Namibia

Demographic and Health Survey 1992

Ministry of Health and Social Services

Demographic and Health Surveys
Macro International Inc.

REPUBLIC OF NAMIBIA

Namibia Demographic and Health Survey 1992

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This report summarises the findings of the 1992 Namibia Demographic and Health Survey (NDHS) conducted by the Ministry of Health and Social Services, in collaboration with the Central Statistical Office. Macro International Inc. provided technical assistance. Funding was provided by the World Bank through a grant from the Government of Japan.

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ACRONYMS

ARI	Acute respiratory infections
BCG	Bacille Bilié de Calmette et Guérin (vaccine)
BMI	Body mass index
CBR	Crude birth rate
CDC	Centers for Disease Control
CDD	Control of Diarrhoeal Diseases
DHS	Demographic and Health Surveys
DPT	Diphtheria - poliomyelitis - tetanus (vaccine)
EPI	Expanded Programme on Immunisation
GDP	Gross domestic product
IEC	Information, education and communication
ISSA	Integrated System for Survey Analysis
IUD	Intra-uterine device
MCH/FP	Maternal and child health/family planning
MOHSS	Ministry of Health and Social Services
NDHS	Namibia Demographic and Health Survey
NACP	National AIDS Control Programme
NCHS	National Center for Health Statistics
NIP	Nutrition Improvement Programme
ORS	Oral rehydration salts
ORT	Oral rehydration therapy
PHC	Primary health care
SD	Standard deviation
TBA	Traditional birth attendant
TFR	Total fertility rate
UNICEF	United Nations Children's Fund
UN	United Nations
WHO	World Health Organisation

PREFACE

The Namibia Demographic and Health Survey (NDHS) was a nationwide sample survey of women of reproductive age designed to provide information on fertility, family planning, child mortality, and maternal and child health. The survey was conducted by the Ministry of Health and Social Services (MOHSS) in collaboration with the Central Statistical Office (CSO) as part of the worldwide Demographic and Health Surveys programme which is being administered by Macro International Inc., Columbia, Maryland, USA. Funding for the NDHS was provided by the World Bank through a grant from the Government of Japan.

The NDHS is the first national survey in Namibia, since independence was achieved in March 1990. The survey provides essential data for the planning, implementation, and monitoring and evaluation of health and family planning programmes in Namibia. Until recently, such data had been fragmented and lacking for many regions of the country and not available at the national level.

The NDHS results are a very valuable source of data for Namibia's efforts to achieve health for all and to redress inequities in health status and health care existing within the country. Programme efforts need to be targeted towards more disadvantaged populations and further studies of special high-risk groups may be required.

The substantial achievement of completing the NDHS and publishing this volume is due to the tireless efforts and contributions of many individuals and organisations.

Within the Ministry of Health and Social Services the Epidemiology Unit constituted the heart of the survey. Under the survey directorship of Dr. Nestor Shivute (Director Primary Health Care Services) all staff members of the Epidemiology Unit worked very hard for more than a year to complete the survey. Without the contributions of Puumue Katjiuanjo, Stephen Titus, Maazuu Zauana, and Elisabeth Matroos the survey would still have been in its planning stages. Regarding the financial management of the survey we owe a special thanks to Mr. Abraham George, Senior Accountant in the MOHSS.

At the Central Statistical Office we thank Philemon Kanime, Joseph Minnaar and Rebecca Appiah for their continuing support during the survey, and particularly regarding the sample selection.

In the regions we wish to acknowledge the regional medical directors and their teams for the moral, technical and logistical support during the survey.

Technical assistance during the survey was provided by Macro International Inc. We thank the support of Ties Boerma, Jeanne Cushing, Thanh Le, and Kate Stewart in their various fields of expertise. Their assistance contributed to the further development of the technical skills of our staff and enhanced our capability to conduct surveys in Namibia. Thanks are also due to the reviewers of the NDHS report. These include George Bicego, Ann Blanc, Anne Cross, Melissa McNiff, Kaye Mitchell, Sidney Moore, and Jerry Sullivan.

We also wish to record our gratitude to Joy Debeyer of the World Bank who has been instrumental in ensuring funding for the survey and has been supportive throughout the exercise.

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SUMMARY OF FINDINGS

The 1992 Namibia Demographic and Health Survey (NDHS) is a nationally representative survey conducted by the Ministry of Health and Social Services, assisted by the Central Statistical Office, with the aim of gathering reliable information on fertility, family planning, infant and child mortality, maternal mortality, maternal and child health and nutrition. Interviewers collected information on the reproductive histories of 5,421 women 15-49 years and on the health of 3,562 children under the age of five years.

According to the NDHS, fertility is high in Namibia; at current fertility levels, Namibian women will have an average of 5.4 children by the end of their reproductive years. This is lower than most countries in sub-Saharan Africa, but similar to results from DHS surveys in Botswana (4.9 children per woman) and Zimbabwe (5.4 children per woman). Fertility in the South and Central regions is considerably lower (4.1 children per woman) than in the Northeast (6.0) and Northwest regions (6.7).

About one in four women uses a contraceptive method: 29 percent of married women currently use a method (26 percent use a modern method), and 23 percent of all women are current users. The pill, injection and female sterilisation are the most popular methods among married couples: each is used by about 7 to 8 percent of currently married women. Knowledge of contraception is high, with almost 90 percent of all women age 15-49 knowing of any modern method.

Certain groups of women are much more likely to use contraception than others. For example, urban women are almost four times more likely to be using a modern contraceptive method (47 percent) than rural women (13 percent). Women in the South and Central regions, those with more education, and those living closer to family planning services are also more likely to be using contraception.

Levels of fertility and contraceptive use are not likely to change until there is a drop in desired family size and until the idea of reproductive choice is more widely accepted. At present, the average ideal family size (5.0 children) is only slightly lower than the total fertility rate (5.4 children). Thus, the vast majority of births are wanted.

On average, Namibian women have their first child when they are about 21 years of age. The median age at first marriage is, however, 25 years. This indicates that many women give birth before marriage. In fact, married women are a minority in Namibia: 51 percent of women 15-49 were not married, 27 percent were currently married, 15 percent were currently living with a man (informal union), and 7 percent were widowed, divorced or separated. Therefore, a large proportion of children in Namibia are born out of wedlock.

The NDHS also provides information about maternal and child health. The data indicate that 1 in 12 children dies before the fifth birthday. However, infant and child mortality have been declining over the past decade. Infant mortality has fallen from 67 deaths per 1,000 live births for the period 1983-87 to 57 per 1,000 live births for the period 1988-92, a decline of about 15 percent. Mortality is higher in the Northeast region than elsewhere in Namibia.

The leading causes of death are diarrhoea, undernutrition, acute respiratory infection (pneumonia) and malaria: each of these conditions was associated with about one-fifth of under-five deaths. Among neonatal deaths low birth weight and birth problems were the leading causes of death. Neonatal tetanus and measles were not found to be major causes of death.

Maternal mortality was estimated from reports on the survival status of sisters of the respondent. Maternal mortality was 225 per 100,000 live births for the decade prior to the survey. NDHS data also show considerable excess male mortality at ages 15-49, which may in part be related to the war of independence during the 1980s.

Utilisation of maternal and child health services is high. Almost 90 percent of mothers received antenatal care, and two-thirds of children were born in health facilities. Traditional birth attendants assisted only 6 percent of births in the five years preceding the survey. Child vaccination coverage has increased rapidly since independence. Ninety-five percent of children age 12-23 months have received at least one vaccination, while 76 percent have received a measles vaccination, and 70 percent three doses of DPT and polio vaccines.

Children with symptoms of possible acute respiratory infection (cough and rapid breathing) may have pneumonia and need to be seen by a health worker. Among children with such symptoms in the two weeks preceding the survey two-thirds were taken to a health facility. Only children of mothers who lived more than 30 km from a health facility were less likely to be taken to a facility.

About one in five children had diarrhoea in the two weeks prior to the survey. Diarrhoea prevalence was very high in the Northeast region, where almost half of children reportedly had diarrhoea. The dysentery epidemic contributed to this high figure: diarrhoea with blood was reported for 17 percent of children under five in the Northeast region. Among children with diarrhoea in the last two weeks 68 percent were taken to a health facility, and 64 percent received a solution prepared from ORS packets. NDHS data indicate that more emphasis needs to put on increasing fluids during diarrhoea, since only 11 percent mothers of children with diarrhoea said they increased the amount of fluids given during the episode.

Nearly all babies are breastfed (95 percent), but only 52 percent are put on the breast immediately. Exclusive breastfeeding is practiced for a short period, but not for the recommended 4-6 months. Most babies are given water, formula, or other supplements within the first four months of life, which both jeopardises their nutritional status and increases the risk of infection. On average, children are breastfed for about 17 months, but large differences exist by region. In the South region children are breastfed for less than a year, in the Northwest region for about one and a half years and in the Northeast region for almost two years.

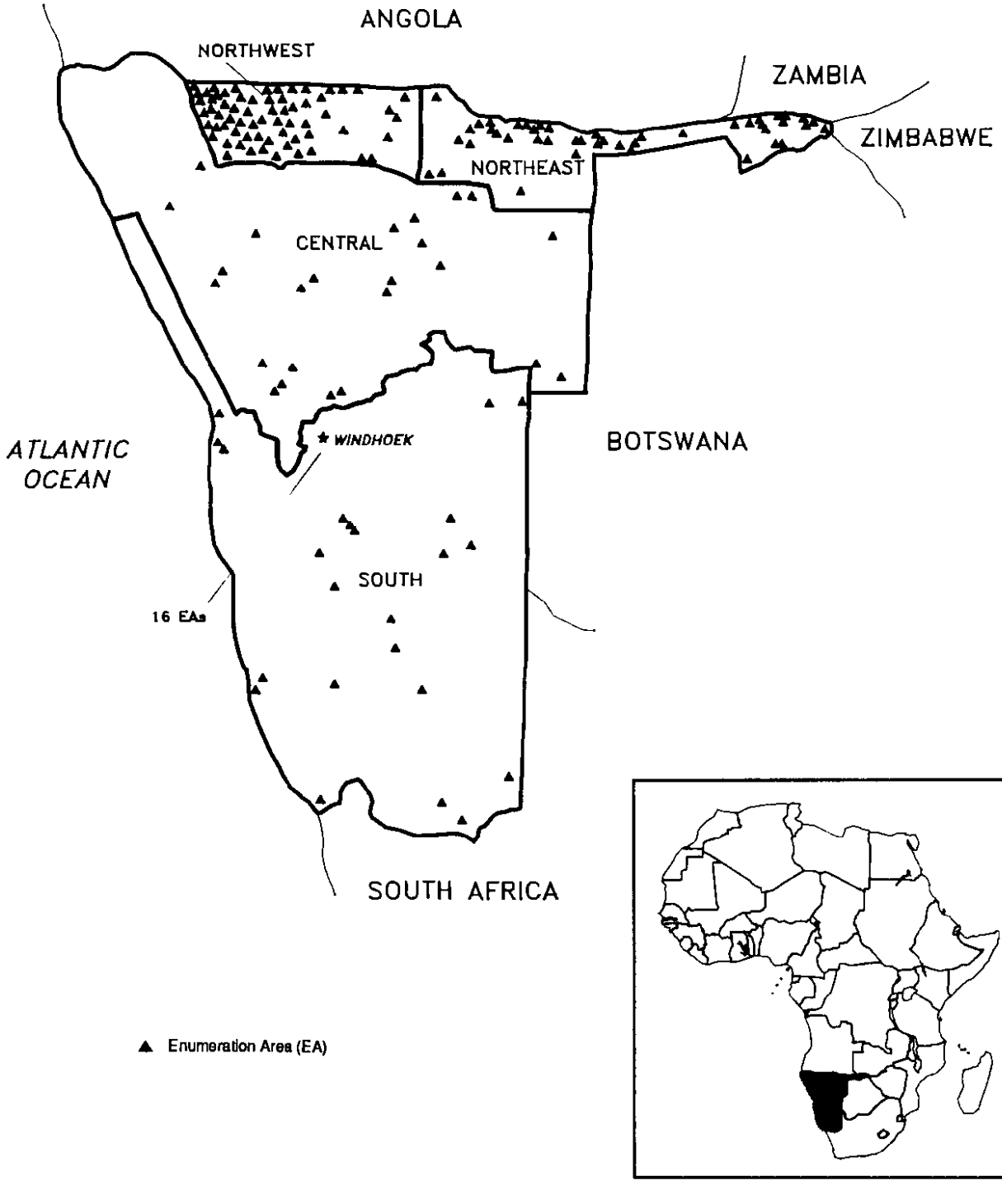
Most babies are weighed at birth, but the actual birth weight could be recalled for only 44 percent of births. Using these data and data on reported size of the newborn, for all births in the last five years, it was estimated that the mean birth weight in Namibia is 3048 grams, and that 16 percent of babies were low birth weight (less than 2500 grams).

Stunting, an indication of chronic undernutrition, was observed for 28 percent of children under five. Stunting was more common in the Northeast region (42 percent) than elsewhere in Namibia. Almost 9 percent of children were wasted, which is an indication of acute undernutrition. Wasting is higher than expected for Namibia and may have been caused by the drought conditions during 1992.

Maternal height is an indicator of nutritional status over generations. Women in Namibia have an average height of 160 cm and there is little variation by region. The Body Mass Index (BMI), defined as weight divided by squared height, is a measure of current nutritional status and was lower among women in the Northwest and the Northeast regions than among women in the South and Central regions.

On average, women had a health facility available within 40 minutes travel time. Women in the Northwest region, however, had to travel more than one hour to reach the nearest health facility. At a distance of less than 10 km, 56 percent of women had access to antenatal services, 48 percent to maternity services, 72 percent to immunisation services, and 49 percent to family planning services. Within one hour of travel time, fifty-two percent of women had antenatal services, 48 percent delivery services, 64 percent immunisation services and 49 percent family planning services. Distance and travel time were greatest in the Northwest region.

NAMIBIA


ANGOLA
NORTHWEST
ZAMBIA
ZIMBABWE
NORTHEAST
CENTRAL
ATLANTIC OCEAN
WINDHOEK
BOTSWANA
SOUTH
16 EAs
SOUTH AFRICA
Enumeration Area (EA)

CHAPTER 1

INTRODUCTION

1.1 Geography, History, and Economy

Geography

Namibia has a surface area of 824,295 km^2 and ranks as Africa's fifteenth largest country. It is located in the southwestern part of the continent and shares borders with Angola and Zambia on the north, Zimbabwe at the eastern end of the Caprivi Strip, Botswana to the east, and South Africa in the south and southeast.

Geographically, Namibia is divided into three major regions, the Namib Desert, the Central Plateau and the Kalahari Desert. The Namib Desert is in the western part of the country, stretching approximately 1,400 km along the Atlantic coast. Its width varies between 97 and 160 km. Despite the barrenness of the Namib, it is endowed with rich mineral deposits. The Central Plateau, which forms part of the Central African Plateau, lies between the two deserts. The plateau, comprising over 50 percent of the total land area of Namibia, stretches from the northern to the southern border. It is the most fertile area in the country and most suitable for human settlement. To some extent this area is suitable for cattle-raising and crop cultivation. The mountain ranges of the plateau are endowed with rich mineral deposits. The Kalahari is a semi-desert covering the southeastern part of the country; it consists mainly of terrestrial sands and limestones. Unlike the Namib Desert, vegetation grows in the Kalahari. The northern parts of the Kalahari are most suited to cultivation, while the southern part is suitable for sheep-raising and the eastern part is suitable for cattle, goats and to lesser extent, sheep.

Rainfall is the main factor influencing the climate of Namibia. The average annual rainfall for the country is only 270 mm and 92 percent of the land is categorised as extremely arid (22 percent), arid (33 percent) or semi-arid (37 percent), while the remainder is sub-humid.

History

On 21 March 1990, following the successful implementation of United Nations General Assembly Resolution 435, Namibia became the last colony in Africa to attain its independence after more than 100 years of colonialism.

Designated South West Africa, it was a German colony from 1884 until World War I. The territory was invaded and occupied by the Union of South Africa during the war, and then became the responsibility of the League of Nations. In 1920, the mandate of Namibia was handed over to South Africa under category "C" status, in which South Africa was expected to promote to the utmost the material and moral well-being and social progress of the inhabitants of the territory. To the contrary, the government of South Africa pursued a policy of exploitation and annexation of the territory. Following the refusal by the United Nations Assembly in 1946 to allow South Africa to incorporate the territory into its union, the South African government declared it would administer the territory without United Nations jurisdiction and shortly afterwards began to introduce its apartheid system. In 1971 the International Court of Justice declared South Africa's occupation of Namibia illegal.

Following the recommendations of the apartheid-oriented Odendaal Commission in 1964, Namibia was divided into a number of ethnic "homelands," which made up forty percent of the land in Namibia. Forty-four percent was reserved for whites, and the remaining 16 percent consisted of game reserves, diamond mining areas, etc.

In the early 20th century, Namibians fought bloody wars against the German occupation (e.g., Nama and Herero wars). In 1960, the South West Africa People's Organisation (SWAPO), under the leadership of Sam Nujoma, was established and led the liberation struggle against the South African oppressors. Guerilla warfare took place from 1966 until independence, principally in northern Namibia. Thousands of Namibians fled to camps in Angola, Botswana, and Zambia. In the seventies and eighties, the warfare increased, resulting in an estimated 10,000 civilian deaths.

After independence in March 1990, Namibia set about redesigning the national infrastructure, administrative bodies, and basic services. The Government of the Republic of Namibia operates under a multi-party system. There is an executive branch comprised of the President and Cabinet, and a legislative branch made up of the National Assembly.

The country is divided into 13 regions and the election of Regional Councils took place in 1992. The Ministry of Health and Social Services administers four health regions, which were used in the Namibia Demographic and Health Survey. The Northwest health region includes Oshana, Omusati, Ohanguena, and Oshikoto regions; the Northeast health region includes Okavango and Caprivi; the Central health region comprises Kunene, Otjozondjupa, Erongo and Omaheke; and the South region includes Khomas, Hardap and Karas regions.

Economy

Namibia is one of the wealthier, more resource-rich countries on the continent. It is the fifth largest mineral producer in Africa and its fishing grounds are among the richest in the world. However, the national economy inherited by the Namibian government is fragile, dependent, and has an over-extended public sector. In its own interest, Namibia has decided to stay in the South African Customs Union and it still operates in the Rand Monetary Area and Bank of Namibia System. Namibia's economy is heavily dependent on a few primary commodity exports—diamonds, uranium, copper, other base metals, lead and mercury and livestock, followed by the Karakul (Persian lamb) pelt industry. The balance is made up by fish, manufactured products, and the tourist industry. Mining accounts for about two-thirds of all export earnings. Namibia depends on South Africa for about 75 percent of all imports.

The majority of the population are dependent for their livelihood on livestock, i.e. cattle, sheep, goats and pigs. Per capita income varies greatly. The gross domestic product (GDP) was estimated at US$100 per year in rural areas, US$305 in the semi-urban areas, and US$580 in Katutura (a former black residential area in Windhoek, the capital city), while the annual GDP for whites was estimated at US$14,650 (UNICEF, 1990).

1.2 Population

The last comprehensive population census, which was conducted in October 1991, reported a total population of 1,401,711 with an annual growth rate of 3 percent (Central Statistical Office, 1992). Despite the small size of its population, Namibia has a rich diversity of ethnic groups including Ovambo, Herero, Nama, Damara, Kavango, Caprivians, San, Twana, and Whites, Coloureds and Basters.

The population of Namibia is concentrated in the northern part of the country (60 percent); the south is least populated (7 percent); and the remainder are in the central part of the country. As a consequence of the apartheid policy, which reserved nearly 60 percent of the land for whites (who constituted less than 10 percent of the total population), ethnic distinctions were reinforced and different subgroups were encouraged to live in separate regions and, in urban areas, in separate localities. The majority of the black population is now concentrated in restricted rural areas, previously called "homelands."

Overall, about one-third of the population lives in urban areas (in 57 "towns"), while 67 percent live in rural areas, including communal areas and commercial farms. At less than two persons per square kilometre, population density for the country as a whole is low. However, there are substantial regional differences in population density. For instance, Oshakati and Ondangwa districts in Northwest region exceed 11 persons per square kilometre.

1.3 Population and Family Planning Policies and Programmes

Although population growth has been considerable during the last decade, the Government of the Republic of Namibia has yet to formulate an explicit population policy. However, population issues have received some attention, and different sectors of the government have come to realise the intersectoral impact of population issues, and of the importance of integrating population issues into a holistic planning perspective. Several surveys and needs assessment missions have indicated the need for information and understanding on the relationship between population and development, and a need for organised and coordinated population/health information, education and communication activities.

Although family planning services in Namibia are underdeveloped and far from meeting the needs of the population, 191 (79 percent) of the 242 health facilities are providing family planning services. However, there are substantial differences in the availability and accessibility of family planning services. In the Northwest region, where nearly 50 percent of the population resides, only 43 percent of the health facilities are providing such services.

One of the major components of primary health care (PHC) in the Ministry's Development Programme is the Maternal and Child Health/Family Planning (MCH/FP) programme. Its tasks, as stipulated in the draft policy, include:

- The promotion and improvement of MCH/FP services at all levels where such services are provided;
- To increase knowledge and access to family planning services, especially for distant communities;
- Identification of high-risk groups among pregnant women, mothers, and children, and to provide appropriate intervention; and
- To decrease morbidity and mortality associated with pregnancy.

1.4 Health Priorities and Programmes

Namibia inherited a health structure that was segregated along racial lines and based entirely on curative health services. The administrative structure for delivery of health services was based on the Representative Authorities proclamation of 1980 (Proclamation AG8 of 1980), which created a two-tier system, resulting in an unequal allocation of resources and services. The ethnic-based second-tier was poorly funded and administrators could not raise the necessary income to provide basic health care services. As a result, there were large inequalities in the delivery of health care services in the country.

Shortly after independence, major changes occurred in all sectors, many of which have been restructured to meet the challenges facing the new nation in the post-apartheid era. The Government of Namibia declared its commitment to the equitable distribution of resources and to equity of access to basic services for those who are socially or economically disadvantaged (i.e., the impoverished and underprivileged).

The Ministry of Health and Social Services has adopted a "Primary Health Care" (PHC) strategy for achieving health for all Namibians. Its objective is to attain this goal for women and children in the 1990s. The PHC approach is used to guide the restructuring of the health sector in an independent Namibia. The Ministry of Health and Social Services has, in particular, made progress in streamlining and restructuring what was a curative-based health system to be a more community oriented system. The Minister of Health and Social Services has described this policy in the document "Towards Achieving Health for All Namibians" (Ministry of Health and Social Services, 1992). The National PHC/Community-based Health Care Guidelines were announced on February 22, 1992 by the President of the Republic. This gave the Ministry of Health and Social Services a mandate to design, develop and implement programmes which focus on promotion of health at the community level. The PHC guidelines also provide a solid base for decentralised planning and intersectoral collaboration with joint identification and prioritisation of needs at the community level by all sectors. Health regions were now able to plan and prioritise programmes according to their immediate needs. The Ministry of Health and Social Services also emphasised other PHC components:

- Immunisation against the major infectious diseases, i.e., poliomyelitis, diphtheria, tuberculosis, measles, tetanus and whooping cough;
- Maternal and child health care, which encompasses family planning;
- The promotion of proper nutrition, a safe water supply, and basic sanitation to secure an environment conducive to the well-being of all Namibians; and
- Education and training regarding prevailing health problems in communities, as well as prevention and control measures.

During restructuring of the Ministry of Health and Social Services many national health programmes came into being, namely, Mother and Child Health and Family Planning Programme (MCH/FP), Expanded Programme on Immunisation (EPI), Control of Diarrhoeal Diseases (CDD), Acute Respiratory Infections (ARI), Information, Education and Communication (IEC), National AIDS Control Programme (NACP), National Nutrition Improvement Programme (NIP), School/Adolescent Health Programme, National Malaria Control Programme, Tuberculosis Control Programme, Rehabilitation Programme, National Vector-borne Diseases Control Programme, National Tuberculosis Control Programme, and Health Training Programme.

1.5 Objectives and Organisation of the Survey

Objectives

The Namibia Demographic and Health Survey (NDHS) is a national sample survey of women of reproductive age designed to collect data on mortality and fertility, socioeconomic characteristics, marriage patterns, breastfeeding, use of contraception, immunisation of children, accessibility to health and family planning services, treatment of children during episodes of illness, and the nutritional status of women and children.

More specifically, the objectives of NDHS are:

- To collect data at the national level which will allow the calculation of demographic rates, particularly fertility rates and child mortality rates, and maternal mortality rates;

- To analyse the direct and indirect factors which determine levels and trends in fertility and childhood mortality. Indicators of fertility and mortality are important in planning for social and economic development;

- To measure the level of contraceptive knowledge and practice by method, region, and urban/rural residence;

- To collect reliable data on family health: immunisations, prevalence and treatment of diarrhoea and other diseases among children under five, antenatal visits, assistance at delivery and breastfeeding;

- To measure the nutritional status of children under five and of their mothers using anthropometric measurements (principally height and weight).

Organisation

The Namibia Demographic and Health Survey was conducted by the Ministry of Health and Social Services, with the assistance of the Central Statistical Office of the National Planning Commission. The survey was funded by the World Bank through a grant from the Government of Japan and the Namibian Government. Technical support was provided by Macro International Inc., located in Columbia, Maryland, USA.

Questionnaires

Two questionnaires were used in the main fieldwork for the NDHS: the household questionnaire and the individual questionnaire. The two questionnaires were adapted from the DHS model B questionnaire, which was designed for use in countries with low contraceptive prevalence. The questionnaires were developed in English, and then translated into five of the major Namibian languages: Oshiwambo, Herero, Lozi, Kwangali, and Afrikaans. English versions of the questionnaires are reproduced in Appendix E.

All usual members and visitors in the selected households were listed on the household questionnaire. For each person listed, information was collected on age, sex, education, and relationship to the head of household. The household questionnaire was used to identify women eligible for the individual questionnaire.

The individual questionnaire was administered to women age 15-49 who spent the night preceding the household interview in the selected household. Information in the following areas was obtained during the individual interview:

1. Background characteristics of the respondent
2. Health services utilisation and availability
3. Reproductive behaviour and intentions
4. Knowledge and use of contraception
5. Breastfeeding, health, and vaccination status of children
6. Marriage
7. Fertility preferences
8. Husband's background and woman's work
9. Height and weight of children under five and their mothers
10. Causes of death in childhood
11. Maternal mortality

Sample

The sample for the NDHS was designed to be nationally representative. The design involved a two-stage stratified sample which is self-weighting within each of the three health regions for which estimates of fertility and mortality were required—Northwest, Northeast, and the combined Central/South region. In order to have a sufficient number of cases for analysis, oversampling was necessary for the Northeast region, which has only 14.8 percent of the population. Therefore, the sample was not allocated proportionally across regions and is not completely self-weighting.

In the first stage of sampling, a total of 175 sampling points were selected from the 1991 census frame with probability proportional to size. The sample points corresponded to enumeration areas, and the measure of size used in the selection process was the number of households in the census enumeration areas. Lists of household heads for the selected enumeration areas were then obtained from the census office and the sample households were selected from these lists. A more detailed description of the sample design is presented in Appendix B.

Fieldwork

The NDHS field staff consisted of seven teams, each composed of four female interviewers, one female editor, and one male or female supervisor. The interviewers and editors were newly recruited for the survey, while supervisors were from the Ministry of Health and Social Services. Fieldwork was conducted from July to November 1992. The persons involved in the survey are listed in Appendix A. A more complete description of the fieldwork is presented in Appendix B.

Table 1.1 Result of the household and individual interviews

Number of households, number of interviews, and response rates, Namibia 1992

Result	Urban	Rural	Total
Households sampled	1642	3364	5006
Households found	1501	3011	4512
Households interviewed	1350	2751	4101
Household response rate	89.9	91.4	90.9
Eligible women	2057	3790	5847
Eligible women interviewed	1891	3530	5421
Eligible women response rate	91.9	93.1	92.7

Table 1.1 is a summary of results from the household and the individual interviews. A total of 5,006 households were selected; of these, 4,101 were successfully interviewed. The shortfall is largely due to households being absent. This includes nine clusters not interviewed in Northeast region. One team in this region had experienced multiple problems and lagged considerably behind the other teams. In the interviewed households 5,847 eligible women were identified and 5,421 were successfully interviewed, for a response rate of 93 percent. More detailed information on the reasons for nonresponse are given in Appendix Table B.2.

CHAPTER 2

CHARACTERISTICS OF HOUSEHOLDS AND RESPONDENTS

Information on the background characteristics of the households interviewed in the survey and the individual survey respondents is essential for the interpretation of survey findings and provides a rough measure of the representativeness of the survey. This chapter presents this information in three sections: characteristics of the household population, housing characteristics, and background characteristics of survey respondents.

2.1 Characteristics of the Household Population

The NDHS collected information on all usual residents and visitors who spent the previous night in the household. A household was defined as a person or group of persons living together and sharing a common source of food.

Age

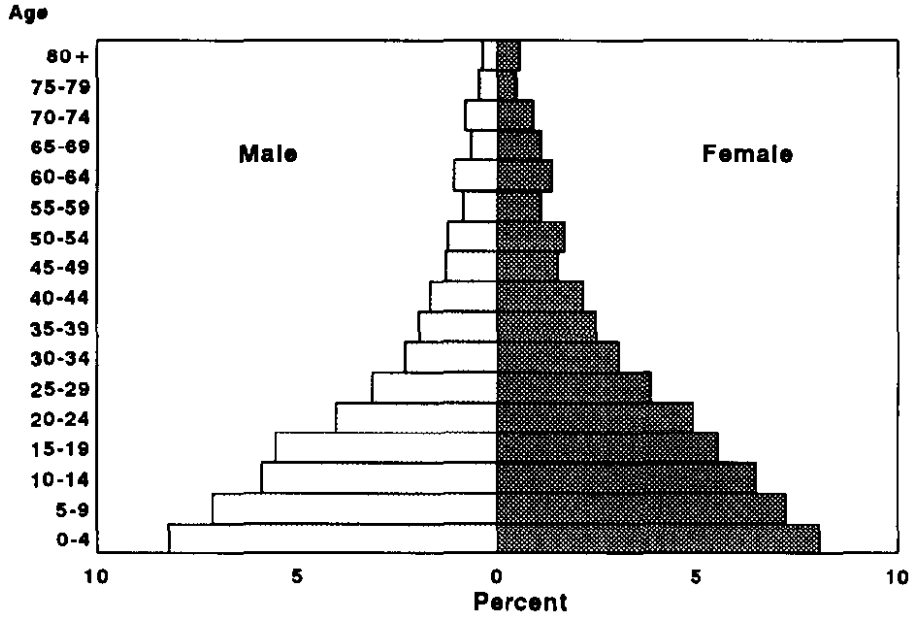
The age distribution of the household population in the NDHS is shown in Table 2.1 and Figure 2.1 by five-year age groups. The distribution conforms to the pattern characteristic of high fertility populations,

Table 2.1 Household population by age, residence and sex

Percent distribution of the de facto household population by five-year age groups, according to urban-rural residence and sex, Namibia 1992

	Urban			Rural			Total		
Age group	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-4	14.1	12.6	13.4	18.7	16.5	17.6	17.3	15.3	16.3
5-9	10.6	11.1	10.9	17.0	14.9	15.9	15.0	13.7	14.3
10-14	9.6	10.4	10.1	13.6	13.1	13.4	12.4	12.3	12.3
15-19	9.8	10.6	10.2	12.5	10.5	11.4	11.7	10.5	11.1
20-24	9.6	12.1	10.9	8.0	8.0	8.0	8.5	9.3	8.9
25-29	9.8	10.4	10.1	5.1	6.0	5.6	6.6	7.3	7.0
30-34	7.9	8.2	8.0	3.6	4.7	4.2	4.9	5.8	5.4
35-39	7.0	6.7	6.8	2.8	3.8	3.3	4.1	4.7	4.4
40-44	5.2	4.6	4.9	2.7	3.9	3.3	3.5	4.1	3.8
45-49	3.8	3.6	3.7	2.2	2.6	2.4	2.7	2.9	2.8
50-54	3.3	2.5	2.9	2.3	3.5	2.9	2.6	3.2	2.9
55-59	1.8	2.0	1.9	1.7	2.1	1.9	1.8	2.1	1.9
60-64	2.0	1.8	1.9	2.4	3.0	2.7	2.3	2.6	2.5
65-69	0.8	1.2	1.0	1.7	2.5	2.1	1.4	2.1	1.8
70-74	0.7	0.9	0.8	2.2	2.0	2.1	1.7	1.7	1.7
75-79	0.3	0.5	0.4	1.3	1.1	1.2	1.0	0.9	0.9
80 +	0.3	0.3	0.3	1.0	1.4	1.2	0.8	1.1	0.9
Missing/Don't know	3.3	0.5	1.8	1.1	0.5	0.8	1.8	0.5	1.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	3564	3906	7484	7915	8823	16749	11478	12729	24233

Figure 2.1
Population Pyramid of Namibia



i.e., a much higher proportion of the population in younger than in older age groups. There is some evidence of heaping in the female age group 50-54 years; more women are reported at 50-54 years than at 45-49 years. This heaping does not occur among males in the same age group, which suggests that some interviewers may have pushed women out of the age range eligible for the individual interview. The magnitude of the displacement, however, is small. Moreover, an assessment of this phenomenon by Rutstein and Bicego (1990), indicates that the effects of misreporting at the upper and lower boundaries (age 15 and 49) are minimal.

Household Composition

While the majority of households in Namibia are headed by males (69 percent), almost a third are headed by women (see Table 2.2). The average household size in Namibia is 6 persons. Most households have three or more related adults (42 percent), or two adults of the opposite sex (23 percent). One in eight households has only one adult.

There are two characteristics worth noting when comparing urban and rural households. First, female-headed households are just as common in urban areas as in rural areas; and second, large households are more common in rural areas than in urban areas. As a result, average household size is larger in rural (6.6) than in urban (4.9) areas.

Table 2.2 Household composition

Percent distribution of households by sex of head of household, household size, household structure, and presence of foster children, according to urban-rural residence and region, Namibia 1992

Characteristic	Residence		Region				Total
	Urban	Rural	Northwest	Northeast	Central	South	
Household headship							
Male	68.8	69.3	62.5	78.9	72.0	72.2	69.1
Female	31.2	30.6	37.4	21.1	28.0	27.8	30.8
Number of usual members							
1	11.1	7.2	3.5	2.8	19.5	11.1	8.6
2	17.0	8.8	6.8	3.0	21.2	16.0	11.8
3	10.9	10.3	7.5	6.7	14.5	13.5	10.5
4	15.0	10.5	10.4	9.7	12.5	14.9	12.1
5	12.5	10.1	10.9	10.4	10.2	11.6	10.9
6	9.3	10.4	10.7	10.5	8.5	9.7	10.0
7	7.1	8.8	9.9	9.1	4.5	7.8	8.2
8	4.3	8.5	10.9	7.0	3.7	3.9	7.0
9+	12.8	25.4	29.3	40.7	5.5	11.5	20.9
Mean size	4.9	6.6	7.1	8.8	3.8	4.8	6.0
Household structure							
One adult	14.8	12.6	9.8	6.1	25.7	13.8	13.4
Two related adults:							
Of opposite sex	25.8	21.8	16.8	16.5	29.3	30.3	23.2
Of same sex	5.7	5.4	6.2	4.7	6.3	4.5	5.5
Three or more related adults	35.1	45.1	50.6	57.2	23.5	34.2	41.5
Other	18.7	15.1	16.5	15.5	15.2	17.3	16.4
Foster children[1]	20.3	46.4	53.7	44.8	22.7	21.3	37.0

Note: Table is based on de jure members, i.e., usual residents.
[1]Foster children are those under age 15 living in households with neither their mother nor their father present.

The composition of households differs by region. Female-headed households are more common in the Northwest region and least common in the Northeast. Households are largest, on average, in the Northeast (8.8 persons per household) and Northwest (7.1 persons per household) regions, and much smaller in the Central (3.8 per household), and South (4.8 persons per household) regions. Households with one adult are most common in the Central region (26 percent).

Thirty-seven percent of households include one or more children under age 15 who have neither their natural mother nor natural father living with them. It is more common in rural areas (46 percent) than in the urban areas (20 percent). The highest proportion of households with fostered children is found in the Northwest (54 percent) region, followed by the Northeast (45 percent), and Central/South (23 percent) regions.

Education

The current education system in Namibia entails seven years of primary education (Sub A, Sub B and Standard 1 to 5), followed by four years of secondary education. The education system was changed in the early eighties, when the number of years of primary education was reduced from 8 to 7, i.e., Standard 6 was abolished. To classify the levels of education for the NDHS analysis, primary education was divided into incomplete and completed primary education. Primary education was considered incomplete if the person did not go beyond 6 years of primary education. A person was considered to have completed primary education, if he or she had at least 7 years of primary education, but did not go on to secondary education.

In the NDHS, information on educational attainment was collected for every member of the household (see Tables 2.3.1 and 2.3.2). One-fifth of the population (aged 5 and over) has received no formal education; 20 percent of males and 21 percent of females have never been to school; 51 percent of males and 49 percent of females have attended but not completed primary school, whereas 5 percent of males and 6 percent of females completed primary. Nineteen percent of males and 21 percent of females have attended secondary school but did not go on to higher education. Only 1 percent of males and 1 percent of females have obtained higher education. Among men 30-39 years about 5 percent have received higher education, as opposed to 3 percent of women.

Table 2.3.1 Educational level of the female household population

Percent distribution of the de facto female household population age five and over by highest level of education attended, according to selected background characteristics, Namibia 1992

Background characteristic	None	Some primary	Completed primary	Secondary	Higher	Not stated	Total	Number	Median
Age									
5-9	19.7	76.1	0.1	0.1	0.0	4.1	100.0	1328	0.9
10-14	4.9	90.1	2.3	1.9	0.0	0.9	100.0	1424	2.9
15-19	6.6	62.4	9.2	21.3	0.0	0.3	100.0	1338	5.5
20-24	11.5	37.9	7.8	40.2	0.7	1.8	100.0	975	7.0
25-29	15.8	29.9	7.0	40.4	4.1	2.9	100.0	755	7.4
30-34	21.2	26.3	9.0	34.5	4.1	4.9	100.0	563	7.0
35-39	21.1	26.7	7.6	32.4	6.3	6.0	100.0	474	6.9
40-44	28.4	31.5	5.7	28.4	3.5	2.5	100.0	396	4.9
45-49	31.0	37.0	5.8	19.6	2.4	4.1	100.0	311	4.2
50-54	39.8	29.7	4.0	21.1	3.0	2.4	100.0	297	3.5
55-59	45.7	28.9	3.6	15.3	0.6	6.0	100.0	202	1.1
60-64	49.9	26.4	2.5	13.0	0.9	7.3	100.0	263	0.9
65+	63.9	24.3	1.5	6.7	0.0	3.6	100.0	567	0.0
Missing/Don't know	26.4	12.0	2.7	15.1	0.0	43.8	100.0	208	2.2
Residence									
Urban	12.0	37.1	6.6	35.3	3.5	5.5	100.0	2985	6.7
Rural	24.2	57.4	4.2	11.0	0.4	2.9	100.0	6116	2.5
Region									
Northwest	18.8	65.2	3.0	9.7	0.4	2.9	100.0	3845	2.4
Northeast	16.8	55.3	6.2	18.2	0.3	3.1	100.0	1513	4.0
Central	36.9	32.1	5.4	20.3	1.1	4.1	100.0	1144	3.4
South	17.0	34.9	7.0	32.6	3.5	5.1	100.0	2598	6.3
Total	20.2	50.7	5.0	19.0	1.4	3.7	100.0	9101	3.7

Table 2.3.2 Educational level of the male household population

Percent distribution of the de facto male household population age five and over by highest level of education attended, according to selected background characteristics, Namibia 1992

Background characteristic	None	Some primary	Completed primary	Secondary	Higher	Not stated	Total	Number	Median
Age									
5-9	16.8	79.7	0.0	0.0	0.0	3.5	100.0	1370	1.0
10-14	3.7	90.6	2.9	2.1	0.0	0.7	100.0	1563	3.5
15-19	4.3	52.4	11.3	31.6	0.0	0.4	100.0	1342	6.6
20-24	7.3	32.2	10.3	48.5	1.1	0.6	100.0	1184	7.8
25-29	12.7	28.6	9.5	44.6	3.1	1.6	100.0	935	7.8
30-34	17.9	36.8	7.8	33.4	3.4	0.8	100.0	737	6.5
35-39	21.1	37.2	10.8	26.7	2.8	1.4	100.0	594	6.0
40-44	33.7	40.3	6.0	16.2	2.7	1.1	100.0	523	4.2
45-49	36.2	36.0	4.9	19.3	2.5	1.1	100.0	369	3.7
50-54	50.1	29.4	4.6	11.4	1.5	3.0	100.0	404	0.0
55-59	52.4	29.3	3.1	12.6	0.9	1.7	100.0	261	0.0
60-64	56.7	29.1	2.9	8.1	0.0	3.2	100.0	330	0.0
65+	69.2	18.7	1.4	7.2	0.0	3.5	100.0	722	0.0
Missing/Don't know	35.0	6.4	0.0	5.6	0.0	53.0	100.0	63	0.6
Residence									
Urban	11.3	37.2	8.6	38.0	2.8	2.2	100.0	3320	7.0
Rural	25.3	55.0	4.8	12.9	0.3	1.7	100.0	7079	2.9
Region									
Northwest	19.3	57.9	5.2	15.7	0.4	1.6	100.0	4805	3.4
Northeast	25.4	55.3	5.1	12.1	0.0	2.1	100.0	1744	3.1
Central	34.0	36.9	3.8	22.0	1.2	2.1	100.0	1108	3.9
South	15.3	35.4	9.0	35.1	3.0	2.1	100.0	2741	6.7
Total	20.8	49.3	6.0	20.9	1.1	1.9	100.0	10399	4.2

Figure 2.2 shows the median number of years of education males and females by age group. Both sexes show a rapidly increasing level of education for the more recent age cohorts to a median of about 7 years of education at 25-29 years. The levels of education of younger age groups (20-24 and 15-19 years) indicate a further increase will be achieved when these cohorts have completed their education. While males have more education in the older age groups, reflecting the situation a few decades ago, women have more education in the younger age groups (25-29 years and below). This suggests that the level of education among females has increased more rapidly than among males.

