing, incomplete or inconsistent values except in the case of a limited number of variables pertaining to the dates of events and the respondent's age at the time of an event. All imputed values in DHS data sets are flagged, so the extent of imputation is documented. Results presented in this report are based on a data file with imputed values for the following variables:

Respondent's age at the time of the survey,
Respondent's age at first marriage,
Respondent's date of birth,
Respondent's date of first marriage,
Dates of birth of the respondent's children.

Table A.3 Household Response Rate and Eligible Women Response Rate by Residence, ODHS, 1986

Result of Interview	Residence			
	Urban	Rural	Riverine	Total
Selected Households	1,693	1,864	279	3,836
Interview completed	1,501	1,686	250	3,437
No competent respondent	42	21	1	64
Refused	10	9	1	20
Dwelling vacant*	103	103	22	228
Not a dwelling*	11	13	--	24
Building not found*	1	1	1	3
Other*	25	31	4	60
Household Response Rate	96.7	98.3	99.2	97.6
Eligible Women	1,702	2,203	334	4,239
Interview completed	1,695	2,192	326	4,213
Not at home	3	7	4	14
Refused	4	1	4	9
Other	--	3	--	3
Eligible Women Response Rate	99.6	99.5	97.6	99.4
Overall Response Rate**	96.3	97.8	96.8	97.0
Number of Primary Sampling Units	36	45	9	90
Average Number of Eligible Women per Household	1.13	1.31	1.34	1.23

* Excluded from the calculation of household response rate.
**Product of the household response rate and eligible women response rate.

APPENDIX B

SAMPLING ERRORS

APPENDIX B

SAMPLING ERRORS

The results from sample surveys are affected by two types of errors: nonsampling error and sampling error. The former is due to mistakes in implementing field activities, such as failing to locate and interview the correct household, errors in asking questions, data entry errors, etc. While numerous steps were taken to minimize this sort of error in the ODHS, nonsampling errors are impossible to avoid entirely, and are difficult to evaluate statistically.

Sampling errors, on the other hand, can be evaluated statistically. The sample of women selected in the ODHS is only one of many samples of the same size that could have been drawn from the population using the same design. Each sample would have yielded slightly different results from the sample actually selected. The variability observed among all possible samples constitutes sampling error, which can be estimated from survey results (though not measured exactly).

Sampling error is usually measured in terms of the "standard error" (SE) of a particular statistic (mean, percentage, etc.), which is the square root of the variance of the statistic across all possible samples of identical size and design. The standard error can be used to calculate confidence intervals within which one can be reasonably sure the true value of the variable falls. For example, for any given statistic calculated from a sample survey, the value of that same 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 simple random sampling had been used to select women for the ODHS, it would have been possible to use straightforward formulas for calculating sampling errors. However, the ODHS sample design used two stages and clusters of households, and it was necessary to use more complex formulas. Therefore, the computer package CLUSTERS, developed for the World Fertility Survey, was used to compute sampling errors.

CLUSTERS treats any percentage or average as a ratio estimate, r = y/x, where both x and y are considered to be random variables. The variance of r is computed using the formula given below with the standard error being the square root of the variance:

$$\text{var}(r) = \frac{1-f}{x_2} \sum_{h=1}^{H} \left[\frac{m_h}{m_h-1} \left(\sum_{i=1}^{m_h} z_{hi}^2 - \frac{z_h^2}{m_h} \right) \right]$$

in which, $z_{hi} = y_{hi} - rx_{hi}$, and $z_h = y_h - rx_h$,

where h represents the stratum and varies from 1 to H,

m_h is the total number of PSUs selected in the h-th stratum,

y_{hi} is the sum of the values of variable y in PSU i in the h-th stratum,

x_{hi} is the sum of the number of cases (women) in PSU i in the h-th stratum, and

f 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 indicates that the sample design is as efficient as a simple random sample; a value greater than 1 indicates that the increase in the sampling error is due to the use of a more complex and less statistically efficient design.

Sampling errors are presented in this appendix for 39 variables considered to be of primary interest. Results are presented for Ondo State, for urban and rural areas, and for three age groups. For each variable, the type of statistic (mean, proportion) and the base population (e.g., all women, women in union) are given in Table B.1. Table B.2 presents the value of the statistic, R; its standard error, SE; the actual number of cases, N; the DEFT value; and the relative standard error, SE/R for each variable. In addition to these indicators, the 95 percent confidence limits for the statistic, R-2SD and R+2SD, are presented.

In general, the sampling errors for Ondo State as a whole are small, which means that the ODHS results are reliable. For example, in the whole sample, the survey found that women average 3.315 children ever born; the standard error of this estimate is .074. Therefore, to obtain the 95 percent confidence limit, one adds and subtracts twice the standard error to the sample estimate, i.e., $3.315 \pm .148$. There is a 95 percent chance that the true average number of children ever born to all women 15-49 in Ondo State is between 3.2 and 3.5.

Table B.1 List of Variables for Which Sampling Errors Were Calculated, ODHS, 1986

Name	Estimate	Variable	Base population
RESI	Proportion	Urban	All women
MBEF20	Proportion	In union before age 20	All women
EDUC	Proportion	Secondary or more	All women
CMAR	Proportion	Currently in union	All women
CCEB	Mean	Children ever born	All women
CSUR	Mean	Children surviving	All women
IDEA	Mean	Ideal family size	All women
CEB49	Mean	Children ever born	All women 40-49
CDEA	Proportion	Children dead	Children ever born
DEAT24	Proportion	Children dead to women 20-24	Children ever born to women 20-24
DEAT29	Proportion	Children dead to women 25-29	Children ever born to women 25-29
PREG	Proportion	Pregnant	Women currently in union
KNOW	Proportion	Knowing any method	Women currently in union
KWMOD	Proportion	Knowing modern method	Women currently in union
EVUSE	Proportion	Ever used any method	Women currently in union
CUSE	Proportion	Currently using any method	Women currently in union
USPIL	Proportion	Using pill	Women currently in union
USTRD	Proportion	Using traditional	Women currently in union
USMOD	Proportion	Using modern	Women currently in union
USCON	Proportion	Using condom	Women currently in union
USABS	Proportion	Using abstinence	Women currently in union
USVAG	Proportion	Using vaginal	Women currently in union
GVSRCE	Proportion	Using public source	Current users
PRSRCE	Proportion	Using private source	Current users
NOWNT1	Proportion	Wants no more children	Women currently in union
DELAY	Proportion	Wants to delay next birth at least 2 years	Women currently in union
BREA	Mean	Months of breastfeeding	Births last three years
AMENO	Mean	Months of amenorrhoea	Births last three years
ABSTI	Mean	Months of postpartum abstinence	Births last three years
ATTE	Proportion	Delivery attended by doctor	Births last five years
TETANU	Proportion	Mother received tetanus immunisation	Births last five years
DIAR	Proportion	Children with diarrhoea in last two weeks	Children under age 5
DIATRE	Proportion	Any diarrhoea treatment	Children with diarrhoea in last two weeks
K1223C	Proportion	Had health card	Children 12-23 months
BCG	Proportion	Had BCG vaccine	Children 12-23 months with health card
DPT123	Proportion	Had DPT 3 doses	Children 12-23 months with health card
POL123	Proportion	Had polio 3 doses	Children 12-23 months with health card
MEAS	Proportion	Had measles vaccine	Children 12-23 months with health card
FULLIM	Proportion	Fully immunised	Children 12-23 months with health card

Table B.2 Sampling Errors: Ondo State, ODHS, 1986

	R	SE	N	DEFT	SE/R	R-2SE	R+2SE
RESI	.395	.057	4213	7.567	.144	.281	.509
MBEF20	.404	.014	4213	1.916	.036	.375	.433
EDUC	.392	.018	4213	2.439	.047	.355	.429
CMAR	.672	.015	4213	2.037	.022	.643	.702
CCEB	3.315	.074	4212	1.481	.022	3.167	3.463
CSUR	2.635	.050	4211	1.291	.019	2.534	2.736
IDEA	5.740	.072	2560	1.770	.012	5.597	5.884
CEB49	6.896	.126	955	1.553	.018	6.644	7.149
CDEA	.198	.009	4212	1.091	.045	.180	.216
DEAT24	.127	.018	4213	1.030	.144	.090	.163
DEAT29	.162	.014	4212	1.083	.087	.134	.190
PREG	.141	.007	2832	1.008	.047	.128	.154
KNOW	.511	.017	2832	1.800	.033	.477	.545
KWMOD	.500	.017	2832	1.857	.035	.465	.535
EVUSE	.130	.009	2832	1.443	.070	.112	.149
CUSE	.060	.006	2832	1.259	.094	.048	.071
USPIL	.014	.002	2832	1.087	.173	.009	.019
USTRD	.023	.003	2832	1.244	.154	.016	.030
USMOD	.037	.005	2832	1.315	.126	.028	.046
USCON	.004	.001	2832	1.047	.302	.002	.007
USABS	.019	.003	2832	1.214	.165	.013	.025
USVAG	.000	.000	2832	.000	.000	.000	.000
GVSRCE	.498	.039	239	1.210	.079	.419	.576
PRSRCE	.502	.039	239	1.210	.078	.424	.581
NOWNT1	.233	.011	2832	1.409	.048	.211	.256
DELAY	.369	.014	2832	1.504	.037	.341	.396
BREA	18.234	.509	1925	1.296	.028	17.216	19.251
AMENO	13.989	.515	1925	1.308	.037	12.959	15.018
ABSTI	22.797	.697	1925	1.574	.031	21.403	24.190
ATTE	.031	.004	3249	1.145	.125	.023	.038
TETANU	.712	.021	3249	2.213	.030	.670	.755
DIAR	.051	.005	2986	1.319	.109	.037	.057
DIATRE	.868	.030	152	1.039	.035	.814	.936
K1223C	.369	.025	591	1.227	.068	.318	.418
BCG	.995	.007	218	.000	.007	.987	1.013
DPT123	.756	.032	218	1.053	.042	.692	.820
POL123	.756	.032	218	1.053	.042	.692	.820
MEAS	.752	.037	218	1.221	.049	.682	.830
FULLIM	.674	.036	218	1.102	.053	.601	.744