The proportion of persons with no education is much higher in the rural areas than in urban areas, and this difference is seen for both males and females. Rural residents are twice as likely to have never attended school (25 percent) as urban residents (11 percent).

Overall, regional differences in education are small. The overall level of education is somewhat higher in the South region and the proportion with no schooling is higher in the Central region. However, children who started school in the Central and South regions were much more likely to finish primary education and continue at the secondary level.

Figure 2.2
Median Number of Years of Education by Sex and Age

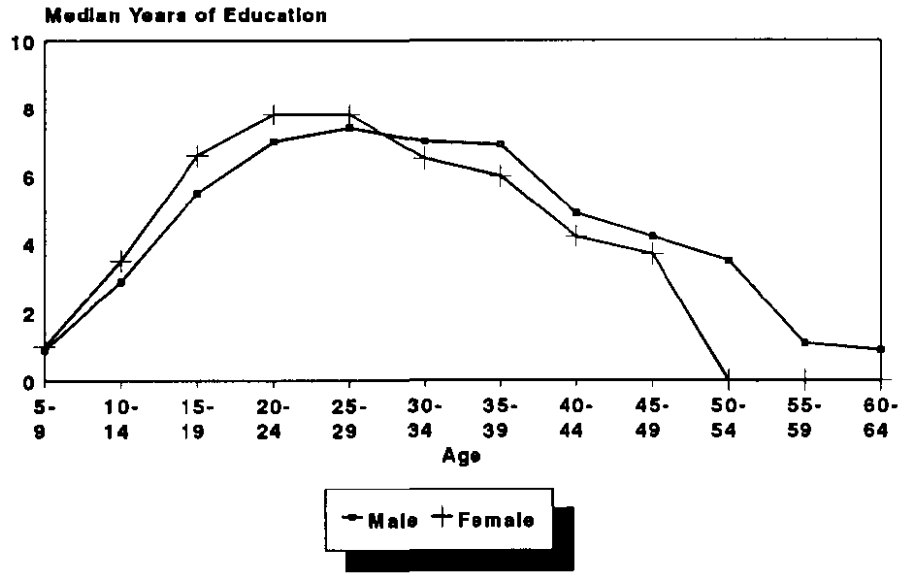


Table 2.4 presents enrolment rates by age, sex and residence. Eighty-two percent of children age 6-15 years are enrolled in school. The enrolment is equally high in urban and rural areas at age 6-15 years. Enrolment after age 15 drops, but 61 percent are still enrolled at 16-20 years and 23 percent at 21-24 years. The drop is greater in urban areas than in rural areas. Male/female differences are small; there is slightly higher female enrolment at 6-15 years. After age 15, however, male enrolment is clearly higher than female enrolment.

Table 2.4 School enrolment

Percentage of the de facto household population age 6-24 years enrolled in school, by age group, sex, and urban-rural residence, Namibia 1992

	Male			Female			Total		
Age group	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
6-10	73.4	74.4	74.2	76.8	79.3	78.7	75.0	76.9	76.5
11-15	88.0	87.6	87.7	90.8	89.4	89.8	89.4	88.5	88.7
6-15	80.4	80.5	80.5	83.5	84.0	83.9	81.9	82.3	82.2
16-20	61.8	69.0	67.1	46.5	59.2	55.1	53.2	64.2	60.9
21-24	14.8	32.0	25.6	15.7	23.6	20.3	15.3	27.4	22.7

2.2 Housing Characteristics

In order to assess the socioeconomic conditions under which respondents live, women were asked to give specific information about their household environment. Table 2.5 presents this information for all households in which women were interviewed, and Figure 2.3 displays selected results by region. (Although the questions on household characteristics were asked in the individual questionnaire, Table 2.5 has been tabulated to represent households; i.e., households with more than one eligible woman were still counted only once).

Overall, 26 percent of households in Namibia have electricity. While electricity is available in the majority of urban households (66 percent), it is found in only a small number of rural households (4 percent). Electricity is rarely in households in the northern regions.

Sources used by households to obtain drinking water differ greatly by area of residence. In urban areas, piped water is the primary source of drinking water: 82 percent have water piped into their residence or yard and 15 percent obtain water from a public tap. In rural areas, piped water is used by about 35 percent of the households mostly from public taps. Water from a public well or well in the residence is the leading source of drinking water in rural areas (37 percent). Rivers and streams are used by 10 percent of rural households. While piped water is the most common source in the Central and South regions (76 and 87 percent, respectively), wells are the most common source in the Northwest (46 percent) region and rivers/streams are the leading source of drinking water in the Northeast (39 percent) region.

Regarding sanitation facilities, four of five urban households have their own flush toilet; 11 percent have no facility and use the bush (i.e., natural landscape). In rural areas, use of the bush is most common: 84 percent of households have no sanitation facilities; 8 percent have a pit latrine; 6 percent have a flush toilet; and 1 percent use a bucket. Regionally, 85 percent of households in the Northwest have no sanitation facilities, 90 percent in the Northeast, 43 percent in the Central region, and 21 percent in the South.

The flooring material of dwelling units is usually earth/sand (49 percent) or cement (25 percent). Dirt floors (earth/sand, palm/bamboo, or dung) were found in 10 percent of urban households, while 80 percent of rural households had earth/sand, dung or palm or bamboo floors. Dirt floors are less common in the Central and South regions (28 and 10 percent, respectively), but predominate in the other regions (93 percent in the Northwest and 86 percent in the Northeast).

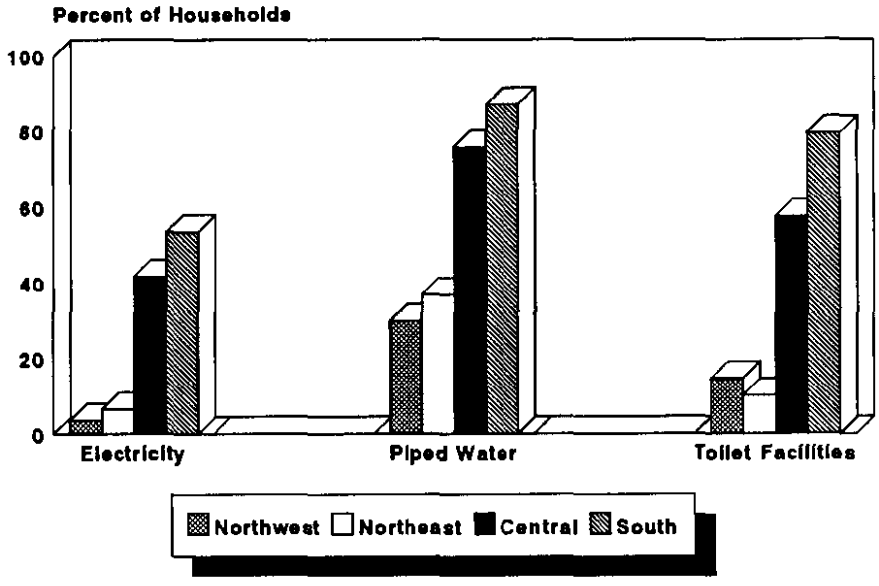
Information was collected on the number of rooms households use for sleeping (as a measure of crowding). On average, 2.3 persons sleep in one room in Namibia. There was little diversity according to residence and region. In approximately one-fifth of households three or four persons share a room for sleeping; however, in more than 70 percent of households the average is one or two persons. Sleeping density is highest in the Northeast region (2.9 persons per room) and lowest in the Northwest and Central regions (2.1 persons per room).

Table 2.5 Housing characteristics

Percent distribution of households with eligible women by housing characteristics, according to urban-rural residence and region, Namibia 1992

Characteristic	Residence		Region				Total
	Urban	Rural	Northwest	Northeast	Central	South	
Electricity							
Yes	66.0	4.2	3.6	6.6	41.8	53.6	26.4
No	33.7	95.5	96.1	93.1	57.5	46.2	73.2
Source of drinking water							
Piped into residence	81.8	13.0	6.0	9.1	50.0	80.8	37.7
Public tap	14.6	21.7	24.0	27.9	25.8	6.4	19.2
Well in residence	0.8	9.4	13.9	0.3	1.7	1.4	6.3
Public well	1.7	27.8	31.9	15.8	18.0	3.0	18.4
Spring	0.1	5.8	8.8	0.0	1.3	0.2	3.8
River, stream	0.4	10.4	5.3	38.8	0.2	0.7	6.8
Pond, lake	0.0	2.4	3.3	2.1	0.0	0.0	1.5
Dam	0.0	5.3	3.4	1.2	1.5	5.2	3.4
Rainwater	0.0	0.1	0.1	0.0	0.0	0.0	0.0
Tanker truck	0.0	0.9	0.6	0.4	1.2	0.4	0.6
Borehole	0.0	1.2	0.2	3.9	0.0	0.8	0.8
Other	0.4	1.7	2.2	0.0	0.2	1.0	1.2
Missing/Don't know	0.3	0.2	0.3	0.5	0.2	0.2	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sanitation facility							
Own flush toilet	82.8	5.6	3.5	8.0	50.2	70.5	33.4
Trad. pit toilet	2.7	7.8	10.6	1.4	5.2	2.2	5.9
Vent.imp.pit latrine	0.6	0.4	0.1	0.4	1.2	0.6	0.5
Bucket	2.5	1.8	0.2	0.3	0.7	5.8	2.1
No facility, bush	11.1	84.2	85.3	89.8	42.5	20.6	57.9
Other	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Missing/Don't know	0.3	0.2	0.2	0.2	0.3	0.2	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Flooring							
Earth, sand	8.5	72.3	93.3	60.1	18.5	7.6	49.3
Dung	1.1	5.9	0.0	23.0	6.7	1.1	4.1
Wood planks	1.8	0.4	0.2	1.6	0.3	1.9	0.9
Palm, bamboo	0.1	1.6	0.1	2.9	2.2	1.1	1.1
Parquet, polished wd	0.3	0.1	0.0	0.0	0.2	0.4	0.2
Vinyl, asphalt strips	6.0	0.6	0.0	0.2	0.7	7.6	2.5
Ceramic tiles	11.7	0.4	0.9	1.5	9.2	7.6	4.5
Cement	38.7	16.9	4.3	8.7	45.7	44.5	24.7
Carpet	30.9	1.4	0.8	1.1	16.0	27.7	12.0
Other	0.1	0.0	0.1	0.0	0.0	0.1	0.1
Missing/Don't know	0.8	0.3	0.3	1.0	0.7	0.4	0.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Persons per sleeping room							
1-2	70.3	74.7	81.6	55.9	71.8	69.6	73.1
3-4	19.7	19.3	15.3	32.7	18.8	20.1	19.4
5-6	6.5	4.0	2.2	7.9	5.5	6.8	4.9
7 +	2.4	1.3	0.4	3.0	2.5	2.3	1.7
Missing/Don't know	1.1	0.7	0.5	0.5	1.3	1.2	0.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mean	2.3	2.2	2.1	2.9	2.1	2.3	2.3
Number of households	1476	2625	1615	475	705	1307	4101

Figure 2.3
Housing Characteristics by Region



Note: Piped water includes public tap; toilet facilities include flush, latrine and bucket.

NDHS 1992

Household Durable Goods

Respondents were asked about ownership of particular household goods (radio, television and refrigerator) and modes of transportation (donkey cart, bicycle, motorcycle and car). The results presented in Table 2.6 indicate that 66 percent of households own a radio (78 percent in urban areas, 59 percent in rural areas) and 19 percent own a television (47 percent in urban areas, 3 percent in rural areas). Televisions and refrigerators are largely restricted to urban areas and the Central and South regions, due to the lack of electricity in rural areas and in the northern regions. Donkey carts are owned by 11 percent of households, mainly in the rural areas. One-fifth of households own a bicycle, and 2 percent own a motorcycle. Twenty-three percent of households own a car, including 40 percent of urban households and 13 percent of rural households. Slightly more male-headed households possess the durable goods listed in Table 2.6 than female-headed households, and twice as many male- as female-headed households have cars.

Table 2.6 Household durable goods

Percentage of households with eligible women possessing various durable consumer goods, by urban-rural residence and sex of head of household, Namibia 1992

	Residence		Head of household		
Possession	Urban	Rural	Female	Male	Total
Radio	78.4	58.7	60.5	68.2	65.8
Television	46.5	2.7	15.3	19.9	18.5
Refrigerator	56.8	5.0	20.4	25.1	23.6
Donkey cart	2.4	15.6	6.1	13.0	10.9
Bicycle	17.3	21.1	14.2	22.2	19.7
Motorcycle	2.9	0.8	0.7	1.9	1.5
Private car	39.6	13.4	13.2	27.1	22.8
Number of households	1476	2625	1265	2836	4101

2.3 Background Characteristics of Survey Respondents

General Characteristics

Women were asked two questions in the individual interview to assess their age: "In what month and year were you born?" and "How old were you at your last birthday?" Interviewers were trained in probing techniques for situations in which respondents did not know their age or date of birth; and as a last resort, interviewers were instructed to record their best estimate of the respondent's age. The five-year age distribution is shown in Table 2.7.

The data in Table 2.7 indicate that 42 percent of NDHS respondents are currently in a union (27 married and 15 percent living together), 51 percent have never been married, 5 percent are divorced or separated, and 1 percent are widowed. The percentage of women who are currently married or in union is low. In Namibia, various forms of relationships are found in which the partners do not live together. Marriage patterns are discussed in detail in Chapter 5.

About one in seven respondents has never attended school (15 percent), 9 percent have completed only primary school, and 37 percent have some secondary schooling (including 2 percent who have gone for schooling beyond the secondary level).

Although urbanisation appears to be increasing, the population is still predominantly rural; two-thirds of respondents live in rural areas. The data indicate that almost half of the respondents live in the Northwest region, 30 percent live in the South, 12 percent in the Central region, and 16 percent in the Northeast. Most women report themselves to be Christians; 72 percent are Protestants and 26 percent Roman Catholics.

The most commonly spoken language is Oshiwambo; 48 percent of women said Oshiwambo was spoken in their household.

Table 2.7 Background characteristics of respondents

Percent distribution of women by selected background characteristics, Namibia 1992

Background characteristic	Weighted percent	Number of women	
		Weighted	Un-weighted
Age			
15-19	23.2	1259	1291
20-24	20.6	1119	1131
25-29	16.4	890	878
30-34	13.3	722	719
35-39	10.5	567	547
40-44	9.3	507	506
45-49	6.6	358	349
Marital status			
Never married	51.3	2783	2708
Married	27.1	1471	1570
Living together	14.5	788	727
Widowed	1.4	77	84
Divorced	3.3	181	216
Separated	2.2	119	114
Education			
No education	14.5	785	799
Some primary	39.0	2113	2163
Completed primary	9.4	510	511
Secondary/Higher	37.1	2013	1948
Residence			
Urban	38.3	2077	1891
Rural	61.7	3344	3530
Region			
Northwest	41.4	2246	2149
Northeast	16.2	879	1360
Central	12.4	674	561
South	29.9	1622	1351
Religion			
Catholicism	25.9	1404	1451
Protestantism	72.3	3920	3874
No religion	1.3	69	69
Other religion	0.1	5	4
Not stated	0.4	24	23
Language spoken			
English	0.7	38	33
Afrikaans	11.4	615	516
Oshiwambo	48.2	2612	2451
Damara/nama	14.6	789	657
Herero	6.2	336	280
Kwangali	3.4	184	228
Lozi	2.9	158	307
Tswana	0.5	25	21
San	1.0	54	46
German	0.5	28	23
Other	10.6	575	852
Not stated	0.1	7	7
Head of household			
Female	30.0	1625	1589
Male	62.5	3389	3444
Visitor	7.5	407	388
Total	100.0	5421	5421

The second most common language is Damara/Nama (15 percent), followed by Afrikaans (11 percent), Herero (6 percent), Kwangali (3 percent) and Lozi (3 percent). Eleven percent of respondents spoke languages other than the ten precoded languages in Table 2.7.

Differentials in Education

Table 2.8 shows the distribution of the surveyed women by education, according to selected background characteristics. Education is inversely related to age; that is, older women are generally less educated than younger women. For example, 36 percent of women aged 45-49 have had no formal education, whereas only 4 percent of women aged 15-19 have never been to school.

Twice as many rural women as urban women have not received any education (18 percent versus 9 percent). Only one-fourth of rural women go on for secondary schooling compared to over half of urban women. The Central region has the highest proportion of women with no education, although a higher proportion of women continue on to the secondary level than in the Northeast and Northwest regions. Over half of all respondents in the South have some secondary education.

Table 2.8 Level of education

Percent distribution of women by highest level of education attended, according to selected background characteristics, Namibia 1992

Background characteristic	Level of education				Total	Number of women
	None	Some primary	Completed primary	Secondary		
Age						
15-19	3.7	52.3	11.3	32.7	100.0	1259
20-24	7.0	33.6	9.9	49.5	100.0	1119
25-29	12.5	29.5	9.6	48.4	100.0	890
30-34	17.4	36.4	8.2	37.9	100.0	722
35-39	21.8	36.9	10.8	30.5	100.0	567
40-44	33.5	40.5	6.7	19.3	100.0	507
45-49	36.3	38.7	4.6	20.4	100.0	358
Residence						
Urban	8.8	23.4	10.9	56.9	100.0	2077
Rural	18.0	48.7	8.4	24.8	100.0	3344
Region						
Northwest	11.2	49.0	8.8	31.0	100.0	2246
Northeast	18.6	49.5	9.2	22.8	100.0	879
Central	28.3	31.7	5.2	34.8	100.0	674
South	11.1	22.4	12.1	54.4	100.0	1622
Total	14.5	39.0	9.4	37.1	100.0	5421

Access to Mass Media

Women were asked if they usually listen to the radio or watch television at least once a week. This information is important to programme planners seeking to reach women with family planning and health messages through the media. Overall, four-fifths of women listen to the radio weekly and one-fifth watch television; about half of the women read the newspaper at least once a week (see Table 2.9). Media access differs little by age. Urban women have the greatest access, although 76 percent of rural women listen to the radio. A much higher proportion of educated women, women in urban areas, and women in the South watch television, listen to the radio and read the newspaper.

Table 2.9 Access to mass media

Percentage of women who usually read a newspaper once a week, watch television once a week, or listen to radio once a week, by selected background characteristics, Namibia 1992

Background characteristic	Read newspaper weekly	Watch television weekly	Listen to radio weekly	Number of women
Age				
15-19	56.7	22.0	78.5	1259
20-24	59.3	25.2	85.1	1119
25-29	57.1	26.3	83.8	890
30-34	52.3	31.1	79.7	722
35-39	48.8	27.5	80.7	567
40-44	42.6	19.3	75.0	507
45-49	43.5	22.9	77.9	358
Education				
No education	5.6	7.1	64.2	785
Some primary	43.0	11.6	74.6	2113
Completed primary	62.7	25.3	85.3	510
Secondary/Higher	81.5	45.9	92.5	2013
Residence				
Urban	72.9	54.4	88.9	2077
Rural	41.8	6.7	75.7	3344
Region				
Northwest	48.2	6.3	74.2	2246
Northeast	39.7	9.6	83.7	879
Central	44.2	30.1	78.8	674
South	73.0	57.0	89.1	1622
Total	53.7	25.0	80.8	5421

CHAPTER 3

FERTILITY

The fertility measures presented in this chapter are based on the reported reproductive histories of women age 15-49 interviewed in the NDHS. Each woman was asked the number of sons and daughters living with her, the number living elsewhere, and the number who had died. She was then asked for a history of all her births, including the month and year each was born, the name, the sex, and if deceased, the age at death, and if alive, the current age and whether he/she was living with the mother. Based on this information, measures of completed fertility (number of children ever born) and current fertility (age-specific rates) are examined. These measures are also analysed in connection with various background characteristics.

3.1 Current Fertility

The current level of fertility is the most important topic in this chapter because of its direct relevance to population policies and programmes. Three-year age-specific fertility rates are presented in Table 3.1. Three-year rates are calculated as a compromise between three criteria: to provide the most current information, to reduce sampling error, and to avoid problems noted in earlier DHS surveys of the displacement of births from five to six years preceding the survey.

Table 3.1 Current fertility

Age-specific and cumulative fertility rates and the crude birth rate for the three years preceding the survey, by urban-rural residence, Namibia 1992

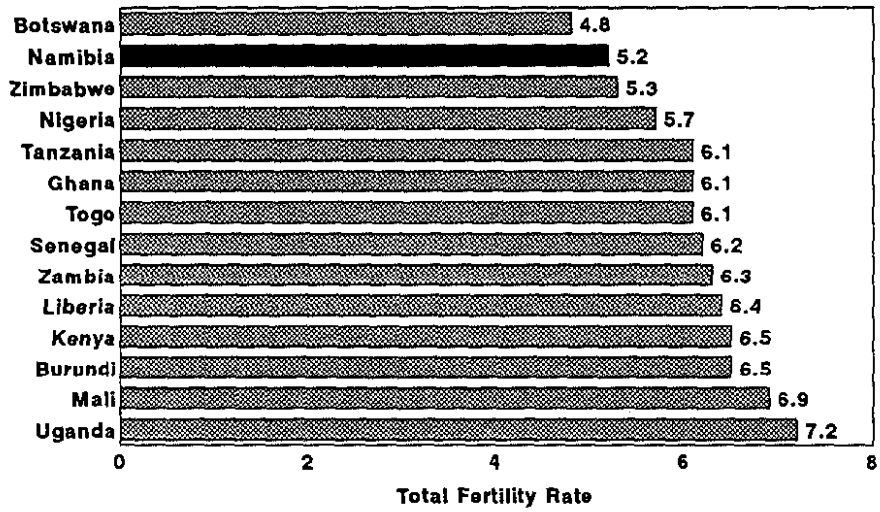
Age group	Residence		Total
	Urban	Rural	
15-19	110	108	109
20-24	172	231	207
25-29	192	279	241
30-34	154	249	208
35-39	114	204	166
40-44	46	135	105
45-49	10	53	37
TFR 15-49	4.0	6.3	5.4
TFR 15-44	4.0	6.0	5.2
GFR	143	197	176
CBR	43	42	42

TFR: Total fertility rate expressed per woman
GFR: General fertility rate (births divided by number of women 15-44), expressed per 1,000 women
CBR: Crude birth rate, expressed per 1,000 population
Note: Rates are for the period 1-36 months preceding the survey. Rates for age group 45-49 may be slightly biased due to truncation.

Numerators for the age-specific fertility rates in Table 3.1 are calculated by isolating live births which occurred during the period 1-36 months preceding the survey (determined from the date of interview and date of birth of the child), and classifying them by the age (in five-year age groups) of the mother at the time of birth (determined from the date of birth of the mother). The denominators for the rates are the number of woman-years lived in each of the specified five-year age groups during the period 1-36 months preceding the survey.

The sum of the age-specific fertility rates, i.e., the total fertility rate (TFR), is used to summarise the current level of fertility. It can be interpreted as the number of children a woman would have by the end of her childbearing years if she passed through those years bearing children at the currently observed rates. If fertility remained constant at current levels, a Namibian woman would give birth to an average of 5.4 children. Figure 3.1 compares the total fertility rate in Namibia (among women 15-44 years) with 13 other countries in sub-Saharan Africa with DHS surveys. Total fertility rates range from about 5 to 7 children per woman, with the three surveys in southern Africa having the lowest fertility levels.

Figure 3.1
Total Fertility Rate among Women 15-44
DHS Surveys in Sub-Saharan Africa, 1986-1992



Note: Rates are for the period 0-3 years preceding preceding the surveys.

NDHS 1992

There are marked differences between urban and rural areas. Urban age-specific fertility rates are considerably lower for all age groups, except the youngest. The TFR for urban women is 3.9 (children per woman) compared with 6.3 children for rural women.

The crude birth rate (CBR) presented in Table 3.1 is the annual number of births in a population per 1,000 persons. The CBR can be estimated from the birth history data and the age-sex distribution of the household population. Overall, there were about 42 births per thousand population over the last three years, according to the NDHS. The 1991 census results indicated a population growth rate of 3.0 percent from 1981 to 1991. This would imply that the crude death rate in Namibia is approximately 12 per 1,000 population.

Table 3.2 presents three-year total fertility rates by residence, region and the respondent's level of education. Large regional differences in the total fertility rate exist with the Central/South regions having a TFR

Table 3.2 Fertility by background characteristics

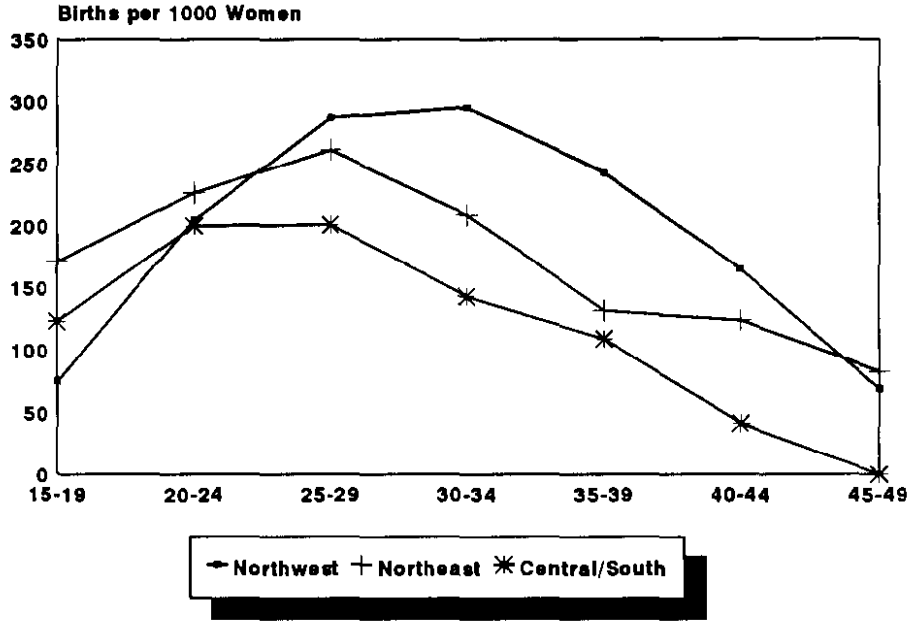
Total fertility rate for the three years preceding the survey and mean number of children ever born to women age 40-49, by selected background characteristics, Namibia 1992

Background characteristic	Total fertility rate[1]	Mean number of children ever born to women age 40-49
Residence		
Urban	4.0	4.7
Rural	6.3	6.2
Region		
Northwest	6.7	6.5
Northeast	6.0	6.6
Central/South	4.1	4.6
Education		
No education	6.6	6.3
Some primary	6.1	6.1
Completed primary	5.2	5.5
Secondary/Higher	4.1	4.1
Total	5.4	5.7

[1]Women age 15-49 years

of 4.1, the Northwest 6.7 and the Northeast region 6.0.[1] The pattern of fertility by age varies by region (see Figure 3.2). Women in Northwest region have a high fertility plateau between age 25 and 39, women in Northeast region commence childbearing earlier than those in other regions, and women in Central and South regions have a much lower fertility rate from age 25 onward. Increasing level of education is associated with reduced fertility. The TFR is 6.6 among women with no education, 6.1 among women with less than 7 years of primary education (primary incomplete, up to standard 4), 5.2 among women with 7-8 years of primary education (completed Standard 5 or 6), and 4.1 among women with at least some secondary education.

Figure 3.2
Age-Specific Fertility Rates by Region



Fertility trends can be analyzed in different ways. One way is to compare NDHS data with previous surveys; however, no national data are available for the period before independence. At that time, the country was divided into administrative units by the South African colonial administration, and no national survey was conducted.

Fertility trends can also be estimated based on NDHS data alone. Table 3.2 shows the mean number of children ever born to women 40-49 years. These women have completed their childbearing years, or are near to doing so. The total number of children born to these women is a reflection of fertility levels in the past 20-25 years. In general, current fertility levels (indicated by the TFR) are slightly lower than the mean number of children born to women 40-49 years, suggesting a small fertility decline. The difference is greatest in urban areas, and in the Northeast and Central/South regions, but none of the differences between TFR and children ever born is larger than one child.

[1] The NDHS sample was designed to provide estimates of fertility and mortality for three regions in Namibia: Northwest, Northeast, and Central/South.

Table 3.3 shows the age-specific fertility rates for five-year periods preceding the survey. The fertility rates are declining in all age groups except the youngest. The trend in fertility during the past two decades can be estimated by considering fertility among women 15-34 years (since there are no older women in the more distant periods). Over the last 20 years there is a gradual decline in cumulative fertility among women 15-34 years from 4.6 to 3.7.

Table 3.3 Age-specific fertility rates

Age-specific fertility rates for five-year periods preceding the survey, by mother's age, Namibia 1992

Mother's age	Number of years preceding the survey			
	0-4	5-9	10-14	15-19
15-19	101	96	107	114
20-24	197	210	226	271
25-29	236	243	262	274
30-34	197	226	245	[253]
35-39	171	188	[224]	-
40-44	99	[132]	-	-
45-49	[38]	-	-	-

Note: Age-specific fertility rates are per 1,000 women. Estimates enclosed in brackets are truncated.

Table 3.4 presents fertility rates for ever-married women by duration since first marriage for five-year periods preceding the survey. Childbearing early in marriage often remains resilient to change, even when fertility is declining, because fertility decline usually begins at older ages (when women start to limit the number of births), not among young couples postponing births. However, Table 3.4 shows a recent decline in fertility, even for marriages of short duration.

Table 3.4 Fertility by marital duration

Fertility rates for ever-married women by duration (in years) since first marriage, for five-year periods preceding the survey, Namibia 1992

Marriage duration at birth	Number of years preceding the survey			
	0-4	5-9	10-14	15-19
0-4	278	300	322	362
5-9	225	272	286	299
10-14	202	227	261	252
15-19	161	192	243	[346]
20-24	106	177	[201]	-
25-29	49	[96]	-	-

Note: Fertility rates are per 1,000 women. Estimates enclosed in brackets are truncated.

3.2 Children Ever Born and Living

In the NDHS questionnaire, the total number of children ever born was ascertained by a sequence of questions designed to maximise recall. The distribution of women by number of children ever born is presented in Table 3.5 for all women and for currently married women. The mean number of children ever born for all women increases rapidly with age, so that by the end of her childbearing years, a woman has given birth to six children. The distribution of women by number of births indicates that almost one-fifth of teens have already borne a child, and more than one-third of women age 45 and over have borne at least eight children.

In Namibia, childbearing is not confined to marriage; more than half of the women 15-49 have never been married (see Table 2.7). The NDHS data indicate that women had on average one living child at age 20-24, three living children at 30-34 and five living children at 40-44 years.

The parity distribution for older, currently married women also provides a measure of primary infertility. Voluntary childlessness is rare in most of Africa, and married women with no live births are most likely unable to bear children. The NDHS results suggest that about 2 to 3 percent of Namibian women are unable to bear children.

Table 3.5 Children ever born and living

Percent distribution of all women and of currently married women by number of children ever born (CEB) and mean number ever born and living, according to five-year age groups, Namibia 1992

Age group	Number of children ever born (CEB)											Total	Number of women	Mean no. of CEB	Mean no. of living children
	0	1	2	3	4	5	6	7	8	9	10+				
ALL WOMEN															
15-19	82.3	16.4	1.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	1259	0.19	0.18
20-24	36.7	36.7	17.3	6.4	2.4	0.5	0.1	0.0	0.0	0.0	0.0	100.0	1119	1.03	0.94
15-29	18.6	20.7	22.0	22.4	10.3	4.0	1.5	0.5	0.0	0.0	0.0	100.0	890	2.06	1.88
30-34	7.2	12.3	16.1	19.6	16.3	12.5	8.4	4.9	1.6	0.7	0.5	100.0	722	3.39	3.07
35-39	4.4	6.4	10.9	12.8	16.1	13.1	14.3	9.5	5.9	4.8	1.8	100.0	567	4.58	4.12
40-44	3.7	4.6	8.1	11.8	11.2	10.2	10.0	12.7	8.7	8.4	10.7	100.0	507	5.62	4.97
45-49	3.4	5.5	8.9	8.1	11.3	9.8	9.4	10.4	11.8	8.1	13.4	100.0	358	5.83	5.13
Total	31.7	17.9	12.1	10.6	7.8	5.4	4.4	3.6	2.4	1.9	2.1	100.0	5421	2.44	2.19
CURRENTLY MARRIED WOMEN															
15-19	37.3	55.5	5.7	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	86	0.71	0.68
20-24	13.0	36.8	27.9	15.3	5.7	0.9	0.3	0.0	0.0	0.0	0.0	100.0	307	1.68	1.52
25-29	10.9	18.2	22.8	28.9	11.1	5.6	2.1	0.3	0.0	0.0	0.0	100.0	414	2.38	2.18
30-34	4.7	8.8	13.7	20.4	16.7	15.7	10.5	6.2	1.7	1.0	0.5	100.0	459	3.78	3.43
35-39	3.1	7.2	10.9	11.8	14.8	14.1	14.7	9.9	6.7	4.8	1.9	100.0	397	4.69	4.22
40-44	1.9	2.6	8.4	11.2	10.1	10.4	9.6	13.8	8.9	9.8	13.3	100.0	345	6.05	5.41
45-49	2.6	3.8	8.6	8.0	11.0	8.6	7.9	12.4	13.2	9.3	14.7	100.0	251	6.16	5.44
Total	7.3	14.3	15.1	16.2	11.6	9.4	7.5	6.5	4.4	3.6	4.1	100.0	2259	3.89	3.50

3.3 Birth Intervals

There has been a large amount of research to indicate that short birth intervals are deleterious to the health of babies. This is particularly true for babies born at intervals of less than 24 months. Table 3.6 shows the percent distribution of births in the five years preceding the survey by the number of months since the previous birth. More than one-fifth of births were born after an interval of less than 24 months. The median birth interval length is 33.5 months.

Short birth intervals are more common if the previous child died early in life. The death of the child leads to truncation of breastfeeding, which leads to earlier resumption of fecundity. In addition, the parents often want another child quickly to replace the dead child. The proportion of births in the last five years with preceding births intervals of less than 24 months drops from 22 to 20 percent if children whose preceding sibling has died are excluded.

Although the table indicates that a high proportion of births to teens were preceded by short intervals, this does not reflect the actual situation of most teen births because the table excludes first births (which are the majority of teen births). Birth intervals are somewhat longer in urban areas and in the Central/South region where the means are 38 and 37 months, respectively. This is due to a larger proportion of very long intervals (4 years or more) in these areas.

Table 3.6 Birth intervals

Percent distribution of births in the five years preceding the survey by number of months since previous birth, according to demographic and socioeconomic characteristics, Namibia 1992

Characteristic	Number of months since previous birth					Total	Median number of months since previous birth	Number of births
	7-17	18-23	24-35	36-47	48+			
Age of mother								
15-19	*	*	*	*	*	*	*	19
20-29	11.6	14.7	38.9	15.7	19.1	100.0	31.2	1143
30-39	8.3	10.7	35.7	16.8	28.5	100.0	35.0	1206
40 +	9.8	7.7	32.1	14.8	35.6	100.0	37.2	460
Birth order								
2-3	8.6	12.3	33.9	17.0	28.2	100.0	35.0	1283
4-6	10.7	11.8	37.8	14.7	24.9	100.0	33.0	996
7 +	11.6	11.3	40.2	15.8	21.2	100.0	32.2	550
Sex of prior birth								
Male	10.0	12.1	36.3	15.9	25.6	100.0	33.5	1396
Female	9.8	11.8	36.6	15.9	25.8	100.0	33.6	1432
Survival of prior birth								
Living	8.0	11.8	37.3	16.4	26.5	100.0	34.1	2581
Dead	29.8	14.0	28.2	10.9	17.1	100.0	26.9	247
Residence								
Urban	10.8	10.4	25.8	15.5	37.4	100.0	38.2	877
Rural	9.5	12.7	41.3	16.1	20.4	100.0	32.2	1951
Region								
Northwest	8.8	13.2	43.6	14.8	19.7	100.0	31.6	1275
Northeast	8.0	10.7	39.4	19.9	22.0	100.0	34.6	534
Central	13.0	10.6	25.7	14.8	35.9	100.0	37.3	341
South	12.0	11.3	26.2	15.6	34.9	100.0	37.2	678
Education								
No education	9.8	11.9	35.3	15.7	27.3	100.0	35.3	592
Some primary	10.0	10.5	39.8	16.8	23.0	100.0	32.8	1221
Completed primary	9.9	13.0	38.6	15.7	22.8	100.0	32.1	276
Secondary/Higher	10.0	14.1	31.1	14.8	30.0	100.0	34.2	739
Total	9.9	12.0	36.5	15.9	25.7	100.0	33.5	2828

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

* Based on too few cases to show

3.4 Age at First Birth

The age at which childbearing begins has important demographic consequences as well as important consequences for the mother and child. In many countries, postponement of first births, reflecting an increase in the age at marriage, has contributed greatly to overall fertility decline. Table 3.7 presents the distribution of Namibian women by age at first birth, according to their current age. Among women currently of age 20, about 40 percent became mothers before the age of 20, of which 2-3 percent gave birth before age 15, and 14-18 percent gave birth between age 15 and 17. There has been little change in the median age at first birth, which is about 21 years.

Table 3.7 Age at first birth

Percent distribution of women 15-49 by age at first birth, according to current age, Namibia 1992

Current age	Women with no births	Age at first birth						Total	Number of women	Median age at first birth
		<15	15-17	18-19	20-21	22-24	25+			
15-19	82.3	1.0	10.1	6.6	NA	NA	NA	100.0	1259	a
20-24	36.7	1.6	16.2	23.8	15.6	6.1	NA	100.0	1119	a
25-29	18.6	1.7	15.0	22.2	16.7	18.2	7.6	100.0	890	21.2
30-34	7.2	3.8	18.5	22.2	17.0	17.0	14.3	100.0	722	20.5
35-39	4.4	2.6	15.7	21.3	23.6	16.2	16.4	100.0	567	20.7
40-44	3.7	3.1	16.9	17.9	21.4	18.2	18.9	100.0	507	21.1
45-49	3.4	3.0	12.1	12.9	21.8	22.4	24.5	100.0	358	22.0

NA = Not applicable
[a]Less than 50 percent of the women in the age group x to $x+4$ have had a birth by age x

Table 3.8 summarises the median age at first birth for different cohorts and compares the entry age into parenthood for different subgroups of the population. (Medians for cohorts 15-19 and 20-24 could not be determined because most women have not yet had a birth.) Findings for older women should be interpreted with caution; for example, the higher medians for older women in Northwest may reflect omission or misdating of early births, rather than a genuine trend. There are only small differences between the various subgroups with two exceptions; women in the Northeast and Central/South regions have their first birth slightly earlier (means of 19.7 and 19.8 years, respectively), and women with at least some secondary education give birth for the first time somewhat later (mean 22.7 years). There is no evidence of a change in the age at first birth in Namibia during the past two decades.

Table 3.8 Median age at first birth by background characteristics

Median age at first birth among women age 20-49 years, by current age and selected background characteristics, Namibia 1992

Background characteristic	Current age					Women age 25-49
	25-29	30-34	35-39	40-44	45-49	
Residence						
Urban	21.2	20.5	20.6	20.5	21.3	20.8
Rural	21.2	20.6	20.9	21.6	22.6	21.3
Region						
Northwest	23.1	22.1	21.6	22.4	23.5	22.6
Northeast	19.7	19.4	19.5	20.4	20.1	19.7
Central	19.5	19.5	20.5	20.0	20.8	19.8
South	21.2	20.6	20.5	20.4	21.5	20.8
Education						
No education	19.5	19.3	20.6	20.8	21.3	20.3
Some primary	19.9	19.8	20.5	20.9	21.8	20.4
Completed primary	20.5	19.6	20.6	(20.6)	(21.7)	20.5
Secondary/Higher	23.5	22.4	21.1	21.9	24.1	22.7
Total	21.2	20.5	20.7	21.1	22.0	21.0

Note: The median for cohort 15-19 could not be determined because some women may still have a birth before reaching age 20. Figures in parentheses are based on a small number of cases.

3.5 Teenage Pregnancy and Motherhood

Table 3.9 and Figure 3.3 show the percentage of women age 15-19 who are mothers or pregnant with their first child. About 36 percent of teenagers 18 years of age and 19 percent of teens 17 years of age have begun childbearing (have already given birth, or are pregnant with their first child). Early childbearing is common in the Northeast (35 percent), Central (27 percent), and South (29 percent) regions, but not in the Northwest, where only 12 percent of the teenagers are mothers or pregnant. It is also much more common among teens with no education; almost half of these teenagers have a child or are pregnant, compared to 20 percent of teens with some education.

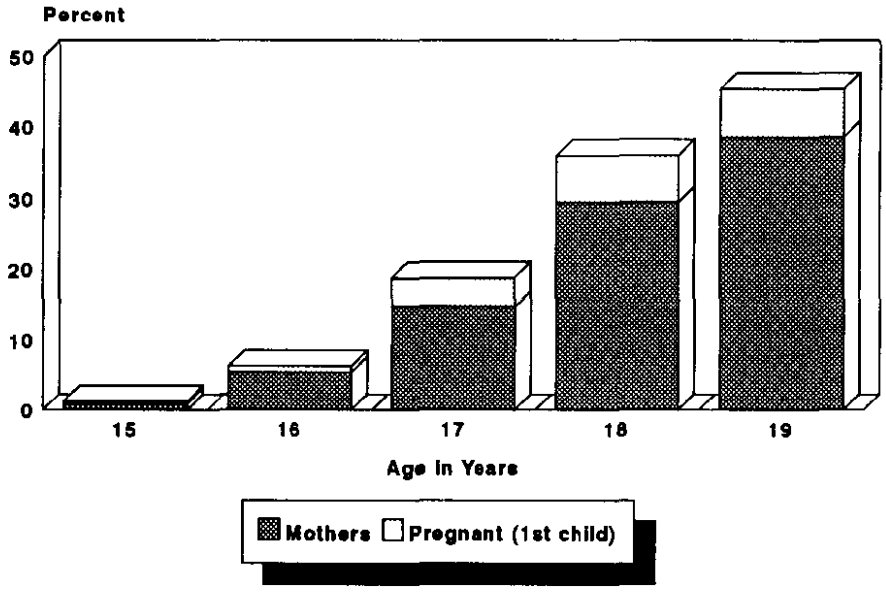
Table 3.9 Teenage pregnancy and motherhood

Percentage of women age 15-19 who are mothers or pregnant with their first child, by selected background characteristics, Namibia 1992

Background characteristic	Percentage who are: Mothers	Pregnant with first child	Percentage who have begun child-bearing	Number of teenagers
Age				
15	0.9	0.4	1.3	267
16	5.4	0.9	6.3	229
17	14.7	4.1	18.7	262
18	29.5	6.5	36.0	250
19	38.5	6.9	45.4	251
Residence				
Urban	19.2	5.0	24.1	381
Rural	17.1	3.3	20.4	878
Region				
Northwest	9.6	2.4	12.0	620
Northeast	30.8	4.4	35.3	227
Central	21.0	6.0	27.0	120
South	23.5	5.3	28.8	292
Education				
No education	(39.3)	(10.3)	(49.6)	46
Some primary	16.8	3.7	20.5	659
Completed primary	19.4	1.0	20.4	142
Secondary/Higher	16.2	4.1	20.3	411
Total	17.7	3.8	21.5	1259

Note: Figures in parenthese are based on a small number of cases.

Figure 3.3
Percentage of Teenagers Who Have Begun Childbearing by Age



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CHAPTER 4

FERTILITY REGULATION

One of the key areas of the Ministry's Development Programme after independence was the improvement of maternal and child health and family planning services. This was in recognition of the fact that women of child bearing age and children under five years of age constitute about 40-45 percent of the population. These two groups are considered to be vulnerable because of their special health problems. In particular, the timing of births is known to have important effects on the health of women and their children. Pregnancies that are "too early, too late, too many or too close together" are associated with a higher-than-average health risk for both mother and child.

The Ministry's implementation of the integrated Maternal and Child Health and Family Planning Programme (MCH/FP) aims to reduce both infant mortality and maternal mortality. The programme will also assist the government to reduce population growth, which was reported by the Central Statistics Office to be increasing rapidly at the rate of 3 percent annually. The rapid population growth compared to the economic growth rate of 2 percent has serious implications for the country's resources in terms of providing adequate education, health facilities, job opportunities, housing and other social amenities.

Generally, family planning services in Namibia are underdeveloped and/or underutilised. This is indicated by the low level of family planning practice and the high dropout rate found by some studies. The provision of family planning services in health facilities varies by region. Statistics presented during the National Safe Motherhood Conference showed that 79 percent of the 243 health facilities in the country are providing family planning services. However, in the Northwest region, which accounts for nearly 50 percent of the population, only 43 percent of the health facilities were reported to be providing family planning services;

Some activities that have been undertaken to improve MCH/FP include assessment of needs, provision of training and equipment, and preparation of management tools. Drafts of the Family Planning Policy and the MCH/FP service protocols have been prepared and will be published in 1993.

4.1 Knowledge of Contraception

Determining the level of knowledge of contraceptive methods and of services was a major objective of the NDHS, since knowledge of specific methods and of the places where they can be obtained is a precondition for use. Information about knowledge of contraceptive methods was obtained by asking the respondent to name all the different ways or methods that a couple could use to delay or avoid a pregnancy. If the respondent failed to mention a particular method spontaneously, the method was described by the interviewer and the respondent was asked if she recognised the method described. Eight modern methods—the pill, IUD, injection, vaginal methods (diaphragm, foaming tablets and jelly), condoms, female sterilisation and male sterilisation—were described, as well as two traditional methods—periodic abstinence (rhythm method) and withdrawal. Any other methods mentioned by the respondent, such as herbs or breastfeeding, were also recorded as spontaneous answers. For each method recognised, the respondent was asked if she knew where a person could go to get the method. If she reported knowing about the rhythm method, she was asked if she knew where a person could obtain advice on how to use the method.

Table 4.1 gives the percent distribution of all women and currently married women by knowledge of contraceptive method and source. Nine of ten currently married women know at least one method of family planning, and the proportion is only slightly lower if all women are considered. Virtually all Namibian women age 15-49 who know a method, know at least one modern method of family planning.

Among currently married women, only 41 percent knew a traditional method, while more than twice as many (90 percent) reported knowing a modern method. The most familiar methods were steroid injection, pill, and condom in that order, each of which was mentioned by more than half of all women interviewed. Following these, were female sterilisation, the IUD and male sterilisation, which were mentioned by 50, 36 and 21 percent, respectively. Other modern methods (foaming tablets and diaphragm) were less well-known. As for traditional methods, about 25 percent of all women knew about periodic abstinence, while 22 percent knew about withdrawal.

The vast majority of women who knew a method of family planning also reported knowing where to obtain that method. Knowledge of a source where specific methods can be obtained is slightly higher among married women than among all women.

Table 4.1 Knowledge of contraceptive methods and source for methods

Percentage of all women and currently married women who know specific contraceptive methods and who know a source (for information or services), by specific methods, Namibia 1992

Contraceptive method	Know method		Know a source	
	All women	Currently married women	All women	Currently married women
Any method	88.6	90.4	77.5	82.1
Any modern method	88.5	90.4	77.3	81.8
Modern method				
Pill	79.3	82.4	68.1	72.7
IUD	35.6	40.5	29.7	34.9
Injection	80.1	84.8	70.2	76.2
Diaphragm/foam/jelly	10.8	15.3	8.1	12.1
Condom	71.6	70.6	51.5	52.2
Female sterilisation	50.1	60.1	43.3	52.3
Male sterilisation	20.8	27.3	17.3	23.9
Any traditional method	33.0	40.7	NA	NA
Periodic abstinence	25.1	32.3	16.6	22.9
Withdrawal	22.8	29.5	NA	NA
Herbs	3.8	6.5	NA	NA
Other traditional methods	1.7	1.9	NA	NA
Number of women	5421	2259	5421	2259

NA = Not applicable

Table 4.2 shows the percent distribution of currently married women knowing at least one modern method and a source by selected background characteristics. Knowledge of at least one contraceptive method among currently married women is somewhat higher among women in their late twenties than among younger or older women. However, the level of knowledge among women age 40-49 is somewhat lower than for other age groups. This may be attributed to the late introduction of formal education in Namibia. The majority of women in this age group are known to have received no formal education. This phenomenon is also reflected in the positive relationship between level of knowledge/source and level of education. Women with no education have the least knowledge of both method (79 percent) and source (67 percent). Levels of contraceptive knowledge rise steadily to 89 percent for women with some primary education, 96 percent for women with completed primary, and 98 percent for women with secondary/higher education. Knowledge of a source is 77 percent for women with some primary education, 89 percent for completed primary education, and 96 percent for those with secondary and higher education.

Table 4.2 Knowledge of modern contraceptive methods and source for methods

Percentage of currently married women who know at least one modern contraceptive method and who know a source (for information or services), by selected background characteristics, Namibia 1992

Background characteristic	Know any method	Know a modern method[1]	Know a source for modern method	Number of women
Age				
15-19	88.0	88.0	83.5	86
20-24	93.0	92.7	84.8	307
25-29	94.4	94.3	87.5	414
30-34	92.2	92.2	83.8	459
35-39	89.7	89.7	80.7	397
40-44	85.1	85.1	75.0	345
45-49	86.8	86.8	75.8	251
Residence				
Urban	95.5	95.5	94.0	877
Rural	87.2	87.1	74.1	1382
Region				
Northwest	82.1	82.1	66.9	713
Northeast	95.5	95.2	82.2	476
Central	88.3	88.3	86.2	340
South	96.2	96.2	94.1	730
Education				
No education	79.0	79.0	67.3	509
Some primary	89.3	89.2	76.6	827
Completed primary	95.6	95.6	88.5	192
Secondary/Higher	98.3	98.3	96.1	730
Total	90.4	90.4	81.8	2259

[1]Includes pill, IUD, injection, vaginal methods (foaming tablets/diaphragm/foam/jelly), condom, female sterilisation, and male sterilisation.

The variation in knowledge of a modern contraceptive method and a source for the method between urban and rural areas is moderate. For urban women, knowledge of a method is 96 percent while, for rural women, it is 87 percent. However, knowledge of a source for a modern method shows a slightly wider differential, with almost 94 percent of urban women knowing a source compared to 74 percent of rural women.

Differences in contraceptive knowledge are also observed with respect to place of residence. The level of knowledge of married women who have heard of at least one family planning method is highest in the South and Northeast regions (96 percent), lower in the Central region (88 percent) and lowest in Northwest region (82 percent). This pattern is similar for knowledge of a source; the level of knowledge of a source is highest in the South (94 percent), followed by the Central region (86 percent), and the Northeast region (82 percent). As with knowledge of method, the Northwest region has the lowest level of knowledge of a source (67 percent), compared to the other regions. This could be explained by the fact that, although this region accounts for about 50 percent of the population, women in this region have less access to mass media family planning messages and to family planning services.

4.2 Ever Use of Contraception

All women interviewed in the NDHS who said that they had heard of a method of family planning were asked if they had ever used it. Over half (52 percent) of currently married women have used a method of family planning at some stage in their life and 41 percent of all women have used a method (see Table 4.3).

Table 4.3 Ever use of contraception

Percentage of all women and of currently married women who have ever used any contraceptive method, by specific method and age, Namibia 1992

			Modern methods							Traditional methods					
Age group	Any method	Any modern method	Pill	IUD	Injection	Diaphragm foam/ jelly	Condom	Female sterilisation	Male sterilisation	Any trad. method	Abstinence	Withdrawal	Herbs	Other	Number of women
						ALL WOMEN									
15-19	17.2	15.8	5.4	0.1	11.6	0.2	2.4	0.1	0.0	3.9	2.7	2.2	1.1	0.0	1259
20-24	43.2	41.1	21.6	1.2	27.2	0.2	7.4	0.5	0.2	9.9	7.1	4.7	3.8	0.7	1119
25-29	54.6	52.4	32.7	5.0	32.9	0.9	8.2	1.5	0.1	11.1	7.6	5.3	3.6	0.4	890
30-34	54.0	52.5	35.4	8.9	31.9	0.3	7.5	3.9	0.9	13.7	9.4	5.7	3.8	1.0	722
35-39	50.3	48.8	28.4	9.3	31.9	1.2	5.0	9.4	0.6	10.2	6.6	5.7	2.4	0.4	567
40-44	40.9	39.3	18.9	4.7	26.0	0.9	4.7	10.6	0.0	8.4	5.8	3.8	2.8	0.7	507
45-49	39.3	37.0	16.2	5.3	16.1	1.7	1.7	15.2	1.0	11.3	6.5	5.0	2.8	2.1	358
Total	40.8	39.0	21.6	4.1	24.8	0.6	5.5	3.9	0.3	9.2	6.2	4.4	2.8	0.6	5421
						CURRENTLY MARRIED WOMEN									
15-19	43.3	38.6	18.6	0.0	24.3	0.0	5.8	0.0	0.0	18.0	13.3	6.3	8.5	0.0	86
20-24	61.8	59.2	31.9	2.1	38.5	0.4	7.4	1.5	0.2	16.0	13.0	6.1	10.9	0.7	307
25-29	58.9	56.8	35.1	6.2	35.0	1.0	7.4	2.2	0.3	13.2	8.6	6.9	5.3	0.3	414
30-34	55.3	53.5	36.3	9.1	30.8	0.5	6.1	5.1	1.0	13.4	10.1	5.1	4.6	0.8	459
35-39	49.7	47.9	28.2	10.3	30.4	1.8	4.8	10.4	0.9	10.7	7.4	5.9	2.6	0.3	397
40-44	41.3	39.4	18.8	4.7	24.9	0.7	4.5	13.1	0.0	7.2	5.6	2.8	2.7	0.3	345
45-49	42.7	40.0	19.5	6.6	15.5	1.9	1.4	17.7	1.4	13.1	8.7	4.9	3.3	2.1	251
Total	51.9	49.7	28.8	6.5	29.7	1.0	5.5	7.4	0.6	12.4	9.0	5.4	4.9	0.6	2259

Among currently married women, ever use of modern methods is almost four times higher (50 percent) than ever use of traditional methods (12 percent). Hormonal methods are the most common methods: 30 percent of currently married women have used injection to prevent pregnancy, and 29 percent have used the pill. The corresponding figures among all women are 25 and 22 percent, respectively. Periodic abstinence has been used by 9 percent of currently married women; 7 percent have used the IUD, 7 percent were sterilised; 6 percent used the condom; and 5 percent of currently married women have used withdrawal.

Ever use of modern methods is lowest among all women aged 15-19 years, but increases with age to the highest level among women aged 25-34 years. It then decreases for women age 35-49 years. Among currently married women, the highest level of ever-use is observed for age group 20-24 years.

4.3 Current Use of Contraception

Overall, only 23 percent of women in Namibia (or 29 percent of currently married women) are currently using a contraceptive method (see Table 4.4). Since it is customary to analyse contraceptive use among currently married women, this chapter focuses primarily on married women and women who are living with a partner. It needs to be kept in mind, however, that the majority of women in Namibia (58 percent) are not currently married.

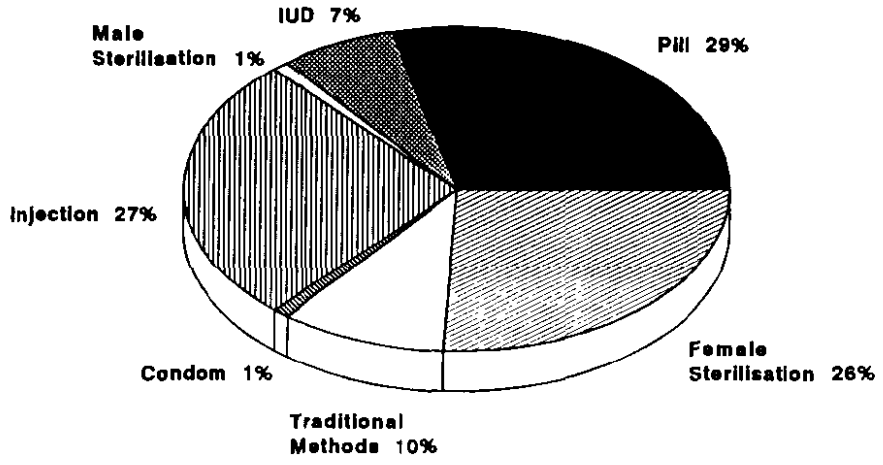
Table 4.4 Current use of contraception by age

Percent distribution of all women and of currently married women by contraceptive method currently used, according to age, age, Namibia 1992

			Modern methods							Traditional methods							
Age	Any method	Any modern method	Pill	IUD	Injection	Diaphragm, foam, jelly	Condom	Female sterilisation	Male sterilisation	Any trad. method	Periodic abstinence	Withdrawal	Herbs	Other	Not currently using	Total	Number
ALL WOMEN																	
15-19	10.7	9.8	2.5	0.1	6.9	0.0	0.3	0.0	0.0	0.9	0.3	0.1	0.5	0.1	89.3	100.0	1259
20-24	24.8	22.3	8.6	0.7	11.6	0.0	0.9	0.5	0.0	2.6	0.7	0.1	1.4	0.4	75.2	100.0	1119
25-29	31.3	28.7	11.2	2.2	13.3	0.1	0.5	1.4	0.0	2.6	0.9	0.2	1.5	0.0	68.7	100.0	890
30-34	28.7	26.6	11.8	2.6	7.5	0.0	0.6	3.9	0.2	2.2	1.0	0.0	1.0	0.1	71.3	100.0	722
35-39	32.0	30.0	7.6	2.7	9.9	0.2	0.2	9.4	0.0	2.0	0.8	0.3	0.7	0.1	68.0	100.0	567
40-44	20.8	20.0	4.1	1.2	3.8	0.0	0.2	10.6	0.0	0.8	0.2	0.4	0.2	0.0	79.2	100.0	507
45-49	20.9	19.8	2.0	0.6	1.0	0.0	0.0	15.2	1.0	1.0	0.0	0.3	0.7	0.0	79.1	100.0	358
Total	23.3	21.4	7.1	1.3	8.6	0.0	0.5	3.8	0.1	1.8	0.6	0.2	0.9	0.1	76.7	100.0	5421
CURRENTLY MARRIED WOMEN																	
15-19	20.5	16.5	7.2	0.0	9.3	0.0	0.0	0.0	0.0	3.9	0.0	0.0	2.9	1.0	79.5	100.0	86
20-24	30.6	25.7	10.5	1.4	12.4	0.0	0.0	1.5	0.0	4.9	0.2	0.0	4.5	0.3	69.4	100.0	307
25-29	32.3	28.3	11.0	3.2	11.7	0.0	0.3	2.2	0.0	4.0	1.2	0.2	2.7	0.0	67.7	100.0	414
30-34	29.3	27.0	11.6	2.8	6.5	0.0	0.8	5.1	0.3	2.3	0.9	0.0	1.2	0.2	70.7	100.0	459
35-39	32.6	29.8	7.6	2.4	9.0	0.3	0.0	10.4	0.0	2.8	1.1	0.5	1.0	0.2	67.4	100.0	397
40-44	23.7	22.5	4.0	1.3	3.6	0.0	0.3	13.1	0.0	1.2	0.3	0.7	0.2	0.0	76.3	100.0	345
45-49	24.6	23.1	2.4	0.9	0.7	0.0	0.0	17.7	1.4	1.5	0.0	0.5	1.0	0.0	75.4	100.0	251
Total	28.9	26.0	8.3	2.1	7.7	0.1	0.3	7.4	0.2	2.9	0.7	0.3	1.8	0.1	71.1	100.0	2259

One in four married women in Namibia is currently using a method of contraception: 26 percent are using a modern method while 3 percent are using a traditional method. The most commonly used method is the pill (8 percent), followed by injection (8 percent) and female sterilisation (7 percent) (see Figure 4.1). The IUD is used by less than 2 percent of married women. The least used contraceptive methods are periodic abstinence, withdrawal, and condoms.

Figure 4.1
Distribution of Currently Married Women by Method Currently Used



NDHS 1992

Most contraceptive users are women 25-39 years; younger and older women are least likely to use a contraceptive method (see Table 4.4). The choice of method also varies by age; younger women are more likely to use the pill, injection or a traditional method, while women 35 years and over tend to use female sterilisation.

About one in five women is currently using a modern method. The distribution of methods among all women is similar to that among currently married women with one exception; female sterilisation is almost twice as common among currently married women. The order of preference differs slightly; the preferred method for all women is injection (9 percent). Traditional methods account for about 3 percent of the total use.

While overall use of family planning is not widespread in Namibia, the NDHS data show that some women are much more likely to be using contraception than others (see Table 4.5 and Figure 4.2). Women in urban areas and women with secondary or higher education are much more likely to be using a modern method of contraception than rural women or women with no primary education. The association between place of residence and contraceptive use is very strong. The level of contraceptive use is almost three times higher in urban areas (46 percent) than in rural (16 percent) areas. However, use of traditional methods is higher in rural (4 percent) than in urban (2 percent) areas. This may be due to lack of accessibility and availability rather than preference. The most popular methods among both urban and rural women are the pill, injection and female sterilisation.

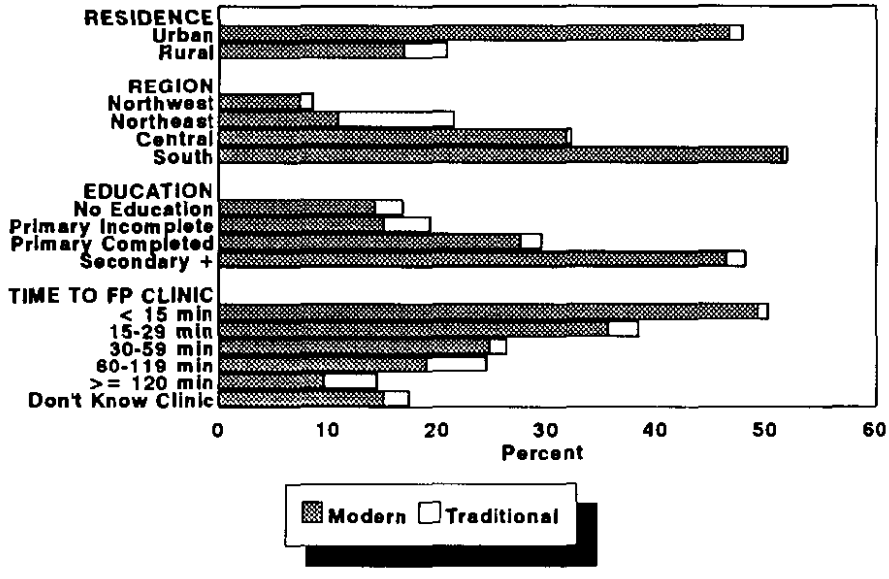
Table 4.5 Current use of contraception by background characteristics

Percent distribution of currently married women by contraceptive method currently used, according to selected background characteristics, Namibia 1992

Background characteristic	Any method	Modern methods: Any modern method	Pill	IUD	Injection	Diaphragm, foam, jelly	Condom	Female sterilisation	Male sterilisation	Traditional methods: Any trad. method	Periodic abstinence	Withdrawal	Herbs	Other	Not currently using	Total	Number
Residence																	
Urban	47.8	46.6	14.7	4.0	13.8	0.1	0.5	12.9	0.5	1.2	0.6	0.4	0.2	0.0	52.2	100.0	877
Rural	16.9	13.0	4.2	0.8	3.9	0.0	0.1	4.0	0.0	3.9	0.7	0.2	2.8	0.2	83.1	100.0	1382
Region																	
Northwest	8.7	7.3	2.6	0.7	0.6	0.0	0.3	3.1	0.0	1.3	1.0	0.3	0.0	0.0	91.3	100.0	713
Northeast	21.5	10.9	4.8	0.1	4.2	0.0	0.0	1.7	0.0	10.6	1.1	0.4	8.4	0.7	78.5	100.0	476
Central	32.2	31.8	9.9	1.1	13.8	0.0	0.0	7.1	0.0	0.4	0.4	0.0	0.0	0.0	67.8	100.0	340
South	52.0	51.5	15.3	5.1	14.1	0.2	0.5	15.6	0.7	0.5	0.2	0.3	0.0	0.0	48.0	100.0	730
Level of education																	
No education	16.8	14.2	2.5	0.2	5.9	0.0	0.0	5.6	0.0	2.6	0.6	0.2	1.7	0.2	83.2	100.0	509
Primary incomplete	19.2	15.0	4.3	0.3	5.3	0.0	0.0	5.1	0.0	4.3	0.7	0.2	3.0	0.3	80.8	100.0	827
Primary completed	29.5	27.6	7.7	1.2	9.5	0.0	0.5	8.0	0.6	1.9	0.3	0.0	1.6	0.0	70.5	100.0	192
Secondary/Higher	48.1	46.4	16.9	5.6	11.3	0.2	0.6	11.2	0.5	1.7	0.7	0.5	0.5	0.0	51.9	100.0	730
No. of living children																	
0	11.2	10.9	6.6	0.6	1.8	0.0	0.0	1.8	0.0	0.3	0.3	0.0	0.0	0.0	88.8	100.0	197
1	29.3	26.0	11.7	2.2	10.3	0.4	0.3	1.2	0.0	3.3	0.6	0.4	2.1	0.2	70.7	100.0	342
2	38.4	34.1	13.5	3.7	8.1	0.0	0.3	7.9	0.6	4.3	1.3	0.3	2.5	0.2	61.6	100.0	394
3	36.2	33.0	6.4	2.3	13.0	0.0	0.6	10.4	0.3	3.2	0.4	0.3	2.3	0.2	63.8	100.0	371
4+	25.6	23.1	6.0	1.6	5.8	0.0	0.1	9.5	0.1	2.5	0.6	0.3	1.5	0.1	74.4	100.0	955
Time to source (min.)																	
< 15	50.2	49.3	16.3	4.4	11.6	0.0	0.5	16.2	0.3	0.9	0.4	0.5	0.0	0.0	49.8	100.0	469
15-29	38.4	35.7	10.9	3.4	13.0	0.0	1.2	6.8	0.4	2.7	0.9	0.4	1.4	0.0	61.6	100.0	279
30-59	26.3	24.7	9.7	1.5	8.9	0.0	0.0	4.5	0.0	1.6	0.4	0.0	1.0	0.2	73.7	100.0	370
60-119	24.5	19.0	4.3	2.3	7.7	0.0	0.0	4.7	0.0	5.4	1.0	0.3	4.1	0.0	75.5	100.0	362
≥120	14.4	9.6	2.7	0.0	4.0	0.0	0.0	2.9	0.0	4.8	0.7	0.5	3.4	0.2	85.6	100.0	370
Missing/Don't know	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	1
Don't know source	17.4	15.0	4.6	0.6	1.9	0.3	0.0	7.0	0.6	2.4	0.7	0.0	1.2	0.4	82.6	100.0	407
Distance to source (km)																	
0-4	40.5	37.0	12.1	2.8	12.0	0.0	0.3	9.7	0.0	3.5	0.6	0.4	2.4	0.1	59.5	100.0	1013
5-9	35.0	31.6	10.4	3.6	8.8	0.0	0.9	6.1	1.9	3.4	1.5	0.0	2.0	0.0	65.0	100.0	129
10-19	22.8	19.0	8.4	2.8	2.2	0.0	0.7	5.0	0.0	3.8	0.5	0.5	2.7	0.0	77.2	100.0	158
20-29	11.9	10.5	1.7	1.0	3.0	0.0	0.0	4.8	0.0	1.4	0.7	0.0	0.7	0.0	88.1	100.0	120
30-59	15.6	12.3	3.6	0.5	4.3	0.0	0.0	3.9	0.0	3.3	1.1	0.5	1.3	0.4	84.4	100.0	198
60+	20.3	20.3	4.1	2.1	7.7	0.0	0.0	6.3	0.0	0.0	0.0	0.0	0.0	0.0	79.7	100.0	171
Missing/Don't know	16.8	15.4	3.8	1.9	8.1	0.0	0.0	1.6	0.0	1.3	0.0	0.0	1.3	0.0	83.2	100.0	63
Don't know source	17.4	15.0	4.6	0.6	1.9	0.3	0.0	7.0	0.6	2.4	0.7	0.0	1.2	0.4	82.6	100.0	407
Total	28.9	26.0	8.3	2.1	7.7	0.1	0.3	7.4	0.2	2.9	0.7	0.3	1.8	0.1	71.1	100.0	2259

Regional differences in contraceptive prevalence are also observed. By far the highest contraceptive prevalence is found in the South region where 52 percent of married women are currently using a modern method of contraception. The overall level of use is lowest in the Northwest region (7 percent). Current use of modern methods in the Central region is 32 percent, while in the Northeast region it is 11 percent. In the South, 16 percent of women are using female sterilisation, 15 percent are using the pill, and 14 percent have chosen injection. Use of traditional methods is common in the Northeast region; 11 percent of currently married women are currently using traditional methods, principally herbs (8 percent).

Figure 4.2
Current Use of Family Planning Methods Among Currently Married Women



Greater use of family planning among women with formal education—an association documented in many countries around the world—also occurs in Namibia. Prevalence increases from 17 percent among women with no education to 48 percent among women who have some secondary or higher education. At all educational levels, injection is the most popular method with the exception of women with secondary/higher education where the pill is the preferred method. Use of condoms is very low among women with no education.

Current use of modern contraceptives is lowest for women with no children (11 percent). It is highest among women with 2-3 children (36-38 percent). About 10 percent of women with at least three children are sterilised.

Women in the NDHS were also asked about the nearest health facility and outreach services they were using. If the nearest health facility was not a hospital, questions were asked about the nearest hospital as well. For each service it was asked whether family planning services were available. A detailed analysis of the services availability data is presented in Chapter 11. Use of modern contraceptives declines with travel time to the source. Use is highest among women within 15 minutes of a source, and declines gradually to the lowest level among women 2 hours or more from a source of family planning. The association between current use and distance is somewhat less pronounced. Although this provides only a crude indication of the relationship between service availability and use, it generally suggests that increased availability is associated with increased contraceptive use for supply methods such as pills and injection. This relationship is explored further in Section 4.6 and Table 4.11.

4.4 Number of Children at First Use of Contraception

It is assumed that in many cultures, family planning is used only when couples have already had as many children as they want. As the concept of planning families gains acceptance, however, couples may begin to use contraception for spacing births as well as for limiting family size. Moreover, unmarried young women may be particularly motivated to use family planning to avoid an unwanted pregnancy.

Table 4.6 shows the number of children a woman had when she first used contraception. Most ever-users of contraception reported that they began using some form of contraception after they had their first child (19 percent of all ever married women), but 13 percent started using before they had their first child. From the age patterns, it is apparent that while older age cohorts waited until they had at least four children or more, younger age cohorts started to use a method of contraception before they had any children. For example, 24 percent of women age 15-19 used contraception before they had any children, compared to 4 percent of women age 40-44.

Table 4.6 Number of children at first use of contraception

Percent distribution of ever-married women by number of living children at the time of first use of contraception, according to current age, Namibia 1992

Current age	Never used contraception	Number of living children at time of first use of contraception					Missing	Total	Number of women
		0	1	2	3	4+			
15-19	57.0	23.6	17.7	0.4	0.0	0.0	1.2	100.0	98
20-24	37.8	23.1	32.1	5.1	1.6	0.0	0.3	100.0	348
25-29	39.2	20.3	26.2	8.2	3.0	2.6	0.4	100.0	473
30-34	43.5	13.4	20.0	8.7	6.6	7.5	0.3	100.0	536
35-39	49.5	8.7	14.9	10.4	6.6	9.8	0.0	100.0	458
40-44	58.2	4.0	9.4	7.3	7.4	12.9	0.9	100.0	411
45-49	59.2	6.2	6.9	5.7	5.4	15.8	0.9	100.0	315
Total	47.7	13.1	18.5	7.6	5.0	7.6	0.5	100.0	2638

4.5 Knowledge of the Fertile Period

Table 4.7 presents knowledge of the fertile period among all women and among those who have ever used periodic abstinence. Forty-five percent of all women did not know when conception was most likely to occur, while 21 percent said they thought it occurred after their period ended. Only 8 percent of women correctly identified the fertile period as being in the middle of the ovulatory cycle. Ever-users of periodic abstinence were more knowledgeable—16 percent correctly identified the fertile period—but 37 percent thought a woman had the greatest risk of becoming pregnant after her period.

It appears, therefore, that women in Namibia generally have limited knowledge about their ovulatory cycle. Since basic knowledge on reproduction is important for the successful practice of coitus-related methods such as withdrawal, condoms, etc., more attention needs to be given to the physiological aspects of reproduction in formal education and family planning programmes.

Table 4.7 Knowledge of fertile period

Percent distribution of all women and of women who have ever used periodic abstinence by knowledge of the fertile period during the ovulatory cycle, Namibia 1992

Perceived fertile period	All women	Ever users of periodic abstinence
During menstrual period	1.2	1.2
Right after period has ended	20.6	37.3
In the middle of the cycle	7.8	15.9
Just before period begins	2.5	3.9
Other	0.3	1.2
No particular time	22.5	20.9
Don't know	45.0	18.9
Missing	0.2	0.8
Total	100.0	100.0
Number	5421	338

4.6 Sources of Family Planning Methods

Current users of modern methods of family planning were asked where they most recently obtained their method. Most women (86 percent) said that they obtained their method from a government health facility (government hospital, government health centre, or primary health care mobile clinic). The private sector, which provides 11 percent of modern contraceptives, plays a much smaller role in supplying contraceptive methods in Namibia (see Table 4.8).

Table 4.8 Source of supply for modern contraceptive methods

Percent distribution of current users of modern contraceptive methods by most recent source of supply, according to specific methods, Namibia 1992

Source of supply	Pill	IUD	Injection	Condom	Female sterilisation	Total
Public	84.7	54.8	97.1	(82.4)	78.6	86.4
Government hospital	22.5	40.1	26.7	(35.0)	78.6	35.5
Government health centre	61.5	14.7	68.0	(47.5)	0.0	49.7
PHC mobile clinic	0.6	0.0	2.4	(0.0)	0.0	1.2
Private (medical)	12.8	41.4	2.3	(9.4)	15.8	11.1
Private doctor	1.3	26.9	0.0	(4.7)	1.2	2.6
Private hospital/clinic	2.9	14.5	2.3	(0.0)	14.6	5.5
Pharmacy	8.6	0.0	0.0	(4.7)	0.0	3.0
Other private	1.3	0.0	0.0	(8.2)	0.0	0.6
Shop	0.1	0.0	0.0	(0.0)	0.0	0.0
Friends/relatives	1.1	0.0	0.0	(8.2)	0.0	0.6
Other	0.3	0.0	0.0	(0.0)	1.2	0.3
Don't know	0.0	0.0	0.0	(0.0)	0.5	0.1
Missing	0.9	3.8	0.6	(0.0)	4.0	1.5
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number	383	71	468	26	207	1162

Note: Figures in parentheses are based on a small number of cases.

The sources for family planning methods depend on the type of method used. Injection and pills are primarily supplied by government health centres (97 and 85 percent, respectively), while most sterilisations are done in government hospitals. The private sector's largest share in the supply of contraceptives is IUDs, for which it accounts for 41 percent of the total supply. Eighty-two percent of all condoms used for family planning are provided by the government, while private pharmacies supply only 5 percent. About one in 12 condoms is obtained from friends or relatives. No women reported the primary health care mobile clinics as a source of condoms.

Among women who have been sterilised more than half (56 percent) had the operation when they were in their thirties. Twenty-nine percent were sterilised before age 30, and 15 percent at age 40 and over. The median age at sterilisation is 32.5 years.

Current users of modern methods were asked how long it takes to travel from home to their source of supply. Nonusers of contraceptive methods were asked if they knew a place where they could obtain a modern method and if so how long it would take to get to the source of supply. The results are presented according to urban-rural residence in Table 4.9.

Half of women who are currently using a modern method of contraception are 30 minutes from their source of supply, compared to 21 percent of nonusers, and 31 percent of women who know at least one modern method. There are marked differences by urban-rural residence. More than 60 percent of the current users of modern methods of family planning in urban areas are less than 30 minutes away from their source of supply, compared to 27 percent in the rural areas. Time to source does not appear to play an important role, since both users and nonusers are equally close to a source. However, 15 percent of nonusers in urban areas did not know a source.

Rural users generally live further from a source of supply for modern methods: 45 percent of the rural users had to travel more than one hour to reach a source. Among rural nonusers the proportion having to travel more than one hour to a source is about 60 percent (31 percent of all rural nonusers, but 48 percent could not provide a source or time), indicating that distance may play a role in contraceptive use. More important, however, is the fact that 45 percent of rural nonusers did not know a source at all.

These data suggest that increasing the availability of family planning services in rural Namibia may have an impact on the use of modern methods. Increasing information, education, and communication (IEC) efforts may also have an impact in both rural and urban areas.

Table 4.9 Time to source of supply for modern contraceptive methods

Percent distribution of women who are currently using a modern contraceptive method, of women who are not using a modern method, and of women who know a method, by time to reach a source of supply, according to urban-rural residence, Namibia 1992

Minutes to source	Women who are currently using a modern method			Women who are not using a modern method			Women who know a contraceptive method		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
0-14	36.7	16.0	30.7	29.8	3.6	11.3	33.6	5.6	17.3
15-29	22.1	7.7	17.9	17.7	4.6	8.5	19.9	5.8	11.7
30-59	19.8	16.4	18.8	19.2	10.6	13.2	19.6	12.9	15.7
60+	11.3	45.4	21.2	10.4	31.0	24.9	10.8	37.3	26.2
Does not know time	0.0	0.0	0.0	5.2	3.0	3.7	3.1	2.9	3.0
Does not know source	0.0	0.0	0.0	14.6	44.5	35.7	6.9	30.9	20.9
Not stated	7.8	10.8	8.6	2.5	0.8	1.3	4.7	2.1	3.2
Not asked	2.4	3.7	2.7	0.6	1.9	1.5	1.3	2.4	2.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	825	337	1162	1252	3007	4259	2000	2801	4801

4.7 Intention to Use Family Planning Among Nonusers

Women who were not using any contraceptive method at the time of the survey were asked whether they would do something in future to avoid getting pregnant. Sixty percent of currently married women said they did not intend to use a contraceptive method in future, while 26 percent intend to use a method within 12 months (see Table 4.10). The intention to use within 12 months is highest among married women with 2-3 living children (31 percent). Twenty-four percent of mothers with 4 or more children intend to use a contraceptive method within 12 months. The proportion of currently married nonusers of a contraceptive method who do not intend to use a contraceptive method is more than 50 percent, regardless of the number of living children.