Table B.2 Sampling Errors (con't): Urban Areas, ODHS, 1986

	R	SE	N	DEFT	SE/R	R-2SE	R+2SE
RESI	1.000	.000	1664	.000	.000	1.000	1.000
MBEF20	.375	.028	1664	2.382	.075	.318	.432
EDUC	.483	.036	1664	2.954	.075	.411	.556
CMAR	.673	.022	1664	1.932	.033	.629	.718
CCEB	2.958	.131	1663	1.777	.044	2.695	3.220
CSUR	2.438	.102	1663	1.714	.042	2.233	2.643
IDEA	5.575	.138	1179	2.597	.025	5.298	5.852
CEB49	6.457	.186	291	1.269	.029	6.085	6.829
CDEA	.176	.010	1663	1.425	.057	.156	.196
DEAT24	.091	.021	1664	.932	.230	.049	.133
DEAT29	.152	.021	1664	1.135	.139	.110	.194
PREG	.155	.009	1120	.873	.061	.136	.174
KNOW	.623	.042	1120	2.906	.068	.539	.707
KWMOD	.611	.043	1120	2.926	.070	.525	.696
EVUSE	.187	.021	1120	1.785	.111	.145	.228
CUSE	.089	.011	1120	1.283	.122	.067	.111
USPIL	.022	.004	1120	1.011	.200	.013	.031
USTRD	.035	.007	1120	1.196	.188	.022	.048
USMOD	.054	.009	1120	1.352	.168	.036	.073
USCON	.006	.003	1120	1.094	.412	.001	.011
USABS	.028	.006	1120	1.148	.203	.016	.039
USVAG	.001	.000	1120	.000	.000	.001	.001
GVSRCE	.579	.053	126	1.198	.091	.474	.685
PRSRCE	.421	.053	126	1.198	.126	.315	.526
NOWNT1	.211	.014	1120	1.120	.065	.183	.238
DELAY	.383	.020	1120	1.389	.053	.343	.423
BREA	16.261	.930	828	1.574	.057	14.400	18.122
AMENO	12.304	.775	828	1.341	.063	10.753	13.855
ABSTI	20.130	.856	828	1.302	.043	18.418	21.843
ATTE	.035	.006	1339	1.099	.178	.023	.048
TETANU	.804	.039	1339	2.954	.049	.725	.881
DIAR	.048	.008	1243	1.310	.170	.029	.059
DIATRE	.917	.045	59	1.143	.050	.808	.989
K1223C	.402	.027	260	.867	.067	.348	.456
BCG	1.000	.000	105	.000	.000	1.000	1.000
DPT123	.810	.036	105	.926	.044	.738	.881
POL123	.810	.036	105	.926	.044	.738	.881
MEAS	.752	.061	105	1.441	.082	.629	.875
FULLIM	.733	.059	105	1.343	.080	.616	.851

Table B.2 Sampling Errors (con't): Rural Areas, ODHS, 1986

	R	SE	N	DEFT	SE/R	R-2SE	R+2SE
RESI	.000	.000	2549	.000	.000	.000	.000
MBEF20	.423	.021	2549	2.155	.050	.380	.465
EDUC	.333	.024	2549	2.613	.073	.284	.381
CMAR	.672	.023	2549	2.442	.034	.626	.717
CCEB	3.548	.113	2549	1.694	.032	3.322	3.774
CSUR	2.764	.077	2548	1.509	.028	2.610	2.919
IDEA	5.881	.100	1381	1.673	.017	5.682	6.080
CEB49	7.089	.144	664	1.488	.020	6.801	7.377
CDEA	.210	.013	2549	1.043	.059	.185	.235
DEAT24	.155	.025	2549	.953	.159	.106	.204
DEAT29	.170	.019	2548	1.044	.111	.132	.208
PREG	.132	.008	1712	.962	.060	.116	.148
KNOW	.438	.016	1712	1.305	.036	.407	.469
KWMOD	.427	.017	1712	1.406	.039	.393	.461
EVUSE	.093	.010	1712	1.482	.112	.073	.114
CUSE	.040	.006	1712	1.342	.158	.028	.053
USPIL	.008	.003	1712	1.336	.356	.002	.014
USTRD	.015	.003	1712	1.128	.224	.008	.021
USMOD	.026	.005	1712	1.351	.201	.015	.036
USCON	.003	.001	1712	.983	.439	.000	.005
USABS	.013	.003	1712	1.070	.227	.007	.019
USVAG	.000	.000	1712	.000	.000	.000	.000
GVSRCE	.407	.048	113	1.034	.118	.311	.503
PRSRCE	.593	.048	113	1.034	.081	.497	.689
NOWNT1	.248	.015	1712	1.468	.062	.218	.279
DELAY	.359	.017	1712	1.459	.047	.325	.393
BREA	19.723	.623	1097	1.201	.032	18.476	20.969
AMENO	15.260	.594	1097	1.118	.039	14.071	16.449
ABSTI	24.809	1.017	1097	1.721	.041	22.775	26.844
ATTE	.031	.005	1910	1.228	.182	.017	.037
TETANU	.726	.029	1910	2.171	.044	.591	.706
DIAR	.051	.005	1743	1.029	.109	.038	.059
DIATRE	.868	.039	93	.976	.046	.782	.939
K1223C	.340	.041	331	1.532	.119	.259	.422
BCG	1.000	.013	113	.000	.013	.975	1.025
DPT123	.705	.055	113	1.213	.078	.595	.815
POL123	.705	.055	113	1.213	.078	.595	.815
MEAS	.759	.042	113	.970	.055	.675	.843
FULL1M	.616	.050	113	1.065	.081	.516	.716

Table B.2 Sampling Errors (con't): Women Aged 15-24, ODHS, 1986

	R	SE	N	DEFT	SE/R	R-2SE	R+2SE
RESI	.407	.062	1672	5.127	.151	.284	.531
MBEF20	.205	.017	1672	1.686	.081	.172	.238
EDUC	.748	.018	1672	1.709	.024	.712	.784
CMAR	.264	.020	1672	1.837	.075	.224	.303
CCEB	.327	.028	1672	1.570	.087	.270	.383
CSUR	.288	.024	1672	1.478	.083	.241	.336
IDEA	5.288	.093	1187	1.675	.018	5.102	5.474
CDEA	.117	.015	1672	.998	.129	.087	.147
PREG	.286	.023	441	1.067	.080	.240	.332
KNOW	.499	.032	441	1.351	.065	.434	.563
KWMOD	.483	.033	441	1.391	.069	.417	.549
EVUSE	.134	.017	441	1.030	.125	.100	.167
CUSE	.041	.009	441	.974	.225	.022	.059
USPIL	.009	.004	441	.936	.466	.001	.018
USTRD	.020	.005	441	.752	.249	.010	.031
USMOD	.020	.007	441	1.021	.337	.007	.034
USCON	.009	.004	441	.984	.490	.000	.018
USABS	.014	.006	441	1.054	.428	.002	.025
USVAG	.000	.000	441	.000	.000	.000	.000
GVSRCE	.292	.076	130	1.902	.261	.140	.445
PRSRCE	.708	.076	130	1.902	.108	.555	.860
NOWNT1	.007	.004	441	.934	.538	-.001	.014
DELAY	.571	.027	441	1.138	.047	.518	.625
BREA	18.634	.767	369	.854	.041	17.101	20.168
AMENO	13.854	.864	369	.975	.062	12.126	15.581
ABSTI	20.976	1.037	369	1.123	.049	18.901	23.050
ATTE	.026	.008	460	.947	.290	.011	.041
TETANU	.691	.047	460	1.863	.068	.598	.785

Table B.2 Sampling Errors (con't): Women Aged 25-34, ODHS, 1986

	R	SE	N	DEFT	SE/R	R-2SE	R+2SE
RESI	.464	.063	1108	4.181	.135	.339	.589
MBEF20	.540	.018	1108	1.171	.033	.505	.575
EDUC	.265	.025	1108	1.900	.095	.215	.316
CMAR	.944	.009	1108	1.330	.010	.926	.962
CCEB	3.642	.089	1107	1.388	.024	3.465	3.819
CSUR	3.071	.072	1106	1.375	.024	2.926	3.215
IDEA	5.758	.104	653	1.423	.018	5.550	5.966
CDEA	.133	.024	1107	.965	.177	.086	.180
PREG	.176	.012	1046	.985	.066	.153	.199
KNOW	.579	.029	1046	1.870	.049	.522	.636
KWMOD	.571	.029	1046	1.910	.051	.512	.629
EVUSE	.164	.015	1046	1.296	.090	.135	.194
CUSE	.074	.008	1046	.978	.107	.058	.089
USPIL	.017	.004	1046	1.049	.245	.009	.026
USTRD	.037	.007	1046	1.161	.183	.024	.051
USMOD	.036	.005	1046	.855	.136	.026	.046
USCON	.004	.002	1046	.962	.480	.000	.007
USABS	.032	.006	1046	1.045	.179	.020	.043
USVAG	.000	.000	1046	.000	.000	.000	.000
GVSRCE	.680	.077	50	1.158	.113	.526	.834
PRSRCE	.320	.077	50	1.158	.241	.166	.474
NOWNT1	.058	.007	1046	.931	.116	.045	.072
DELAY	.513	.021	1046	1.346	.041	.472	.555
BREA	17.643	.602	959	1.106	.034	16.439	18.847
AMENO	13.101	.554	959	1.049	.042	11.992	14.210
ABSTI	20.008	.656	959	1.148	.033	18.696	21.321
ATTE	.038	.006	1593	1.093	.155	.026	.049
TETANU	.743	.021	1593	1.542	.028	.701	.784

Table B.2 Sampling Errors (con't): Women Aged 35-49, ODHS, 1986

	R	SE	N	DEFT	SE/R	R-2SE	R+2SE
RESI	.327	.053	1433	4.249	.161	.222	.433
MBEF20	.530	.018	1433	1.385	.034	.494	.567
EDUC	.075	.011	1433	1.543	.144	.053	.096
CMAR	.939	.007	1433	1.141	.008	.924	.953
CCEB	6.549	.098	1433	1.525	.015	6.354	6.745
CSUR	5.038	.059	1433	1.175	.012	4.919	5.156
IDEA	6.469	.113	720	1.370	.017	6.244	6.695
CDEA	.231	.009	1433	1.501	.038	.213	.248
PREG	.067	.007	1345	1.027	.105	.053	.081
KNOW	.462	.015	1345	1.115	.033	.432	.493
KWMOD	.450	.016	1345	1.145	.035	.419	.481
EVUSE	.103	.012	1345	1.396	.113	.079	.126
CUSE	.055	.008	1345	1.359	.154	.038	.072
USPIL	.013	.003	1345	1.088	.262	.006	.019
USTRD	.012	.003	1345	1.069	.266	.006	.018
USMOD	.043	.007	1345	1.301	.167	.029	.058
USCON	.003	.001	1345	.995	.497	.000	.006
USABS	.010	.003	1345	1.092	.290	.004	.016
USVAG	.001	.000	1345	.000	.000	.001	.001
GVSRCE	.797	.065	59	1.222	.081	.667	.926
PRSRCE	.203	.065	59	1.222	.318	.074	.333
NOWNT1	.444	.017	1345	1.239	.038	.410	.477
DELAY	.190	.014	1345	1.324	.075	.161	.218
BREA	18.935	.786	597	1.083	.041	17.363	20.506
AMENO	15.497	.932	597	1.212	.060	13.633	17.362
ABSTI	28.402	1.114	597	1.195	.039	26.175	30.629
ATTE	.023	.004	1196	.792	.166	.015	.030
TETANU	.680	.026	1196	1.579	.038	.628	.731

APPENDIX C

QUESTIONNAIRES

MINISTRY OF HEALTH, ONDO STATE, NIGERIA

DEMOGRAPHIC AND HEALTH SURVEYS

HOUSEHOLD SCHEDULE

IDENTIFICATION	
PLACE NAME _____	
CLUSTER NUMBER	⌊_⌊_⌊_⌋
HOUSEHOLD NUMBER (in cluster)	⌊_⌊_⌋

INTERVIEWER VISITS				
	1	2	3	FINAL VISIT
DATE	_____	_____	_____	month ⌊_⌊_⌋
				year ⌊_⌊_⌋
INTERVIEWER'S NAME..	_____	_____	_____	⌊_⌊_⌋
RESULT (*)	_____	_____	_____	⌊_⌋
NEXT VISIT: date	_____	_____		Total number of visits ⌊_⌋
time	_____	_____		

(*) RESULT CODES:
1 COMPLETED
2 NO COMPETENT RESPONDENT AT HOME
3 DEFERRED
4 REFUSED
5 DWELLING VACANT
6 NO DWELLING AT ADRESS
7 ADDRESS NOT FOUND/INEXISTENT
8 OTHER: _____ _____

FIELD EDITOR _____ date: ____/____/____

SUPERVISOR _____ date: ____/____/____

I would first like to have some information about the people who usually live in this household, or who are now staying here.