Table 4.10 Future use of contraception

Percent distribution of currently married women who are not using a contraceptive method by past experience with contraception and intention to use in the future, according to number of living children, Namibia 1992

Past experience with contraception and future intentions	Number of living children[1]					Total
	0	1	2	3	4+	
Never used contraception						
Intend to use in next 12 months	7.1	12.6	9.9	7.9	11.3	10.4
Intend to use later	1.2	2.5	3.0	0.9	1.1	1.5
Unsure as to timing	0.0	0.0	0.0	0.0	0.4	0.2
Unsure as to intention	6.8	8.4	5.2	7.2	8.1	7.5
Do not intend to use	55.7	40.9	39.4	41.3	53.3	47.9
Missing	0.0	1.0	0.0	0.0	0.2	0.2
Previously used contraception						
Intend to use in next 12 months	6.9	15.0	21.4	23.0	12.9	15.5
Intend to use later	4.3	3.7	3.6	2.1	1.6	2.5
Unsure as to timing	0.0	0.0	0.9	0.5	0.3	0.3
Unsure as to intention	3.9	0.4	1.9	0.5	1.2	1.3
Do not intend to use	13.2	15.4	14.2	16.2	9.6	12.4
Missing	0.9	0.0	0.5	0.5	0.0	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
All currently married nonusers						
Intend to use in next 12 months	14.0	27.7	31.3	30.9	24.2	25.9
Intend to use later	5.5	6.2	6.6	2.9	2.7	4.0
Unsure as to timing	0.0	0.0	0.9	0.5	0.7	0.5
Unsure as to intention	10.7	8.7	7.1	7.7	9.3	8.8
Do not intend to use	68.9	56.4	53.6	57.5	62.9	60.3
Missing	0.9	1.0	0.5	0.5	0.2	0.4
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	139.0	233.0	233.0	245.0	756.0	1606.0

[1]Includes current pregnancy

Nearly 50 percent of women who never used any contraceptive method do not intend to use a method in future, while 10 percent intend using a contraceptive method within 12 months, and only 2 percent intend to use at a later time. Among women who previously used a contraceptive method, 16 percent intend using a method within 12 months while 12 percent do not intend to use a contraceptive method in future.

Women who were not using a contraceptive method and said they did not intend to use one in future were asked to give the main reason for not intending to use a contraceptive method. The results are presented in Table 4.11 by respondent's age. The main reason women gave for not using a contraceptive method was that they wanted more children: 66 percent of women under 30 years want more children while 47 percent of women 30 years and over want more children. Other reasons include: lack of knowledge (12 percent), "difficult to get pregnant" (8 percent), and that the woman was menopausal or had had a hysterectomy (6 percent). The latter was only cited by women more than 30 years of age. Only 3 percent of women are opposed to family planning. Health concerns and side effects were mentioned by 4 and 2 percent of women, respectively.

Table 4.11 Reasons for not using contraception

Percent distribution of women who are not using a contraceptive method and who do not intend to use in the future by main reason for not using, according to age, Namibia 1992

Reason for not using contraception	Age		Total
	15-29	30-49	
Want children	66.1	47.1	52.2
Lack of knowledge	9.5	13.2	12.2
Partner opposed	1.8	1.2	1.4
Cost too much	0.0	0.1	0.1
Side effects	3.9	1.3	2.0
Health concerns	1.8	4.2	3.6
Hard to get methods	1.4	1.5	1.5
Religion	0.5	1.8	1.4
Opposed to family planning	4.9	2.9	3.4
Fatalistic	0.0	0.5	0.4
Infrequent sex	0.0	0.2	0.2
Difficult to be pregnant	4.7	9.4	8.2
Menopausal, had hysterectomy	0.0	8.4	6.1
Not married	0.0	0.3	0.2
Other	1.3	2.4	2.1
Don't know	4.1	5.4	5.0
Missing	0.0	0.2	0.1
Total	100.0	100.0	100.0
Number	260	709	969

Currently married nonusers who intend using a method in the future were asked which method they preferred to use (see Table 4.12). Among those who intent to use in the next 12 months, thirty-nine percent said they preferred injection, 31 percent the pill, and 10 percent the IUD. Women who intend to use a method at a later time preferred the pill (36 percent) followed by injection (31 percent). Seven percent of nonusers who intend to use a method sometime preferred sterilisation; only 2 percent preferred the condom.

Table 4.12 Preferred method of contraception for future use

Percent distribution of currently married women who are not using a contraceptive method but who intend to use in the future by preferred method, according to whether they intend to use in the next 12 months or later, Namibia 1992

Preferred method of contraception	Intend to use: In next 12 months	Intend to use: After 12 months	Total[1]
Pill	30.6	35.6	31.0
IUD	10.1	6.7	9.6
Injection	39.4	31.0	38.1
Diaphragm/Foam/Jelly	0.7	1.8	0.8
Condom	2.3	1.8	2.2
Female sterilisation	6.7	7.7	6.7
Periodic abstinence	1.3	5.1	1.8
Withdrawal	0.0	1.3	0.2
Herbs	3.3	0.0	3.0
Other	0.7	0.0	0.6
Missing	4.9	9.0	6.0
Total	100.0	100.0	100.0
Number of women	416	65	492

[1]Includes 9 women unsure as to timing and two missing.

4.8 Approval of Family Planning

All women were asked if it was acceptable to them to have messages about family planning on radio and television (see Table 4.13). Three-quarters of respondents approved of the family planning messages, however, women over 40 years of age were less likely to approve than younger women.

In the Northwest region mass-media family planning messages were not acceptable to 31 percent of women, while in the Central and South regions only 9 percent found them unacceptable. Women with secondary or higher education (85 percent) expressed more approval for family planning messages than women with no education (53 percent) and approval in urban areas was considerably higher than in rural areas (84 vs. 64 percent).

Table 4.13 Acceptability of the use of mass media for disseminating family planning messages

Percentage of women who believe that it is acceptable to have messages about family planning on radio or television, by selected background characteristics, Namibia 1992

Background characteristic	Accept-able	Not accept-able	Missing	Total	Number
Age					
15-19	68.2	20.4	11.4	100.0	1259
20-24	76.0	18.3	5.7	100.0	1119
25-29	77.2	17.1	5.6	100.0	890
30-34	75.3	18.6	6.1	100.0	722
35-39	70.5	22.1	7.4	100.0	567
40-44	63.9	25.4	10.8	100.0	507
45-49	66.4	24.7	8.9	100.0	358
Residence					
Urban	84.4	10.3	5.3	100.0	2077
Rural	64.2	26.2	9.6	100.0	3344
Region					
Northwest	59.0	31.5	9.4	100.0	2246
Northeast	79.5	18.2	2.3	100.0	879
Central	76.5	9.4	14.1	100.0	674
South	83.9	9.8	6.3	100.0	1622
Education					
No education	53.4	28.7	17.9	100.0	785
Some primary	65.3	24.8	9.8	100.0	2113
Completed primary	76.9	18.2	4.9	100.0	510
Secondary/Higher	84.9	12.3	2.8	100.0	2013
Total	72.0	20.1	7.9	100.0	5421

4.9 Attitudes of Couples Toward Family Planning

Among currently married women who knew a contraceptive method and had not been sterilised almost half reported that they had not discussed family planning with their husbands in the past year; 31 percent had discussed it once or twice; and about one-fifth had discussed family planning with their husbands more often.

Respondents were asked whether they approved or disapproved of couples using a method to avoid pregnancy. Table 4.14 presents the responses of currently married women, who knew a contraceptive method and had not been sterilised. In 47 percent of couples, the wife reported that both she and her husband approved of family planning. Another 16 percent who approved of family planning said their husbands disapproved, and 10 percent did not know if their husbands approved or disapproved. Only 4 percent of the women did not approve of family planning while their husbands approved.

Couples in urban areas are more likely to approve of family planning than rural couples (57 and 41 percent, respectively). Approval is higher among couples in the South and Northeast regions than among couples in the Northwest and Central regions. Also, couples with secondary or higher education (68 percent) are twice as likely to approve of family planning as couples with no education (33 percent).

Table 4.14 Attitudes of couples toward family planning

Among currently married non-sterilised women who know a contraceptive method, the percentage who approve of family planning, by their perception of their husband's attitude and selected background characteristics, Namibia 1992

Background characteristic	Both approve	Respondent approves: Husband disapproves	Respondent approves: Unsure of husband	Respondent disapproves: Husband approves	Respondent disapproves: Husband disapproves/ unsure	Both disapprove	Missing	Percent	Total
Age									
15-19	42.8	22.7	12.1	2.3	2.7	12.7	4.7	100.0	76
20-24	50.1	19.0	10.3	4.1	3.9	11.0	1.7	100.0	281
25-29	56.3	13.8	8.8	3.0	2.7	12.9	2.6	100.0	382
30-34	51.2	13.2	8.8	5.7	6.1	11.9	3.2	100.0	398
35-39	45.4	18.9	6.2	2.8	6.4	16.7	3.6	100.0	315
40-44	34.7	16.8	13.2	4.3	8.7	21.0	1.4	100.0	248
45-49	37.3	13.4	11.8	3.4	9.9	21.9	2.3	100.0	170
Residence									
Urban	57.5	14.5	6.4	4.0	3.6	10.7	3.4	100.0	720
Rural	40.9	17.0	11.6	3.8	7.0	17.6	2.2	100.0	1150
Region									
Northwest	32.8	16.5	7.4	3.7	7.1	29.5	3.0	100.0	563
Northeast	54.2	17.8	13.2	4.3	4.1	5.6	0.9	100.0	447
Central	41.3	17.8	12.6	2.2	9.1	12.6	4.3	100.0	276
South	58.8	13.4	7.4	4.5	3.9	9.1	2.9	100.0	584
Education									
No education	32.7	14.4	13.9	3.2	12.4	21.2	2.3	100.0	374
Some primary	36.6	18.7	11.8	4.6	6.1	18.5	3.6	100.0	696
Completed primary	46.8	17.7	11.3	4.8	2.0	16.7	0.7	100.0	167
Secondary/Higher	67.8	13.6	4.1	3.2	2.1	6.8	2.3	100.0	632
Total	47.3	16.0	9.6	3.9	5.7	14.9	2.6	100.0	1870

CHAPTER 5

PROXIMATE DETERMINANTS OF FERTILITY

This chapter addresses the principal factors, other than contraception, which affect a woman's risk of becoming pregnant: nuptiality and sexual intercourse, postpartum amenorrhoea and abstinence from sexual relations, and secondary infertility (menopause, terminal infertility, and long-term abstinence).

Several indicators of a woman's exposure to the risk of pregnancy can be used to help explain trends in fertility levels. Age at first marriage and age at first sexual intercourse are indicators used to assess the age at which women are first exposed to the risk of pregnancy. Populations in which age at first marriage is low are generally characterised by early childbearing and high fertility. Other measures of proximate determinants of fertility are also examined, including the duration of postpartum amenorrhoea and of postpartum abstinence, and secondary infertility.

5.1 Marital Status

The term "married" refers to legal or formal marriage, while "living together" refers to informal unions. In subsequent tables, these two categories are combined and referred to collectively as "currently married" or "currently in union." Also, the categories "widowed", "divorced", "not living together" or "separated", and "currently married/in union" are collapsed into an "ever-married" or "ever in union" category. Although pregnancy is most apt to occur among women in union, women may be involved in long-term sexual relationships regardless of marriage or cohabitation, and be at risk of pregnancy. This confounds the relationship between marriage/union and exposure to pregnancy, therefore more direct measures of exposure to pregnancy must also be considered in conjunction with marital status.

Current marital status at the time of the survey is shown in Table 5.1. In Namibia, 42 percent of women 15-49 were currently married, including 27 percent that were formally married and 15 percent that simply lived with their partner. More than half of the women interviewed had never been married. Nine of

Table 5.1 Current marital status by age

Percent distribution of women by current marital status, according to age, Namibia 1992

Age group	Marital status						Missing	Total	Number of women
	Never married	Married	Living together	Widowed	Divorced	Not living together			
15-19	92.3	2.9	4.0	0.0	0.3	0.5	0.0	100.0	1259
20-24	68.9	15.0	12.4	0.1	1.1	2.3	0.1	100.0	1119
25-29	46.9	28.6	17.9	1.0	3.2	2.3	0.1	100.0	890
30-34	25.8	44.0	19.6	2.0	5.5	3.1	0.0	100.0	722
35-39	19.2	48.5	21.5	2.5	5.4	2.9	0.0	100.0	567
40-44	18.9	44.1	24.0	4.0	6.7	2.3	0.0	100.0	507
45-49	11.9	54.6	15.5	4.9	8.9	4.2	0.0	100.0	358
Total	51.3	27.1	14.5	1.4	3.3	2.2	0.0	100.0	5421

ten women 15-19 were unmarried, but the proportion decreases in older age cohorts. By age 25-29, 47 percent of women had never been married and 26 percent of women 30-34 were unmarried. Even at older ages it is not uncommon for women to be unmarried; one in six women 35 years and older had never been married. These data suggest that, although not marrying has been fairly common in Namibia, the practice appears to have increased. However, an increase in age at first marriage may have contributed to the higher proportion of women who were not married at the time of the survey. Overall, five percent of all women were divorced or were separated from their partner. As expected, the proportion of women who were widowed increases with age, reaching five percent among those 45-49 years.

Table 5.2 presents women's marital status by various background characteristics. Women in the Northwest (64 percent) were more likely to have never been in union than women in the Central and South regions (47 percent) and women in the Northeast region (30 percent). Women's marital status varied by level of educational. Approximately half of women with some secondary/higher education have never been in union, compared to 24 percent of women with no education.

Table 5.2 Current marital status by background characteristics

Percent distribution of women by current marital status, according to background characteristics, Namibia 1992

Background characteristic	Marital status			Missing	Total	Number of women
	Never married	Currently married	Previously married			
Residence						
Urban	50.2	42.2	7.6	0.0	100.0	2077
Rural	52.1	41.3	6.6	0.1	100.0	3344
Region						
Northwest	63.9	31.7	4.2	0.1	100.0	2246
Northeast	30.3	54.2	15.5	0.0	100.0	879
Central	47.2	50.4	2.3	0.0	100.0	674
South	47.0	45.0	8.0	0.0	100.0	1622
Education						
No education	24.1	64.8	11.1	0.0	100.0	785
Some primary	53.8	39.2	7.0	0.0	100.0	2113
Primary completed	54.6	37.7	7.7	0.0	100.0	510
Secondary/Higher	58.6	36.3	5.1	0.1	100.0	2013
Total	51.3	41.7	7.0	0.0	100.0	5421

5.2 Polygyny

Polygamy is common in sub-Saharan Africa and may have an impact on fertility. Married women were asked whether their husbands had other wives, and if so, how many. One in eight currently married women was in a polygynous union (see Table 5.3). Older women were more likely to be in polygynous unions than younger women, as evidenced by the lower prevalence of polygyny among women 20-34 years,

Table 5.3 Polygyny

Percentage of currently married women in a polygynous union, by age and selected background characteristics, Namibia 1992

Background characteristic	Age of woman							All ages
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Residence								
Urban	7.7	7.4	6.1	7.6	8.6	5.8	7.2	7.2
Rural	6.6	14.0	16.6	13.4	18.5	20.0	16.3	16.1
Region								
Northwest	*	(9.8)	9.9	9.4	19.5	19.7	14.6	14.5
Northeast	12.6	20.2	24.5	26.5	29.4	36.6	27.7	25.1
Central	*	(2.4)	16.7	10.5	(5.6)	(5.0)	(12.1)	9.2
South	*	6.0	2.8	4.5	5.8	1.4	5.7	4.3
Education								
No education	*	(4.4)	18.2	14.3	19.8	21.5	22.1	17.5
Some primary	9.2	15.5	12.9	13.1	18.9	18.9	10.3	14.8
Completed primary	*	(10.2)	(8.5)	(6.6)	(16.6)	*	*	10.6
Secondary/Higher	*	10.0	10.1	8.1	4.6	1.5	5.6	7.3
Total	6.9	11.3	12.2	11.0	14.4	15.7	13.0	12.6

Note: Figures in parentheses are based on a small number of cases.
*Based on too few cases to show

compared with women 35-49 years. The prevalence of polygyny in rural areas was more than twice as high as in urban areas. Regional differences were also pronounced; women in the Northeast region were more than six times as likely to be in a polygynous union as women in the South region. Prevalence among women with different educational levels varies somewhat. Eighteen percent of women with no education were in a polygynous union, compared to 7 percent of women with at least some secondary education. In polygynous unions, the woman may have one or more co-wives. Approximately half of women in polygynous unions have one other co-wife, and the other half have two or more co-wives.

5.3 Age at First Marriage

Table 5.4 presents the percentage of women ever married by selected exact ages and median age at first marriage, according to current age. The table reveals a higher age at first marriage among younger women. The median age at first marriage among women 30-34 was 25, compared to 23 among women 45-49. Table 5.5 presents age at first marriage for women by their current age and selected background characteristics. The median age at first marriage for women in the Northeast region (18.9 years) was substantially lower than for women in the three other regions. Educational level was not a differentiating factor in age at first marriage among women 45-49, however there was greater disparity between educational levels among younger women. Analysis by age cohort shows that age at marriage had increased markedly among women with at least some secondary education. The other educational categories did not show such an increase. Overall, women with no education married about two years earlier than women with some education.

Table 5.4 Age at first marriage

Percentage of women who were first married by exact age 15, 18, 20, 22, and 25, and median age at first marriage, according to current age, Namibia 1992

Current age	Percentage of women who were first married by exact age: 15	18	20	22	25	Percentage who had never married	Number of women	Median age at first marriage
15-19	1.1	NA	NA	NA	NA	92.3	1259	a
20-24	1.6	11.5	20.1	NA	NA	68.9	1119	a
25-29	2.0	11.2	20.4	30.2	44.8	46.9	890	a
30-34	3.8	14.7	24.7	34.8	50.4	25.8	722	24.9
35-39	4.2	14.4	26.3	40.1	54.9	19.2	567	24.0
40-44	4.4	14.1	28.2	39.0	53.3	18.9	507	24.3
45-49	2.2	10.4	23.1	38.1	56.8	11.9	358	23.3
20-49	2.8	12.6	23.0	33.5	45.5	39.0	4162	a
25-49	3.2	13.0	24.1	35.5	50.8	28.0	3044	24.8

NA = Not applicable
[a]Omitted because less than 50 percent of the women in the age group *x* to *x+4* were first married by age *x*

Table 5.5 Median age at first marriage

Median age at first marriage among women age 25-49 years, by current age and selected background characteristics, Namibia 1992

Background characteristic	Current age 25-29	30-34	35-39	40-44	45-49	Women age 25-49
Residence						
Urban	a	26.4	26.3	27.8	24.3	a
Rural	a	23.7	22.3	23.3	22.8	24.0
Region						
Northwest	a	26.8	23.6	24.4	23.2	a
Northeast	19.3	18.6	18.2	19.6	18.6	18.9
Central	a	27.9	b	26.3	27.0	a
South	a	26.2	26.1	c	25.5	a
Education						
No education	21.9	23.0	21.5	22.9	22.9	22.6
Some primary	a	24.1	24.0	24.9	24.9	24.6
Completed primary	a	23.7	24.5	29.0	22.8	24.8
Secondary/Higher	a	26.2	24.8	25.0	23.0	a
Total	a	24.9	24.0	24.3	23.3	24.8

[a]Omitted because less than 50 percent of the women in this age group were first married at age 25.
[b]Omitted because less than 50 percent of the women in this age group were first married at age 35.
[c]Omitted because less than 50 percent of the women in this age group were first married at age 40.

5.4 Age at First Sexual Intercourse

Age at first marriage is commonly used as a proxy for exposure to pregnancy, but in the Namibian situation, where many young women never marry or marry in their mid-twenties, the value of this indicator is limited in fertility analysis. Women may engage in sexual relations prior to marriage, especially if they are postponing the age at which they marry. All women in the NDHS were asked to state the age at which they first had sexual intercourse (see Tables 5.6 and 5.7). The median age at first intercourse was 18.9 years among women 20-49, and appears to be fairly similar in all age groups. The proportion of women 20-49 who had been sexually active by age 15 was seven percent, increasing to 37 percent by age 18, and 61 percent by age 20. Women in the Northeast region reportedly had sexual intercourse at about 17 years. This was approximately two years earlier than women in the South region, and four years earlier than women in the Northwest region. Women with no education engaged in sexual relations about two years earlier than women with secondary/higher education. In recent decades, educational level has had an impact on the age at first marriage (see Table 5.5), but the same effect has not been seen regarding age at first sexual intercourse.

Table 5.6 Age at first sexual intercourse

Percentage of women who had first sexual intercourse by exact age 15, 18, 20, 22, and 25, and median age at first intercourse, according to current age, Namibia 1992

Current age	Percentage of women who had first intercourse by exact age: 15	18	20	22	25	Percentage who never had intercourse	Number of women	Median age at first intercourse
15-19	7.7	NA	NA	NA	NA	57.6	1259	a
20-24	6.1	40.3	66.1	NA	NA	18.4	1119	18.7
25-29	6.0	35.1	59.8	74.6	86.4	7.7	890	19.0
30-34	7.8	39.8	62.4	77.5	87.2	1.9	722	18.7
35-39	8.3	37.4	62.1	78.9	87.7	0.5	567	19.0
40-44	8.7	35.8	55.3	70.8	84.3	0.6	507	19.4
45-49	7.0	29.6	48.2	69.0	85.0	0.6	358	20.1
20-49	7.1	37.3	60.7	75.2	84.8	7.1	4162	18.9
25-49	7.4	36.1	58.7	74.8	86.3	3.0	3044	19.1

NA = Not applicable
[a]Omitted because less than 50 percent of the women in the age group x to $x+4$ had had intercourse by age x

Table 5.7 Median age at first marriage

Median age at first marriage among women age 20-49 years, by current age and selected background characteristics, Namibia 1992

Background characteristic	Current age						Women age 20-49	Women age 25-49
	20-24	25-29	30-34	35-39	40-44	45-49		
Residence								
Urban	18.5	19.1	18.9	18.9	18.8	19.9	18.9	19.0
Rural	18.7	18.9	18.6	19.1	19.8	20.3	19.0	19.2
Region								
Northwest	a	21.1	20.5	20.4	21.2	21.6	a	20.9
Northeast	16.8	16.8	16.6	16.6	17.8	17.6	16.8	16.8
Central	17.0	17.7	17.6	17.4	16.9	17.4	17.4	17.5
South	18.4	19.2	19.1	19.0	18.9	19.9	19.0	19.1
Education								
No education	16.8	16.8	17.3	17.7	18.9	18.7	18.0	18.1
Some primary	18.1	18.1	18.2	18.6	18.9	19.8	18.4	18.5
Primary completed	18.0	18.7	18.2	19.8	19.5	21.6	18.8	19.3
Secondary/Higher	19.4	20.4	20.2	19.6	20.6	21.7	20.0	20.3
Total	18.7	19.0	18.7	19.0	19.4	20.1	18.9	19.1

Note: Medians are not shown for women 15-19 because less than 50 percent have married by age 15 in all subgroups shown in the table.
[a]Omitted because less than 50 percent of the women in the age group were first married by age 20.

5.5 Recent Sexual Activity

Previous sections have shown that a substantial amount of sexual activity occurs before and outside of marriage. Therefore, in many instances, marriage is neither a valid indicator of recent and/or regular sexual activity nor exposure to pregnancy. Information in chapter 3 shows that fertility levels among all women and among currently married women are similar (see Table 3.5). Since the probability of pregnancy is related to the frequency of intercourse, barring effective contraception, a more direct and effective measure of exposure to pregnancy is recent sexual activity. According to Table 5.6, seven percent of women 20-49 have never had sexual intercourse. At the same time, not all women who have had intercourse are currently sexually active. Table 5.8 presents data on women's recent sexual activity by various background characteristics; the distributions are shown only for women who have had intercourse.

Women were considered to be sexually active if they had intercourse at least once in the four weeks prior to the survey. Women who are not sexually active may be abstaining in the period following a birth, or may be abstaining for other reasons. Among women who have had sexual intercourse, 58 percent were sexually active in the month prior to the survey. Approximately one-fourth of women who have had sexual intercourse were currently abstaining for reasons other than being postpartum, whereas approximately 16 percent were postpartum abstaining. More women in the Central, South, and Northeast regions reported being sexually active (72, 62, and 61 percent respectively) than women in the Northwest region (48 percent).

Moreover, women in the Northwest were much more likely to be postpartum abstaining than women in the Central, South and Northeast regions. As expected, women who were using a method of family planning were more likely to be sexually active than those who were not. However, more than half of women who were sexually active in the four weeks prior to the survey did not use any contraception.

Table 5.8 Recent sexual activity

Percent distribution of women who have ever had sexual intercourse by sexual activity in the four weeks preceding the survey and the duration of abstinence by whether or not postpartum, according to selected background characteristics, Namibia 1992

Background characteristic	Sexually active in last 4 weeks	Not sexually active in last 4 weeks: Abstaining (postpartum) 0-1 year	Abstaining (postpartum) 2+ years	Abstaining (not postpartum) 0-1 year	Abstaining (not postpartum) 2+ years	Missing	Total	Number of women
Age of mother								
15-19	54.8	19.5	0.6	24.1	0.6	0.4	100.0	531
20-24	54.7	16.8	3.3	23.5	1.4	0.3	100.0	913
25-29	58.8	16.1	3.6	18.8	1.8	0.9	100.0	821
30-34	62.2	11.6	2.7	19.8	2.5	1.2	100.0	708
35-39	62.5	9.7	2.0	21.0	3.0	1.8	100.0	564
40-44	57.6	5.4	3.1	22.6	9.4	1.9	100.0	503
45-49	56.6	2.8	1.0	23.7	14.1	1.8	100.0	355
Duration of union								
0-4	73.6	9.8	0.6	15.2	0.3	0.5	100.0	676
5-9	70.5	8.6	2.5	15.8	1.5	0.9	100.0	581
10-14	62.5	9.9	2.2	18.7	3.9	2.9	100.0	484
15-19	64.9	9.1	1.9	18.7	3.7	1.8	100.0	379
20-24	58.9	7.4	1.4	23.4	6.9	1.9	100.0	291
25+	63.1	1.8	0.9	21.9	10.5	1.8	100.0	228
Never in union	44.8	19.3	3.9	27.4	4.3	0.4	100.0	1758
Residence								
Urban	63.3	8.5	2.4	20.3	3.8	1.8	100.0	1796
Rural	54.6	15.8	2.6	22.7	3.7	0.6	100.0	2600
Region								
Northwest	48.2	19.2	2.5	26.3	3.5	0.2	100.0	1563
Northeast	60.5	13.2	3.3	18.6	3.9	0.7	100.0	801
Central	72.2	5.4	1.2	17.4	3.1	0.8	100.0	622
South	61.8	8.8	2.7	20.3	4.1	2.4	100.0	1410
Education								
No education	64.9	8.3	2.8	17.3	5.7	1.0	100.0	760
Some primary	55.1	15.3	2.9	22.3	4.2	0.4	100.0	1654
Primary completed	53.8	15.5	1.7	24.9	3.4	0.8	100.0	414
Secondary/Higher	59.3	11.6	2.3	22.4	2.4	1.9	100.0	1568
Current contraceptive method								
No method	54.8	14.4	2.6	22.8	4.7	0.7	100.0	3159
Pill	71.5	7.6	1.5	15.9	1.5	1.9	100.0	378
IUD	73.3	6.3	1.7	13.6	0.0	5.0	100.0	71
Sterilisation	69.2	2.6	1.7	20.0	2.6	3.9	100.0	212
Periodic abstinence	(53.4)	(12.8)	(6.5)	(25.6)	(1.7)	(0.0)	100.0	32
Other	62.7	11.9	3.0	20.8	0.8	0.8	100.0	543
Total	58.2	12.8	2.5	21.7	3.7	1.1	100.0	4396

Note: Figures in parentheses are based on a small number of cases.

5.6 Postpartum Amenorrhoea, Abstinence, and Insusceptibility

Postpartum protection from conception can be prolonged by breastfeeding, which can lengthen the duration of amenorrhoea (the period following a birth, but prior to the return of menses). Protection can also be prolonged by delaying the resumption of sexual relations. Table 5.9 presents the percentage of births whose mothers are postpartum amenorrhoeic and postpartum abstaining, as well as the percentage of births whose mothers are still postpartum insusceptible (due to either amenorrhoea or abstinence) since the last birth. In the absence of contraception, postpartum amenorrhoea and abstinence are the most important determinants of the interval between births.

Table 5.9 Postpartum amenorrhoea, abstinence and insusceptibility by age

Percentage of births whose mothers are postpartum amenorrhoeic, abstaining and insusceptible, by number of months since birth, and median and mean durations, Namibia 1992

Months since birth	Amenor-rhoeic	Abstaining	Insus-ceptible	Number of births
< 2	87.3	92.9	98.1	125
2-3	73.6	75.0	92.4	144
4-5	68.9	53.6	82.0	163
6-7	57.4	52.0	76.5	141
8-9	46.3	34.2	63.7	140
10-11	42.6	37.9	62.5	128
12-13	38.9	30.9	53.2	174
14-15	24.0	21.3	37.1	135
16-17	28.6	22.0	41.5	140
18-19	17.9	16.2	31.1	114
20-21	13.8	14.9	23.1	125
22-23	7.7	17.0	22.8	139
24-25	3.9	11.4	13.5	148
26-27	5.1	9.7	12.9	138
28-29	2.5	9.1	11.6	141
30-31	3.4	10.0	12.8	139
32-33	5.7	7.0	11.0	115
34-35	1.4	7.9	8.6	118
Total	30.2	29.6	42.9	2469
Median	8.3	6.0	12.8	-
Mean	10.9	10.7	15.3	-
Prev/Incidence Mean	10.7	10.5	15.2	-

Eighty-seven percent of Namibian women are amenorrhoeic for less than two months following a birth; 93 percent of women abstain from sexual relations during this time. However, approximately 6 months later (about 8 months after a birth), fewer than half the women are still amenorrhoeic (46 percent), and only about one-third (34 percent) are still abstaining. Overall, approximately half of the women become susceptible to pregnancy within 12-13 months of giving birth.

Table 5.10 presents the median duration of insusceptibility by background characteristics of the mothers. The median duration of postpartum amenorrhoea is 8.3 months; the median duration of postpartum abstinence is 6 months. Women are protected by either abstinence or amenorrhoea for slightly more than one year. In the Northeast and Northwest women have substantially longer periods of amenorrhoea (15 months and 10 months respectively) than women in the Central (6 months) and South (3 months) regions; a similar pattern emerges for the duration of abstinence, but the differences are smaller. Women in the Northeast and Northwest regions have longer periods of postpartum insusceptibility than women in the Central and South regions. Women living in rural areas experience much longer periods of amenorrhoea and, to a lesser extent, shorter periods of insusceptibility than urban women.

Table 5.10 Median duration of postpartum amenorrhoea, abstinence and insusceptibility by background characteristics

Median number of months of postpartum amenorrhoea, postpartum abstinence and postpartum insusceptibility, by selected background characteristics, Namibia 1992

Background characteristics	Amenor-rhoeic	Abstaining	Insus-ceptible	Number of births
Age				
<30	7.5	7.2	12.3	1449
30+	11.1	4.4	13.4	1019
Residence				
Urban	3.3	5.6	9.5	792
Rural	10.3	6.2	14.5	1677
Region				
Northwest	10.0	8.7	14.7	1103
Northeast	15.2	6.1	17.0	466
Central	5.9	3.7	10.1	303
South	2.4	5.7	7.8	597
Education				
No education	12.4	4.2	14.2	414
Some primary	11.0	8.5	15.2	1004
Primary completed	8.2	7.8	10.5	249
Secondary/Higher	5.6	5.2	10.0	802
Total	8.3	6.0	12.8	2469

As will be seen in Chapter 8, duration of breastfeeding (which is linked to amenorrhoea) decreases as the mother's level of education increases. As a result, the duration of amenorrhoea for educated women is shorter. The median duration of amenorrhoea for women with no education is one year, and 6 months for women with secondary or more schooling. There is less variation among different educational levels in duration of abstinence than in duration of amenorrhoea. Women with no education abstained for approximately 4 months, whereas, women with secondary/higher levels of education abstain for 5 months. Women in female-headed households had longer durations of abstinence than women in male-headed

households. Use of contraception should be considered in conjunction with amenorrhoea and abstinence in order to assess the impact on fertility.

5.7 Termination of Exposure to Pregnancy

Later in life, the risk of pregnancy begins to decline with age, typically beginning around age 30. While the onset of infecundity is difficult to determine for any individual woman, there are ways of estimating it for a population. Table 5.11 presents two indicators of decreasing exposure to the risk of pregnancy for currently married women age 30 and above: menopause and long-term abstinence.

Women may be described as menopausal if they are neither pregnant nor postpartum amenorrhoeic, but have not had a menstrual period in the six months preceding the survey. Nineteen percent of women age 46-47 and 40 percent of women age 48-49 were menopausal. The second indicator is long-term abstinence, which measures lack of exposure to pregnancy due to lack of sexual activity (3 years) among currently married women. Only 0.5 percent of currently married women were found to be practicing long-term abstinence at the time of the survey.

Table 5.11 Termination of exposure to the risk of pregnancy

Indicators of menopause and long-term abstinence among currently married women age 30-49, by age, Namibia 1992

	Menopause[1]		Long-term abstinence[2]	
Age	Percent	N	Percent	N
30-34	6.1	288	0.5	459
35-39	10.4	283	0.6	397
40-41	7.1	106	0.0	148
42-43	11.5	103	0.0	131
44-45	18.3	117	0.8	131
46-47	19.1	87	0.0	96
48-49	39.6	85	1.2	89
Women 30-49	12.9	1071	0.5	1451

[1]Percentage of non-pregnant, non-amenorrhoeic currently married women whose last menstrual period occurred six or more months preceding the survey or who report that they are menopausal.
[2]Percentage of currently married women who did not have intercourse in the three years preceding the survey.

CHAPTER 6

FERTILITY PREFERENCES

This chapter focuses on three indicators of the need for contraception: whether or not the respondent wants another child, the preferred time interval between children, and the number of children considered to be ideal. Analyses of these and similar issues reveal important implications for the implementation of family planning programs. The underlying rationale of most family planning programmes is to give couples the freedom and ability to bear the number of children they want and to achieve the spacing of births they prefer. The data make possible quantification of fertility preferences and, in combination with information on contraceptive use, allow for an estimation of demand for family planning. Questions regarding fertility preferences were asked of nonsterilised, currently married women; and all women were asked what they considered to be the ideal family size.

6.1 Desire for More Children

Women were asked: "Would you like to have another child or would you prefer not to have any more children?" If they did indeed want another child, they were asked: "How long would you like to wait from now before the birth of another child?" These questions were appropriately phrased if the woman had not yet had any children; if the woman was pregnant, she was asked about her desire for more children in addition to the baby she was expecting.

Figure 6.1 shows the percent distribution of currently married women by their fertility preferences and Table 6.1 shows the distribution according to the number of living children. Twenty-six percent

Figure 6.1
Fertility Preferences of Currently Married Women 15-49

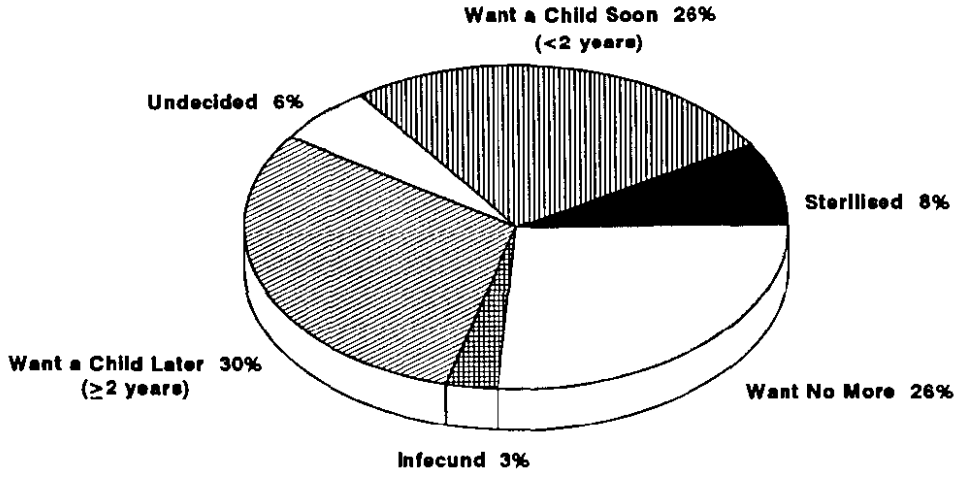


Table 6.1 Fertility preference by number of living children

Percent distribution of currently married women by desire for more children, according to number of living children, Namibia 1992

Desire for children	Number of living children[1]							Total
	0	1	2	3	4	5	6+	
Want another soon[2]	61.9	36.6	20.6	24.4	19.2	19.1	19.2	25.9
Want another later[3]	16.9	38.8	36.3	31.1	28.1	30.5	22.0	29.7
Want another, undecided when	2.5	1.4	0.6	2.1	1.4	1.4	1.4	1.5
Undecided	4.1	4.5	3.7	5.4	8.9	6.3	6.8	5.7
Want no more	6.0	13.6	25.9	24.8	31.5	28.5	36.6	25.8
Sterilised	2.2	1.3	8.7	10.5	7.1	12.0	9.1	7.7
Declared infecund	4.9	2.1	1.9	1.4	2.9	2.2	3.6	2.6
Missing	1.5	1.8	2.2	0.3	0.9	0.0	1.1	1.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	161	333	384	380	282	217	502	2259

[1]Includes current pregnancy
[2]Want next birth within 2 years
[3]Want to delay next birth for 2 or more years

of women wanted another child soon, 30 percent wanted to wait two or more years before having a child and 26 percent did not want any more children at all. The desire for more children tended to decline as the number of living children increased. Sixty-two percent of women with no living children wanted to have a child soon (within the next two years), whereas only 19 percent of women with 4 or more living children wanted a child soon. Six percent of women with no living children said they didn't want any children, and over one-third of women with six or more children said they didn't want any more. Although family size norms are large in Namibia, Table 6.1 indicates a considerable interest in controlling fertility and, therefore, a potential demand for family planning services, particularly among women with many children and women who want to delay child-bearing or to space their births. However, consideration must be given to whether the *desire* to limit or space births necessarily translates into actual utilisation of family planning services. Lack of available family planning services and women's hesitation to begin using contraception may limit the ability of women to achieve their fertility preferences.

Table 6.2 presents the percent distribution of currently married women by desire for children and age of respondent. Almost half of women under 25 years reported that they wanted to delay childbearing by at least two years. The proportion decreases in older age groups to 13 percent among women 45-49. A high proportion of women under 20 years said they wanted no more children (17 percent); however, consideration should be given to the small number of observations in this age group (86 women).

Table 6.2 Fertility preferences by age

Percent distribution of currently married women by desire for more children, according to age, Namibia 1992

Desire for children	Age of woman							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Want another soon[1]	28.1	30.3	31.1	25.0	24.0	26.1	15.6	25.9
Want another later[2]	44.7	44.0	37.8	35.7	22.2	16.2	12.6	29.7
Want another, undecided when	2.6	0.6	1.5	2.4	1.4	1.9	0.0	1.5
Undecided	5.1	3.4	3.7	7.8	7.1	6.0	5.7	5.7
Want no more	16.7	18.4	21.8	21.0	31.2	29.2	40.3	25.8
Sterilised	0.0	1.5	2.2	5.3	10.4	13.1	19.1	7.7
Declared Infecund	0.0	0.6	1.3	0.9	2.4	6.7	5.8	2.6
Missing	2.8	1.2	0.5	1.8	1.2	0.7	0.9	1.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	86	307	414	459	397	345	251	2259

[1]Want next birth within 2 years
[2]Want to delay next birth for 2 or more years

The desire to stop childbearing varies greatly by background characteristics of respondents (see Table 6.3). Overall, one-third of currently married women (including women who had been sterilised) reported that they wanted no more children. Forty-five percent of urban women and 26 percent of rural women wished to cease childbearing. The differences by region are even more pronounced. The percentage of women wanting no more children was highest in the South region (57 percent) followed by the Northwest (19 percent), and the Northeast regions (16 percent). Of particular note was the high proportion of women who said they wanted no more children among women who had no children in the South and Central regions.