LINE NO	NAME OF USUAL RESIDENTS AND VISITORS (RECORD NAME OF HEAD OF HOUSEHOLD FIRST)	RESIDENCE: Does (NAME) usually live here? YES	RESIDENCE: Does (NAME) usually live here? NO	RESIDENCE: Did (NAME) sleep here last night? YES	RESIDENCE: Did (NAME) sleep here last night? NO	SEX: Is (NAME) male or female? M	SEX: Is (NAME) male or female? F	AGE: How old is he/she? IN YEARS	FOR CHLDREN UNDER AGE 15 ONLY: STATE WHETHER NATURAL PARENTS LIVE IN HOUSEHOLD OR ELSEWHERE. (TO PROBE: ASK NAME OF PARENTS)
01	_____	1	2	1	2	1	2	___	IN HOUSEHOLD [ ] ELSEWHERE [ ]
02	_____	1	2	1	2	1	2	___	IN HOUSEHOLD [ ] ELSEWHERE [ ]
03	_____	1	2	1	2	1	2	___	IN HOUSEHOLD [ ] ELSEWHERE [ ]
04	_____	1	2	1	2	1	2	___	IN HOUSEHOLD [ ] ELSEWHERE [ ]
05	_____	1	2	1	2	1	2	___	IN HOUSEHOLD [ ] ELSEWHERE [ ]
06	_____	1	2	1	2	1	2	___	IN HOUSEHOLD [ ] ELSEWHERE [ ]
07	_____	1	2	1	2	1	2	___	IN HOUSEHOLD [ ] ELSEWHERE [ ]
08	_____	1	2	1	2	1	2	___	IN HOUSEHOLD [ ] ELSEWHERE [ ]
09	_____	1	2	1	2	1	2	___	IN HOUSEHOLD [ ] ELSEWHERE [ ]
10	_____	1	2	1	2	1	2	___	IN HOUSEHOLD [ ] ELSEWHERE [ ]
11	_____	1	2	1	2	1	2	___	IN HOUSEHOLD [ ] ELSEWHERE [ ]
12	_____	1	2	1	2	1	2	___	IN HOUSEHOLD [ ] ELSEWHERE [ ]

CONTINUE NEXT PAGE

CONTINUED FROM PREVIOUS PAGE

LINE NO	NAME OF USUAL RESIDENTS AND VISITORS (RECORD NAME OF HEAD OF HOUSEHOLD FIRST)	RESIDENCE: Does (NAME) usually live here? YES	RESIDENCE: Does (NAME) usually live here? NO	RESIDENCE: Did (NAME) sleep here last night? YES	RESIDENCE: Did (NAME) sleep here last night? NO	SEX: Is (NAME) male or female? M	SEX: Is (NAME) male or female? F	AGE: How old is he/she? IN YEARS	FOR CHLDREN UNDER AGE 15 ONLY: STATE WHETHER NATURAL PARENTS LIVE IN HOUSEHOLD OR ELSEWHERE. (TO PROBE: ASK NAME OF PARENTS)
13	_____	1	2	1	2	1	2	___	IN HOUSEHOLD [ ] ELSEWHERE [ ]
14	_____	1	2	1	2	1	2	___	IN HOUSEHOLD [ ] ELSEWHERE [ ]
15	_____	1	2	1	2	1	2	___	IN HOUSEHOLD [ ] ELSEWHERE [ ]
16	_____	1	2	1	2	1	2	___	IN HOUSEHOLD [ ] ELSEWHERE [ ]
17	_____	1	2	1	2	1	2	___	IN HOUSEHOLD [ ] ELSEWHERE [ ]
18	_____	1	2	1	2	1	2	___	IN HOUSEHOLD [ ] ELSEWHERE [ ]
19	_____	1	2	1	2	1	2	___	IN HOUSEHOLD [ ] ELSEWHERE [ ]
20	_____	1	2	1	2	1	2	___	IN HOUSEHOLD [ ] ELSEWHERE [ ]
21	_____	1	2	1	2	1	2	___	IN HOUSEHOLD [ ] ELSEWHERE [ ]
22	_____	1	2	1	2	1	2	___	IN HOUSEHOLD [ ] ELSEWHERE [ ]
23	_____	1	2	1	2	1	2	___	IN HOUSEHOLD [ ] ELSEWHERE [ ]
24	_____	1	2	1	2	1	2	___	IN HOUSEHOLD [ ] ELSEWHERE [ ]

TICK HERE IF CONTINUATION SHEET USED [ ]

CHECK:

Just to make sure that I have this right:

1) Are there any other persons such as small children or infants that we have not listed? — YES [ ] → CORRECT AND ENTER NAMES; NO [ ]

2) In addition, are there any other people who may not be members of your family, such as domestic servants, lodgers or friends who usually live here that we have not listed? — YES [ ] → CORRECT AND ENTER NAMES; NO [ ]

3) Are there any guests or visitors who are temporary staying with the family and who spent the night here that are not listed? — YES [ ] → CORRECT AND ENTER NAMES; NO [ ]

RECAPITULATION:

CIRCLE LINE NUMBER FOR ALL ELIGIBLE WOMEN AGED 15-49, AND ENTER TOTAL ..... |__|__|

ENTER TOTAL NUMBER OF CHILDREN AGE 5 AND UNDER ..... |__|__|

ENTER TOTAL NUMBER OF CHILDREN UNDER AGE 15 IN HOUSEHOLD WHOSE NATURAL MOTHER AND FATHER BOTH LIVE ELSEWHERE..... |__|__|

REMINDER: WOMEN ELIGIBLE FOR INDIVIDUAL INTERVIEW ARE ALL WOMEN AGED 15-49 YEARS OF AGE WHO SPENT THE PREVIOUS NIGHT IN THE HOUSEHOLD - EVEN IF THEY DO NOT USUALLY LIVE IN THE HOUSEHOLD.

MINISTRY OF HEALTH, GOVERNMENT OF ONDO STATE

DEMOGRAPHIC AND HEALTH SURVEYS

INDIVIDUAL QUESTIONNAIRE

IDENTIFICATION

PLACE NAME _____

CLUSTER NUMBER ..... ⌊_⌋⌊_⌋⌊_⌋

HOUSEHOLD NUMBER (in cluster) ..... ⌊_⌋⌊_⌋

LINE NUMBER OF WOMAN (in household schedule)..... ⌊_⌋⌊_⌋

INTERVIEWER VISITS

	1	2	3	FINAL VISIT
DATE	_____	_____	_____	month ⌊_⌋⌊_⌋
				year ⌊_⌋⌊_⌋
INTERVIEWER'S NAME..	_____	_____	_____	⌊_⌋⌊_⌋
RESULT (*)	_____	_____	_____	⌊_⌋

NEXT VISIT: date _____ _____

time _____ _____

Total number of visits ⌊_⌋

(*) RESULT CODES .... 1 COMPLETED 3 DEFERRED 5 PARTLY COMPLETED
2 NOT AT HOME 4 REFUSED 6 OTHER

NATIVE LANGUAGE OF RESPONDENT: YORUBA [ ] OTHER [ ] SPECIFY: _____

FIELD EDITOR _____ date: ____/____/____

SUPERVISOR _____ date: ____/____/____

SECTION 1: RESPONDENT'S BACKGROUND.

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
101	RECORD NUMBER OF PEOPLE LISTED IN THE HOUSEHOLD SCHEDULE RECORD NUMBER OF CHILDREN AGE 5 AND UNDER LISTED IN THE HOUSEHOLD SCHEDULE AND WHO NORMALLY LIVE IN THE HOUSHOLD.	NUMBER OF PEOPLE.. ⌊_⌋⌊_⌋ NUMBER OF CHILDREN AGE 5 AND UNDER... ⌊_⌋⌊_⌋	
102	RECORD THE TIME	HOUR..... ⌊_⌋⌊_⌋ MINUTES..... ⌊_⌋⌊_⌋	

First I would like to ask some questions about yourself and your household.

103	For most of the time until you were 12 years old, did you live in a village, in a town, or in a city?	VILLAGE.....1 TOWN.....2 CITY.....3	
104	How long have you been living continuously in _____ ? (NAME OF VILLAGE, TOWN, CITY)?	YEARS..... ⌊_⌋⌊_⌋ ALWAYS.....96 VISITOR.....97	→106
105	Just before you moved here, did you live in a village, in a town, or in a city?	VILLAGE.....1 TOWN.....2 CITY.....3	
106	In what month and year were you born?	MONTH..... ⌊_⌋⌊_⌋ DK MONTH.....98 YEAR..... ⌊_⌋⌊_⌋ DK YEAR.....98	
107	How old were you at your last birthday? COMPARE AND CORRECT 106 AND/OR 107 IF INCONSISTENT.	AGE IN COMPLETED YEARS... ⌊_⌋⌊_⌋	
108	Have you ever attended school?	YES.....1 NO.....2	→112