The percentage of women wanting no more children is positively associated with education. Women with at least some secondary education were more likely to report that they wanted no more children than women with no education or primary education. Among women with secondary education, there is a sharp increase in the proportion who want to stop having children between those with one and those with two living children (14 percent and 48 percent, respectively).

Table 6.3 Desire to limit childbearing

Percentage of currently married women who want no more children, by number of living children and selected background characteristics, Namibia 1992

Background characteristic	Number of living children[1]							Total
	0	1	2	3	4	5	6+	
Residence								
Urban	14.9	17.6	45.0	55.6	62.5	72.0	59.1	45.4
Rural	2.7	12.4	22.4	19.9	23.6	27.1	42.3	25.9
Region								
Northwest	(0.0)	1.7	10.1	10.6	14.5	12.9	35.5	19.4
Northeast	0.0	4.7	6.5	9.7	15.9	23.2	43.4	16.1
Central	(12.1)	22.6	(43.9)	46.0	(35.7)	*	(51.2)	37.1
South	(17.5)	24.5	55.4	64.6	72.8	84.9	77.5	56.9
Education								
No education	*	10.9	22.8	21.6	31.4	34.8	48.3	32.0
Some primary	3.9	15.6	19.7	16.2	28.0	37.0	44.4	27.0
Completed primary	*	(26.3)	(28.8)	(33.7)	(48.6)	(47.0)	(44.5)	36.3
Secondary/Higher	14.4	13.6	47.6	59.1	58.7	49.9	43.7	41.1
Total	8.2	14.8	34.6	35.3	38.7	40.5	45.7	33.5

Note: Women who have been sterilised are considered to want no more children. Figures in parenthese are based on a small number of cases.
*Based on too few cases to show
[1]Includes current pregnancy

6.2 Demand for Family Planning Services

Currently married women who report either that they do not want to have any more children (i.e., they want to limit their childbearing) or that they want to wait two or more years before having another child (i.e., they want to space their births), but are not currently using contraception, are defined as having an *unmet need for family planning.*[1] Women with unmet need for family planning and women currently using contraception constitute the *total demand for family planning* (see Table 6.4).

The demand for family planning in Namibia includes over half of currently married women. Twenty-nine percent of currently married women were using contraception (modern or traditional methods) for purposes of spacing or limiting births, however, approximately 24 percent of women's contraceptive needs were not being met. Although the unmet need for spacing and for limiting births was low (16 and 8 percent of currently married women), younger women were more likely to need family planning for spacing purposes, and older women for limiting purposes.

[1]The calculation of unmet need, being a current status measure, is further refined by excluding women who are currently amenorrhoeic (nearly 30 percent of women) and, therefore, not in need of family planning at this point in time. For an exact description of the calculation, see footnote 1, Table 6.4.

Table 6.4 Need for family planning services

Percentage of currently married women with unmet need for family planning, met need for family planning, and the total demand for family planning services, by selected background characteristics, Namibia 1992

Background characteristic	Unmet need for family planning[1]			Met need for family planning (currently using)[2]			Total demand for family planning			Percentage of demand satis-fied	Number of women
	For spacing	For limiting	Total	For spacing	For limiting	Total	For spacing	For limiting	Total		
Age											
15-19	24.2	7.7	31.9	15.3	5.1	20.5	39.5	12.9	52.4	39.1	86
20-24	18.1	4.5	22.6	20.2	10.5	30.6	38.2	15.0	53.2	57.6	307
25-29	19.9	4.7	24.6	17.9	14.3	32.3	37.9	19.0	56.9	56.7	414
30-34	17.5	5.9	23.3	14.3	15.0	29.3	31.7	20.9	52.6	55.7	459
35-39	13.7	8.3	22.0	6.1	26.5	32.6	19.7	34.9	54.6	59.7	397
40-44	13.1	10.1	23.2	2.8	20.9	23.7	15.9	31.0	46.9	50.5	345
45-49	6.6	16.8	23.3	1.6	23.1	24.6	8.1	39.8	48.0	51.4	251
Residence											
Urban	11.7	7.8	19.5	16.2	31.6	47.8	28.0	39.4	67.4	71.0	877
Rural	18.2	7.9	26.1	8.0	8.9	16.9	26.2	16.7	42.9	39.3	1382
Region											
Northwest	21.1	6.6	27.7	3.5	5.1	8.7	24.6	11.7	36.4	23.8	713
Northeast	16.9	5.1	22.0	17.8	3.7	21.5	34.7	8.8	43.5	49.4	476
Central	16.3	6.7	23.0	13.1	19.1	32.2	29.3	25.8	55.1	58.3	340
South	9.4	11.3	20.7	13.5	38.5	52.0	22.9	49.8	72.7	71.5	730
Education											
No education	16.5	9.5	26.0	5.5	11.3	16.8	22.0	20.8	42.8	39.2	509
Primary incomplete	15.5	9.1	24.6	8.6	10.6	19.2	24.1	19.7	43.9	43.8	827
Primary complete	18.5	7.7	26.1	12.2	17.3	29.5	30.6	25.0	55.6	53.0	192
Secondary/Higher	14.6	5.3	19.9	17.8	30.3	48.1	32.4	35.6	68.0	70.8	730
Total	15.7	7.8	23.5	11.2	17.7	28.9	26.9	25.5	52.4	55.1	2259

[1]Unmet need for *spacing* includes pregnant women whose pregnancy was mistimed, amenorrhoeic women whose last birth was mistimed, and women who are neither pregnant nor amenorrhoeic and who are not using any method of family planning and say they want to wait 2 or more years for their next birth. Also included in unmet need for spacing are women who are unsure whether they want another child or who want another child but are unsure when to have the birth. Unmet need for *limiting* refers to pregnant women whose pregnancy was unwanted, amenorrhoeic women whose last child was unwanted and women who are neither pregnant nor amenorrhoeic and who are not using any method of family planning and who want no more children.

[2]Using for *spacing* is defined as women who are using some method of family planning and say they want to have another child or are undecided whether to have another. Using for *limiting* is defined as women who are using and who want no more children. Note that the specific methods used are not taken into account here.

Total demand for family planning was greater in urban areas (67 percent) than in rural areas (43 percent). In addition, 71 percent of urban demand was satisfied, whereas only 39 percent of the demand in rural areas was satisfied. There are substantial regional differences in the degree of demand satisfied. Total demand in the South region was 73 percent; 55 percent in the Central region; 44 percent in the Northeast; and 36 percent in the Northwest region. The proportion of demand satisfied was positively related to the size of demand; only 24 percent of the demand in the Northwest was satisfied, versus 72 percent of satisfied demand in South region. Table 6.4 indicates that the demand for family planning was highest among the most educated women: 68 percent of those that completed secondary school had a demand for family planning, and approximately 71 percent of that need was satisfied.

6.3 Ideal and Actual Number of Children

In order to ascertain what women considered to be the ideal number of children, they 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?" Table 6.5 shows the percent distribution of all women by ideal number of children, according to number of living children. Non-numeric responses were given by 8 percent of women, mostly women with higher numbers of living children. The mean ideal number of children between all women and currently married women was similar regardless of number of living children (5.0 and 5.7, respectively).

Table 6.5 shows an association between the ideal number of children and the number of living children. There is usually a correlation between actual and ideal number of children, which, in Namibia, can be seen from the fact that the mean ideal number of children increases from about 4 among childless women to about 8 among those with six or more children. The reasons for this are, first, that women may successfully attain their desired family size (i.e., those who want more children have more), and, second, that women may rationalise and adjust their ideal number of children to match the actual number of children they have had.

Table 6.5 Ideal number of children

Percent distribution of all women by ideal number of children and mean ideal number of children for all women and for currently married women, according to number of living children, Namibia 1992

Ideal number of children	Number of living children[1]							Total
	0	1	2	3	4	5	6+	
0	1.6	0.8	1.7	0.6	1.1	1.2	1.2	1.2
1	4.1	8.6	2.3	2.1	0.7	0.0	0.5	3.6
2	20.4	19.5	24.1	6.6	5.8	3.7	2.1	14.9
3	11.4	17.2	11.2	16.1	3.1	3.2	3.2	10.9
4	19.1	19.6	22.5	19.0	23.1	10.1	3.5	17.6
5	15.1	12.0	11.6	14.4	9.5	22.0	4.3	12.6
6+	21.2	17.8	21.5	33.8	46.4	47.1	66.6	30.9
Non-numeric response	7.1	4.5	5.2	7.4	10.2	12.8	18.5	8.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	1676	1033	723	605	434	300	649	5421
Mean ideal number	4.3	3.9	4.3	5.2	5.9	6.5	8.3	5.0
Number of women	1556	987	685	560	390	262	529	4969
Mean for women in union	4.6	4.0	4.2	5.3	5.9	6.7	8.4	5.7
Number of women in union	155	318	366	350	254	194	410	2046

Note: The means exclude women who gave non-numeric responses.
[1]Includes current pregnancy

Table 6.6 presents the mean ideal number of children by age and selected background characteristics of the respondents. Typically, urban and more educated women have a smaller ideal family size. Among women with no education the mean ideal number of children was 6.6, and gradually decreased to 4.0 among the most educated women. In urban areas, the mean ideal number of children was 3.8, compared to 5.8 in rural areas. The difference between regions was also substantial. The ideal number of children among women in the two northern regions was approximately 6, whereas, 4.4 and 3.3 were the ideal numbers of children for women in the Central and South regions, respectively. Furthermore, there appears to be a trend toward smaller family size among younger women. Among women age 40-49, the ideal mean number of children was approximately seven, compared to four children among women 15-24.

Table 6.6 Mean ideal number of children by background characteristics

Mean ideal number of children for all women, by age and selected background characteristics, Namibia 1992

Background characteristic	Age of woman							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Residence								
Urban	2.6	3.3	3.7	4.4	4.5	4.8	5.1	3.8
Rural	4.7	5.0	5.7	6.2	7.4	7.9	7.9	5.8
Region								
Northwest	5.1	5.3	5.9	6.4	8.0	8.7	8.8	6.2
Northeast	4.3	5.1	6.1	6.8	6.9	8.4	8.2	5.8
Central	2.7	3.6	4.6	4.8	5.5	5.8	5.2	4.4
South	2.2	2.8	3.1	3.8	4.1	4.0	4.8	3.3
Education								
No education	(4.0)	4.5	6.1	6.5	6.7	7.9	7.6	6.6
Some primary	4.4	5.1	5.6	6.2	7.0	7.2	7.1	5.6
Completed primary	4.0	4.1	4.4	5.1	5.6	(6.2)	*	4.7
Secondary/Higher	3.5	3.8	4.2	4.1	4.7	4.8	4.4	4.0
Total	4.0	4.3	4.8	5.3	6.0	6.8	6.7	5.0

Note: Figures in parenthese are based on a small number of cases.
*Based on too few cases to show

6.4 Fertility Planning

Since the issue of mistimed and unwanted births is an important one, the NDHS asked women whether each birth in the five years preceding the survey was planned (wanted then), unplanned (wanted later), or not wanted at all (wanted no more). The responses give an indication of the degree to which couples are successfully controlling their fertility. This question was asked about every child born in the preceding five years and about the forthcoming expected child for women who were pregnant at the beginning of the survey. However, measures based on these questions have limitations. The respondent is required to recall accurately her wishes at one or more points in the last five years and to report them honestly. This type of recall information may be affected by memory problems. It is also likely that there will be underestimates because women with unplanned or unwanted births may rationalise such births and declare them as wanted after they are born.

Table 6.7 shows the percent distribution of births in the five years preceding the survey by fertility planning status, according to birth order and mother's age at birth. Over two-thirds of the births were perceived by the respondent as "wanted" at the time of conception, while one-fifth were wanted later, and 12 percent were not wanted at all. There was a positive relationship between birth order and the proportion of births that were wanted at the time they were conceived; the higher the birth order, the more likely it was that the respondent wanted the child at that time. Conversely, a negative relationship existed between birth order and the proportion of births declared not wanted. Almost half of first births were wanted then, one-third were wanted later, and 16 percent were not wanted at all. Women under 25 years were less likely to have wanted a birth at the time of conception than older women.

The potential demographic impact of avoiding unwanted births can be estimated by calculating the *wanted fertility rate*. The wanted fertility rate is calculated in the same manner as the conventional age-specific fertility rates, except that births classified as unwanted are omitted from the numerator. For this calculation, unwanted births are defined as those which exceed the number considered ideal by the respondent. (Women who did not report an ideal family size were assumed to want all their births.) This rate represents the level of fertility that would have prevailed in the three years preceding the survey if all unwanted births had been prevented. A comparison of the total wanted fertility rate and the actual total fertility rate suggests the potential demographic impact of the elimination of unwanted births.

Table 6.7 Fertility planning status

Percent distribution of births in the five years preceding the survey by fertility planning status, according to birth order and mother's age, Namibia 1992

Birth order and mother's age	Planning status of birth[1]					Number of births
	Wanted then	Wanted later	Wanted no more	Missing	Total	
Birth order						
1	52.0	31.5	16.2	0.3	100.0	1138
2	64.6	22.8	11.9	0.7	100.0	803
3	68.1	19.1	11.0	1.7	100.0	647
4+	72.8	15.0	10.5	1.7	100.0	1709
Age at birth						
<19	46.3	34.3	19.2	0.2	100.0	669
20-24	58.4	27.9	12.6	1.1	100.0	1111
25-29	71.1	18.6	9.5	0.8	100.0	1026
30-34	73.8	15.4	9.3	1.5	100.0	713
35-39	74.9	10.9	12.0	2.3	100.0	498
40-44	75.2	8.1	15.3	1.4	100.0	239
45-49	(68.5)	(16.7)	(7.2)	(7.6)	(100.0)	41
Total	65.1	21.4	12.3	1.2	100.0	4297

Note: Figures in parentheses are based on a small number of cases.
[1]Includes current pregnancy

Table 6.8 presents a comparison of wanted fertility rates and total fertility rates by background characteristics. Overall, the difference between the wanted fertility rate and the total fertility rate is 0.6 child (5.4 versus 4.8). Consistent with other findings in this chapter, women in rural areas, women in the Northeast region, and women with less education had higher wanted and total fertility rates. However, the difference between wanted and total fertility was fairly constant for all background characteristics.

Table 6.8 Wanted fertility rates

Total wanted fertility rates and total fertility rates for the three years preceding the survey, by selected background characteristics, Namibia 1992

Background characteristic	Total wanted fertility rate	Total fertility rate
Residence		
Urban	3.4	4.0
Rural	5.8	6.3
Region		
Northwest	6.3	6.7
Northeast	5.5	6.0
Central/South	3.4	4.1
Education		
No education	5.9	6.5
Some primary	5.6	6.1
Completed primary	4.3	5.1
Secondary/Higher	3.7	4.1
Total	4.8	5.4

Note: Rates are based on births to women 15-49 in the period 1-36 months preceding the survey. The total fertility rates are the same as those presented in Table 3.2.

CHAPTER 7

INFANT AND CHILD MORTALITY

This chapter presents information on levels, trends and differentials in neonatal, postneonatal, infant and child mortality. This information can be used as a means of identifying those sectors of the child population that are at high risk, for evaluation of health programmes, and for population projections.

Mortality estimates are calculated from information that was collected in the birth history section of the individual questionnaire. The section began with questions about the aggregate childbearing experience of respondents (i.e., the number of sons and daughters who live in the household, those who live elsewhere, and those who died). These questions were followed by a retrospective birth history in which data were obtained on sex, date of birth, survivorship status, and current age or age at death of each of the respondents' live births.

The rates presented here are defined as follows:

Neonatal mortality:	the probability of dying within the first month of life;
Postneonatal mortality:	the difference between infant and neonatal mortality;
Infant mortality:	the probability of dying before the first birthday;
Child mortality:	the probability of dying between the first and fifth birthday;
Under-five mortality:	the probability of dying before the fifth birthday.

The accuracy of the mortality estimates is affected by the completeness of reporting of deaths, the degree of differential displacement of birth dates of surviving and dead children, and the extent to which age at death is accurately reported. Heaping of age at death at 12 months is a problem commonly identified in surveys. In the NDHS heaping at 12 months was moderate and very few deaths of this type were recorded at "1 year" (instructions required interviewers to record deaths under two years of age in months). An unknown fraction of these deaths may have actually occurred before the first birthday. Thus, the infant mortality rate may be biased downward somewhat and child mortality biased upward; under-five mortality would be unaffected. The magnitude of this bias in Namibia is small.

It is seldom possible to establish, with confidence, mortality levels for a period more than 15 years before a survey.[1] Even in the recent 15-year period considered here, apparent trends in mortality should be interpreted with caution. First, differences may exist in the completeness of death reporting related to the length of time preceding the survey. For example, it seems that underreporting of very early neonatal deaths (at 0-1 days) has occurred for the period 10-14 years prior to the survey. Second, the accuracy of reports of age at death and of date of birth may deteriorate with time. Thus, without a detailed evaluation of the quality of birth history data (which is not attempted in this report), conclusions regarding changes in mortality should be considered preliminary.

[1]Since the NDHS is a cross-sectional survey with respondents aged 15-49 years at the time of the interview, rates for periods earlier than 15 years preceding the survey do not adequately represent all births.

7.1 Infant and Child Mortality

Neonatal, postneonatal, infant, child and under-five mortality rates are shown in Table 7.1 for five-year periods in the 15 years preceding the survey. For the most recent five-year period (1988-92), infant mortality is 57 per 1,000 live births, including 32 neonatal deaths per 1,000 live births, and 25 postneonatal deaths per 1,000 live births. Child mortality is 28 per 1,000 children aged one (or 26 per 1,000 live births), and under-five mortality is 83 per 1,000 live births. Thus, 38 percent of all under-five deaths occur in the neonatal period, 30 percent in the postneonatal period, 68 percent during infancy, and 32 percent at ages 1-4 years.

Table 7.1 Infant and child mortality

Infant and child mortality rates by five-year periods preceding the survey, Namibia 1992

Years preceding survey	Neonatal mortality (NN)	Postneonatal mortality (PNN)	**Infant mortality** ($_1q_0$)	Child mortality ($_4q_1$)	**Under-five mortality** ($_5q_0$)
0-4	31.5	25.2	56.6	28.1	83.2
5-9	39.9	27.4	67.3	36.8	101.6
10-14	29.2	43.1	72.2	41.0	110.3

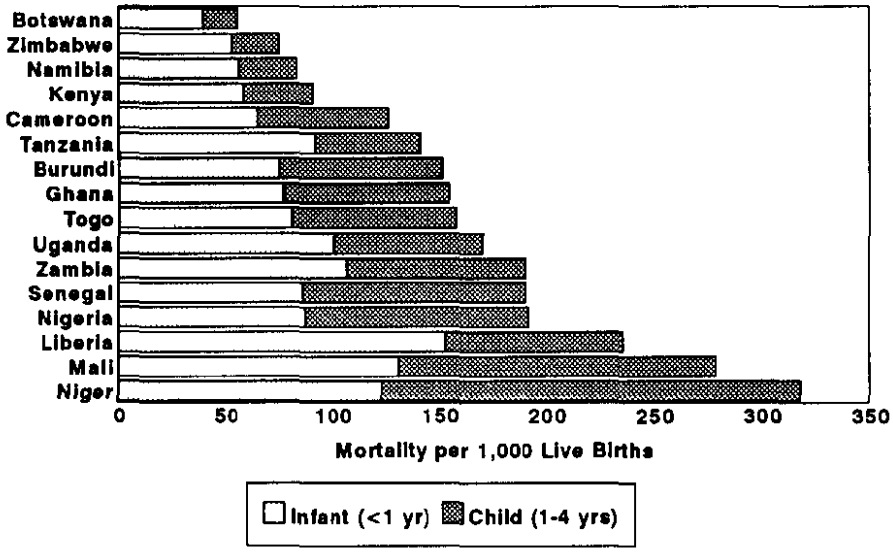
Note: Month of interview excluded from analysis.

Comparison of the NDHS mortality estimates with other Namibian sources is not possible since this is the first national estimate of child mortality. In 1988, a DHS-type survey was conducted among a selected population: the survey excluded all of Ovamboland, as well as coloured and white women. Infant mortality was estimated at 26 per 1,000 live births for 1983-87 (Rossouw and Van Tonder, 1989). The NDHS results indicate that this estimate seriously underestimated the level of mortality. Figure 7.1 compares child mortality in Namibia with other countries in sub-Saharan Africa where DHS surveys have been carried out. Botswana and Zimbabwe are the only countries with mortality lower than Namibia.

Under-five mortality over the fifteen-year period has fallen slowly from 110 deaths per 1,000 live births during 1978-82 to 102 during 1983-87 and 83 per 1,000 for 1988-92 (see Figure 7.2). Mortality during the infant and 1-4 years age segments has declined. The decrease in infant mortality is largely due to a drop in postneonatal mortality. Neonatal mortality appears to rise slightly during this period; however, this is probably due to underreporting of neonatal deaths in the period 10-14 years prior to the survey.

Infant mortality rates are subject to both sampling and non-sampling errors. The latter include underreporting of early childhood deaths, which would result in underestimates of mortality, and misreporting of age at death, which may distort the age pattern of under-five mortality.

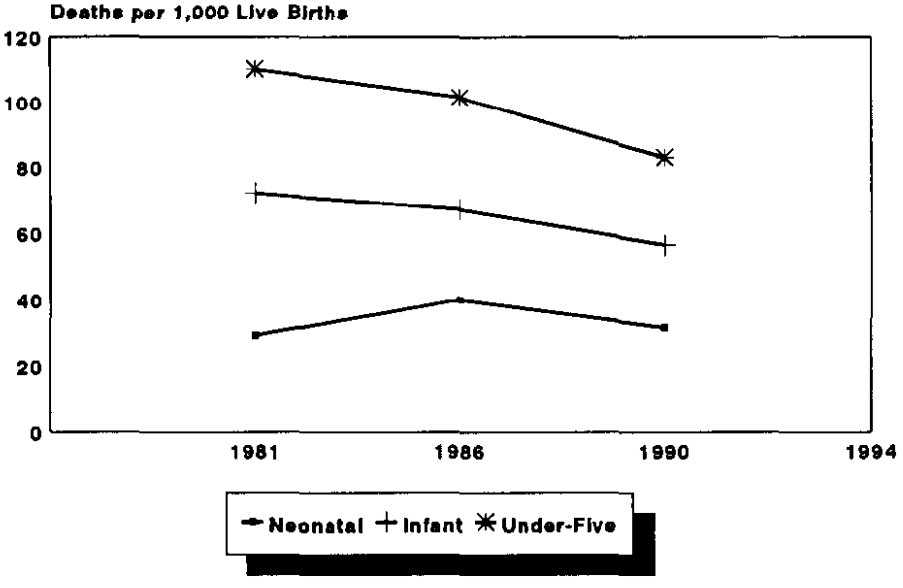
Figure 7.1
Childhood Mortality Rates
DHS Surveys in Sub-Saharan Africa, 1986-1992



Note: Rates are for the period 0-4 years preceding the surveys.

NDHS 1992

Figure 7.2
Age-Specific Mortality Rates for
Five-Year Periods Prior to the Survey



NDHS 1992

Underreporting of deaths is generally more common for children who died shortly after birth than those who died later. If early neonatal deaths are selectively underreported, then an abnormally low ratio of deaths under seven days to all neonatal deaths and an abnormally low ratio of neonatal to infant mortality would be observed. Data presented in Appendix Tables D.5 and D.6 indicate that underreporting of deaths early in life has not occurred on a large scale in the NDHS. The proportion of first week deaths among all first months deaths was 77, 77 and 78 percent for the periods 0-4 years, 5-9 and 10-14 years preceding the survey (see Table D.5). The proportion of neonatal deaths among all infant deaths was 58, 60 and 41 percent for the three periods (see Table D.6). These results suggest that there is little underreporting for the decade prior to the survey, but considerable underreporting of neonatal deaths for the period 10-14 years preceding the survey.[2]

Table 7.2 presents neonatal, postneonatal, infant, child and under-five mortality rates by selected background characteristics for the 10-year period (1983-1992) preceding the survey (see also Figure 7.3). A ten-year reference period is used to allow for adequate numbers of events in each population subgroup.

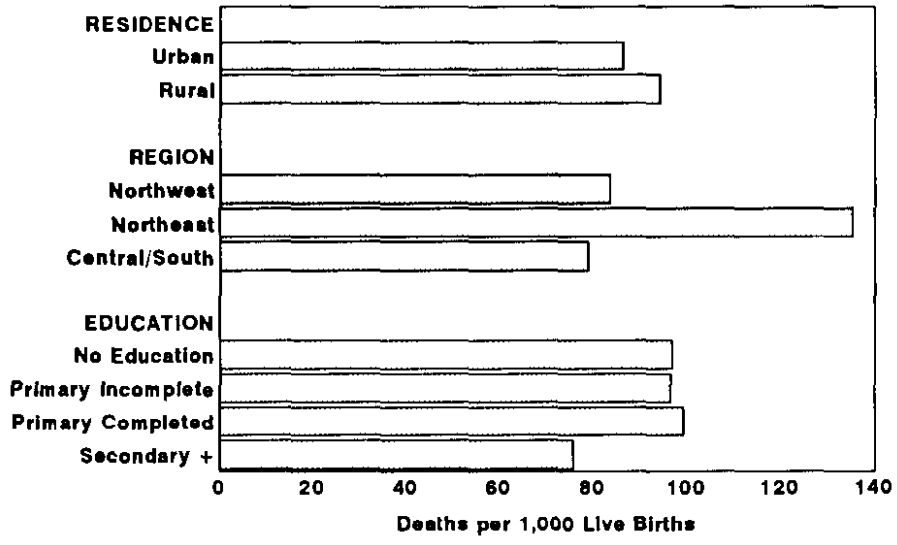
Table 7.2 Infant and child mortality by background characteristics

Infant and child mortality rates for the ten-year period preceding the survey, by selected background characteristics, Namibia 1992

Background characteristic	Neonatal mortality (NN)	Postneonatal mortality (PNN)	**Infant mortality** ($_1q_0$)	Child mortality ($_4q_1$)	**Under-five mortality** ($_5q_0$)
Residence					
Urban	33.7	29.4	63.1	24.8	86.3
Rural	36.1	24.6	60.7	35.7	94.2
Region					
Northwest	35.9	20.4	56.4	28.7	83.5
Northeast	47.0	36.7	83.6	56.5	135.4
Central/South	28.7	27.3	56.0	24.2	78.9
Education					
No education	34.0	23.9	57.9	41.4	96.9
Some primary	36.5	25.8	62.3	36.6	96.6
Completed primary	46.7	32.2	78.9	22.1	99.3
Secondary/Higher	30.6	26.4	57.0	19.9	75.8
Total	35.3	26.2	61.5	32.0	91.6

[2]Indirect estimates of infant and child mortality were also made. This method (known as the Brass method) uses information on the number of children ever born and still alive by age of the respondent to estimate mortality levels and trends. Unlike direct estimates, which rely on birth history data, no information on age at death is used; instead, model life tables are used to obtain mortality estimates. Usually, indirect estimates are higher than direct estimates of mortality. However, in Namibia, the two estimates are very close. Using North model life tables and the reports of women 25-29 years, infant mortality is estimated at 61 and under-five mortality at 94 per 1,000 live births for 1988. The corresponding figures are 68 and 94 per 1,000 live births if West model life tables are used. The indirect mortality estimates suggest there was very little decline during the 1980s.

Figure 7.3
Under-Five Mortality for the Ten-Year Period Preceding the Survey by Background Characteristics



Urban-rural differences in child mortality are small. Under-five mortality is only slightly higher in rural areas than in urban areas, due to higher levels of mortality at ages 1-4 years. Infant mortality levels are virtually the same in urban and rural areas.

There is considerably more variation in mortality by region. While the Northwest and Central/South regions have very similar levels of mortality in all age groups, mortality is much higher in the Northeast region. Infant mortality is 84 per 1,000 live births and under-five mortality is 135 per 1,000 live births in Northeast region.

Differences by education are relatively small. Education has no effect until the secondary level of schooling is reached. Under-five mortality is nearly 100 per 1,000 live births for children of mothers with no education or primary education, and among children of mothers with at least some secondary education it is 76 per 1,000 live births. The higher levels of neonatal and infant mortality among children of mothers with completed primary education should be interpreted with caution, since the number of children in this category is small.

Table 7.3 presents mortality rates for the ten years preceding the survey by selected biodemographic characteristics. Female children experience slightly lower mortality than male children, which is mainly due to lower neonatal mortality. Children born to mothers in the youngest age group have somewhat higher mortality than children born to mothers age 20-39 years. Children of higher birth order (7 and over) also have higher under-five mortality than children of lower birth order, due to higher mortality at age 1-4 years.

Table 7.3 Infant and child mortality by demographic characteristics

Infant and child mortality rates for the ten-year period preceding the survey, by selected demographic characteristics, Namibia 1992

Demographic characteristic	Neonatal mortality (NN)	Postneonatal mortality (PNN)	**Infant mortality** ($_1q_0$)	Child mortality ($_4q_1$)	**Under-five mortality** ($_5q_0$)
Sex of child					
Male	39.2	27.4	66.6	29.7	94.3
Female	31.6	25.0	56.5	34.3	88.9
Age of mother at birth					
< 20	38.9	27.7	66.6	(36.2)	100.4
20-29	34.3	29.3	63.6	28.8	90.6
30-39	33.2	21.1	54.3	33.9	86.3
40-49	*	*	*	*	*
Birth order					
1	30.9	25.0	55.9	30.4	84.6
2-3	33.1	31.4	64.5	29.7	92.3
4-6	38.1	23.4	61.5	31.1	90.7
7+	42.9	21.0	63.8	43.7	104.7
Previous birth interval					
< 2 yrs	63.9	33.5	97.5	42.5	135.8
2-3 yrs	27.5	25.4	52.9	31.3	82.5
4 yrs +	26.2	21.9	48.1	24.3	71.2

Note: Rates based on fewer than 500 cases (exposed persons) are enclosed in parentheses. Month of interview excluded from analysis.
*Based on too few cases to show

Shorter birth intervals are associated with substantially higher mortality both during and after infancy. Children born less than two years after a previous birth are twice as likely to die during infancy as babies born four or more years after the previous birth. The birth interval effect appears most pronounced during the neonatal period, which suggests that antenatal factors are an important variable linking short birth intervals and subsequent early mortality. The NDHS findings support the importance of child spacing for child survival.

7.2 High-Risk Fertility Behaviour

Infants and children have a greater probability of dying if they are born to mothers who are too young or too old, if they are born after a short birth interval, or if they are of high parity (see Table 7.4). In this analysis, a mother is classified as "too young" if she is less than 18 years of age, and "too old" if she is over 34 years of age at the time of delivery. A "short birth interval" is defined by a birth occurring less than 24 months after the previous birth, and a child is of "high birth order" if the mother had previously given birth to three or more living children (i.e., if the child is of birth order 4 or higher). Children can be further cross-classified by combinations of these characteristics. First births, although often at increased risk, are not included in this analysis because they are not considered an avoidable risk.

Column 1 in Table 7.4 shows the percentage of children born in the five years preceding the survey who are included in specific high-risk categories (due to mother's age, time elapsed since previous birth, or number of previous births). More than half of children (54 percent) were considered at elevated risk as a result of the mother's fertility behaviour. Thirty-one percent of children were at elevated risk due to one high-risk characteristic (i.e., they were in a *single high-risk* category); an additional 23 percent had more than one high-risk characteristic and were thus in a *multiple high-risk* category. The most common risk groups were birth order 3 and over, and age over 35 with birth order 3 and over.

Table 7.4 High-risk fertility behaviour

Percent distribution of children born in the five years preceding the survey who are at elevated risk of mortality, and the percent distribution of currently married women at risk of conceiving a child with an elevated risk of mortality, by category of increased risk, Namibia 1992

Risk category	Births in last 5 years preceding the survey		Percentage of currently married women[a]
	Percentage of births	Risk ratio	
Not in any high-risk category	46.0	1.0	28.8[b]
Single high-risk categories			
Mother's age < 18	5.6	*	0.4
Mother's age > 34	1.4	*	6.7
Birth interval < 24	6.7	(1.4)	6.3
Birth order > 3	17.1	1.0	13.2
Subtotal	30.8	1.1	26.6
Multiple high-risk categories			
Age <18 & birth interval <24[c]	0.1	*	0.1
Age >34 & birth interval<24	0.1	*	0.2
Age >34 & birth order>3	13.9	1.0	26.9
Age >34 & birth interval <24 & birth order >3	2.6	*	7.2
Birth interval <24 & birth order >3	6.4	(1.8)	10.1
Subtotal	23.2	1.4	44.7
In any high-risk category	54.0	1.2	71.2
Total	100.0	-	100.0
Number	3820	-	2259

Note: Risk ratio is the ratio of the proportion dead of births in a specific high-risk category to the proportion dead of births *not in any high-risk category*. Figures in parentheses are ratios based on fewer than 200 cases.
*Based on too few cases to show
[a]Women were assigned to risk categories according to the status they would have at the birth of a child, if the child were conceived at the time of the survey: age less than 17 years and 3 months, age older than 34 years and 2 months, latest birth less than 15 months ago, and latest birth of order 3 or higher.
[b]Includes sterilised women
[c]Includes the combined categories *Age <18 and birth order >3.*

In order to calculate the increase in risk attributable to fertility behaviour, risk ratios were calculated for each of the high-risk categories (see column 2, Table 7.4). A risk ratio is the ratio of the proportion of children in the category who have died, to the proportion who have died in the *not in any high-risk* category (children in the *not in any high-risk* category are born to mothers age 18-34, born at an interval of 24 months or more after the previous birth, and are parity 3 or less). Children in the multiple high-risk categories were at slightly higher risk (1.4) than children in the *not in any high-risk* category (1.0) or children in the single high-risk categories (1.1). Not all high-risk categories showed elevated mortality risks.

Based on this brief analysis of high-risk fertility behaviour, the question can be asked: how many women currently have the potential for having a high-risk birth? This may be answered by simulating the distribution of currently married women by the risk category into which a currently conceived birth would fall. In other words, a woman's current age, time elapsed since last birth, and parity are used to determine into which category her next birth would fall, if she were to conceive at the time of the survey. For example, if a woman age 37, who has five children, and had her last birth three years ago were to become pregnant, she would fall into the multiple high-risk category of being too old (35 or older) and at too high a parity (4 or more children). Women who have the potential for a high-risk birth can avoid experiencing the risk by using contraception to avoid the pregnancy (either to space or to limit the pregnancy, depending on which risk category she is in). To determine the proportion of women in a hypothetical situation who have the potential for a high-risk birth, it is assumed that all but sterilised women conceive.

Two points emerge from this analysis. First, the percentage of estimated high-risk births (in any risk category) will increase without some fertility control among women who share a high-risk profile. This can be seen by comparing the proportion of women who currently have the potential for a high-risk birth (71 percent) with the proportion of births in the five years preceding the survey that were classified as high-risk (54 percent). Second, this increase in high-risk births is linked to increases in the percentage of births in the multiple high-risk categories, from 23 to 45 percent of births. These findings pose a challenge to policymakers and programme managers alike—to generate demand for family planning and to improve the availability of contraceptive methods, so that high-risk births can be avoided.

7.3 Causes of Death in Childhood

Ascertaining the causes of death in childhood can be useful to identify priority areas for health programmes (e.g., Gray, 1991; Grant, 1991). In the NDHS the probable causes of death were ascertained for dead children born during the five years before the survey. This approach to determining the causes of death is called *verbal autopsy* or *interview-based diagnosis*.

Two types of information were used to assess the probable cause of death. First, the respondent was asked to give the main cause of death, which was recorded by the interviewer on the questionnaire and later coded in the office, using a list of causes of death. Second, inquiries were made into the presence, severity, and duration of selected symptoms and signs during the illness that led to the child's death. For deaths during the first month of life (neonatal deaths), the mother was asked questions about the delivery (difficult/not difficult) and about any malformations of the newborn. In addition, the mother was asked whether the baby had been sucking normally during the first days of life, in order to distinguish between neonates who were normal at birth, and those who were not. The latter group includes those traumatised during delivery, premature births, as well as those with congenital malformations. The loss or decrease of the ability to suckle a few days after birth is typical of neonatal tetanus, and questions were asked about the presence of a decrease in sucking or difficult sucking during the days before death, and about the occurrence of convulsions or spasms. Finally, for neonatal deaths questions were posed about cough and difficult or rapid breathing.

The pattern of causes of death after the neonatal period is very different from that during the neonatal period. Questions were asked about symptoms during the disease that led to death including diarrhoea, diarrhoea with blood, cough, difficult or rapid breathing, rash, fever, convulsions, very thin (severe wasting), and swollen legs and/or feet.

The mother was asked whether the child had died at home or in a health facility, and whether medical care was sought for the illness preceding the death. The data on birth weight, the neonate's size at birth, and duration of pregnancy (i.e., whether the baby was born prematurely or at term), which were collected for all births in the maternity section of the questionnaire, can also be used to determine causes of death, especially in the neonatal period.

The NDHS questionnaire benefitted from a validation study of the verbal autopsy method which was done before the NDHS. The validation study was conducted in the Northwest region and focused on five leading causes of death after the neonatal period: diarrhoea, pneumonia, measles, undernutrition and malaria. The study included 135 child deaths in three hospitals. These deaths had an established medical cause of death in the hospitals (often more than one cause) and the caretakers were interviewed at home with a standardised questionnaire to ascertain the cause of death according to their recall. The results, which are presented in a separate report (Mobley, 1993), showed that verbal autopsy interviews can provide useful information on the leading causes of death with an acceptable level of misclassification.

In total, there were 274 deaths among children born in the five years preceding the survey, including 131 neonatal deaths and 143 deaths during the postneonatal period (1-11 months) and during ages 1-4 years. The causes of death turned out to be fairly similar among postneonatal and early childhood deaths. Therefore, the results for these age groups have been combined. Two-thirds of under-five deaths occurred in the two northern regions.

Causes of Death Reported by Mothers

Table 7.5 summarises the data on the main cause of death as reported by the mother for neonatal deaths and deaths at 1-59 months. For all deaths under five years, more than a third of the respondents said they did not know the cause of death. "Don't know" responses were more common for neonatal deaths: 51 percent versus 21 percent for deaths at 1-59 months.

During the neonatal period, prematurity was the most frequently cited cause of death (10 percent), followed by birth problems (7 percent), and diarrhoea (6 percent). Accidents were reported for 2 percent of neonatal deaths. No tetanus deaths were reported.

Table 7.5 Causes of death according to mothers' reports

Percent distribution of deaths among children born in the five years preceding the survey by cause of death (from mothers' reports), according to age of child in months, Namibia 1992

Cause of death	Age in months <1	Age in months 1-59	Total
Prematurity	9.9	1.7	5.7
Birth problems	7.3	1.6	4.3
Tetanus	0.0	0.8	0.4
Congenital malfunction	1.8	1.2	1.5
Malaria	4.4	8.6	6.6
Measles	1.8	6.9	4.4
Respiratory illness	4.2	13.0	8.8
Diarrhoea	5.8	26.4	16.5
Fever	0.5	6.0	3.3
Undernutrition	0.0	0.0	0.0
Other infections	0.9	5.7	3.4
Accidents	2.3	2.3	2.3
Other	9.7	6.9	8.3
Don't know	51.4	20.9	35.6
Total	100.0	100.0	100.0
Number of deaths	131	143	274

Note: One cause per child

After the neonatal period, diarrhoea was the leading cause of death (26 percent), followed by acute respiratory illness (13 percent), malaria (9 percent), and measles (7 percent). Undernutrition was not reported as main cause of any deaths, while accidents were reported for 2 percent.

Causes of Neonatal Death from Symptoms

Table 7.6 displays the causes of neonatal mortality according to symptoms. Information was missing for nine neonatal deaths (7 percent of all neonatal deaths). These included two deaths for which the exact age at death was missing and 5 first-day deaths. For 42 percent of neonatal deaths no cause of death could be identified based on the reported symptoms preceding death.

Among neonatal deaths low birth weight was common: 26 percent of the deaths had either a reported birth weight of less than 2500 grams or, if no birth weight was available, the mother reported her child was very small at birth. Most of the deaths associated with low birth weight were also associated with premature delivery: 16 percent of all neonatal deaths were reportedly delivered prematurely and had low birth weight, while 10 percent were delivered on time, but had low birth weight (most likely due to intra-uterine growth retardation). Some of the reportedly premature babies may in fact have been small-for-gestational age as well.

Table 7.6 Presence of conditions and symptoms among deaths during the neonatal period

Percentage of neonatal deaths among children born in the five years preceding the survey, by whether or not conditions or symptoms were present (according to mothers' reports), Namibia 1992

Cause of death	Percent
Birth problems	23.0
Born after difficult delivery	19.2
Caesarean section	9.2
Congenital malformations	5.3
Multiple births	9.8
Low birth weight	25.9
Low birth weight and term	10.2
Low birth weight and premature	15.7
Tetanus	
Deaths at 4-30 days	21.2
With normal sucking first two days of life	16.9
With difficulty sucking during days before death	3.1
With convulsions/spasms	1.7
Respiratory illness	
Cough	11.2
Cough and difficult breathing	6.3
Accidents, injuries	2.3
No cause identified	41.7
Missing	6.8
Number	131

Note: *No cause identified* means no birth problems, congenital malformations, low birth weight, tetanus, cough or accident.

Birth problems were reported for 23 percent of neonatal deaths. These included prolonged delivery, asphyxia, toxemia of the mother and other birth traumata. Nine percent of neonatal deaths were delivered by caesarean section. It is of interest to note that 10 percent of neonatal deaths were multiple births. Congenital malformations were reported for 5 percent of neonatal deaths.

Neonatal tetanus deaths typically occur between 4 and 30 days of life (about 90 percent occur between 4-14 days). In Namibia, slightly over one-fifth of neonatal deaths occurred between 4-30 days and 17 percent also had normal sucking during the first days of life. This proportion may include all tetanus deaths, but also includes deaths due to non-tetanus causes. If difficulty sucking during the days before death is added to the diagnostic criteria, the proportion of deaths probably due to tetanus declines to 3 percent. If spasms or convulsions are included, less than 2 percent of neonatal deaths can be considered due to probable tetanus.

Respiratory illnesses are difficult to ascertain as a cause of neonatal death in verbal autopsy. Symptoms of other illnesses (e.g., sepsis) can be very similar, cough often does not occur, and rapid breathing in a newborn is more difficult to detect than in older infants. Cough was reported for 11 percent of neonatal deaths, while mothers recalled coughing and difficult or rapid breathing in 6 percent of neonatal deaths.

Causes of Postneonatal and Child Death from Symptoms

The percentages of children who died after the neonatal period and for whom each of the symptoms occurred during the terminal illness are shown in Table 7.7 for children who died after the neonatal period. "Don't know" responses were not very common, but were highest for the question on loss of consciousness (5 percent). Missing values were more common (almost 10 percent). The very high proportion of missing values for swollen feet or legs was due to a flaw in this part of the questionnaire.

Among the deaths at 1-59 months, fever (67 percent), cough (40 percent), diarrhoea (42 percent), thinness (41 percent) and difficult or rapid breathing (30 percent) were commonly reported.

To be able to distinguish between symptoms that are very common in childhood (such as diarrhoea or thinness), but perhaps unrelated to the child's death, and symptoms that contributed to the death, it was asked whether the symptom or sign was severe. Table 7.7 shows, for example, that 25 percent of respondents thought the diarrhoea was severe, and 40 percent considered the fever severe. In addition, the duration of symptoms was asked.

Table 7.7 Presence of symptoms among deaths after the neonatal period

Percent distribution of deaths occurring after the neonatal period among children born in *the five years preceding the survey by whether or not symptoms were present (mothers'* reports), Namibia 1992

Symptom	Yes	No	Don't know	Missing	Total
Diarrhoea	42.3	46.7	1.6	9.4	100.0
Severe diarrhoea	25.2	63.2	1.6	10.0	100.0
Diarrhoea with blood	19.7	69.3	1.6	9.4	100.0
Cough	39.6	48.6	2.4	9.4	100.0
Difficult or rapid breathing	29.6	58.6	2.4	9.4	100.0
Fever	67.1	21.0	2.5	9.4	100.0
Severe fever	40.3	46.9	3.4	9.4	100.0
Unconsciousness	25.7	59.9	5.0	9.4	100.0
Convulsions	20.9	66.4	3.3	9.4	100.0
Rash	11.9	77.9	0.8	9.4	100.0
Very thin	40.8	47.2	2.6	9.4	100.0
Swollen feet or legs	10.0	29.9	0.0	60.1	100.0

Table 7.8 presents possible causes of death after the neonatal period. Since a limited number of symptoms were included in the NDHS, only selected causes of death can be identified. No efforts were made to distinguish main and associated causes of death, but multiple causes of death were considered.

Forty-two percent of deaths after the neonatal period had diarrhoea during the illness that led to death. Four different types of diarrhoea can be distinguished on the basis of severity, duration and the presence of blood. Diarrhoea with blood was reported for 20 percent of deaths, acute severe diarrhoea for 10 percent, acute mild diarrhoea for 8 percent, and chronic diarrhoea (at least three weeks duration) for 5 percent. Notable is the high proportion of deaths associated with diarrhoea with blood, which was also reported on in the section on morbidity for living children (Chapter 8). The duration of acute diarrhoea was also taken into account but did not have much effect on the estimates of diarrhoea-associated mortality.[3]

The criteria used for the diagnosis of pneumonia (acute lower respiratory infection) in older children were cough, difficult or rapid breathing and fever. Cough and difficult or rapid breathing (dyspnoea) was reported for 30 percent of deaths at 1-59 months. Restricting duration of cough and breathing difficulties to at least one day did not change the result appreciably, while 23 percent had both symptoms for at least two days. Adding fever to the diagnostic criteria resulted in a somewhat lower proportion of deaths associated with acute respiratory infections.

One in ten children died at the age of four months or more and had symptoms of a generalised body rash, which is typical for measles. If the rash lasted at least three days

Table 7.8 Diagnostic criteria considered to ascertain a probable cause of death

Percentage of deaths after the neonatal period among children born in the five years preceding the survey, by cause of death and symptoms (according to mothers' reports), Namibia 1992

Cause of death	Percent
Diarrhoea	
Any diarrhoea	42.3[1]
Acute, mild, no blood	7.6
Acute, severe, no blood	10.2
Chronic (at least 3 weeks)	4.8[2]
Diarrhoea with blood	19.7
Pneumonia/respiratory disease	
Cough and dyspnoea	29.6[1]
Cough and dyspnoea ≥1 day	28.5
Cough and dyspnoea ≥2 days	23.4[2]
Cough, dyspnoea, fever	22.4
Cough, dyspnoea, fever ≥1 day	21.3
Cough, dyspnoea, fever ≥2 days	14.9
Malaria	
Severe fever, no rash	34.6
Severe fever ≥1 day, no rash	33.9
Severe fever ≥2 days, no rash	28.8
Fever with convulsions or coma	30.6[2]
Severe fever ≥2 days, no rash or fever with convulsions or coma	44.6[1]
Measles	
Age ≥4 months, rash	10.3[1]
Age ≥4 months, rash ≥3 days	7.4
Age ≥4 months, rash ≥3 days, fever ≥3 days	5.3[2]
Undernutrition	
Very thin	40.4[1]
Very thin >4 weeks	15.2
Swollen legs or face	9.9
Swollen legs or face >4 weeks	4.7
Very thin >4 wks or swollen legs or face >4 weeks	15.2[2]
No diagnosis[3]	
Based on G diagnoses	22.2
Based on R diagnoses	34.9
Number	142

[1]General diagnostic algorithm (G)
[2]More restricted diagnostic algorithm (R)
[3]Neither diagnoses based on symptoms nor accident

[3]In a verbal autopsy validation study in the Philippines (Kalter et al., 1990) at least two days of diarrhoea was the best criterion for the diagnosis of diarrhoea. In the validation study in Namibia, taking into account the duration of diarrhoea did not improve the sensitivity and specificity of the diagnostic criteria (Mobley, 1993). Specificity, however, was improved by taking into account severity of the episode, as measured by number of stools on the worst day of the episode.

the proportion of deaths declined to 7 percent. If rash and fever lasting for at least 3 days are included in the criteria, 5 percent of the deaths after the neonatal period were associated with measles. Information was not directly obtained about deaths which occurred as a complication of measles after the clinical symptoms of measles had subsided (so-called post-measles deaths).

Malaria is difficult to diagnose in a verbal autopsy study, but the validation study in Namibia showed that cerebral malaria can be diagnosed fairly well in Namibia with a verbal autopsy. Severe fever (and no generalised body rash to exclude measles cases) was reported for 40 percent of the deaths after the neonatal period; 35 percent lasting at least two days. Loss of consciousness and convulsions were frequently reported, and 31 percent of deaths had fever with convulsions or loss of consciousness.

Forty percent of children who died between 1 and 59 months were very thin, but 15 percent had been thin for at least one month before death. The latter distinction was made to be able to separate children who became wasted during the terminal illness from children who were already wasted before becoming terminally ill. About one-fourth of very thin children had symptoms of kwashiorkor (swollen legs and face) as well.

To ascertain the proportion of deaths with no diagnosis at all, a general and a restrictive criteria were used. Using the general criteria, 22 percent of the deaths age 1-59 months did not have a cause of death. This implies that the mother did not report diarrhoea, cough with difficult or rapid breathing, rash in a child aged 4 months or older, severe fever or cerebral symptoms (loss of consciousness or convulsions), child being very thin, or an accident. Using the restrictive criteria, 35 percent of deaths could not be classified with any of the following causes of death: severe diarrhoea or chronic diarrhoea or diarrhoea with blood, cough with difficult or rapid breathing for at least two days, fever with cerebral symptoms, rash with fever in deaths of children 4 months and older, child being very thin or having swollen legs or feet for at least 4 weeks, or an accident.

Comparison of Mothers' Reported Cause and Symptom-based Diagnosis

For the five most common illnesses leading to death after the neonatal period, mother's reported cause of death was compared with the symptom-based diagnosis. In Table 7.9, the first two columns show the proportion of deaths attributed to the five causes according to the mother and according to the symptom list. The third column presents the percent of deaths for each diagnosis, derived from *either* the mother's reported cause or the symptoms. The fourth column only includes cases in which the mother's cause of death *agreed with* the diagnosis based on the symptoms.

Both the general and more restricted diagnostic criteria used in Table 7.8 are used. For all causes, symptom-based diagnoses are more common than those based on mothers' spontaneous reports (of the illness or condition). The difference is smallest for diarrhoea, and most pronounced for malaria and undernutrition (which was not mentioned spontaneously at all as the cause of death). The difference may be due, in part, to the fact that only one cause of death could be recorded from the mother's report.

Adding the results from mothers' spontaneous reports to the symptom-based diagnoses has little effect on the proportion allocated to each cause of death. Only in the case of measles, when the more restricted criteria is used, was a substantial increase observed with the inclusion of mothers' reports.

The level of agreement between symptom-based diagnosis and the mother's spontaneous report of the cause of death is low (see last column in Table 7.9). It is highest for diarrhoea, low for acute respiratory infections and malaria, and very low for undernutrition and measles.

Table 7.9 Agreement in probable cause of death between mothers' reported cause and symptoms-based diagnosis

Causes of death among children 1-59 months according to mothers' reports of main cause and diagnosis based on reporting of symptoms for cause, Namibia 1992

Disease	Diagnostic algorithm	Mother's report	From symptoms	Either mother or symptoms	Both mother and symptoms
Diarrhoea	General	26.4	42.3	44.9	23.8
	Restricted	26.4	34.7	39.5	21.7
Acute respiratory infection	General	13.0	29.6	32.3	10.3
	Restricted	13.0	23.4	29.0	7.4
Measles	General	6.9	10.3	12.3	2.0
	Restricted	6.9	5.3	12.3	0.0
Malaria	General	8.6	44.6	37.9	6.7
	Restricted	8.6	30.6	34.1	5.1
Undernutrition	General	0.0	40.4	40.4	0.0
	Restricted	0.0	15.2	15.2	0.0

Note: For the diagnostic algorithms used in this table, see Table 7.8.

Probable Causes of Death: A Synthesis

Table 7.10 and Figure 7.4 present the probable causes of death, based on the symptoms as shown in Table 7.8. Multiple causes of death were allowed.

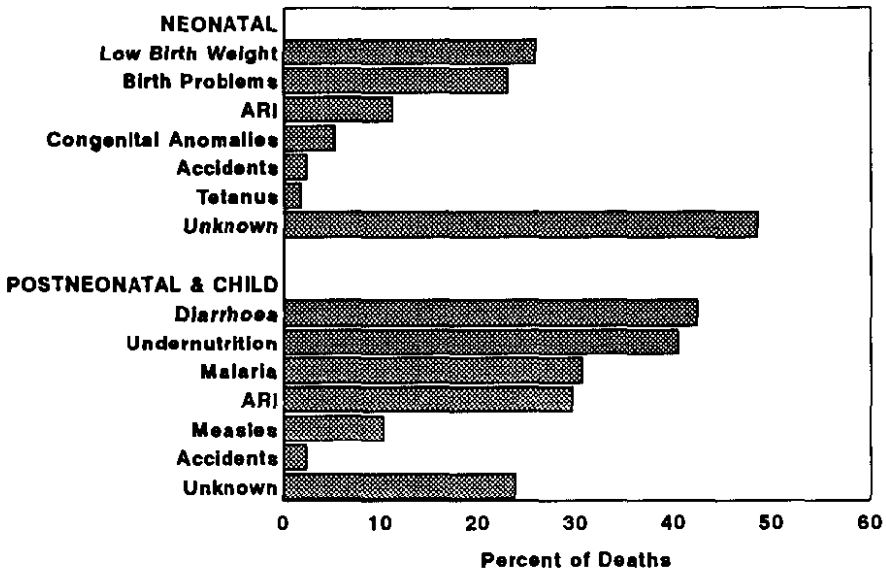
For almost half of neonatal deaths no cause of death could be ascertained, largely because the mothers did not know what symptoms occurred in their newborns prior to death. Low birth weight was the leading cause of death for neonatal mortality (26 percent). Most of these deaths appeared to be associated with reported prematurity (16 percent). Birth problems, such as prolonged labor leading to asphyxia and other obstetric complications, accounted for 23 percent of neonatal mortality. Respiratory illness was a probable cause of death for 11 percent, while tetanus accounted for only 2 percent. Accidents were associated with 2 percent of the neonatal deaths.

Table 7.10 Probable causes of death among children under 5 years

Probable causes of death among children under five years, according to leading causes, Namibia 1992

Cause of death	Neonatal period	1-59 months	Total
Low birth weight	25.9		12.4
Birth problems	23.0		11.0
Congenital anomalies	5.3		2.5
Acute respiratory infection	11.2	29.6	20.8
Tetanus	1.7		0.8
Accidents	2.3	2.3	2.3
Diarrhoea		42.3	22.0
Measles		10.3	5.4
Malaria		30.6	16.0
Undernutrition		40.4	21.1
Unknown	48.5	23.8	35.6
Number of deaths	131	143	274

Figure 7.4
Leading Causes of Death in Childhood



Note: Multiple causes allowed

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For deaths after the neonatal period, five causes were examined. For each of these a general and a restrictive diagnostic criteria can be used. Similar results are obtained using either criteria: the overall picture of leading causes of death based on the general criteria is very similar to the overall picture based on the restricted criteria. The main difference between the two approaches is undernutrition. If the general criteria are used (very thin or swollen feet or legs) 40 percent of deaths were associated with undernutrition; if the more restricted criteria are used (very thin or swollen feet or legs for at least 4 weeks), 15 percent were associated with undernutrition. In Table 7.9 the general diagnostic criteria and multiple causes were allowed. Only for malaria was the more restrictive criteria used.

Diarrhoea (42 percent) was the leading cause of death after the neonatal period, followed by undernutrition (40 percent), malaria (31 percent), acute respiratory infections (30 percent), and measles (10 percent). No cause could be ascertained for 24 percent of deaths age 1-59 months.

For children under five, the four leading causes of death (diarrhoea, malaria, undernutrition and acute respiratory infection) were each associated with about one-fifth of deaths. Low birth weight and birth problems are probable causes for 11-12 percent of under-five deaths. Measles does not appear to be a leading cause of death. The cause of death was unknown for about one-third of under-five deaths.

Place of Death and Assistance Sought

Table 7.11 presents the place of death and the type of medical assistance sought during the illness that led to the child's death. Most child deaths occurred in hospitals (56 percent). Thirty-eight percent died at home, and 2 percent died on the way to the health facilities.

The question on the type of assistance sought during the disease that led to the child's death allowed for multiple responses: if a child had been taken to several places all responses were recorded. The use of multiple sources was, however, rarely reported by mothers. During the illness preceding death, medical assistance was sought for 72 percent of children, including 63 percent who were taken to a hospital. Traditional healers were reportedly consulted in 4 percent of cases, but underreporting seems likely. One-fifth of children died without having been taken for any medical care.

Table 7.11 Place of death and type of assistance sought during illness that led to death

Percent distribution of deaths among children under five years by place of death and type of assistance sought during illness that led to death, according to age at death, Namibia 1992

Cause of death	Neonatal period	1-59 months	Total
Place of death			
Health facility	59.1	52.1	55.5
Home	33.1	41.5	37.5
On the way	1.8	2.4	2.1
Other	0.0	2.3	1.2
Missing	5.9	1.7	3.7
Total	100.0	100.0	100.0
Type of assistance			
Hospital	57.8	67.6	62.6
Clinic	4.1	13.3	8.7
Private doctor	2.0	0.0	0.9
Traditional practitioner	3.4	4.0	3.7
Other	0.0	0.8	0.4
None	27.1	15.0	20.8
Missing	8.0	3.3	5.5
Multiple sources of assistance	2.7	5.9	4.4

CHAPTER 8

MATERNAL MORTALITY

8.1 Introduction

Data were collected in the NDHS which are suitable for estimating maternal mortality using either a direct or an indirect estimation technique (Graham et al., 1989; Rutenberg et al., 1991) and for providing estimates of adult male and female mortality. The data concern the survivorship of sisters and brothers of survey respondents. For each of a respondent's siblings, information was collected on current age or, if dead, age at death and the number of years ago the death occurred. For dead sisters, additional questions were asked to determine if the death was maternity related, i.e., did the death occur during pregnancy, during delivery or within six weeks following a delivery or pregnancy termination.

The direct approach for estimation of maternal mortality uses data on the age of surviving sisters, the age at death of sisters who died, and the number of years ago the sisters died. For well-defined reference periods, the data are aggregated to determine the number of person-years of exposure to mortality and the number of maternal deaths occurring in each reference period. Maternal mortality rates are then directly estimated by dividing the number of deaths by the person-years of exposure. The result is the proportion of sisters who died of maternal causes among all sisters of respondents. This is an unbiased estimate of the probability of maternal death, provided that the mortality risk to all sisters is the same (Trussell and Rodriguez, 1990). The direct approach for estimating maternal mortality is more demanding of the data than the indirect approach—respondents must report not only a sister's death and if that death was maternity related, but also the ages of living sisters and the age at death and years since death for dead sisters.

The indirect approach for estimation of maternal mortality does not use the information on sister's age at death and the number of years ago the sister died of maternal causes. Instead, this approach estimates the life-time risk of maternal death for all sisters of respondents. As the estimates pertain to the life-time experience of sisters of respondents, they do not apply to a well-defined time period but represent mortality conditions over the last 50 years. The lack of a designated time period to which the estimates apply is circumvented by assuming that any changes in mortality are linear. Under this assumption it is possible to specify the number of years ago an estimate of maternal mortality applies.

8.2 Data Collection

The questions used to collect information on maternal mortality are in Section 8 of the Individual Questionnaire (see Appendix E). The respondent is first asked to give the number of children her mother gave birth to, followed by a question on the birth rank of the respondent. The respondent is asked to list all of her brothers and sisters, that is, all of the children born to her mother, starting with the first. Then the respondent is asked if each sibling is still alive. For living siblings, current age is asked. For dead siblings, the respondent is asked the number of years ago the sibling died and his/her age at the time of death. It was stressed during training that, while interviewers should be sensitive to the delicate nature of the data, every effort must be made to obtain answers to the questions. Interviewers were instructed that, when a respondent could not provide precise information on ages or the number of years ago the death occurred, approximate answers were acceptable.

For deceased sisters, three questions were asked to determine if a death was maternity related: "Was [NAME OF THE SISTER] pregnant when she died?" and if the answer was negative, the respondent was asked: "Did she die during childbirth?" and "Did she die within six weeks after a pregnancy termination or birth of a child?"

8.3 Assessment of Data Quality

The estimation of maternal mortality by either the direct or indirect approach requires accurate reporting of the number of sisters the respondent ever had, the number that have died, and the number that have died of maternity-related causes. There is no definitive procedure for establishing the completeness of data collected by a retrospective household survey on the survivorship of sisters. In addition to accurate survivorship data, the direct estimation approach requires data on the ages and number of years, since the death of siblings—information which respondents may be uncomfortable reporting and may not know with precision. The number of siblings reported by the respondents and the completeness of the reported data on age, age at death, years since death, and marital status are shown in Table 8.1.

Table 8.1 Sibling data for estimating maternal mortality

Number of siblings reported by survey respondents and completeness of the reported data on age, age at death and years since death, weighted, Namibia 1992

Background characteristic	Sisters		Brothers		Unknown sex		Total number
	Number	Percent	Number	Percent	Number	Percent	
Total siblings	15469	100.0	15472	100.0	243	100.0	31184
Alive	13666	88.3	12979	83.9	40	16.6	26685
Dead	1759	11.4	2422	15.7	50	20.5	4231
Status unknown	44	0.3	71	0.5	153	62.9	268
Living siblings	13666	100.0	12979	100.0	40	100.0	26685
Age reported	13112	96.0	12469	96.1	38	94.0	25619
Missing age	553	4.0	510	3.9	2	6.0	1066
Dead siblings	1759	100.0	2422	100.0	50	100.0	4231
Age/years since reported	1363	77.5	1803	74.4	26	51.6	3192
Missing age at death	51	2.9	110	4.5	0	0.0	161
Missing years since	150	8.5	224	9.3	9	18.3	383
Missing both	195	11.1	285	11.8	15	30.1	495

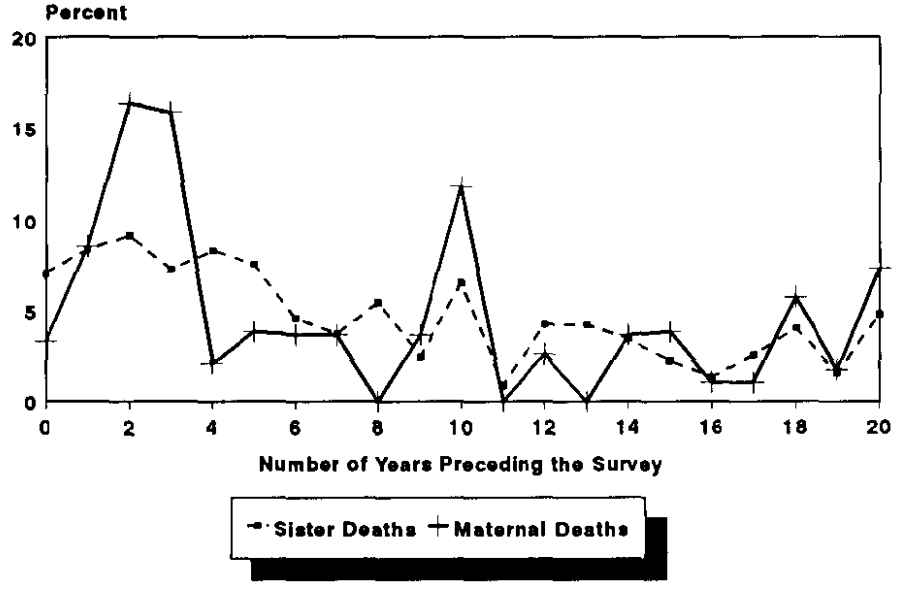
Respondents were not able to provide information on sex for 0.8 percent of their siblings. The sex ratio of siblings enumerated by respondents (the ratio of brothers to sisters) as shown in Table 8.1 is 1.00, which is somewhat low by international standards. An age was reported for 96 percent of living siblings. Age at death and the number of years ago the death occurred were reported for 78 percent of the dead sisters and 74 percent of the dead bothers. Rather than exclude siblings with missing data from further analysis, information on the birth order of siblings was used, in conjunction with other information, to impute the

missing data.[1] The sibling survivorship data, including cases with imputed values were used for the direct calculation of adult mortality rates and maternal mortality rates.

A potential problem with these data is the heaping of responses on preferred digits by respondents who are unable to report the exact number of years ago that a death occurred but can provide an estimate. The distribution of deaths occurring at age 15 or above, for all sisters and for those dying of maternal causes is shown in Figure 8.1 by the number of years preceding the survey that the death occurred.

There is no strong heaping of adult female deaths. Heaping of maternal deaths is evident at two, three, and ten years ago. More maternal deaths were reported for the four years preceding the survey than for more distant periods. This may in part be due to the larger number of exposure years in the more recent period, to sampling error, and to reporting bias. The use of a ten year period for maternal mortality estimates is only slightly affected by moderate heaping at ten years before the survey. Given the number of maternal deaths it is not possible to estimate maternal mortality for the five-year period preceding the survey.

Figure 8.1
Percent Distribution of Sister Deaths (Age 15+) and Maternal Deaths by Time of Death



NDHS 1992

[1]The imputation is based on the assumption that the ordering of siblings is correct, using the birth order and age of the respondent as well. First, a birth date was calculated for each living sibling with an age and each dead sibling with complete information on age at death and the number of years ago the death occurred. For a sibling missing these data, a birth date was imputed within the range defined by the birth dates of the bracketing siblings. In the case of living siblings, an age was calculated from the imputed birth date. In the case of dead siblings, if either age at death or the number of years ago the death occurred was reported, that information was combined with the imputed birth date to produce the missing information. If both pieces of information were missing, the distribution of age at death for siblings for whom the number of years ago the death occurred was unreported, was used as the basis for imputing age at death.

8.4 Direct Estimates of Adult Mortality

Age-specific mortality estimates for males and females for the ten years preceding the survey, calculated from the reported survivorship data by direct procedures, are shown in Table 8.2. The number of sibling deaths during the reference period in the age range 15 to 49 was not great (259 females and 508 males), so that the individual age-specific rates are based on relatively few events and are subject to sampling variability.

Table 8.2 Estimates of age-specific mortality

Direct extimates of age-specific mortality based on the survivorship of siblings of survey respondents, Namibia 1983-92, and model life table rates, by age and sex

	Estimated rates			Model life table rates[1]			
Age	Deaths	Exposure years	Rate (000)	South (67.5)	East (65.0)	North (62.5)	West (62.5)
			FEMALES				
15-19	35	21348	1.62	0.90	1.31	2.31	2.08
20-24	60	20786	2.88	1.25	1.79	2.91	2.78
25-29	43	17806	2.43	1.47	2.09	3.38	3.24
30-34	35	13369	2.65	1.71	2.45	3.84	3.75
35-39	37	9312	4.00	2.05	3.03	4.44	4.44
40-44	30	5890	5.08	2.72	3.82	5.48	5.39
45-49	19	3256	5.78	3.59	5.24	6.42	6.96
Total	259						
	Estimated rates			Model life table rates[1]			
Age	Deaths	Exposure years	Rate (000)	South (63.7)	East (60.7)	North (61.3)	West (58.8)
			MALES				
15-19	81	20660	3.90	1.20	1.88	2.64	2.42
20-24	82	20209	4.06	1.70	2.73	3.82	3.43
25-29	105	16768	6.25	1.82	2.76	3.95	3.64
30-34	95	12708	7.47	2.30	3.04	4.25	4.14
35-39	69	8887	7.75	2.74	3.77	4.78	5.08
40-44	46	5375	8.61	3.92	5.18	5.85	6.72
45-49	30	2897	10.51	5.65	7.69	7.40	9.27
Total	508						

[1]Model life tables were selected at a level of mortality approximately corresponding to a probability of dying between birth and exact age 5 estimated for the period 1983-92 (i.e., q_5 of 89 per 1,000 female births and 94 per 1,000 male births).

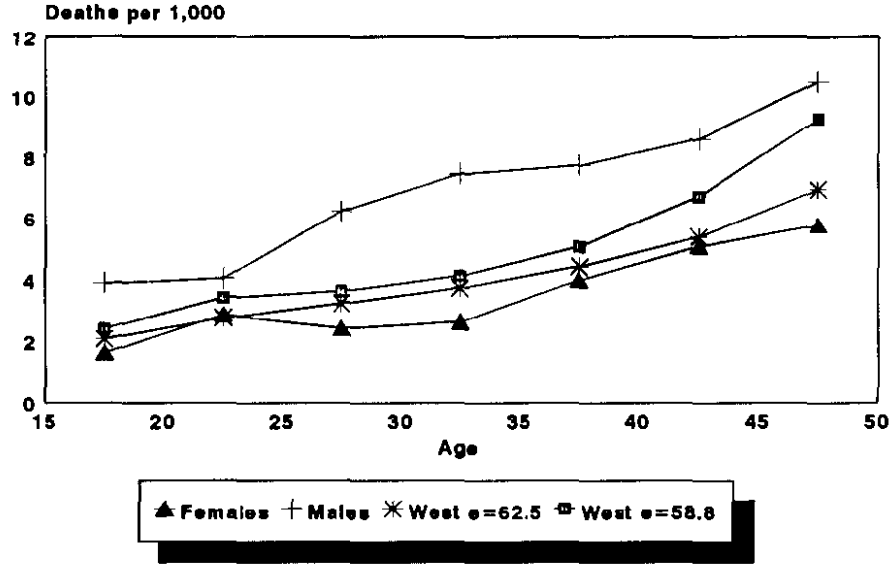
For females, the estimated rates display a flat pattern from age 20 to 34 and then monotonically increase, as expected, for age groups 35-39, 40-44 and 45-49. The overall pattern appears plausible with an increase by a factor of about two between the rates for the three youngest age groups (about 2.3 per 1000 women) and the three oldest age groups (about 4.9 per 1000 women). The mortality rates for males increase gradually from the youngest to the oldest age group: from 2.08 per 1,000 males 15-19 to 6.96 per 1,000 males 45-49 years. Male mortality displays a similar increase between the average of the three youngest and the three oldest age groups being, again, about a factor of two (from 2.7 to 5.6 per 1000). Typically, the male rates are higher than the female rates, except at 20-24 years.

It is important to evaluate the reliability of the direct mortality estimates, as the mortality data for all sisters are the basis for the data on maternal mortality. If the former are defective, the latter cannot be reliable. In the absence of mortality data of established accuracy for Namibia, the evaluation is undertaken in terms of a comparison of the estimated rates with rates from the Regional Model Life Tables (Coale and Demeny, 1966).

Schedules of age-specific mortality rates from the four regional life tables are shown in Table 8.2. The schedules were selected at a level of mortality approximately equal to the childhood mortality rate($_5q_0$) estimated for the ten-year period preceding the NDHS.[2] For females, the estimated rates agree quite well with the schedule of rates from the West and North model tables but are higher than the rates from the East and South model tables.

For males, the West and North model tables give the best results. However, male mortality rates in Namibia are clearly higher than expected on the basis of childhood mortality level, and this is very pronounced at ages 25-39 years (see Figure 8.2). The higher level of male mortality from the sibling survivorship data in the NDHS could be due to severe underreporting of male child mortality, which resulted in the wrong model life table being selected. However, the results of female mortality are fairly consistent with the model life table selected on the basis of the female child mortality level in NDHS. Therefore, a more likely explanation is that there was considerable excess male mortality during the decade before the survey.

Figure 8.2
Age-Specific Mortality Rates for Males and Females
NDHS Estimates Compared to West Model Life Tables

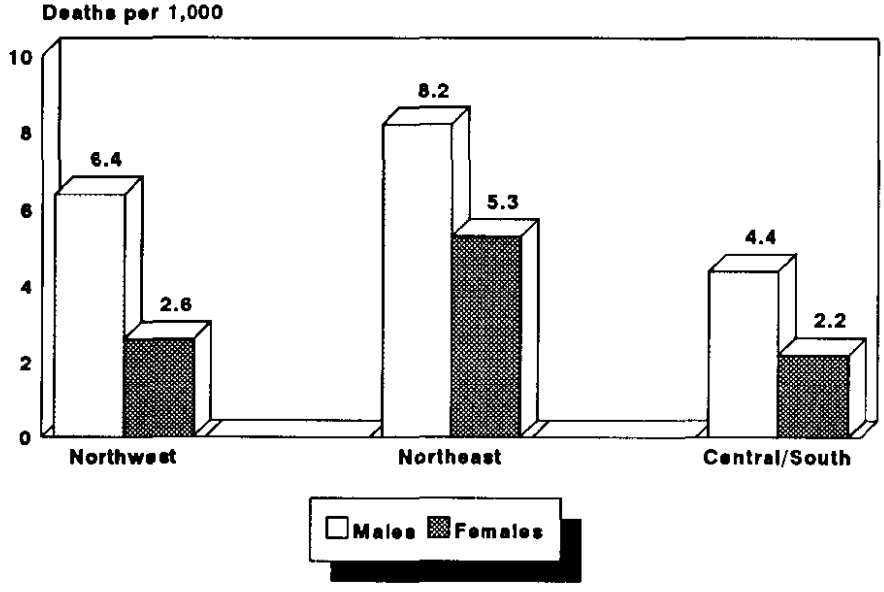


NDHS 1992

[2]Estimates of ($_5q_0$), the probability of dying between birth and exact age five, were 89 per 1000 births for females and 94 per 1000 for males for the period 1983-92 (see Chapter 7).

Mortality rates among males and females 15-49 years by region are shown in Figure 8.3. Female mortality is twice as high in the Northeast region as in the Northwest and Central/South regions. Male mortality is higher in both the Northwest and Northeast regions than in the Central/South region. The elevated mortality for both males and females in the Northeast region is in agreement with the much higher level of child mortality also found for this region. The relative disadvantage of males in Northwest region may be related to the independence struggle in this region during the 1980s.

Figure 8.3
Mortality Rates among Adults 15-49 by Sex and Region



The evaluation tends to substantiate the quality of the sibling survivorship data. Estimates based on the sibling data appear plausible and are consistent with estimates based on the West Model Life Table. Retrospective survey data are susceptible to event omission and the estimates probably suffer from some underreporting of events, although evidence suggests serious underreporting has not occurred.

8.5 Direct Estimates of Maternal Mortality

Direct estimates of maternal mortality derived from the reported survivorship of sisters are shown in Table 8.3. The number of maternal deaths is small (35 for the period 1983-92). The age pattern of the estimated

Table 8.3 Direct estimates of maternal mortality

Direct estimates of maternal mortality based on the survivorship of sisters of survey respondents, Namibia 1983-92

Age	Deaths	Exposure years	Rate (000)	Percent maternal
15-19	2	21348	0.094	5.8
20-24	7	20786	0.351	12.2
25-29	7	17806	0.386	15.9
30-34	3	13369	0.224	8.5
35-39	8	9312	0.827	20.7
40-44	5	5890	0.900	17.7
45-49	3	3256	0.798	13.8
Total	35	91569	0.382	13.5
GFR			.170	
MMR[1]			225	

GFR = General fertility rate
MMR = Maternal mortaltiy ratio
[1]Per 100,000 live births; calculated as maternal mortality rate divided by general fertility rate

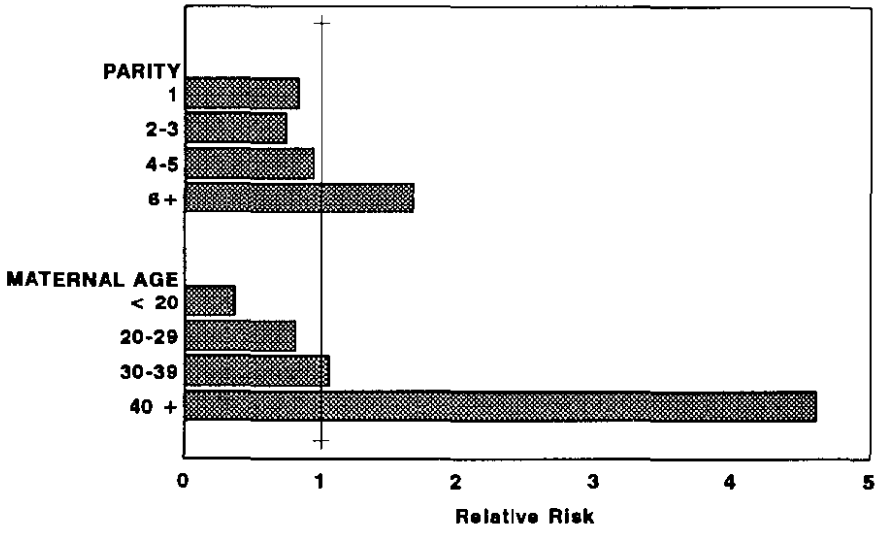
rates is somewhat erratic, although there is a trend toward higher rates at older ages. Given the relatively small number of events, the preferred approach is to estimate a single rate for the childbearing years. The overall estimates of maternal mortality expressed per 1000 woman-years of exposure is 0.38 for the period 1983-92.

The rate can be converted to maternal mortality ratios and expressed per 100,000 live births by dividing by a period-specific general fertility rate (see Table 8.3). Expressed in this way, the obstetric risk of pregnancy and childbearing is highlighted. The maternal mortality ratio is 225 maternal deaths per 100,000 births for 1983-92. Almost 14 percent of all deaths to women 15-49 years are associated with childbearing.

Data were also collected on parity and age of the deceased sisters. The distribution of deaths by age and parity can be related to the distribution of births by maternal age and parity for the ten years preceding the survey. The risk of maternal mortality increases with age and parity (see Figure 8.4). Compared to the overall risk of maternal death (= 1.00), the relative risk is 4.6 times higher at ages 40 and over and 1.7 times higher at birth order 6 and over. Young women do not have higher mortality risks.

Most maternal deaths during the decade prior to the survey occurred during pregnancy: the respondents said 75 percent occurred during pregnancy, 13 percent during delivery, and 12 percent during six weeks postpartum. The proportion during pregnancy is higher than expected, which may be related to the fact that this question was asked first.

Figure 8.4
Relative Risk of Maternal Death by Parity and Maternal Age



Note: Overall risk = 1.00

NDHS 1992

8.6 Indirect Estimates of Maternal Mortality

The data on the survivorship of sisters can also be used to estimate maternal mortality by the indirect approach (Graham et al., 1989). In this case the data are aggregated by five-year age groups of respondents. For each age group, information on the number of maternal deaths among all sisters of respondents and on the number of "sister units" of risk is used to estimate the life-time risk of dying from maternal causes. The indirect approach also provides an overall estimate of maternal mortality for sisters of all respondents combined which pertains to a period of time centered on approximately 12 years prior to the survey. When dealing with small samples it is preferable to use the overall estimate, which is subject to less sampling variability.

Indirect estimates of maternal mortality are shown in Table 8.4. Excluding the youngest age group, for which very few units of exposure were observed, the estimates of the life-time risk of dying from maternal causes by age group vary from .009 to .017. In general the pattern of the estimates is flat. When aggregating all respondents, the life-time risk of maternal death is .013 or, in other words, a life-time risk of dying of maternity-related causes of about 1 in 74. This can be transformed into an estimate of the maternal mortality ratio (maternal deaths per 100,000 births). The estimate, which pertains to about 12 years before the survey (1980), is 208.

Table 8.4 Indirect estimates of maternal mortality

Estimates of maternal mortality using the indirect method, Namibia 1992

Age	Number of respondents (a)	Number of sisters 15+ (b)	Maternal deaths (c)	Adjustment factor (d)	Sister units of risk exposure (e)=(b)*(d)	Lifetime risk of maternal death (f)=(c)/(e)
15-19	1259	1866	0	.107	200	.000
20-24	1119	2342	5	.206	482	.010
25-29	890	2193	7	.343	752	.009
30-34	722	1792	15	.503	901	.016
35-39	567	1396	12	.664	927	.012
40-44	507	1221	17	.802	979	.017
45-49	357	816	12	.900	734	.016
Total	5421	11624	67		4975	.013
TFR 1983-92		6.5				
MMR		208				

TFR = Total fertility rate
MMR = Maternal mortality ratio $(1 - [- \text{Lifetime risk}]^{1/TFR})^*$ 100,000, where TFR represents the total fertility rate 10-14 years preceding the survey

8.7 Conclusion

The direct estimate of the maternal mortality ratio from the NDHS for the period 1983-92 is 225 maternal deaths per 100,000 live births. The indirect estimate of the maternal mortality ratio is 208, which is the average of women's experience over an extended period prior to the survey, centered on approximately 12 years prior to the survey (i.e., 1980). Given the degree of sampling error associated with these mortality estimates, they should not be considered inconsistent. Probably the most appropriate interpretation is that the maternal mortality ratio was between 200 and 250 during the decades of 1970 and 1980. Overall, it appears that maternal mortality in Namibia is not particularly high, but there is still considerable scope for improvement of maternal survival, since the mortality risks are more than 10 times higher compared to developed countries.