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
109	What was the highest level of school you attended: primary, secondary, or postsecondary?	PRIMARY.....1 SECONDARY.....2 POSTSECONDARY.....3	
110	What was the highest class/form/year you completed at that level?	CLASS/FORM/YEAR..... ⌊__⌋	
111	CHECK 109: PRIMARY [ ] SECONDARY OR POSTSECONDARY [ ]		→ 113
112	Can you read a letter or newspaper easily, with difficulty or not at all? READ OUT CODING CATEGORIES.	EASILY.....1 WITH DIFFICULTY.....2 NOT AT ALL.....3	
113	Do you listen to a radio at least once a week?	YES.....1 NO.....2	
114	What is the major source of drinking water for members of your household?	PIPED INTO RESIDENCE...01 PUBLIC TAP.....02 WELL.....03 RIVER/SPRING or OTHER SURFACE WATER.....04 TANKER TRUCK or OTHER VENDOR.....05 RAINWATER.....06 OTHER _____ 07 (specify)	
115	What is the major source of water for household use OTHER than drinking (eg., handwashing, cooking, ...) for members of your household?	PIPED INTO RESIDENCE...01 PUBLIC TAP.....02 WELL.....03 RIVER/SPRING or OTHER SURFACE WATER.....04 TANKER TRUCK or OTHER VENDOR.....05 RAINWATER.....06 OTHER _____ 07 (specify)	
116	What kind of toilet facility does your household have?	FLUSH.....1 BUCKET.....2 PIT.....3 OTHER _____ 4 (specify) NO FACILITIES.....5 → 118	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
117	At what age do children in this household use the same toilet facility as adults?	AGE IN YEARS..... ⌊__⌋⌊__⌋ NO CHILDREN.....97	
118	Do you have, right now, a cake of soap on the premises?	YES.....1 NO.....2	
119	Does your house have:	YES NO	
	Electricity?	ELECTRICITY..... 1 2	
	A radio?	RADIO..... 1 2	
	A television?	TELEVISION..... 1 2	
	A refrigerator?	REFRIGERATOR..... 1 2	
120	Does any member of your household own:	YES NO	
	A bicycle?	BICYCLE..... 1 2	
	A motorcycle?	MOTORCYCLE..... 1 2	
	A car?	CAR..... 1 2	
	A home or apartment?	HOME/APARTMENT..... 1 2	
	A tractor?	TRACTOR..... 1 2	
121	MAIN MATERIAL OF THE FLOOR.	WOOD PLANKS.....1 CEMENT.....2 EARTH/SAND.....3 TERRAZO.....4 OTHER _____ 5 (specify)	
122	What is your religion?	CATHOLIC.....1 PROTESTANT.....2 MUSLIM.....3 TRADITIONAL.....4 NO RELIGION.....5 OTHER _____ 6 (specify)	
123	Are you a Yoruba woman?	YES.....1 NO.....2	

SECTION 2: REPRODUCTION.

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
201	Now I would like to ask about all the births you have had during your life.		
202	Have you ever given birth?	YES.....1 NO.....2	→ 207
203	Do you have any son or daughter you have given birth to who is now living with you?	YES.....1 NO.....2	→ 205
204	How many sons live with you? And how many daughters live with you? IF NONE ENTER ZEROS <00>.	SONS AT HOME..... ⌊__⌋ DAUGHTERS AT HOME. ⌊__⌋	
205	Do you have any son or daughter you have given birth to and who does not live with you but elsewhere?	YES.....1 NO.....2	→ 207
206	How many sons live elsewhere? How many daughters live elsewhere? IF NONE ENTER ZEROS <00>.	SONS ELSEWHERE.... ⌊__⌋ DAUGHTERS ELSEWHERE..... ⌊__⌋	
207	Have you ever given birth to a boy or a girl who was born alive but later died? PROBE: Any (other) boy or girl who was born alive but only survived a few hours or days?	YES.....1 NO.....2	→ 209
208	How many boys have died? And how many girls have died? IF NONE ENTER ZEROS <00>.	SONS DEAD..... ⌊__⌋ GIRLS DEAD..... ⌊__⌋	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
209	SUM ANSWERS TO 204, 206, 208, AND ENTER TOTAL. IF NONE ENTER ZEROS <00>.	TOTAL..... ⌊__⌋	
210	CHECK 209: Just to make sure that I have this right: you have had in total ____ live births during your life. Is that correct? YES [ ] NO [ ] → PROBE AND CORRECT 204-209 AS NECESSARY		
211	CHECK 209/210: ONE OR MORE LIVE BIRTHS [ ] NO LIVE BIRTHS [ ]		232

[ ] ONE LIVE BIRTH
Now I would like to ask some questions about the birth you have had, whether the child is still alive or not.

[ ] MORE THAN ONE LIVE BIRTH
Now I would like to ask some questions about the births you have had, whether they are still alive or not.
Let us start with the most recent (last) birth.

TABLE 2.1

RECORD INFORMATION STARTING WITH THE MOST RECENT (LAST) BIRTH IN COLUMN 1.
CONTINUE WITH THE NEXT COLUMN UNTIL YOU HAVE RECORDED THE FIRST (OLDEST) BIRTH OR A BIRTH BEFORE 1981 - IN THAT CASE LEAVE THE TABLE AND SKIP TO 230.

RECORD TWINS IN SEPARATE COLUMNS AND MARK WITH BRACKET.
IMPORTANT: AN ESTIMATE OF THE DATE OF BIRTH MUST BE RECORDED - PROBE IF NECESSARY.

	1 LAST BIRTH __________ (name)	2 NEXT-TO-LAST BIRTH __________ (name)	3 SECOND FROM LAST BIRTH __________ (name)	4 THIRD FROM LAST BIRTH __________ (name)
221 Date of birth	MONTH... __|__ YEAR.... __|__	MONTH... __|__ YEAR.... __|__	MONTH... __|__ YEAR.... __|__	MONTH... __|__ YEAR.... __|__
222 Was it a boy or a girl?	BOY.......... 1 GIRL......... 2	BOY.......... 1 GIRL......... 2	BOY.......... 1 GIRL......... 2	BOY.......... 1 GIRL......... 2
223 Is he/she alive?	ALIVE........ 1 DEAD......... 2 SKIP TO 225	ALIVE........ 1 DEAD......... 2 SKIP TO 225	ALIVE........ 1 DEAD......... 2 SKIP TO 225	ALIVE........ 1 DEAD......... 2 SKIP TO 225
224 Is (NAME) living with you?	YES.......... 1 NO........... 2 SKIP TO 226	YES.......... 1 NO........... 2 SKIP TO 226	YES.......... 1 NO........... 2 SKIP TO 226	YES.......... 1 NO........... 2 SKIP TO 226
225 How old was the child when it died?	DAYS....1 __|__ MONTHS..2 __|__ YEARS...3 __|__	DAYS....1 __|__ MONTHS..2 __|__ YEARS...3 __|__	DAYS....1 __|__ MONTHS..2 __|__ YEARS...3 __|__	DAYS....1 __|__ MONTHS..2 __|__ YEARS...3 __|__
	RECORD DAYS IF LESS THAN 1 MONTH, MONTHS IF LESS THAN 2 YEARS, OR YEARS.			
226 CHECK 221: YEAR OF BIRTH	1981 AND LATER [ ] → NEXT COLUMN BEFORE 1981 [ ] → SKIP TO 230	1981 AND LATER [ ] → NEXT COLUMN BEFORE 1981 [ ] → SKIP TO 230	1981 AND LATER [ ] → NEXT COLUMN BEFORE 1981 [ ] → SKIP TO 230	1981 AND LATER [ ] → NEXT COLUMN BEFORE 1981 [ ] → SKIP TO 230

CONTINUE WITH FOURTH FROM LAST BIRTH, IF APPLICABLE.

RECORD TWINS IN SEPARATE COLUMNS AND MARK WITH BRACKET.
IMPORTANT: AN ESTIMATE OF THE DATE OF BIRTH MUST BE RECORDED - PROBE IF NECESSARY.

	[5] FOURTH FROM LAST BIRTH (name)	[6] FIFTH FROM LAST BIRTH (name)	[7] SIXTH FROM LAST BIRTH (name)	[8] SEVENTH FROM LAST BIRTH (name)
221 Date of birth	MONTH... ⌊_⌋⌊_⌋ YEAR.... ⌊_⌋⌊_⌋	MONTH... ⌊_⌋⌊_⌋ YEAR.... ⌊_⌋⌊_⌋	MONTH... ⌊_⌋⌊_⌋ YEAR.... ⌊_⌋⌊_⌋	MONTH... ⌊_⌋⌊_⌋ YEAR.... ⌊_⌋⌊_⌋
222 Was it a boy or a girl?	BOY..... 1 GIRL..... 2	BOY..... 1 GIRL..... 2	BOY..... 1 GIRL..... 2	BOY..... 1 GIRL..... 2
223 Is he/she alive?	ALIVE..... 1 DEAD..... 2 SKIP TO 225	ALIVE..... 1 DEAD..... 2 SKIP TO 225	ALIVE..... 1 DEAD..... 2 SKIP TO 225	ALIVE..... 1 DEAD..... 2 SKIP TO 225
224 Is (NAME) living with you?	YES..... 1 NO..... 2 SKIP TO 226	YES..... 1 NO..... 2 SKIP TO 226	YES..... 1 NO..... 2 SKIP TO 226	YES..... 1 NO..... 2 SKIP TO 226
225 How old was the child when it died?	DAYS....1⌊_⌋⌊_⌋ MONTHS..2⌊_⌋⌊_⌋ YEARS...3⌊_⌋⌊_⌋	DAYS....1⌊_⌋⌊_⌋ MONTHS..2⌊_⌋⌊_⌋ YEARS...3⌊_⌋⌊_⌋	DAYS....1⌊_⌋⌊_⌋ MONTHS..2⌊_⌋⌊_⌋ YEARS...3⌊_⌋⌊_⌋	DAYS....1⌊_⌋⌊_⌋ MONTHS..2⌊_⌋⌊_⌋ YEARS...3⌊_⌋⌊_⌋
	RECORD DAYS IF LESS THAN 1 MONTH, MONTHS IF LESS THAN 2 YEARS, OR YEARS.			
226 CHECK 221: YEAR OF BIRTH	1981 AND LATER [ ] → NEXT COLUMN BEFORE 1981 [ ] → SKIP TO 230	1981 AND LATER [ ] → NEXT COLUMN BEFORE 1981 [ ] → SKIP TO 230	1981 AND LATER [ ] → NEXT COLUMN BEFORE 1981 [ ] → SKIP TO 230	1981 AND LATER [ ] → NEXT COLUMN BEFORE 1981 [ ] → SKIP TO 230

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
230	CHECK: COMPARE NUMBER OF BIRTHS RECORDED IN TABLE 2.1 WITH TOTAL IN 209: ARE NUMBERS THE SAME?	YES [ ] → 232 NO [ ]	
231	In what month and year was your first child born?	MONTH..... ⌊_⌋⌊_⌋ YEAR..... ⌊_⌋⌊_⌋	
232	Did you have your menstrual period in the last four weeks?	YES.....1 NO.....2	→ 234
233	How many days ago did your last menstrual period start?	NUMBER OF DAYS.... ⌊_⌋⌊_⌋	→ 240
234	Are you pregnant now?	YES.....1 NO.....2 NOT SURE.....3	→ 239
235	For how many months have you been pregnant?	MONTHS..... ⌊_⌋⌊_⌋ DK.....98	
236	Since you have been pregnant, have you been given any injection to prevent the baby from getting tetanus, that is, convulsions after birth?	YES.....1 NO.....2 DK.....8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
237	Did you see anyone for a check on this pregnancy?	YES.....1 NO.....2	→ 240
238	Whom did you see? PROBE FOR TYPE OF PERSON AND RECORD MOST QUALIFIED.	DOCTOR.....1 NURSE OR MIDWIFE.....2 TRADITIONAL BIRTH ATTENDANT.....3 RELATIVE.....4 OTHER.....5 NO ONE.....6	→ 240
239	When did you have your last menstrual period?	DAYS AGO.....1 ⌊__⌋ WEEKS AGO.....2 ⌊__⌋ MONTHS AGO.....3 ⌊__⌋ BEFORE LAST PREGNANCY.996 NEVER MENSTRUATED.....997	
240	When during her monthly cycle do you think a woman has the greatest chance of becoming pregnant?	DURING HER PERIOD.....1 RIGHT AFTER HER PERIOD HAS ENDED.....2 IN THE MIDDLE OF THE CYCLE.....3 JUST BEFORE HER PERIOD BEGINS.....4 AT ANY TIME.....5 OTHER _____ 6 (specify)	

SECTION 3: HEALTH AND BREASTFEEDING.

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
301	CHECK TABLE 2.1: ONE OR MORE LIVE BIRTHS SINCE JANUARY 1981 [ ] NO LIVE BIRTHS SINCE JANUARY 1981 [ ] →		SECT 4
302	Now I would like to ask some questions about your most recent (last) birth. CHECK TABLE 2.1 AND ENTER NAME AND SURVIVAL STATUS FOR LAST BIRTH: [1] LAST BIRTH _____ (name) ALIVE [ ] DEAD [ ]		
303	When you were pregnant with (NAME) were you given any injection to prevent the baby from getting tetanus, that is, convulsions after birth?	YES.....1 NO.....2 DK.....8	
304	When you were pregnant, did you see anyone for a check on this pregnancy? IF YES: Whom did you see? PROBE FOR TYPE OF PERSON AND RECORD MOST QUALIFIED.	DOCTOR.....1 NURSE OR MIDWIFE.....2 TRADITIONAL BIRTH ATTENDANT.....3 RELATIVE.....4 OTHER.....5 NO ONE.....6	
305	Who assisted with the delivery of (NAME)?	DOCTOR.....1 NURSE OR MIDWIFE.....2 TRADITIONAL BIRTH ATTENDANT.....3 RELATIVE.....4 OTHER.....5 NO ONE.....6	
306	Did you ever feed (NAME) at the breast?	YES.....1 NO.....2 →	319
307	Are you still breastfeeding (NAME)?	YES.....1 NO.....2 CHILD DIED.....3 →	314

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
308	How many times did you breastfeed last night, between sundown and sunrise?	NUMBER OF TIMES.. ⌊_⌋⌊_⌋ CHILD SLEEPS AT BREAST.....97	
309	How many times did you breastfeed yesterday during the daylight hours?	NUMBER OF TIMES.. ⌊_⌋⌊_⌋ AS OFTEN AS CHILD WANTS.....97	
310	At any time yesterday or last night, was (NAME OF LAST CHILD) given any of the following? READ OUT CODING CATEGORIES.	YES NO PLAIN WATER..... 1 2 JUICE..... 1 2 POWDERED MILK..... 1 2 COWS/GOATS MILK.... 1 2 ANY OTHER LIQUID _____ 1 2 (specify) ANY SOLID OR MUSHY FOOD..... 1 2	
311	CHECK 310: ANY SOLID OR LIQUID FOOD (at least one yes) [ ] NO SOLID OR LIQUID FOOD (not one yes) [ ]		→ 320
312	Were any of these given in a bottle with a nipple?	YES.....1 NO.....2	
313	How old was (NAME) when you started giving him/her solid and/or liquid food?	AGE IN MONTHS..... ⌊_⌋⌊_⌋	→ 320
314	How many months did you breastfeed (NAME)?	MONTHS..... ⌊_⌋⌊_⌋ TILL DEATH.....97	→ 316
315	Why did you stop breastfeeding (NAME)?	TIME TO WEAN.....1 CHILD TOO WEAK/ILL.....2 MOTHER TOO WEAK/ILL.....3 CHILD DIDN'T SUCK.....4 MILK INSUFFICIENT.....5 MOTHER WORKING.....6 PREGNANT.....7 OTHER _____ 8 (specify)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
316	CHECK 302: LAST BIRTH ALIVE [ ] LAST BIRTH DEAD [ ]		318
317	How old was (NAME) when you started giving him/her solid and/or liquid food?	AGE IN MONTHS..... ⌊_⌋⌊_⌋	321
318	Did you ever give the child any solid and/or liquid food? IF YES: How old was the child when you started giving him/her solid and/or liquid food?	AGE IN MONTHS..... ⌊_⌋⌊_⌋ NEVER SOLID AND/OR LIQUID FOOD....97	339
319	Why was (NAME) never breastfed?	CHILD TOO WEAK/ILL.....1 MOTHER TOO WEAK/ILL.....2 CHILD DIDN'T SUCK.....3 MILK INSUFFICIENT.....4 MOTHER WORKING.....5 CHILD DIED.....6 OTHER _____ 7 (specify)	
320	CHECK 302: LAST BIRTH ALIVE [ ] LAST BIRTH DEAD [ ]		339
321	Has (NAME) had diarrhea in the last 2 weeks?	YES.....1 NO.....2 DK.....8	332
322	How many days did the diarrhea last (the last time)?	NB OF DAYS..... ⌊_⌋⌊_⌋ DK.....98	
323	How many stools on the worst day?	NB OF STOOLS..... ⌊_⌋⌊_⌋ DK.....98	
324	CHECK 307: STILL BREASTFEEDING [ ] NO LONGER/NEVER BREASTFEEDING [ ]		327
325	Did you stop breastfeeding (NAME) during the time he/she had diarrhea?	YES.....1 NO.....2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
326	CHECK 310: ANY SOLID OR LIQUID FOOD (at least one yes) [ ] NO SOLID OR LIQUID FOOD (not one yes) [ ]		→ 331
327	When (NAME) had diarrhea (the last time) did you give him/her more solid/mushy food to eat, the same amount, or less than usual?	MORE.....1 SAME AMOUNT.....2 LESS.....3 NO FOOD.....4	
328	When (NAME) had diarrhea (the last time) did you give him/her more liquids to drink, the same amount, or less than usual?	MORE.....1 SAME AMOUNT.....2 LESS.....3 NO LIQUIDS.....4	
329	Did you give (NAME) any special foods or drinks to treat the diarrhea? IF YES: What? _____ _____	[ ]	
330	Apart from what you told me above, did you or anybody else do something to treat the diarrhea?	YES.....1 NO.....2	→ 332
331	What was done? CIRCLE CODE 1 FOR ALL MENTIONED.	ORS (ORAL REHYDRATION PACKET).....1 SSS (HOME SOLUTION OF SUGAR, SALT AND WATER).1 INTRAVENOUS FEED.....1 TABLETS, INJECTIONS, SYRUPS.....1 HERBAL REMEDIES.....1 PURGATIVE.....1 TREATED IN HOSPITAL.....1 OTHER _____1 (specify)	
332	Has (NAME) had fever in the last 4 weeks?	YES.....1 NO.....2 DK.....8	→ 335
333	Did you or anybody do something to treat the fever?	YES.....1 NO.....2 DK.....8	→ 335

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
334	What was done? CIRCLE CODE 1 FOR ALL MENTIONED	ANTIMALARIALS.....1 LIQUID or SYRUP.....1 PILL..... 1 INJECTION.....1 TREATED IN HOSPITAL.....1 OTHER _____1 (specify)	
335	Has (NAME) suffered from severe coughing or and/or difficult breathing in the last 4 weeks?	YES.....1 NO.....2 DK.....8	→ 338
336	Did you or anybody do something to treat the problem?	YES.....1 NO.....2 DK.....8	→ 338
337	What was done?	ANTIBIOTICS.....1 LIQUID or SYRUP.....1 PILL..... 1 INJECTION.....1 TREATED IN HOSPITAL.....1 OTHER _____1 (specify)	
338	CHECK 321: (NAME) HAD DIARRHEA [ ] (NAME) HAD NO DIARRHEA [ ] → 339 CHECK 329 AND 331: MENTIONING OF SSS ? (HOME SOLUTION OF SUGAR, SALT, AND WATER) YES [ ] → 340 NO [ ]		
339	Have you heard of a sugar, salt and water solution (SSS) that people give to children with diarrhea?	YES.....1 NO.....2	→ 342

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
340	Can you describe how to mix the so-called "home solution of sugar, salt and water"? DESCRIBE: _____ _____	⌊_⌊_⌋	
341	From whom did you get this information? CIRCLE CODE 1 FOR ALL MENTIONED.	FAMILY MEMBER.....1 FRIEND.....1 TRADITIONAL HEALER.....1 MEDICINE SELLER.....1 MARKET WOMAN.....1 PHARMACIST.....1 NURSE.....1 CLINIC/HOSPITAL.....1 OTHER _____ 1 (specify)	
342	Have you resumed sexual relations since the birth of (NAME)?	YES (OR PREGNANT).....1 NO.....2	→ 344
343	How many months after the birth of (NAME) did you resume sexual relations?	MONTHS..... ⌊_⌊_⌋	
344	CHECK TABLE 2.1: MORE THAN ONE LIVE BIRTH SINCE JANUARY 1981 [ ] ONLY ONE LIVE BIRTH SINCE JANUARY 1981 [ ]		TABLE → 3.5

Now I would like to talk about the other births you have had since January 1981.

ENTER IN TABLES 3.1 TO 3.4 NAME AND SURVIVAL STATUS FOR ALL CHILDREN BORN SINCE JANUARY 1981 STARTING WITH THE NEXT-TO-LAST BIRTH.
RECORD TWINS IN SEPARATE COLUMNS.
USE (AN) EXTRA SHEET(S) IF MORE THAN 3 BIRTHS.

FOR ALL TABLES: COMPLETE QUESTIONS STARTING WITH THE NEXT-TO-LAST BIRTH.

FOR TABLES 3.3 AND 3.4: ENTER NAME AND SURVIVAL STATUS BUT ASK QUESTIONS ONLY FOR SURVIVING CHILDREN.

TABLE 3.1

(ASK QUESTIONS STARTING WITH NEXT-TO-LAST BIRTH.)