CHAPTER 9

MATERNAL AND CHILD HEALTH

This chapter presents findings in three areas of importance to maternal and child health: antenatal care and delivery assistance, vaccinations, and common childhood illnesses and their treatment. Coupled with information on neonatal and infant mortality rates, this information can be used to identify subgroups of women who themselves or whose live births are "at risk" because of nonuse of maternal health services. In addition, the information on vaccination coverage and treatment patterns of child illnesses can be used to assess progress in the delivery of maternal and child health services and to identify target population groups that need increased attention. Data were obtained for all live births which occurred in the five years preceding the survey.

9.1 Antenatal Care and Delivery Assistance

Table 9.1 shows the percent distribution of births in the five years preceding the survey by antenatal care provider, according to selected background characteristics. Interviewers were instructed to record all persons a woman may have seen for care, but in the table, only the most qualified provider is considered (if more than one person was seen). For 87 percent of all births, mothers received antenatal care from a doctor, trained nurse, or midwife. Mothers of almost three-quarters of births visited a nurse or midwife for antenatal care. For 12 percent of births, mothers received no antenatal care at all. Virtually no women received antenatal care from a traditional birth attendant (TBA).

Age and parity of the respondent do not influence use of antenatal care services. There are minor differences in the utilisation of antenatal care services for births in urban and rural areas. The proportion of births whose mothers had no antenatal care visit was 13 percent in rural areas and 9 percent in urban areas. However, urban women rely much more on doctors than rural women. Almost one-third of urban births received antenatal care from a doctor, while only 6 percent of rural births received such care. Presumably, this is due to the greater availability of physicians in urban areas.

Utilisation of antenatal care is highest in the Northwest region, where only 5 percent of births received no antenatal care. In the Northeast and Central regions more than 20 percent of births received no antenatal care. Considering the type of antenatal care provider by region, Table 9.1 indicates that doctors are particularly common as providers of antenatal care in the South region (37 percent), which includes the capital city, Windhoek.

There is a strong association between education and receiving antenatal care. Utilisation of antenatal care is much lower for births to uneducated mothers: 29 percent did not receive antenatal care. As the mother's level of education increases, so does the likelihood that she will be seen by a doctor during the pregnancy; 7 percent of births to mothers with no education received antenatal care from a doctor compared to 27 percent of women who had at least some secondary schooling.

There is a weak association between utilisation of antenatal care services and the distance or travel time to the nearest antenatal clinic. The proportion of women who did not receive antenatal care exceeded 20 percent (23 percent) only among women who lived more than 60 km from a source of antenatal care. Likewise, nonuse was slightly higher if the woman had to travel at least one hour to the source of antenatal care. The proportion of mothers seen by a doctor is highest if the distance to the source is less than 10 km and the travel time does not exceed half an hour.

Table 9.1 Antenatal care

Percent distribution of live births in the five years preceding the survey by source of antenatal care during pregnancy, according to selected background characteristics, Namibia 1992

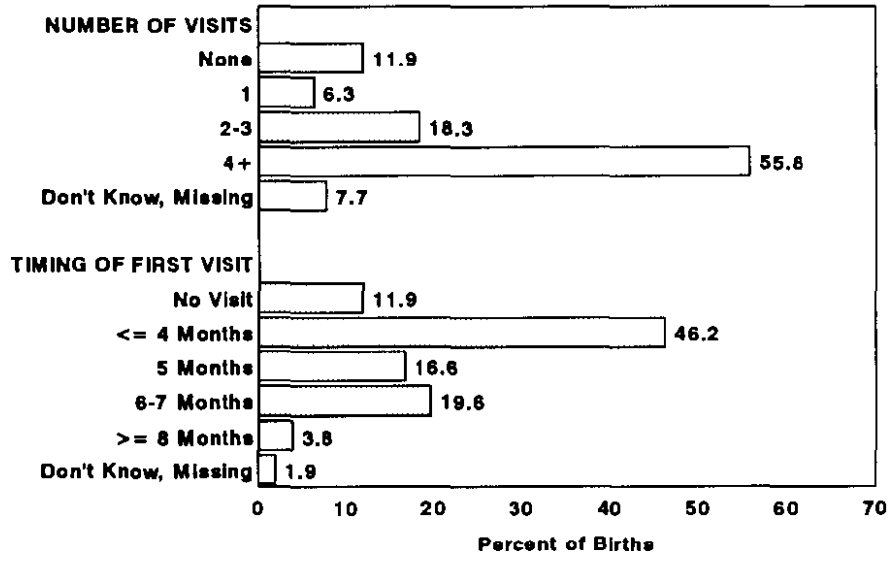
Background characteristic	Antenatal care provider[1]							Number of births
	Doctor	Trained nurse/ Midwife	Traditional birth attendant	Relative/ Other	No one	Don't know/ Missing	Total	
Mother's age at birth								
< 20	13.0	72.6	0.6	0.1	13.5	0.2	100.0	606
20-34	16.4	72.0	0.3	0.1	11.0	0.3	100.0	2526
35+	10.4	73.7	0.5	0.2	13.8	1.4	100.0	682
Birth order								
1	16.6	72.2	0.4	0.1	10.6	0.1	100.0	1010
2-3	17.8	70.1	0.1	0.0	11.6	0.4	100.0	1278
4-5	13.0	73.3	0.7	0.1	12.2	0.7	100.0	737
6+	9.4	75.5	0.3	0.2	13.7	0.9	100.0	790
Residence								
Urban	32.1	57.7	0.2	0.0	9.3	0.6	100.0	1253
Rural	6.3	79.5	0.4	0.1	13.1	0.5	100.0	2561
Region								
Northwest	4.6	89.7	0.4	0.1	4.7	0.5	100.0	1659
Northeast	6.4	72.7	0.2	0.2	20.2	0.3	100.0	726
Central	17.5	58.9	0.5	0.0	22.5	0.5	100.0	453
South	37.1	49.0	0.4	0.0	12.9	0.6	100.0	976
Mother's education								
No education	6.5	63.0	0.9	0.2	28.9	0.6	100.0	673
Some primary	8.1	80.3	0.4	0.2	10.3	0.7	100.0	1558
Completed primary	17.4	77.4	0.3	0.0	4.4	0.5	100.0	378
Secondary/Higher	27.3	65.8	0.0	0.0	6.8	0.1	100.0	1205
Distance to source (km.)								
0-4	21.2	66.2	0.2	0.1	11.8	0.5	100.0	1763
5-9	14.6	78.1	0.0	0.0	7.3	0.0	100.0	385
10-19	8.8	85.3	0.0	0.0	5.9	0.0	100.0	372
20-29	4.1	81.9	0.0	0.0	13.2	0.8	100.0	277
30-59	7.3	81.3	0.8	0.2	9.0	1.3	100.0	494
60+	9.9	65.6	0.8	0.0	23.3	0.4	100.0	275
Time to source (min.)								
<15	30.4	57.4	0.4	0.0	11.1	0.6	100.0	604
15-29	23.7	66.5	0.0	0.0	9.3	0.6	100.0	525
30-59	12.9	77.6	0.2	0.0	8.9	0.5	100.0	765
60-119	10.0	76.5	0.8	0.2	12.4	0.3	100.0	855
≥120	5.6	78.7	0.2	0.2	14.6	0.6	100.0	999
Total	14.8	72.4	0.4	0.1	11.9	0.5	100.0	3814

Note: Figures are for births in the period 1-59 months preceding the survey.
[1]If the respondent mentioned more than one provider, only the most qualified provider is considered

Antenatal care is more effective when it is sought early in pregnancy and continued throughout pregnancy. An early visit allows for an assessment of the woman's baseline health status, and regular visits permit proper monitoring of the mother and child throughout pregnancy. Obstetricians generally recommend that antenatal visits be made on a monthly basis to the 28th week (7th month), fortnightly to the 36th week (8th month) and then weekly until the 40th week (until birth). If the first antenatal visit is made at the third month of pregnancy, then this schedule translates to a total of about 12 visits during the pregnancy.

Information about the visits made by pregnant women is presented in Figure 9.1. For 56 percent of births, mothers made four or more antenatal care visits. This is 69 percent of all births that received care, suggesting that most women who used the antenatal clinics were aware of the importance of regular attendance. However, for a large proportion of births, mothers made fewer than the recommended number of visits; the median number of antenatal care visits was five.

Figure 9.1
Number and Timing of Antenatal Visits for Births in the Five Years Preceding the Survey



Sixty-three percent of all births received some antenatal care before the 6th month of gestation and 46 percent before the 5th month (see Figure 9.1). The median duration of gestation at the time of the first antenatal care visit was 4.8 months among births whose mothers received antenatal care.

Table 9.2 presents tetanus toxoid coverage during pregnancy for all births in the five years preceding the survey. Tetanus toxoid injections are given during pregnancy for the prevention of neonatal tetanus, one of the principal causes of death among neonates in many developing countries. For full protection, a pregnant woman should receive two doses of the toxoid. However, if a woman has been vaccinated previously, she may only require one dose for a current pregnancy. Five doses are considered to provide life-time protection.

Table 9.2 Tetanus toxoid vaccination

Percent distribution of births in the five years preceding the survey by number of tetanus toxoid injections given to the mother during pregnancy and whether the respondent received an antenatal card, according to selected background characteristics, Namibia 1992

Background characteristic	Number of tetanus toxoid injections					Percentage given antenatal card	Number of births
	None	One dose	Two doses or more	Don't know/ Missing	Total		
Mother's age at birth							
< 20	40.6	27.5	30.5	1.4	100.0	81.5	606
20-34	37.5	29.0	32.5	1.0	100.0	83.9	2526
35+	37.9	26.7	35.2	0.2	100.0	80.7	682
Birth order							
1	40.1	26.8	31.7	1.3	100.0	84.1	1010
2-3	37.6	28.7	32.6	1.1	100.0	83.1	1278
4-5	37.5	29.9	31.7	0.9	100.0	82.6	737
6+	36.6	28.5	34.8	0.2	100.0	81.5	790
Residence							
Urban	44.1	22.7	31.9	1.2	100.0	83.4	1253
Rural	35.1	31.2	33.0	0.8	100.0	82.7	2561
Region							
Northwest	27.5	38.2	33.5	0.8	100.0	93.2	1659
Northeast	32.9	26.9	39.9	0.3	100.0	77.0	726
Central	53.8	13.3	32.1	0.8	100.0	72.4	453
South	52.4	19.8	26.1	1.7	100.0	74.8	976
Mother's education							
No education	53.6	20.2	25.9	0.3	100.0	65.9	673
Some primary	31.9	32.4	35.0	0.7	100.0	85.2	1558
Completed primary	35.5	31.3	32.1	1.1	100.0	88.1	378
Secondary/Higher	38.0	27.0	33.6	1.5	100.0	87.9	1205
Distance to source (km.)							
0-4	39.5	24.2	34.8	1.4	100.0	83.0	1763
5-9	31.5	35.0	32.7	0.8	100.0	88.0	385
10-19	31.9	36.4	31.7	0.0	100.0	90.6	372
20-29	32.1	31.4	35.7	0.8	100.0	82.4	277
30-59	35.3	33.2	30.8	0.7	100.0	85.9	494
60+	48.9	27.3	23.8	0.0	100.0	68.8	275
Time to source (min.)							
<15	46.9	23.5	28.1	1.4	100.0	80.1	604
15-29	37.7	25.1	36.5	0.6	100.0	85.8	525
30-59	33.5	29.6	34.8	2.2	100.0	86.2	765
60-119	36.0	29.9	33.5	0.6	100.0	83.2	855
≥120	36.2	31.8	31.9	0.1	100.0	82.1	999
Total	38.0	28.4	32.7	0.9	100.0	82.9	3814

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

Almost one in three of births received the protection of two or more doses of tetanus toxoid during gestation, while an additional 28 percent received only one dose; 38 percent were not protected by any tetanus toxoid vaccination. There are no differences by age and parity of the woman. The mothers of births in the South and Central regions were less likely to receive tetanus injections during gestation: more than half of births in these regions did not receive any tetanus toxoid during pregnancy, while the corresponding figures in the Northwest and the Northeast regions were 28 and 33 percent, respectively. As shown in Table 9.1, doctors are a more common source of antenatal care in the South and Central regions than in the northern regions of Namibia, which may indicate that doctors are less likely to give tetanus toxoid.

Births to women with no education were less likely to be protected by tetanus toxoid (54 percent) compared to births to mothers with formal education. Distance or travel time to a source of antenatal care had little effect on tetanus toxoid coverage.

Majority of births in the five years preceding the survey were to mothers who received antenatal cards for their pregnancies (83 percent). Those who were less likely to have cards were births to women who had no education, while the highest proportion of births with antenatal cards can be found in Northwest (93 percent). For all other variables differences were small.

Tables 9.3 and 9.4 present data on the place of delivery and type of assistance during delivery. Interviewers were instructed to record all persons who assisted during delivery, but in the table, only the most qualified provider was considered (if more than one person was recorded). Two of three births in Namibia occurred in a health facility.

Births to younger women and first births were much more likely to occur in health facilities. For example, 80 percent of first births (which are considered high-risk births), took place in health facilities. Eighty-five percent of urban births occurred in health facilities, compared to 58 percent of rural births. Women in the South region were much more likely to deliver in health facilities than women in the other three regions. Almost half of births in the Northeast region occurred at home (47 percent).

The expected pattern with regard to mother's education can be seen in Table 9.3: the proportion of births delivered in a health facility increases steadily from 42 percent among mothers with no education to 88 percent among mothers with some secondary or higher education.

The proportion of women delivering in health facilities declines with distance and travel time to a maternity facility (usually a hospital). For example, while almost 80 percent of births to women living within 10 km of a health facility occurred in a health facility, less than 60 percent of births to women living at a distance of 30 or more kilometres occurred in a health facility.

Fifty-four percent of births were attended by a nurse or midwife, and 14 percent by a doctor (see Table 9.4). Doctors were more common in urban areas (30 percent of births), the South region (32 percent of births), and among births to women with higher levels of schooling. Traditional birth attendants (TBAs) assisted 6 percent of births. The proportion attended by TBAs was higher for births to women 35 years and over (11 percent) and for births of order 6 and over (11 percent). TBAs were most common in the Northwest region, where they attended 9 percent of deliveries, and least common in the Northeast (2 percent). There was a strong association between the proportion delivered by TBAs and the woman's level of education: the higher the level of education the lower the proportion of births attended by TBAs. Generally, these data suggest that TBAs play only a minor role in providing delivery care to Namibian women and that their share of deliveries will even be smaller in the future.

Table 9.3 Place of delivery

Percent distribution of births in the five years preceding the survey by place of delivery, according to selected background characteristics, Namibia 1992

Background characteristic	Health facility	At home	Other	Don't know/ Missing	Total	Number of births
Mother's age at birth						
< 20	74.4	25.0	0.4	0.2	100.0	606
20-34	68.4	30.8	0.5	0.3	100.0	2526
35+	54.5	43.6	0.6	1.2	100.0	682
Birth order						
1	80.1	19.6	0.3	0.0	100.0	1010
2-3	68.9	29.7	0.8	0.5	100.0	1278
4-5	61.8	37.4	0.3	0.5	100.0	737
6+	51.4	47.2	0.5	0.9	100.0	790
Residence						
Urban	85.4	13.8	0.2	0.6	100.0	1253
Rural	57.8	41.1	0.7	0.4	100.0	2561
Region						
Northwest	65.6	33.2	0.7	0.5	100.0	1659
Northeast	52.2	47.0	0.6	0.2	100.0	726
Central	63.7	35.5	0.3	0.5	100.0	453
South	81.4	17.8	0.2	0.5	100.0	976
Mother's education						
No education	41.5	57.4	0.3	0.8	100.0	673
Some primary	59.4	39.0	0.8	0.7	100.0	1558
Completed primary	74.2	24.9	0.6	0.3	100.0	378
Secondary/Higher	88.4	11.5	0.2	0.0	100.0	1205
Antenatal care visits						
0	29.9	69.4	0.6	0.0	100.0	453
1-3	63.6	35.7	0.7	0.1	100.0	939
4+	75.6	24.0	0.3	0.1	100.0	2129
Don't know/Missing	71.4	22.2	1.1	5.3	100.0	292
Distance to source (km.)						
0-4	78.4	20.7	0.5	0.4	100.0	1249
5-9	77.0	20.7	1.9	0.4	100.0	304
10-19	69.1	30.4	0.2	0.2	100.0	450
20-29	62.9	36.4	0.0	0.8	100.0	295
30-59	56.3	42.1	0.7	1.0	100.0	665
60+	51.2	48.4	0.2	0.2	100.0	566
Time to source (min.)						
<15	87.3	12.7	0.0	0.0	100.0	406
15-29	79.7	18.9	0.4	1.0	100.0	427
30-59	75.5	23.9	0.3	0.3	100.0	706
60-119	61.4	37.6	0.7	0.3	100.0	892
≥120	54.9	43.7	0.7	0.6	100.0	1323
Total	66.9	32.2	0.5	0.5	100.0	3814

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

Table 9.4 Assistance during delivery

Percent distribution of births in the five years preceding the survey by type of assistance during delivery, according to selected background characteristics, Namibia 1992

Background characteristic	Attendant assisting during delivery[1]							Number of births
	Doctor	Trained nurse/ Midwife	Traditional birth attendant	Relative/ Other	No One	Don't Know/ Missing	Total	
Mother's age at birth								
< 20	15.2	60.4	4.5	17.7	2.1	0.2	100.0	606
20-34	15.2	54.8	4.9	21.8	3.0	0.4	100.0	2526
35+	9.1	46.1	10.9	26.6	5.7	1.7	100.0	682
Birth order								
1	19.3	61.6	3.9	13.9	1.3	0.0	100.0	1010
2-3	15.7	55.3	4.2	21.6	2.5	0.7	100.0	1278
4-5	11.0	52.2	6.0	25.7	4.5	0.6	100.0	737
6+	8.0	44.4	11.2	29.5	5.9	1.1	100.0	790
Residence								
Urban	30.0	56.1	2.3	10.1	0.8	0.8	100.0	1253
Rural	6.4	53.1	7.7	27.8	4.5	0.5	100.0	2561
Region								
Northwest	6.5	60.5	9.3	21.1	2.1	0.6	100.0	1659
Northeast	3.4	48.6	1.8	36.2	9.7	0.2	100.0	726
Central	19.9	47.2	7.2	23.9	0.5	1.3	100.0	453
South	32.3	50.6	2.7	12.1	1.8	0.5	100.0	976
Mother's education								
No education	6.0	36.8	13.2	36.5	6.3	1.1	100.0	673
Some primary	7.9	53.1	6.5	28.0	3.7	0.8	100.0	1558
Completed primary	12.1	63.3	3.4	18.8	2.1	0.3	100.0	378
Secondary/Higher	27.3	62.2	1.9	7.1	1.4	0.1	100.0	1205
Antenatal care visits								
0	9.0	23.3	9.0	48.0	10.2	0.5	100.0	453
1-3	10.0	54.4	6.6	24.9	3.9	0.1	100.0	939
4+	16.8	60.4	5.2	16.0	1.5	0.1	100.0	2129
Don't know/Missing	15.6	54.9	4.2	15.5	3.4	6.4	100.0	292
Total	14.1	54.1	5.9	22.0	3.3	0.6	100.0	3814

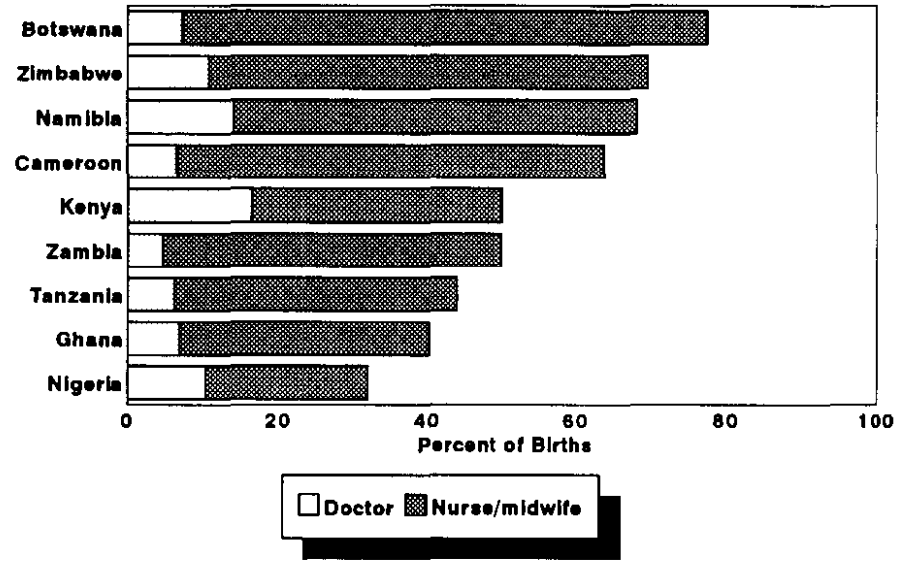
Note: Figures are for births in the period 1-59 months prior to the survey.
[1]If the respondent mentioned more than one attendant, only the most qualified attendant is considered.

One in 30 births occurred without any assistance. Women who deliver by themselves are more likely to be older women, women with high parity, women in the Northeast region and/or women who did not receive any antenatal care. It should be noted, however, that among births to women who did not receive antenatal care, 32 percent were assisted by medical professionals.

Women who had contact with health professionals during pregnancy were much more likely to deliver with assistance of a health professional than women who had no such contact during pregnancy (see Table 9.4). Seventy-seven percent of births to women who made four or more antenatal care visits were delivered by a trained provider, compared to 32 percent of births to women who made no antenatal care visits.

Figure 9.2 shows the proportion of deliveries attended by medical professionals in selected DHS countries. Namibia has the second highest proportion of deliveries attended by doctors, and is at the higher end of the distribution in terms of percent of deliveries attended by any type of medical professional.

Figure 9.2
Percentage of Births Attended by Medical Professionals in the Five Years Preceding the Survey
Selected DHS Surveys in Sub-Saharan Africa, 1988-1992



About one in 16 births in the five years preceding the survey was delivered by caesarean section (7 percent). This was 10 percent of all deliveries in health facilities. Twenty-nine percent of deliveries assisted by doctors were caesarean sections (table not shown).

9.2 Vaccinations

To assist in the evaluation of the Expanded Programme for Immunisation (EPI), the NDHS collected information on vaccination coverage for all children born in the five years preceding the survey, although data presented here are restricted to children who were alive at the time of the survey. The Ministry of Health and Social Services adopted the World Health Organisation's (WHO) guidelines for vaccinating children in June 1990, shortly after Independence, and initiated a national EPI acceleration effort at the same time. A child should receive the following vaccinations: BCG and oral polio at birth, measles at 9 months, and three doses each of DPT and polio at 6, 10 and 14 weeks of age. BCG is for protection against tuberculosis, and DPT is for protection against diphtheria, pertussis, and tetanus; both DPT and polio require three vaccinations at intervals of at least four weeks. WHO recommends that children receive the complete schedule of vaccinations by 12 months of age.

Information on vaccination coverage was collected in two ways: from vaccination cards seen by the interviewers and from mothers' reports. The majority of child health clinics in Namibia provide cards on which vaccinations are recorded; when a mother was able to present such a card to the interviewer, this was used as the source of information. The interviewer recorded vaccination dates directly from the card. In addition to collecting vaccination information from cards, there were two ways of collecting the information from the mother herself. If a vaccination card was presented, but a vaccine was not recorded on the card as being given, the mother was asked to recall whether that particular vaccine had been given. If there was no card at all for the child, the mother was asked to recall whether the child had received BCG, polio (including the number of doses), or measles vaccinations. DPT coverage was not asked about for children without a written record as it was assumed to be the same as the mother's report for polio vaccine. (Polio and DPT are usually given at the same time.)

Vaccination coverage is presented in Table 9.5 according to the source of the information used to determine coverage, i.e., the vaccination card or mother's report. Data are presented for children age 12-23 months, thereby including only those children who have reached the age by which they should be fully vaccinated. For 70 percent of children age 12-23 months the mother was able to show a card to the interviewer. For an additional 26 percent a card was reported, but not seen by the interviewer (not shown in Table 9.5). For example, the card may have been at another house, at the doctor's office, the respondent may not have been able to find the card, or the mother may not have been willing to go and look for the card. Only 4 percent of women said they did not have a card for their children age 12-23 months.

Table 9.5 Vaccinations by source of information

Percentage of children 12-23 months who had received specific vaccines at any time before the survey, by whether the information was from a vaccination card or from the mother and the percentage vaccinated by 12 months of age, Namibia 1992

	Percentage of children who received:										
		DPT			Polio						Number
Source of information	BCG	1	2	3+	1	2	3+	Measles	All[1]	None	of children
Vaccinated at any time before the survey											
Vaccination card	66.0	67.9	63.3	58.8	67.9	63.3	58.8	56.0	50.0	0.6	787
Mother's report	25.3	24.0	19.1	10.8	24.0	19.1	10.8	19.7	7.9	4.0	787
Either source	91.3	91.9	82.5	69.6	91.9	82.5	69.6	75.7	57.9	4.7	787
Vaccinated by 12 months of age	89.8	87.8	79.7	64.6	87.8	79.7	64.6	63.5	51.1	9.1	787

Note: The DPT coverage rate for children without a written record is assumed to be the same as that for polio vaccine since mothers were specifically asked whether the child had received polio vaccine. For children whose information was based on the mother's report, the proportion of vaccinations given during the first year of life was assumed to be the same as for children with a written record of vaccination.

[1]Children who are fully vaccinated (i.e., those who have received BCG, measles and three doses of DPT and polio).

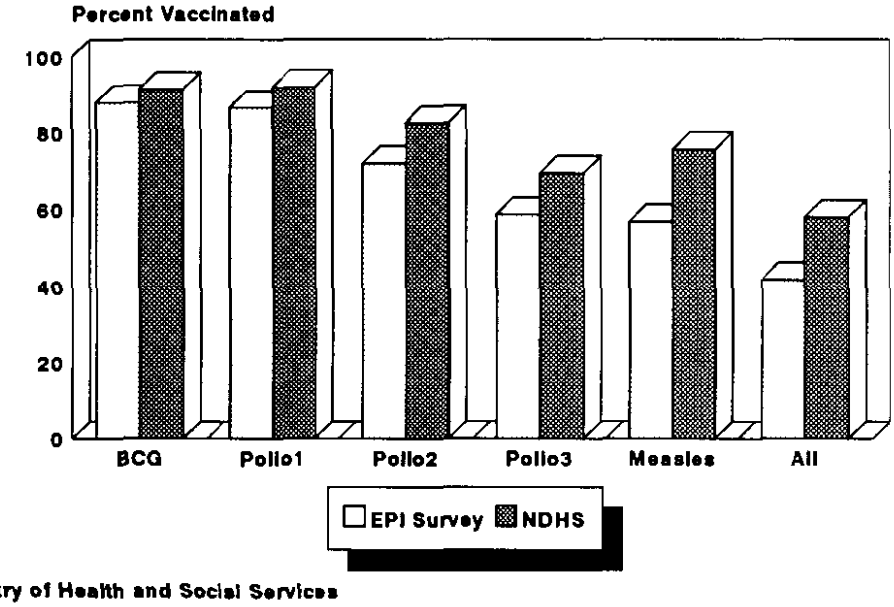
According to the information from vaccination cards and mother's recall, 91 percent of children received a BCG vaccination. Coverage for the first dose of polio and the first dose of DPT was about the same as for BCG (92 percent) Coverage declines after the first dose; not as many children received the

second and third doses of polio and DPT vaccine. Seventy percent of children received the third doses of polio and DPT. The dropout rate between the first and third dose of DPT/polio is thus 24 percent.[1] Seventy-six percent of children age 12-23 months were vaccinated against measles, while 63 percent of children received a measles vaccination before their first birthday. More than half of children were fully vaccinated (58 percent), while 5 percent had not received any vaccination.

Table 9.5 also presents information on the proportion of children vaccinated during the first year of life, i.e., by 12 months of age. Coverage for BCG, DPT/polio1, DPT/polio2, and DPT/polio3 was only slightly lower for children less than 12 months of age than for those 12-23 months, indicating that the majority of children received their vaccinations before their first birthday. For measles, however, coverage by 12 months was 64 percent, compared to 76 percent among children 12-23 months. This indicates that most children did receive a measles vaccination before their first birthday, but 1 of 6 measles vaccinations to children 12-23 months at the time of NDHS were given after their first birthday.

Vaccination coverage rates in the NDHS compare favourably with the results of a national immunisation coverage survey conducted in December 1990 (see Figure 9.3). Coverage for all vaccines increased considerably; for example, measles coverage increased from 41 percent to 76 percent.

Figure 9.3
Vaccination Status of Children 12-23 Months
1992 EPI Survey and 1992 NDHS Survey



Source: Ministry of Health and Social Services

The rapid increase in vaccination coverage in Namibia is also confirmed by analysis of data for different age cohorts in NDHS. Table 9.6 shows the percentage of children age 12-59 months who had been vaccinated by 12 months of age, by their current age. The proportion vaccinated by 12 months among children 12-23 months refers, on average, to the EPI performance during mid-1991 to mid-1992; vaccination coverage by 12 months among children 24-35 months refers to the period mid-1990 to mid-1991, etc. The coverage estimates are based on both card information and mothers' reports.

[1]The dropout rate is calculated as (DPT3 - DPT1) / DPT1 * 100 %.

Table 9.6 Vaccinations in the first year of life

Percentage of children one to four years of age for whom a vaccination card was seen by the interviewer and the percentage vaccinated for BCG, DPT, polio, and measles during the first year of life, by current age of the child, Namibia 1992

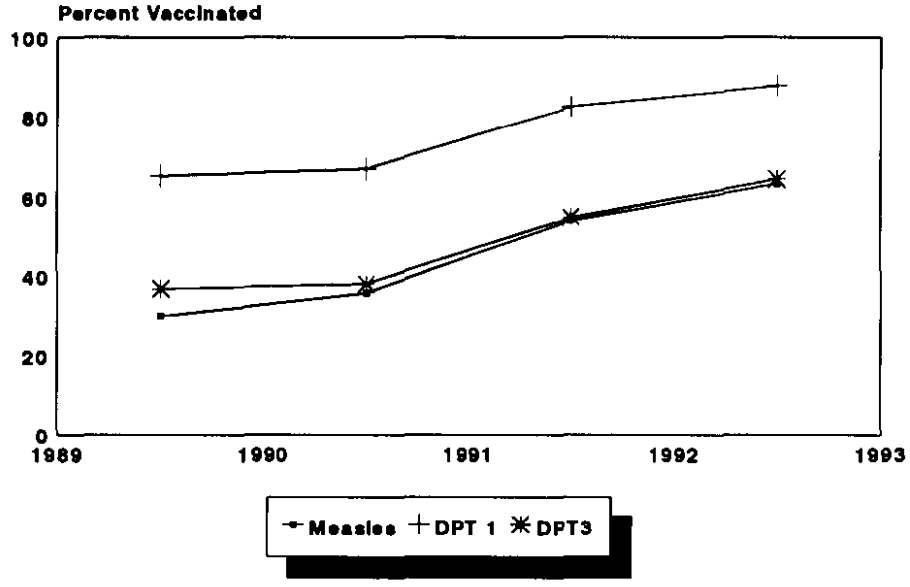
Vaccination card/ Vaccination status	Current age of child in months				All children 12-59 months
	12-13	24-35	36-47	48-59	
Vaccination card shown to interviewer	70.2	57.8	54.8	50.4	59.0
Percent vaccinated at 0-11 months[a]					
BCG	89.8	84.8	77.2	75.6	82.4
DPT 1[b]	87.8	82.5	67.1	65.3	76.7
DPT 2	79.7	72.6	54.6	52.1	66.0
DPT 3	64.6	55.1	38.1	36.9	49.9
Polio 1	87.8	82.5	67.1	65.3	76.7
Polio 2	79.7	72.6	54.6	52.1	66.0
Polio 3	64.6	55.1	38.1	37.0	49.9
Measles	63.5	54.2	35.9	30.1	47.4
All vaccinations[c]	51.1	42.0	26.3	22.8	36.8
No vaccinations	9.1	14.4	26.6	30.9	19.3
Number of children	787	752	645	608	2791

[a]*Information was obtained either from a vaccination card or from the mother if there* was no written record. For children whose information was based on the mother's report, the proportion of vaccinations given during the first year of life was assumed to be the same as that for children with a written vaccination record.
[b]*The DPT coverage rate for children without a written record is assumed to be the same* as that for polio vaccine, since mothers were specifically asked whether the child had received polio vaccine.
[c]Children who have received BCG, measles and three doses of DPT and polio vaccines.

Coverage for all vaccines shows a pronounced increase during the period 1988-1992. Measles coverage nearly doubled during this period (from 30 to 64 percent). DPT/polio coverage by age 12 months also increased markedly; the third dose was received by 37 percent of children 48-59 months and by 65 percent of children 12-23 months. Figure 9.4 summarises the coverage trends for measles and DPT3, based on NDHS data only.

Table 9.7 shows the percentage of children age 12-23 months vaccinated (according to card information and mothers' reports) by selected background characteristics of the mother. There were no differences between coverage rates of boys and girls. Children of higher birth orders had lower measles coverage than children of birth orders 1-3.

Figure 9.4
Trends in Vaccination Coverage for Measles and DPT by Age 12 Months



There were virtually no differences between urban and rural children in terms of vaccination coverage. The Northeast region had lower coverage than the other regions, which had similar coverage rates. The lower coverage in the Northeast region was mainly due to higher dropout rates for DPT/polio. The proportion of children receiving the first dose of DPT/polio in the Northeast region was only slightly lower than in the other regions. However, dropout rates between DPT/polio1 and DPT/polio3 were much higher in the Northeast region: 44 percent compared to 13 percent in the Central region, 21 percent in the Northwest and 24 percent in the South.

There is a consistent relationship between vaccination coverage and mother's level of education. Children with the least protection were those born to women with no education, while the highest coverage was achieved by children of mothers with the highest levels of schooling. However, even among children of mothers with at least some secondary education, coverage for three doses of DPT and polio remained well under 80 percent. Neither distance to a vaccinating facility (or mobile clinic) nor travel time to such a service delivery point affected vaccination coverage.

Table 9.7 Vaccinations by background characteristics

Percentage of children 12-23 months who had received specific vaccines by the time of the survey (according to vaccination cards or mother's reports) and the percentage with a vaccination card, by selected background characteristics, Namibia 1992

Background characteristic	Percentage of children who received:										Percentage with a card	Number of children
		DPT			Polio							
	BCG	1	2	3+	1	2	3+	Measles	All[1]	None		
Sex												
Male	92.0	92.2	81.9	68.8	92.2	81.9	68.8	77.0	58.4	4.1	70.5	390
Female	90.7	91.6	83.1	70.4	91.6	83.1	70.4	74.3	57.5	5.2	69.9	396
Birth order												
1	90.6	92.8	79.3	68.7	92.8	79.3	68.7	80.3	60.9	4.9	68.9	214
2-3	91.6	91.8	84.7	71.3	91.8	84.7	71.3	80.2	60.8	3.6	69.0	267
4-5	89.8	93.7	85.0	68.7	93.7	85.0	68.7	73.2	55.5	5.5	70.4	152
6+	93.5	89.0	80.6	68.8	89.0	80.6	68.8	63.8	51.1	5.2	73.8	153
Residence												
Urban	92.9	91.9	85.9	71.7	91.9	85.9	71.7	77.8	59.6	5.1	58.9	265
Rural	90.6	91.9	80.8	68.5	91.9	80.8	68.5	74.6	57.1	4.4	76.0	522
Region												
Northwest	94.4	95.9	87.7	75.7	95.9	87.7	75.7	79.8	63.3	2.1	74.5	356
Northeast	86.2	85.5	67.9	47.9	85.5	67.9	47.9	68.7	39.7	8.6	75.7	131
Central	88.2	89.4	83.5	77.6	89.4	83.5	77.6	74.1	64.7	7.1	60.0	102
South	90.9	90.2	82.3	68.9	90.2	82.3	68.9	73.8	56.7	5.5	64.0	197
Mother's education												
No education	83.0	83.6	73.0	60.7	83.6	73.0	60.7	60.2	44.7	8.0	74.7	122
Some primary	90.9	92.4	81.7	69.6	92.4	81.7	69.6	74.8	57.1	4.8	75.1	333
Completed primary	95.0	95.0	88.1	74.3	95.0	88.1	74.3	80.2	60.8	1.7	63.6	81
Secondary/Higher	94.9	94.3	86.4	72.4	94.3	86.4	72.4	83.0	64.5	3.8	63.6	250
Distance to source (km.)												
0-4	91.8	90.8	81.4	67.6	90.8	81.4	67.6	76.2	56.7	5.3	66.7	450
5-9	93.1	92.9	88.9	76.8	92.9	88.9	76.8	83.7	68.8	4.2	78.0	78
10-19	87.4	93.3	84.7	77.1	93.3	84.7	77.1	67.2	59.2	6.7	80.0	71
≥20	92.3	93.7	84.3	69.8	93.7	84.3	69.8	73.8	56.6	2.5	70.2	137
Time to source (min.)												
<15	90.5	92.5	83.9	70.1	92.5	83.9	70.1	76.7	58.5	5.2	63.8	164
15-29	94.5	91.9	84.1	67.6	91.9	84.1	67.6	77.8	59.6	3.4	68.6	125
30-59	95.8	94.0	82.7	70.9	94.0	82.7	70.9	80.0	59.7	2.6	70.0	176
60-119	87.6	89.8	79.8	66.0	89.8	79.8	66.0	70.4	52.3	6.0	71.4	171
≥120	88.5	91.3	82.6	72.9	91.3	82.6	72.9	73.3	59.3	5.5	77.1	138
All children	91.3	91.9	82.5	69.6	91.9	82.5	69.6	75.7	57.9	4.7	70.2	787

Note: The DPT coverage rate for children without a written record is assumed to be the same as that for polio vaccine since mothers were specifically asked whether the child had received polio vaccine.

[1]Children who are fully vaccinated (i.e., those who have received BCG, measles and three doses of DPT and polio).

9.3 Acute Respiratory Infection

Pneumonia is one of the leading causes of infant mortality in Namibia (see Chapter 7). In a household survey such as NDHS it is usually not possible to determine the prevalence of pneumonia. It is, however, possible to obtain an idea of treatment practices for children with possible pneumonia. Mothers were asked if their children had experienced coughing, accompanied by short, rapid breathing, in the two weeks preceding the survey. These are symptoms of acute respiratory infection which need assessment by a health professional to determine if the cause is pneumonia. Early diagnosis and treatment with antibiotics can prevent a large proportion of pneumonia deaths.

Table 9.8 shows that 18 percent of children under five years of age were ill with a cough and rapid breathing at some time in the two weeks preceding the survey. It should be noted that the NDHS collected data during the period July through November; this is the cold season in Namibia, when respiratory infections are more common. Prevalence of respiratory symptoms varied by age, with older children having lower prevalence. Differences by region were pronounced. Very high prevalence of cough with rapid breathing was reported by mothers in the Northeast region (39 percent), while women in the Central region reported almost no respiratory symptoms in their children (3 percent).

A high proportion of children with cough with rapid breathing were taken to a health facility (67 percent). Mothers were also asked to recall the treatment given, which may have been difficult, especially when recalling the type of medicine received. According to mothers, 23 percent of children received an antibiotic treatment, 3 percent received an injection, and 58 percent received cough syrup.

Children aged 6-11 months were most likely to be taken to a health facility (81 percent). There were no differences by sex of the child or by birth order. Both in urban and rural areas and in all four regions the proportion of sick children taken to a health facility was higher than 60 percent. The highest proportion was reported in the Central region (82 percent), where prevalence of cough with rapid breathing was very low (3 percent). Children of more educated mothers were more likely to be taken to a health facility (76 percent) than children of mothers with no education (62 percent).