	[2] NEXT-TO-LAST BIRTH (name) ALIVE [ ] DEAD [ ]	[3] SECOND FROM LAST BIRTH (name) ALIVE [ ] DEAD [ ]	[4] THIRD FROM LAST BIRTH (name) ALIVE [ ] DEAD [ ]
351 When you were pregnant with (NAME) were you given any injection to prevent the baby from getting tetanus, that is, convulsions after birth?	YES..... 1 NO..... 2 DK..... 8	YES..... 1 NO..... 2 DK..... 8	YES..... 1 NO..... 2 DK..... 8
352 When you were pregnant, did you see anyone for a check on this pregnancy? IF YES: Whom did you see? PROBE FOR TYPE OF PERSON AND RECORD MOST QUALIFIED.	DOCTOR..... 1 NURSE OR MIDWIFE..... 2 TRADITIONAL BIRTH ATTENDANT... 3 RELATIVE..... 4 OTHER..... 5 NO ONE..... 6	DOCTOR..... 1 NURSE OR MIDWIFE..... 2 TRADITIONAL BIRTH ATTENDANT... 3 RELATIVE..... 4 OTHER..... 5 NO ONE..... 6	DOCTOR..... 1 NURSE OR MIDWIFE..... 2 TRADITIONAL BIRTH ATTENDANT... 3 RELATIVE..... 4 OTHER..... 5 NO ONE..... 6
353 Who assisted with the delivery of (NAME)?	DOCTOR..... 1 NURSE OR MIDWIFE..... 2 TRADITIONAL BIRTH ATTENDANT... 3 RELATIVE..... 4 OTHER..... 5 NO ONE..... 6	DOCTOR..... 1 NURSE OR MIDWIFE..... 2 TRADITIONAL BIRTH ATTENDANT... 3 RELATIVE..... 4 OTHER..... 5 NO ONE..... 6	DOCTOR..... 1 NURSE OR MIDWIFE..... 2 TRADITIONAL BIRTH ATTENDANT... 3 RELATIVE..... 4 OTHER..... 5 NO ONE..... 6

TABLE 3.2

(ASK QUESTIONS STARTING WITH NEXT-TO-LAST BIRTH.)

	[2] NEXT-TO-LAST BIRTH (name) ALIVE [ ] DEAD [ ]	[3] SECOND FROM LAST BIRTH (name) ALIVE [ ] DEAD [ ]	[4] THIRD FROM LAST BIRTH (name) ALIVE [ ] DEAD [ ]
361 Did you ever feed (NAME) at the breast?	YES..... 1 NO..... 2 SKIP TO 364	YES..... 1 NO..... 2 SKIP TO 364	YES..... 1 NO..... 2 SKIP TO 364
362 How many months did you breastfeed (NAME)?	MONTHS.. ⌊_⌋⌊_⌋	MONTHS.. ⌊_⌋⌊_⌋	MONTHS.. ⌊_⌋⌊_⌋
363 Why did you stop breastfeeding? CODES: TIME TO WEAN.....1 CHILD TOO WEAK/ILL..2 MOTHER TOO WEAK/ILL.3 CHILD DIDN'T SUCK...4 MILK INSUFFICIENT...5 MOTHER WORKING.....6 PREGNANT.....7 CHILD DIED.....8 OTHER.....9	⌊_⌋ SPECIFY IF OTHER: ALL: SKIP TO 365	⌊_⌋ SPECIFY IF OTHER: ALL: SKIP TO 365	⌊_⌋ SPECIFY IF OTHER: ALL: SKIP TO 365
364 Why was (NAME) never breastfed? CODES: CHILD TOO WEAK/ILL..1 MOTHER TOO WEAK/ILL.2 CHILD DIDN'T SUCK...3 MILK INSUFFICIENT...4 MOTHER WORKING.....5 CHILD DIED.....6 OTHER.....7	⌊_⌋ SPECIFY IF OTHER: ALL: SKIP TO 366	⌊_⌋ SPECIFY IF OTHER: ALL: SKIP TO 366	⌊_⌋ SPECIFY IF OTHER: ALL: SKIP TO 366
365 How old was (NAME) when you started giving him/her solid and/or liquid food?	MONTHS.. ⌊_⌋⌊_⌋	MONTHS.. ⌊_⌋⌊_⌋	MONTHS.. ⌊_⌋⌊_⌋
366 How many months after the birth of (NAME) did your periods return?	MONTHS.. ⌊_⌋⌊_⌋ NOT RETRND...97	MONTHS.. ⌊_⌋⌊_⌋ NOT RETRND...97	MONTHS.. ⌊_⌋⌊_⌋ NOT RETRND...97
367 How many months after the birth of (NAME) did you resume sexual relations?	MONTHS.. ⌊_⌋⌊_⌋	MONTHS.. ⌊_⌋⌊_⌋	MONTHS.. ⌊_⌋⌊_⌋

TABLE 3.3

(ASK QUESTIONS ONLY FOR SURVIVING CHILDREN STARTING WITH NEXT-TO-LAST BIRTH.)

	2 NEXT-TO-LAST BIRTH	3 SECOND FROM LAST BIRTH	4 THIRD FROM LAST BIRTH
	_______ (name) ALIVE [ ] DEAD [ ] →	_______ (name) ALIVE [ ] DEAD [ ] →	_______ (name) ALIVE [ ] DEAD [ ]
371 Has (NAME) had diarrhea in the last 2 weeks?	YES.......... 1 NO........... 2 DK........... 8 SKIP TO NEXT COL./TABLE 3.4	YES.......... 1 NO........... 2 DK........... 8 SKIP TO NEXT COL./TABLE 3.4	YES.......... 1 NO........... 2 DK........... 8 SKIP TO NEXT COL./TABLE 3.4
372 How many days did the diarrhea last (the last time)?	NB OF DAYS.... ⊔⊔ DK...........98	NB OF DAYS.... ⊔⊔ DK...........98	NB OF DAYS.... ⊔⊔ DK...........98
373 How many stools on the worst day?	NB OF STOOLS.. ⊔⊔ DK...........98	NB OF STOOLS.. ⊔⊔ DK...........98	NB OF STOOLS.. ⊔⊔ DK...........98
374 When (NAME) had diarrhea (the last time) did you give him/her more solid/mushy food to eat, the same amount, or less than usual?	MORE......... 1 SAME......... 2 LESS......... 3 NO FOOD...... 4	MORE......... 1 SAME......... 2 LESS......... 3 NO FOOD...... 4	MORE......... 1 SAME......... 2 LESS......... 3 NO FOOD...... 4
375 When (NAME) had diarrhea (the last time) did you give him/her more liquids to drink, the same amount, or less than usual?	MORE......... 1 SAME......... 2 LESS......... 3 NO DRINKS.... 4	MORE......... 1 SAME......... 2 LESS......... 3 NO DRINKS.... 4	MORE......... 1 SAME......... 2 LESS......... 3 NO DRINKS.... 4
376 Did you or anybody else give any special foods or drinks to treat the diarrhea?	YES.......... 1 NO........... 2 DK........... 8 SKIP TO NEXT COL./TABLE 3.4	YES.......... 1 NO........... 2 DK........... 8 SKIP TO NEXT COL./TABLE 3.4	YES.......... 1 NO........... 2 DK........... 8 SKIP TO NEXT COL./TABLE 3.4
377 What was done? CIRCLE CODE 1 FOR ALL MENTIONED	ORS........... 1 SSS........... 1 TABLETS, INJECT, SYRUPS....... 1 HERBAL REM.... 1 PURGATIVE..... 1 TREATED IN HOSPITAL.. 1 OTHER......... 1 _______ (specify)	ORS........... 1 SSS........... 1 TABLETS, INJECT, SYRUPS....... 1 HERBAL REM.... 1 PURGATIVE..... 1 TREATED IN HOSPITAL.. 1 OTHER......... 1 _______ (specify)	ORS........... 1 SSS........... 1 TABLETS, INJECT, SYRUPS....... 1 HERBAL REM.... 1 PURGATIVE..... 1 TREATED IN HOSPITAL.. 1 OTHER......... 1 _______ (specify)

TABLE 3.4

(ASK QUESTIONS ONLY FOR SURVIVING CHILDREN STARTING WITH NEXT-TO-LAST BIRTH.)

	[2] NEXT-TO-LAST BIRTH (name) ALIVE [ ] DEAD [ ] →	[3] SECOND FROM LAST BIRTH (name) ALIVE [ ] DEAD [ ] →	[4] THIRD FROM LAST BIRTH (name) ALIVE [ ] DEAD [ ]
381 Has (NAME) had fever in the last 4 weeks?	YES..... 1 NO..... 2 DK..... 8 SKIP TO 384	YES..... 1 NO..... 2 DK..... 8 SKIP TO 384	YES..... 1 NO..... 2 DK..... 8 SKIP TO 384
382 Did you or anybody do something to treat the fever?	YES..... 1 NO..... 2 DK..... 8 SKIP TO 384	YES..... 1 NO..... 2 DK..... 8 SKIP TO 384	YES..... 1 NO..... 2 DK..... 8 SKIP TO 384
383 What was done? CIRCLE CODE 1 FOR ALL MENTIONED	ANTIMALARIAL. 1 LIQUID/SYRUP. 1 PILL..... 1 INJECTION.... 1 TREATED IN HOSPITAL.... 1 OTHER..... 1	ANTIMALARIAL. 1 LIQUID/SYRUP. 1 PILL..... 1 INJECTION.... 1 TREATED IN HOSPITAL.... 1 OTHER..... 1	ANTIMALARIAL. 1 LIQUID/SYRUP. 1 PILL..... 1 INJECTION.... 1 TREATED IN HOSPITAL.... 1 OTHER..... 1
384 Has (NAME) suffered from severe coughing and/or difficult breathing in the last 4 weeks?	YES..... 1 NO..... 2 DK..... 8 SKIP TO NEXT COL./TABLE 3.5	YES..... 1 NO..... 2 DK..... 8 SKIP TO NEXT COL./TABLE 3.5	YES..... 1 NO..... 2 DK..... 8 SKIP TO NEXT COL./TABLE 3.5
385 Did you or anybody do something to treat the problem?	YES..... 1 NO..... 2 DK..... 8 SKIP TO NEXT COL./TABLE 3.5	YES..... 1 NO..... 2 DK..... 8 SKIP TO NEXT COL./TABLE 3.5	YES..... 1 NO..... 2 DK..... 8 SKIP TO NEXT COL./TABLE 3.5
386 What was done? CIRCLE CODE 1 FOR ALL MENTIONED	ANTIBIOTICS.. 1 LIQUID/SYRUP. 1 PILL..... 1 INJECTION.... 1 TREATED IN HOSPITAL.... 1 OTHER..... 1	ANTIBIOTICS.. 1 LIQUID/SYRUP. 1 PILL..... 1 INJECTION.... 1 TREATED IN HOSPITAL.... 1 OTHER..... 1	ANTIBIOTICS.. 1 LIQUID/SYRUP. 1 PILL..... 1 INJECTION.... 1 TREATED IN HOSPITAL.... 1 OTHER..... 1

TABLE 3.5

CF. TABLE 2.1:
ENTER NAME AND SURVIVAL STATUS FOR ALL CHILDREN BORN SINCE JANUARY 1981.
RECORD TWINS IN SEPARATE COLUMNS.
USE (AN) EXTRA SHEET(S) IF MORE THAN 4 BIRTHS SINCE JANUARY 1981.

ASK QUESTIONS STARTING WITH THE MOST RECENT (LAST) BIRTH.
ASK QUESTIONS ONLY FOR SURVIVING CHILDREN.

	[1] LAST BIRTH	[2] NEXT-TO-LAST BIRTH	[3] SECOND FROM LAST BIRTH	[4] THIRD FROM LAST BIRTH
	(name)	(name)	(name)	(name)
	ALIVE [ ] DEAD [ ] →	ALIVE [ ] DEAD [ ] →	ALIVE [ ] DEAD [ ] →	ALIVE [ ] DEAD [ ]
391 Do you have a Immunization Record Card for (NAME)? IF YES: May I see it please?	YES, SEEN.... 1 YES, BUT NOT SEEN.... 2 NO CARD..... 3 SKIP TO 393 ←	YES, SEEN.... 1 YES, BUT NOT SEEN.... 2 NO CARD..... 3 SKIP TO 393 ←	YES, SEEN.... 1 YES, BUT NOT SEEN.... 2 NO CARD..... 3 SKIP TO 393 ←	YES, SEEN.... 1 YES, BUT NOT SEEN.... 2 NO CARD..... 3 SKIP TO 393 ←

392 RECORD DATES OF IMMUNIZATIONS FROM CARD (CIRCLE CODE 1 IF NO DATE):

	day month year	day month year	day month year	day month year
BCG	1	1	1	1
POLIO1	1	1	1	1
DPT1	1	1	1	1
POLIO2	1	1	1	1
DPT2	1	1	1	1
POLIO3	1	1	1	1
DPT3	1	1	1	1
MEASLES	1	1	1	1
	SKIP TO SECTION 4	SKIP TO SECTION 4	SKIP TO SECTION 4	SKIP TO SECTION 4

393 Has (NAME) ever had a vaccination to prevent him/her from getting diseases?

YES..... 1 NO..... 2 DK..... 8	YES..... 1 NO..... 2 DK..... 8	YES..... 1 NO..... 2 DK..... 8	YES..... 1 NO..... 2 DK..... 8

SECTION 4: CONTRACEPTION.

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
401	PRESENCE OF OTHERS AT THIS POINT.	YES NO CHILDREN UNDER 10.. 1 2 HUSBAND..... 1 2 OTHER MALES..... 1 2 OTHER FEMALES..... 1 2	

402 Now I would like to talk about a different topic. There are various ways or methods that a couple can use to delay or avoid a pregnancy. Which of these ways or methods have you heard about?

TURN TO TABLE 4.1 NEXT PAGE:

a) CIRCLE CODE 1 IN 403 FOR EACH METHOD MENTIONED SPONTANEOUSLY.
b) FOR EACH METHOD NOT MENTIONED SPONTANEOUSLY READ THE NAME AND DESCRIPTION, THEN ASK 403 AND CIRCLE CODE 2 IF METHOD IS RECOGNIZED. CIRCLE CODE 3 IF METHOD IS NOT RECOGNIZED.
c) THEN ASK 404-406 FOR EACH METHOD THAT WAS CODED EITHER 1 OR 2 IN 403.

TABLE 4:1

	403 Have you ever heard of this method?	404 Have you ever used (METHOD)?	405 Where would you go to obtain (METHOD) (if you wanted to use it?) (CODES BELOW)	406 What is the main problem, if any, with using it? (CODES BELOW)
PILL "Women can take a pill every day."	YES/SPON...1 YES/PRBD...2 NO.....3	YES..1 NO...2 →	→	→
IUD "Women can have a loop or coil placed inside them by a doctor or a nurse."	YES/SPON...1 YES/PRBD...2 NO.....3	YES..1 NO...2 →	→	→
INJECTIONS "Women can have an injection by a doctor or a nurse which stops them from becoming pregnant for several months."	YES/SPON...1 YES/PRBD...2 NO.....3	YES..1 NO...2 →	→	→
DIAPHRAGM, FOAM, JELLY "Women can place a sponge or suposi-tory or diaphragm or jelly or cream inside them before intercourse."	YES/SPON...1 YES/PRBD...2 NO.....3	YES..1 NO...2 →	→	→
CONDOM "Men can use a rubber sheath during sexual intercourse."	YES/SPON...1 YES/PRBD...2 NO.....3	YES..1 NO...2 →	→	→
FEMALE STERILIZATION "Women can have an operation to avoid having any more children."	YES/SPON...1 YES/PRBD...2 NO.....3	YES..1 NO...2 →	→	→
MALE STERILIZATION "Men can have an operation to avoid having any more children."	YES/SPON...1 YES/PRBD...2 NO.....3	YES..1 NO...2 →	→	→
PERIODIC ABSTINENCE "Couples can avoid having sexual intercourse on particular days of the month when the woman is more likely to become pregnant."	YES/SPON...1 YES/PRBD...2 NO.....3	YES..1 NO...2 →	Where would you go to obtain advice? →	→
WITHDRAWAL "Men can be careful and pull out before climax."	YES/SPON...1 YES/PRBD...2 NO.....3	YES..1 NO...2 →	→	→
ANY OTHER METHODS? "Have you heard of any other ways or methods including traditional ones that women or men can use to avoid pregnancy?" _____ _____ (specify)	YES/SPON...1 YES/PRBD...2 NO.....3 CHECK: SKIP TO 408 IF NOT ONE SINGLE "YES" IN 403.	YES..1 NO...2	DOCTOR.....01 GVMT HOSP..02 GVMT HCTR..03 MOB CLINIC.04 PRIV HOSP..05 PHARM/SHOP.06 FIELD WORK.07 NOWHERE....08 OTHER.....09 DK.....98	NONE.....01 ACCESS/AVL.02 COSTS.....03 HLTH CONC..04 NOT EFFIC..05 PARTNER DIS- APPROVES...06 INCONVEN...07 OTHER.....08 DK.....98

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
407	CHECK 404 (TABLE 4.1): NOT A SINGLE "YES" [ ] → 408 AT LEAST ONE "YES" [ ] → 410		
408	Have you ever used anything or tried in any way to delay or avoid getting pregnant?	YES.....1 NO.....2	→ 417
409	What have you used or done? _____ (specify) CORRECT 403-404 AND OBTAIN INFORMATION FOR 405 AND 406 AS NECESSARY.	⌊_⌋⌊_⌋	
410	CHECK 404: EVER USED PERIODIC ABSTINENCE [ ] → 411 NEVER USED PERIODIC ABSTINENCE [ ] → 412		
411	The last time you used periodic abstinence, how did you determine on which days you had to abstain?	BASED ON CALENDAR.....1 BASED ON BODY TEMPERATURE.....2 BASED ON CERVICAL MUCUS (BILLINGS) METHOD.....3 BASED ON BODY TEMPERATURE AND MUCUS.....4 OTHER _____ 5 (specify)	
412	How many living children did you already have when you decided for the first time to do something or to use a method to avoid getting pregnant? IF NONE ENTER ZEROS <00>.	NUMBER OF CHILDREN..... ⌊_⌋⌊_⌋	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
413	CHECK 404: RESPONDENT AND/OR CURRENT PARTNER NO STERILIZATION [ ] STERILIZED [ ] → 416A CHECK 234: NOT PREGNANT/ NOT SURE [ ] PREGNANT [ ] → 417		
414	Are you currently doing something or using any method to avoid getting pregnant?	YES.....1 NO.....2 → 417	
415	Which method are you using?	PILL.....01 IUD.....02 INJECTIONS.....03 VAGINAL METHODS.....04 CONDOM.....05 PERIODIC ABSTINENCE....08 WITHDRAWAL.....09 OTHER _____ (specify) 10 → 420	
416	Where did you obtain (advice for) (METHOD) the last time? OR 416A (RESPONDENT AND/OR CURRENT PARTNER IS STERILIZED) Where did the sterilization take place?	DOCTOR'S OFFICE.....01 GOVERNMENT HOSPITAL....02 GOVERNMENT HEALTH CENTER.....03 MOBILE CLINIC.....04 PRIVATE HOSPITAL OR CLINIC.....05 PHARMACY/SHOP.....06 FIELD WORKER.....07 OTHER _____ (specify) 08 DK.....98 → 420	
417	Do you intend to use a method to avoid pregnancy at any time in the future?	YES.....1 NO.....2 DK.....8 → 420	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
418	Which method would you prefer to use?	PILL.....01 IUD.....02 INJECTIONS.....03 VAGINAL METHODS.....04 CONDOM.....05 FEMALE STERILIZATION...06 MALE STERILIZATION.....07 PERIODIC ABSTINENCE....08 WITHDRAWAL.....09 OTHER _____ 10 (specify) NOT SURE.....12	
419	Do you intend to use (PREFERRED METHOD) in the next 12 months?	YES.....1 NO.....2 DK.....8	
420	Some women do not want to become pregnant but do not use any method to avoid pregnancy. What do you think are the main reasons for this? (CIRCLE ALL MENTIONED) PROBE: Any others? _____ _____ _____ (specify)	LACK OF KNOWLEDGE OR LACK OF SOURCE.....1 OPPOSED TO FAM.PLANNING.1 PARTNER DISAPPROVES.....1 OTHER PEOPLE DISAPPROVE.1 INFREQUENT SEX.....1 POSTPARTUM/BREASTF'DING.1 MENOPAUSE/SUBFECUND.....1 HEALTH CONCERNS.....1 ACCESS/AVAILABILITY.....1 COSTS TOO MUCH.....1 FATALISTIC.....1 RELIGION.....1 INCONVENIENT TO USE.....1 DK.....1	
421	Do you think that it is acceptable for family planning information to be provided on radio or television?	ACCEPTABLE.....1 NOT ACCEPTABLE.....2 DK.....8	

SECTION 5: MARRIAGE.

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
501	Have you ever been married or have you ever lived with a man?	YES.....1 NO.....2	→519
502	Are you now married, or living with a man, or are you widowed, divorced, or separated?	MARRIED.....1 LIVING TOGETHER.....2 WIDOWED.....3 DIVORCED.....4 SEPARATED.....5	→507
503	Does your husband/partner live with you or is he now staying elsewhere?	LIVING WITH HER.....1 STAYING ELSEWHERE.....2	
504	Does your husband/partner have any other wives besides yourself?	YES.....1 NO.....2	→507
505	How many other wives does he have?	NUMBER..... ⌊_⌋⌊_⌋ DK.....98	→507
506	Are you the first, second,...wife?	RANK..... ⌊_⌋⌊_⌋	
507	Have you been married or lived with a man only once or more than once?	ONCE.....1 MORE THAN ONCE.....2	
508	In what month and year did you start living with your (first) husband or partner?	MONTH..... ⌊_⌋⌊_⌋ DK MONTH.....98 YEAR..... ⌊_⌋⌊_⌋ DK YEAR.....98	→510
509	How old were you when you started living with him?	AGE..... ⌊_⌋⌊_⌋	
510	After you married (started living together) did you and your (first) husband/partner live in the village/town of your parents?	YES.....1 NO.....2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
511	After you married (started living together) did you and your (first) husband/partner live in the village/town of his parents?	YES.....1 NO.....2	→ 513
512	Did you move to that village/town at the time you were married (started living together), or did you live there already?	MOVED TO VILLAGE/TOWN.....1 LIVED THERE ALREADY.....2	
513	Was your mother alive at the time you started living together with your (first) husband/partner?	YES.....1 NO.....2	
514	Was your father alive at the time you started living together with your (first) husband/partner?	YES.....1 NO.....2	
515	Was the mother of your (first) husband/partner alive at the time you started living together?	YES.....1 NO.....2 DK.....8	
516	Was the father of your (first) husband/partner alive at the time you started living together?	YES.....1 NO.....2 DK.....8	
517	CHECK 513/514/515/516: CIRCLE CODE 2 FOR THOSE PARENTS NOT ALIVE AT THE TIME RESPONDENT STARTED LIVING WITH (WAS MARRIED TO) (FIRST) HUSBAND/PARTNER. THEN ASK FOR THOSE PARENTS NOT YET CODED: Is your mother/father still alive? AND/OR: Is your (first) husband/partner's mother/father still alive?	YES NO DK WOMAN'S MOTHER.... 1 2 WOMAN'S FATHER.... 1 2 HUSBAND/PARTNER'S MOTHER..... 1 2 8 HUSBAND/PARTNER'S FATHER..... 1 2 8	
518	In how many localities have you lived for six months or more since you were first married (started living together), including this place?	NUMBER OF LOCALITIES..... ⌊__⌋	→520
519	Have you ever had sexual intercourse?	YES.....1 NO.....2	SECT 6 →

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
520	Now we need some details about your sexual activity in order to get a better understanding of contraception and fertility.		
521	Have you had sexual intercourse in the last four weeks?	YES.....1 NO.....2 →	523
522	How many times?	NB OF TIMES..... ⌊⌊⌋⌋	
523	When was the last time you had sexual intercourse?	DAYS AGO..... 1⌊⌊⌋⌋ or WEEKS AGO..... 2⌊⌊⌋⌋ or MONTHS AGO..... 3⌊⌊⌋⌋ BEFORE LAST BIRTH.....997 →	SECT 6
524	CHECK 234: NOT PREGNANT/ NOT SURE [ ] → CHECK 404 AND 414/415: PREGNANT [ ] →		SECT 6
	CHECK 404 AND 414/415: NOT USING ANY CONTRACEPTION [ ] → CURRENTLY USING ANY CONTRACEPTION [ ] →		SECT 6
525	Would you mind if you became pregnant in the next few weeks?	YES.....1 NO.....2 →	SECT 6
526	Why is it that you are not using a method to avoid pregnancy?	LACK OF KNOWLEDGE OR LACK OF SOURCE.....01 OPPOSED TO FP.....02 PARTNER DISAPPROVES....03 OTHER PEOPLE DISAPPR...04 INFREQUENT SEX.....05 POSTPARTUM/BF.....06 MENOPUASE/SUBFECUND....07 HEALTH CONCERNS.....08 ACCESS/AVAILABILITY....09 COSTS TOO MUCH.....10 FATALISTIC.....11 RELIGION.....12 INCONVENIENT TO USE....13 OTHER _____ 14 (specify) DK.....98	

SECTION 6: FERTILITY PREFERENCES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
601	PRESENCE OF OTHERS AT THIS POINT	YES NO CHILDREN UNDER 10.. 1 2 HUSBAND..... 1 2 OTHER MALES..... 1 2 OTHER FEMALES..... 1 2	
602	CHECK 502: CURRENTLY MARRIED OR LIVING TOGETHER [ ] ALL OTHERS [ ]		610

I now have some questions about the future.

603	CHECK 234: [ ] NOT PREGNANT/NOT SURE Would you like to have a (another) child or would you prefer not to have any (any more) children? [ ] PREGNANT After the child you are expecting, would you like to have another child or would you prefer not to have any more children?	HAVE A/ANOTHER CHILD.....1 NO (MORE) CHILDREN.....2 UNDECIDED OR DK.....8	606
604	How long would you like to wait before you have (another) child?	MONTHS.....1 [ ][ ] or YEARS.....2 [ ][ ] DON'T KNOW.....998	606
605	How old would your youngest child be?	YEARS..... [ ][ ] NO CHILDREN.....97 DK.....98	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
606	For how long should a couple wait before having sexual intercourse after the birth of a baby?	MONTHS.....1 ⌊__⌋ or YEARS.....2 ⌊__⌋ OTHER _____ 996 (specify)	
607	Should a mother wait until she has completely stopped breastfeeding before starting to have sexual relations again or doesn't matter?	SHOULD WAIT.....1 DOESN'T MATTER.....2	
608	Do you think that your husband/partner approves or disapproves of couples using a method to avoid pregnancy?	APPROVES.....1 DISAPPROVES.....2 DK.....8	
609	How often have you talked to your husband/partner about this subject in the past year?	NEVER.....1 ONCE OR TWICE.....2 MORE OFTEN.....3	
610	In general, do you approve or disapprove of couples using a method to avoid pregnancy?	APPROVE.....1 DISAPPROVE.....2	
611	CHECK 204/206: [ ] HAS NO LIVING CHILDREN: If you could choose exactly the number of children to have in your whole life, how many would that be? [ ] HAS LIVING CHILDREN: 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? RECORD SINGLE NUMBER, RANGE or OTHER ANSWER.	NUMBER..... ⌊__⌋ RANGE: Between ____ and ____ OTHER ANSWER: _____ (specify)	

SECTION 7: HUSBAND'S BACKGROUND AND WOMAN'S WORK.

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
701	CHECK 501: EVER MARRIED OR LIVED WITH A MAN [ ] ALL OTHERS [ ]		→ 716
702	Now I have some questions about your most recent husband/partner and about your work.		
703	Did your husband/partner ever attend school?	YES.....1 NO.....2	→ 707
704	What was the highest level of school he attended: primary, secondary, or postsecondary?	PRIMARY.....1 SECONDARY.....2 POSTSECONDARY.....3 DK.....8	→ 707
705	What was the highest grade/form/year he completed at that level?	CLASS/FORM/YEAR..... ⌊_⌋ DK.....8	
706	CHECK 704: PRIMARY [ ] POSTSECONDARY [ ]		→ 708
707	Can (could) he read a letter or newspaper easily, with difficulty, or not at all?	EASILY.....1 WITH DIFFICULTY.....2 NOT AT ALL.....3	
708	What kind of work does (did) your husband/partner mainly do? DESCRIBE: _____ _____	⌊_⌋	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
709	CHECK 708: DOES/DID NOT WORK IN AGRICULTURE [ ] DOES/DID WORK IN AGRICULTURE [ ]		→ 711
710	Does (did) he earn a regular wage or salary?	YES.....1 NO.....2 DK.....8	→ 713
711	Does (did) your husband/partner work mainly on his or family land, or on someone else's land?	HIS/FAMILY LAND.....1 SOMEONE ELSE'S LAND.....2	→ 713
712	Does (did) he work mainly for money or does (did) he work mainly for a share of the crops?	FOR MONEY.....1 A SHARE OF THE CROPS....2	
713	Before you married your (first) husband, did you yourself ever work regularly to earn money, other than on a farm or in a business run by your family?	YES.....1 NO.....2	→ 715
714	When you were earning money then, did you turn most of it over to your family or did you keep most of it to yourself?	FAMILY.....1 SELF.....2 EQUAL SHARE.....3	
715	Since you were first married, have you ever worked regularly to earn money, other than on a farm or in a business run by your family?	YES.....1 NO.....2	→ 718 → 719
716	Have you ever worked regularly to earn money, other than on a farm or in a business run by your family?	YES.....1 NO.....2	→ 719
717	During the time when you have earned money, have you turned most of it over to your family or have you kept most of it to yourself?	FAMILY.....1 SELF.....2 EQUAL SHARE.....3	
718	Are you now working to earn money, other than on a farm or in a business run by your family?	YES.....1 NO.....2	
719	RECORD THE TIME	HOUR..... ⌊_⌋⌊_⌋ MINUTES..... ⌊_⌋⌊_⌋	

SECTION 8: HEIGHT AND WEIGHT.

CHECK TABLE 2.1:
ENTER NAME AND SURVIVAL STATUS OF ALL CHILDREN BORN IN 1983 OR LATER.

USE (AN) EXTRA SHEET(S) IF MORE THAN 4 BIRTHS SINCE JANUARY 1983.

THEN RECORD HEIGHT AND WEIGHT FOR ALL SURVIVING CHILDREN 6 MONTHS AND OLDER.
STATE REASON IF UNABLE TO RECORD.

	1 LAST BIRTH	2 NEXT-TO-LAST BIRTH	3 SECOND FROM LAST BIRTH	4 THIRD FROM LAST BIRTH
	---------- (name)	---------- (name)	---------- (name)	---------- (name)
	ALIVE [ ] DEAD [ ]	ALIVE [ ] DEAD [ ]	ALIVE [ ] DEAD [ ]	ALIVE [ ] DEAD [ ]
DATE OF BIRTH	MONTH... ⌊_⌋⌊_⌋ YEAR.... ⌊_⌋⌊_⌋	MONTH... ⌊_⌋⌊_⌋ YEAR.... ⌊_⌋⌊_⌋	MONTH... ⌊_⌋⌊_⌋ YEAR.... ⌊_⌋⌊_⌋	MONTH... ⌊_⌋⌊_⌋ YEAR.... ⌊_⌋⌊_⌋
CHECK AGE: 6-36 MONTHS?	YES [ ] NO [ ] →	YES [ ] NO [ ] →	YES [ ] NO [ ] →	YES [ ] NO [ ]
WEIGHT (in kgs)	⌊_⌋⌊_⌋.⌊_⌋	⌊_⌋⌊_⌋.⌊_⌋	⌊_⌋⌊_⌋.⌊_⌋	⌊_⌋⌊_⌋.⌊_⌋
HEIGHT (in cms)	⌊_⌋⌊_⌋⌊_⌋.⌊_⌋	⌊_⌋⌊_⌋⌊_⌋.⌊_⌋	⌊_⌋⌊_⌋⌊_⌋.⌊_⌋	⌊_⌋⌊_⌋⌊_⌋.⌊_⌋
STATE REASON IF UNABLE TO RECORD	---------- ----------	---------- ----------	---------- ----------	---------- ----------

NAME MEASURER: _____ NAME ASSISTANT: _____

INTERVIEWER'S OBSERVATIONS.
(To be filled in after completing interview.)

Person Interviewed: _____

_____

Specific Questions: _____

_____

_____

Other Aspects: _____

_____

Name of Interviewer: _____ Date: _____

SUPERVISOR'S OBSERVATIONS.

_____

_____

_____

_____

Name of Supervisor: _____ Date: _____

EDITOR'S/PUNCHER'S OBSERVATIONS.

_____

_____

_____

_____

Name of Field Editor: _____ Date: _____

Name of Puncher: _____ Date: _____