Children with symptoms of cough and rapid breathing who live closer to health facilities are more likely to be taken for a medical assessment (see Figure 9.5). The association is stronger with distance than with travel time. It may be that parents take into consideration the cost of travel in their decision to seek health care for their children. For example, two-thirds of children within 10 km of a health facility were taken for treatment, while only one-third of children living at least 60 km from a health facility were brought to a health professional. There is a gradual decrease in the proportion taken to a health facility with distance to the facility. Regarding travel time, use of curative services for children with cough and rapid breathing is higher for those living within 30 minutes compared to those living at least 30 minutes from a facility, but the differences are less pronounced than for distance.

Table 9.8 Prevalence and treatment of acute respiratory infection

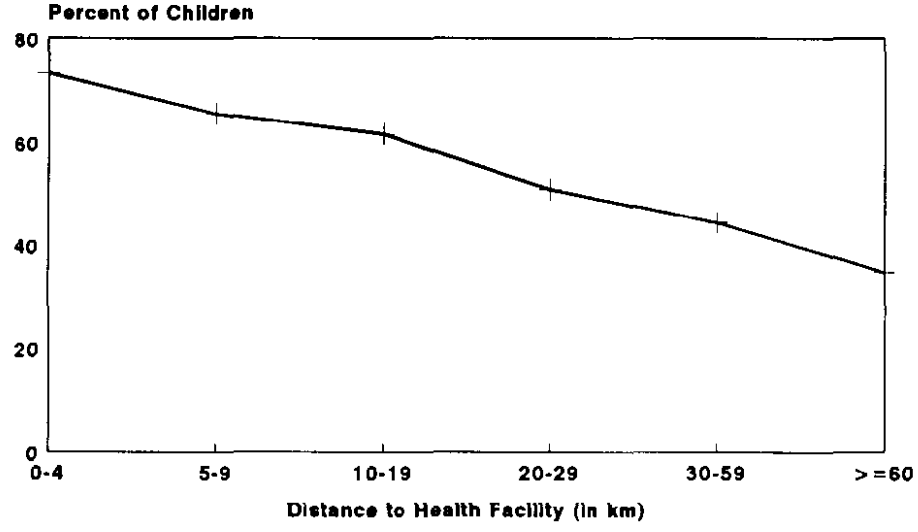
Percentage of children under five years who were ill with a cough accompanied by rapid breathing during the two weeks preceding the survey, and the percentage of ill children who were treated with specific remedies, by selected background characteristics, Namibia 1992

Background characteristic	Percentage of children with cough and rapid breathing	Among children with cough and rapid breathing: Percentage taken to a health facility or provider[1]	Percentage treated with: Antibiotic pill or syrup	Injection	Cough syrup	Home remedy	Other	None	Don't know/ Missing	Number of children
Age of child (months)										
<6	20.2	61.6	28.4	1.4	54.7	3.6	23.7	27.2	0.0	381
6-11	23.7	80.5	21.9	3.2	67.4	0.0	33.6	16.4	0.0	390
12-23	20.2	67.9	22.9	1.7	59.3	1.7	31.8	22.7	0.0	787
24-35	18.8	69.8	24.1	7.2	55.9	3.5	35.1	18.4	0.0	752
36-47	15.2	60.9	22.4	3.0	52.6	1.7	36.2	24.1	1.1	645
48-59	12.3	56.9	16.5	2.8	54.9	2.5	35.9	23.6	1.1	608
Sex of child										
Male	17.7	67.3	22.0	3.5	55.5	2.0	33.5	23.0	0.3	1745
Female	18.4	66.7	23.7	3.3	59.6	2.3	32.4	20.5	0.3	1816
Birth order										
1	18.6	71.8	25.9	4.6	58.1	2.4	37.4	17.1	0.0	950
2-3	17.0	63.4	20.5	2.5	56.6	2.0	31.5	23.0	0.0	1193
4-5	18.5	63.1	24.6	2.8	54.7	1.5	25.4	25.6	1.5	684
6+	18.6	69.8	20.7	3.9	61.2	2.8	36.6	22.1	0.0	734
Residence										
Urban	13.1	73.7	26.4	3.8	62.8	1.4	29.7	20.7	0.0	1174
Rural	20.5	64.9	21.7	3.3	56.0	2.4	34.0	22.0	0.4	2388
Region										
Northwest	16.9	62.1	19.4	4.0	66.4	2.0	37.5	21.3	0.4	1563
Northeast	38.8	71.7	24.3	2.6	47.3	3.4	26.8	21.3	0.3	656
Central	3.1	81.8	27.3	18.2	72.7	0.0	27.3	0.0	0.0	423
South	12.0	66.3	27.2	2.2	58.7	0.0	37.0	26.1	0.0	920
Education										
No education	14.3	61.5	20.8	6.4	48.2	2.1	24.8	30.6	0.9	624
Primary incomplete	21.9	64.1	22.6	2.2	51.9	3.4	32.5	23.6	0.3	1451
Completed primary	20.2	66.0	22.2	2.6	65.6	0.0	33.9	22.2	0.0	354
Secondary/Higher	14.4	76.2	24.7	4.6	70.5	0.9	37.9	13.0	0.0	1133
Distance to source (km.)										
0-4	18.9	73.3	25.3	3.8	58.3	2.1	29.6	20.1	0.2	2107
5-9	15.2	65.5	27.8	5.9	60.0	1.5	39.2	25.6	0.0	370
10-19	15.8	61.6	17.3	3.6	64.8	2.0	43.8	15.8	0.0	328
20-29	17.8	(51.1)	(14.0)	(0.0)	(46.5)	(0.0)	(24.0)	(35.3)	(0.0)	200
30-59	16.4	(44.5)	(27.5)	(0.0)	(54.7)	(6.8)	(35.9)	(24.8)	(0.0)	187
60+	16.4	(34.6)	(3.3)	(0.0)	(43.6)	(0.0)	(49.8)	(28.0)	(2.9)	222
Time to source (min.)										
<15	14.1	74.1	26.9	2.7	61.6	0.9	25.6	18.7	0.0	640
15-29	12.2	82.4	17.8	3.6	72.7	1.7	23.3	13.9	0.0	509
30-59	18.1	65.3	22.8	3.3	60.0	3.4	31.5	23.8	0.0	800
60-119	18.8	64.2	23.2	3.7	49.1	1.2	42.2	22.3	0.0	781
≥120	23.9	62.1	21.9	3.6	56.0	2.8	33.2	23.7	1.0	828
Total	18.0	67.0	22.8	3.4	57.6	2.2	33.0	21.7	0.3	3562

Note: Figures are for children born in the period 1-59 months preceding the survey. Figures in parentheses are based on a small number of cases.

[1]Includes health clinic, health centre, hospital, private doctor

Figure 9.5
Utilisation of Curative Health Services among Children with ARI in the Two Weeks Preceding the Survey by Distance to Health Facility



ARI = Cough with rapid or difficult breathing

NDHS 1992

9.4 Fever

Malaria is an important cause of death among children in northern Namibia. It is much less prevalent in the South region, and currently occurs in some parts of the Central region. Since the major manifestation of malaria is fever, mothers were asked whether their children had had a fever in the two weeks preceding the survey, and what type of treatment was sought, if any.

Table 9.9 indicates that one-third of children under five years of age were reported to have had fever during the two weeks prior to the survey. The prevalence of fever was higher among children 6-23 months than at other ages and higher in rural than in urban areas (37 and 29 percent, respectively). Regional differences in prevalence of fever were pronounced: 62 percent in the Northeast region, 30 percent in the Northwest, 29 percent in the South and 18 percent in the Central region. These figures are in agreement with the epidemiological patterns of malaria in Namibia, as shown by data from the health information system based on clinic data. Malaria is holoendemic with transmission throughout the year in the Northeast region, while it follows a more epidemic pattern in the Northwest region (due to the rainfall pattern). Limited areas of the Central region report malaria cases during and after the rains, while cases are sporadic in the South region. Data collection for the NDHS did not coincide with the period of high malaria transmission in the Northwest and Central regions.

Almost two-thirds of children with fever were taken to a health facility. Generally, the children received antibiotics (24 percent), although 63 percent received other treatments. Among children with fever in the Northeast region 15 percent received antimalarial drugs.

Table 9.9 Prevalence and treatment of fever

Percentage of children under five years who were ill with a fever during the two weeks preceding the survey, and the percentage of ill children who were treated with specific remedies, by selected background characteristics, Namibia 1992

Background characteristic	Percentage of children with fever	Among children with fever: Percentage taken to a health facility or provider[1]	Among children with fever: Percentage treated with: Anti-malarial	Anti-biotic	Injection	Home remedy	Other	None	Don't know/ Missing	Number of children
Age of child (months)										
<6	34.2	64.4	3.8	23.1	1.4	2.2	61.7	28.6	0.6	381
6-11	45.3	68.8	9.7	22.6	4.2	1.8	63.1	24.1	0.5	390
12-23	42.1	65.6	6.1	26.4	4.1	2.7	64.9	23.2	0.5	787
24-35	32.9	64.6	10.5	24.2	7.5	2.4	63.5	21.6	0.9	752
36-47	28.9	62.4	8.1	22.3	1.7	1.0	61.2	23.4	2.5	645
48-59	24.2	60.0	10.2	23.5	3.1	1.4	58.6	26.5	0.6	608
Sex of child										
Male	34.0	63.8	7.3	23.5	4.2	2.1	62.2	25.0	0.9	1745
Female	34.5	65.3	8.8	24.5	3.9	2.0	63.1	23.1	0.9	1816
Birth order										
1	32.3	67.1	8.6	23.3	3.5	2.9	65.5	20.4	1.1	950
2-3	31.8	64.1	7.2	24.4	4.6	2.1	62.8	23.4	0.6	1193
4-5	36.5	64.8	7.6	25.7	3.9	2.1	62.5	23.1	1.9	684
6+	38.6	62.3	9.0	23.0	4.0	0.9	59.6	29.4	0.3	734
Residence										
Urban	28.7	70.8	4.8	30.1	4.0	0.8	70.3	19.0	0.2	1174
Rural	37.0	62.2	9.3	21.8	4.1	2.5	59.7	25.9	1.2	2388
Region										
Northwest	30.0	57.5	5.1	20.3	5.1	1.3	66.4	28.5	0.4	1563
Northeast	61.7	73.4	15.1	25.8	3.6	2.2	52.6	20.6	2.2	656
Central	18.2	65.6	4.7	29.7	3.1	9.4	70.3	18.8	0.0	423
South	29.2	63.4	3.6	26.3	3.1	0.9	69.2	22.8	0.0	920
Education										
No education	36.2	58.2	6.7	19.2	5.9	2.3	56.9	30.7	1.1	624
Some primary	38.0	60.5	7.4	24.1	3.5	2.8	56.2	27.9	1.0	1451
Completed primary	34.4	66.9	9.2	25.4	2.2	1.8	62.5	23.5	0.7	354
Secondary/Higher	28.3	75.2	9.7	26.8	4.4	0.6	77.9	12.7	0.7	1133
Distance to source (km.)										
0-4	35.3	72.1	8.7	27.5	4.4	1.5	64.7	18.7	1.1	2107
5-9	30.9	58.0	9.1	22.8	6.5	0.7	58.8	34.3	0.7	370
10-19	29.6	49.3	4.4	19.0	5.2	4.6	63.9	27.7	0.0	328
20-29	33.0	47.9	4.7	13.3	0.0	1.3	55.6	39.0	0.0	200
30-59	37.3	50.7	3.0	26.5	1.5	3.4	63.3	28.5	0.0	187
60+	29.5	38.8	8.7	9.1	1.8	5.5	54.3	35.2	3.2	222
Time to source (min.)										
< 15	28.5	70.6	7.3	26.6	6.0	2.4	72.3	14.3	0.9	640
15-29	27.7	74.9	7.3	23.4	3.9	0.7	70.6	19.1	0.6	509
30-59	34.6	66.5	8.8	25.9	1.6	2.5	60.8	23.6	0.8	800
60-119	35.1	60.3	11.8	25.2	6.0	2.9	56.0	26.6	0.3	781
≥120	41.6	58.8	5.2	20.6	3.4	1.3	61.0	29.4	1.6	828
Total	34.2	64.6	8.1	24.1	4.0	2.0	62.7	24.0	0.9	3562

Note: Figures are for children born in the period 1-59 months preceding the survey.
[1]Includes health clinic, health centre, hospital, private doctor

9.5 Diarrhoea

Dehydration brought on by severe diarrhoea is the leading cause of mortality among Namibian children (see Chapter 7). According to the Health Information System diarrhoeal diseases are ranked as the number one cause of hospital admissions and the number one cause of morbidity in Namibia. During the period February through September 1992, 8515 diarrhoea cases were admitted to paediatric and general hospital wards. Of these, 209 cases died in the facilities, i.e., a case fatality rate of 2.5 percent. According to outpatient data, diarrhoeal diseases account for more than 20 percent of all morbidity in the country and the Northeast region has a disproportionate share of the diarrhoeal morbidity.

Dehydration brought on by severe diarrhoea is a leading cause of death among children in developing countries. The administration of a solution prepared from oral rehydration salts (ORS) is a simple treatment for countering the effects of dehydration, while increasing fluids is often sufficient to prevent the occurrence of dehydration in a child with mild diarrhoea. Oral rehydration therapy (ORT), either using a solution prepared from commercially produced packets of oral rehydration salts (ORS) or a specific homemade solution, or increasing any type of fluid (including breastfeeding), can be used to combat dehydration in children with diarrhoea. In Namibia, the Ministry of Health and Social Services does not recommend homemade sugar and salt solutions anymore.

Table 9.10 Prevalence of diarrhoea

Percentage of children under five years who had diarrhoea and diarrhoea with blood in the two weeks preceding the survey, and the percentage of children who had diarrhoea in the preceding 24 hours, by selected background characteristics, Namibia 1992

Background characteristic	Diarrhoea in the preceding 2 weeks[1]		All diarrhoea in the preceding 24 hours[2]	Number of children
	All diarrhoea	Diarrhea with blood		
Age of child (months)				
< 6	13.4	4.1	4.3	381
6-11	34.1	6.7	14.2	390
12-23	32.5	7.8	13.9	787
24-35	21.0	6.4	7.8	752
36-47	12.8	4.8	4.1	645
48-59	8.7	2.5	3.1	608
Sex				
Male	20.5	5.8	7.8	1745
Female	20.6	5.3	8.2	1816
Birth order				
1	20.3	3.9	7.4	950
2-3	18.7	5.4	7.4	1193
4-5	23.6	7.3	10.1	684
6+	21.2	6.5	7.8	734
Residence				
Urban	13.5	2.4	5.5	1174
Rural	24.1	7.1	9.2	2388
Region				
Northwest	17.1	4.4	5.5	1563
Northeast	47.2	17.2	22.0	656
Central	9.9	0.9	3.1	423
South	12.4	1.4	4.3	920
Mother's education				
No education	21.9	7.8	8.0	624
Some primary	24.9	7.1	9.7	1451
Completed primary	23.1	4.8	11.8	354
Secondary/Higher	13.6	2.6	4.5	1133
Total	20.6	5.6	8.0	3562

Note: Figures are for children born in the period 1-59 months preceding the survey.
[1]Includes diarrhoea in the past 24 hours
[2]Includes diarrhoea with blood

Table 9.10 shows the prevalence of diarrhoea in children under five years of age. Twenty-one percent of children had experienced diarrhoea at some time in the two weeks preceding the survey; 6 percent of children had experienced bloody diarrhoea in the previous two weeks, while 8 percent were still having an episode of diarrhoea at the time of the survey (i.e., within the last 24 hours).

Children age 6-23 months were the most likely to have experienced diarrhoea in the two weeks preceding the survey. This coincides with the weaning period. Children between 6 and 35 months also experienced slightly higher rates of bloody diarrhoea than children in other age groups. Prevalence of diarrhoea was found to be higher in rural areas than in urban areas (24 and 14 percent, respectively). The most striking differences are by region. The Northeast region had extremely high prevalence of diarrhoea, with almost half of children reportedly having had diarrhoea in the last two weeks. Prevalence in the Northeast was about four times higher than in the Central and South regions. The differences for diarrhoea with blood were even more pronounced: 17 percent in the Northeast, 4 percent in the Northwest, and 1 percent in the Central and South regions. These results are not unexpected, since there was a widespread dysentery epidemic throughout 1992. Furthermore, the high proportion of households with no toilet facilities in the Northeast region (see Table 2.5) may contribute to the prevalence of diarrhoea. The lowest rates were found in the Central and South regions, which have the highest proportions of households with toilet facilities.

Table 9.11 Knowledge and use of ORS packets

Percentage of mothers with births in the five years preceding the survey who know about and have ever used ORS packets, by selected background characteristics, Namibia 1992

Background characteristic	Know about ORS packets	Have ever used ORS packets	Number of mothers
Age			
15-19	80.6	61.4	223
20-24	83.6	68.7	670
25-29	84.5	71.4	603
30-34	86.8	71.7	506
35+	82.9	72.4	651
Residence			
Urban	81.2	67.2	949
Rural	85.5	71.8	1704
Region			
Northwest	88.4	75.4	1069
Northeast	89.9	73.7	516
Central	78.9	67.7	335
South	75.7	61.3	732
Education			
No education	75.9	64.0	450
Some primary	86.9	73.3	1052
Completed primary	82.2	69.7	248
Secondary/Higher	85.1	69.7	903
Total	84.0	70.2	2653

Note: Figures include mothers who have given ORS for diarrhoea during the preceding two weeks, although they were not asked about knowledge of ORS packets.

Knowledge of ORS is high: 84 percent of mothers who had births in the five years preceding the survey had heard of ORS packets (see Table 9.11). Seventy percent of mothers had used a packet at some time. These levels are high, given the fact that the Control of Diarrhoeal Diseases programme was only established in 1990, and started promoting ORS in the same year. Knowledge and use of ORS were high for all background variables, except mothers in the South region and those with no education had slightly lower levels.

Table 9.12 shows the percentage of children with diarrhoea in the last two weeks who were taken to a health facility and the percentage who were given specific treatments. More than two-thirds of children who had a recent bout of diarrhoea were taken to a health facility or provider (68 percent). There were no pronounced differences between children in urban areas and children in rural areas who visited a health facility or provider (71 versus 67 percent, respectively). Children in the Northeast region were more likely to have been taken to a facility than children in the other health regions. The severity of diarrhoea (with blood) may play a role in the greater utilisation of facilities in the Northeast region.

Utilisation of health facilities for children with diarrhoea is higher if the child is closer to the health facility: 73 percent were taken to a facility if the distance was less than 5 km, 60 percent if 10-19 km, 57 percent if 30-59 km and 42 percent if 60 km or more. Travel time had only a weak association with utilisation of curative services for children with diarrhoea in the last two weeks.

Table 9.12 Treatment of diarrhoea

Percentage of children under five years who had diarrhoea in the two weeks preceding the survey who were taken for treatment to a health facility or provider, the percentage who received oral rehydration therapy (ORT), the percentage who received increased fluids, the percentage who received neither ORT nor increased fluids, and the percentage receiving other treatments, according to selected background characteristics, Namibia 1992

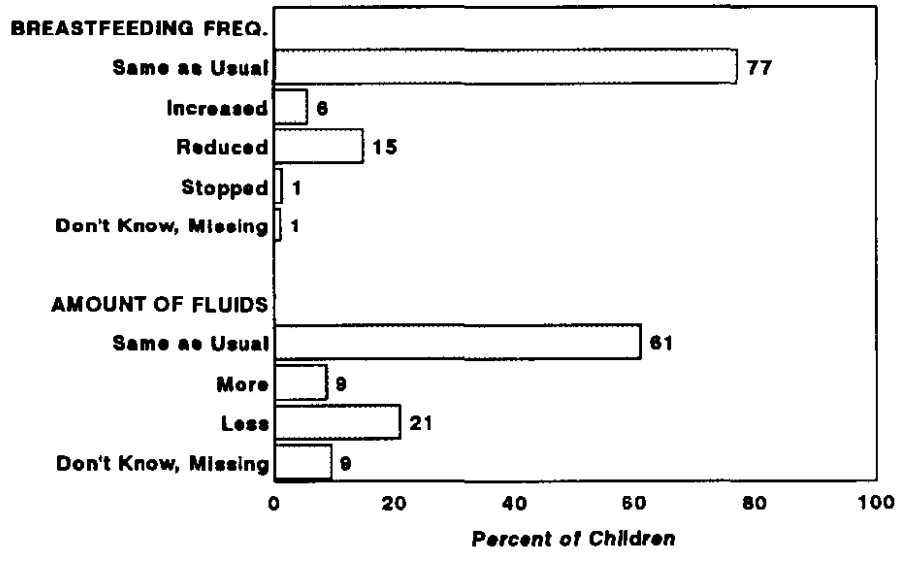
Background characteristic	Percentage taken to a health facility or provider[1]	Oral rehydration therapy (ORT)		Percentage receiving increased fluids	Percentage receiving neither ORT nor increased fluids	Percentage receiving other treatments:					Number of children with diarrhoea
		ORS packets	RHF			Antibiotics	Injection	Home remedy/ Other	None	Missing	
Child's age (months)											
<6	62.5	44.6	0.0	15.1	48.5	13.2	0.0	21.9	29.6	0.0	51
6-11	67.0	63.4	2.0	12.1	32.7	17.1	1.6	22.6	17.3	0.3	133
12-23	68.9	67.3	2.9	11.5	27.4	20.4	1.2	17.6	16.5	1.8	256
24-35	66.0	65.2	2.3	9.3	30.9	17.0	0.7	22.0	17.4	0.0	158
36-47	70.3	68.5	1.3	10.7	27.9	14.5	0.0	20.6	16.5	0.0	83
48-59	73.9	50.2	2.0	6.0	45.4	30.7	2.0	17.8	17.9	0.0	53
Sex of child											
Male	68.4	65.5	2.1	12.8	29.9	19.7	1.5	20.8	17.1	0.5	359
Female	67.6	61.5	2.2	9.2	33.9	17.6	0.6	19.4	18.6	0.9	375
Birth order											
1	66.0	64.9	1.0	12.4	31.0	18.8	0.8	19.2	21.0	0.6	193
2-3	67.5	61.4	2.1	9.8	33.5	16.8	0.8	20.2	18.4	0.8	223
4-5	68.0	61.8	3.1	8.9	33.7	18.2	1.8	18.5	17.4	0.9	161
6+	71.2	66.4	2.7	12.7	29.0	21.6	0.7	22.6	13.6	0.4	156
Residence											
Urban	71.4	61.3	1.1	8.0	36.8	18.5	0.7	20.5	20.8	1.1	159
Rural	67.1	64.1	2.4	11.7	30.6	18.7	1.1	20.0	17.0	0.6	575
Region											
Northwest	64.5	62.1	4.3	8.6	32.0	16.4	2.0	26.6	19.5	0.8	268
Northeast	75.5	71.0	1.0	14.6	25.1	20.3	0.7	11.9	11.0	0.6	310
Central	65.7	51.4	0.0	8.6	48.6	28.6	0.0	34.3	25.7	0.0	42
South	56.8	50.5	1.1	7.4	44.2	15.8	0.0	22.1	29.5	1.1	114
Education											
No education	63.3	58.8	0.6	12.7	35.8	18.6	1.4	15.3	21.7	1.1	136
Primary incomplete	65.2	61.1	2.5	8.1	34.1	20.6	1.2	21.1	18.3	1.0	362
Primary complete	72.0	69.0	2.8	9.3	25.7	14.5	0.0	16.2	14.7	0.0	82
Secondary/Higher	76.7	70.2	2.4	17.0	26.6	16.2	0.7	24.1	15.0	0.0	154
Distance to source (km.)											
0-4	73.0	67.2	1.4	11.0	29.6	17.9	1.6	17.7	16.5	0.6	465
5-9	61.2	58.9	6.6	10.2	30.8	20.4	0.0	23.7	22.3	0.0	63
10-19	59.9	57.8	5.4	10.7	37.0	18.9	0.0	23.7	21.4	0.0	58
20-29	(68.7)	(62.6)	(3.4)	(3.9)	(37.4)	(18.5)	(0.0)	(13.6)	(17.8)	(3.9)	31
30-59	(57.1)	(48.4)	(0.0)	(16.3)	(41.9)	(18.5)	(0.0)	(31.3)	(19.9)	(0.0)	34
60+ km	(41.7)	(47.8)	(0.0)	(9.2)	(43.0)	(9.7)	(0.0)	(30.5)	(21.7)	(2.8)	37
Time to source (min.)											
<15 minutes	71.9	64.4	2.2	12.0	31.2	19.6	0.4	10.7	18.6	0.8	101
15-29 minutes	72.7	67.9	1.0	10.5	28.7	19.1	2.4	17.9	12.5	1.2	87
30-59 minutes	70.0	64.7	1.7	14.2	32.0	18.5	0.0	17.4	19.2	0.6	158
60-119 minutes	66.0	63.3	3.9	7.3	31.3	18.2	2.2	25.9	17.5	0.7	181
≥120 minutes	64.2	60.1	1.4	11.3	34.3	18.6	0.4	22.7	19.1	0.5	206
Total	68.0	63.5	2.2	10.9	31.9	18.6	1.0	20.1	17.8	0.7	733

Note: Figures are for children born in the period 1-59 months preceding the survey. Oral rehydration therapy (ORT) includes solution prepared from ORS packets, and recommended home fluid (sugar-salt-water solution).
[1]Includes health post, health centre, hospital, and private doctor.

Use of antibiotics and injections was low (19 and 1 percent of cases, respectively), which is consistent with acceptance of ORT as the standard treatment for diarrhoea. The treatment of dysentery (diarrhoea with blood) requires antibiotics in addition to management of the child's fluids balance. Twenty percent of children were given home remedies other than the recommended home fluids. Mothers were specifically asked whether they increased or decreased fluids (and the number of breastfeeds) or did not change the child's fluid intake during the episode of diarrhoea. Mothers reported increasing fluids for only 11 percent of children with diarrhoea. If oral rehydration therapy is defined broadly to include ORS, recommended home fluids and increased fluids, then 77 percent of children with diarrhoea received some form of oral rehydration therapy.

For just over three-quarters of children who had diarrhoea and were still being breastfed, the mothers continued to breastfeed as usual, without increasing the quantity of feeds (see Figure 9.6). Six percent increased the breastfeeding frequency. For most children with diarrhoea, mothers did not change the amount of other fluids that were fed. However, as many as 21 percent of the children were given less fluids during the bout of diarrhoea. The high proportion of children who had their fluid intake reduced suggests that increased education efforts are needed to stress the importance of increasing fluids during a diarrhoeal attack, even though it cannot be excluded that several mothers misunderstood the question. Unquestionably, remarkable progress has been made in the area of knowledge and use of ORS, but there has not been sufficient emphasis on increasing fluids during episodes of diarrhoea.

Figure 9.6
Feeding Practices Among Children Under Five With Diarrhoea in the Two Weeks Preceding the Survey



NDHS 1992

CHAPTER 10

MATERNAL AND CHILD NUTRITION

This chapter focuses on several aspects related to the nutritional status of mothers and children under five years. The NDHS data allow an assessment of infant feeding practices (including breastfeeding practices, introduction of supplementary weaning foods, and use of feeding bottles), birth weight of newborns, nutritional status of children (based on height and weight measurements of the respondent's children under the age of five years) and mother's nutritional status.

10.1 Breastfeeding and Supplementation

Breastfeeding practices and the introduction of supplementary foods are important determinants of the nutritional status of children, particularly those under the age of two years. With improved nutritional status, the risk of mortality among children under five can be reduced significantly and their development can be enhanced. Breastfeeding also has an indirect effect on postpartum fertility of the mother. More frequent breastfeeding for longer durations is associated with longer periods of postpartum amenorrhoea. Longer periods of postpartum amenorrhoea are related to longer birth intervals, and thus lower fertility levels.

In the early 1990s, the Ministry of Health and Social Services of Namibia launched the so-called Baby and Mother Friendly Hospital Initiative. This initiative aims to promote breastfeeding in health facilities, in the work place, and in the home environment, and includes promotion of other health interventions to enhance maternal and child health.

Almost all children born in the five years before the survey (95 percent) were breastfed for some period of time (see Table 10.1). The proportion of children ever breastfed was high for all regions, but slightly lower in the South region (90 percent).

Early initiation of breastfeeding is beneficial for mother and child. From the mother's perspective early sucking stimulates the release of a hormone that helps the uterus to achieve a contracted state. From the child's perspective the first breast milk (colostrum) is important, since it is very rich in antibodies. About 52 percent of children were put to the breast within one hour of birth and 80 percent within the first day (see Figure 10.1). Women in the Northwest and South regions were less likely to initiate breastfeeding within one hour than women in the Northeast and Central regions. However, at the end of the first day the Northwest region had the highest percent of women breastfeeding, indicating that half of these women initiated breastfeeding after the first hour but before the end of the first day. As much as 25 percent of women in the South region commenced breastfeeding after the first day.

In the context of the Baby and Mother Friendly Hospital Initiative it is of particular interest to look breastfeeding practices in health facilities. In health facilities, breastfeeding initiation rates were lower during the first hour after birth compared to home deliveries (48 and 63 percent, respectively). By the end of the first day, however, breastfeeding rates were about the same: 80 percent for babies born in health facilities and 81 percent for births at home.

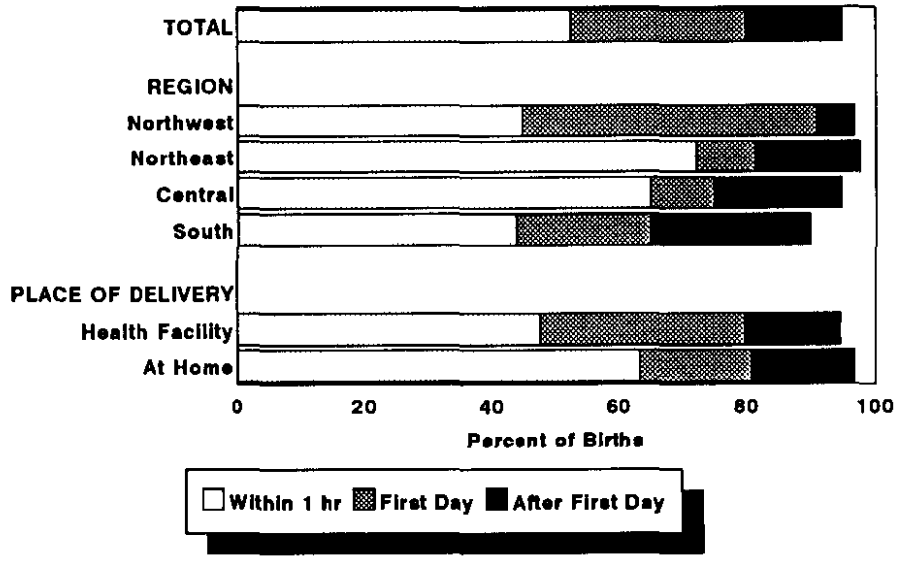
Table 10.1 Initial breastfeeding

Percentage of children born in the five years preceding the survey who were ever breastfed, and the percentage of last-born children who started breastfeeding within one hour of birth and within one day of birth, by selected background characteristics, Namibia 1992

Background characteristic	Among all children: Percentage ever breastfed	Among all children: Number of children	Among last-born children, percentage who started breastfeeding: Within 1 hour of birth	Among last-born children, percentage who started breastfeeding: Within 1 day of birth	Among last-born children, percentage who started breastfeeding: Number of children
Sex					
Male	94.1	1885	52.6	80.1	1312
Female	95.7	1969	52.0	79.5	1371
Residence					
Urban	91.8	1270	46.8	71.5	958
Rural	96.4	2584	55.3	84.5	1725
Region					
Northwest	96.7	1679	44.7	90.9	1084
Northeast	97.6	732	72.0	81.2	524
Central	94.7	456	64.8	74.7	337
South	89.9	986	43.7	64.9	738
Mother's education					
No education	96.5	675	64.8	81.5	455
Some primary	95.5	1577	53.8	81.9	1067
Completed primary	93.9	380	45.4	77.2	251
Secondary/higher	93.6	1221	46.2	77.3	909
Assistance at delivery					
Medically trained person	94.7	2634	48.1	80.0	1875
Traditional midwife	97.1	227	66.3	85.2	153
Other or none	96.4	969	61.7	78.7	645
Place of delivery					
Health facility	94.6	2583	47.6	79.7	1847
At home	96.7	1234	63.2	80.7	820
Total	94.9	3854	52.3	79.8	2683

Note: Table is based on all children born in the five years preceding the survey, whether living or dead at the time of the interview.

Figure 10.1
Timing of Initiation of Breastfeeding for Births in the Five Years Preceding the Survey by Region and Place of Delivery



Mothers were asked about the current breastfeeding status of all living children under five years; the results are presented in Table 10.2 and Figure 10.2. *Exclusive breastfeeding* is recommended for the first 4-6 months of life; however, only 29 percent of children under 2 months of age received breast milk only. The proportion of children exclusively breastfed declined further at 2-3 and 4-5 months to 16 and 3 percent, respectively. Many young infants received water only in addition to breast milk. This practice, often referred to as *full breastfeeding*, is common in many parts of Africa, and has no health benefits. It does, however, pose the risk of contracting infection, and may interfere with breastfeeding. One-third of children under 2 months received breast milk with water, while 37 and 27 percent were fully breastfed at 2-3 and 4-5 months, respectively.

After 4-6 months of age breast milk only is not sufficient for the child and the introduction of supplementary foods is required. The majority of children in Namibia received supplementary foods in addition to breast milk during the second half of infancy: 68 percent at 6-7 months and almost 80 percent at 8-9 and 10-11 months. Most children not receiving breast milk with supplementary feeding during the second half of infancy were completely weaned; 15 percent of children at 6-7 months, 13 percent at 8-9 months and 18 percent at 10-11 months were not breastfed.

Continuation of breastfeeding beyond the first birthday is fairly common. About 75 percent of children 12-13 months were still breastfed and 46 percent received breast milk at 18-19 months. Most women ceased to breastfeed during the second half of the second year of life, but at 24-25 months 13 percent of children were still breastfed.

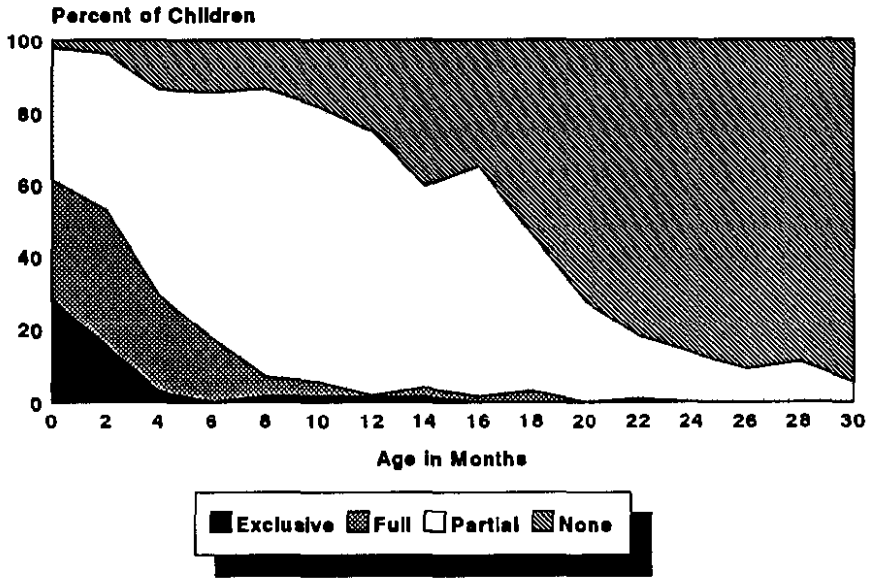
Table 10.2 Breastfeeding status

Percent distribution of living children by breastfeeding status, according to child's age in months, Namibia 1992

	Percentage of living children who are:					
			Breastfeeding and:			
Age in months	Not breast-feeding	Exclusive breast-feeding	Plain water only	Supple-ments	Total	Number of living children
<2	2.1	28.7	32.7	36.6	100.0	116
2-3	3.6	15.7	37.4	43.3	100.0	139
4-5	13.6	3.0	26.5	56.9	100.0	163
6-7	14.6	0.0	17.5	68.0	100.0	135
8-9	13.3	1.8	5.0	79.8	100.0	132
10-11	18.3	1.8	3.7	76.1	100.0	123
12-13	25.1	1.6	0.3	73.0	100.0	165
14-15	40.3	1.7	2.2	55.8	100.0	131
16-17	35.1	0.0	1.6	63.4	100.0	133
18-19	53.9	0.0	3.1	42.9	100.0	105
20-21	72.3	0.0	0.0	27.7	100.0	117
22-23	81.9	0.0	0.9	17.2	100.0	135
24-25	86.6	0.0	0.0	13.4	100.0	143
26-27	91.0	0.0	0.0	9.0	100.0	127
28-29	88.3	0.0	0.6	11.0	100.0	132
30-31	94.6	0.0	0.0	5.4	100.0	131
32-33	90.8	0.0	0.0	9.2	100.0	107
34-35	95.5	0.0	0.8	3.7	100.0	112

Note: Breastfeeding status refers to preceding 24 hours. Children classified as *breastfeeding and plain water only* receive no supplements.

Figure 10.2
Breastfeeding Status by Age of Child



Note: Exclusive = breast milk only; full = breast milk and water only; current status data.

NDHS 1992

Mothers of children receiving supplementary feeding were asked to name the type of foods they had given their children during the last 24 hours and whether they had used a bottle with a nipple. In general, use of infant formula was low (about 14 percent of infants), while a slightly higher proportion of children were given other types of milk (about 15 percent of infants) (see Table 10.3). Solid or mushy food was mostly introduced into the diet at ages 4-5 and 6-7 months. About 2 percent of breastfeeding children were reported to be given solid or mushy foods before reaching two months of age, while at 4-5 months and 6-7 months 37 and 68 percent of children respectively were receiving solid or mushy food. Bottle feeding was common among breastfed children. About 30 percent of breastfed children 0-5 months and 29 percent of breastfed children 6-11 months received something in a bottle during the last 24 hours.

Table 10.3 Breastfeeding and supplementation by age

Percentage of breastfeeding children who are receiving specific types of food supplementation, and the percentage who are using a bottle with a nipple, by age in months, Namibia 1992

	Percentage of breastfeeding children who are:					
	Receiving supplement				Using a bottle with a nipple	Number of children
Age in months	Infant formula	Other milk	Other liquid	Solid/ Mushy		
<2	11.1	10.5	22.4	2.0	29.9	114
2-3	17.6	15.6	31.5	7.5	30.5	134
4-5	14.3	18.1	45.8	37.1	31.8	141
6-7	17.2	14.1	56.0	67.7	28.5	115
8-9	13.2	16.5	73.7	83.0	38.5	114
10-11	13.4	18.2	62.4	85.3	18.5	101
12-13	7.8	17.5	75.0	89.2	15.7	124
14-15	11.6	13.9	61.6	88.1	11.3	79
16-17	8.3	16.2	79.6	91.6	22.9	86
18-19	7.0	20.7	57.5	88.0	9.1	48
20-21	(5.7)	(23.2)	(82.6)	(96.8)	(16.7)	32
22-23	(1.8)	(13.5)	(53.5)	(95.1)	(23.1)	24
24-25	(6.7)	(20.5)	(77.4)	(100.0)	(8.8)	19

Note: Breastfeeding status refers to preceding 24 hours. Percents by type of supplement among breastfeeding children may sum to more than 100 percent, as children may have received more than one type of supplement.

Based on current status data, the median duration of breastfeeding was estimated at 17.3 months (see Table 10.4). Rural women breastfeed longer than urban women: 18.5 and 12.9 months, respectively. Women in the Northeast region breastfeed for almost two years (median 22.3 months), in the Northwest one and a half years (median 17.5 months), in the Central region just over one year (median 14.8 months), while women in the South region breastfeed for less than one year (median 11.1 months). Duration of breastfeeding also varied substantially by mother's education, with higher levels of education being associated with shorter durations of breastfeeding. Type of assistance at delivery did not affect median duration of breastfeeding, while female children were breastfed slightly longer than male children.

Exclusive breastfeeding was only practiced for a short period (median 0.5 months). In this table children were categorised as fully breastfed if they were receiving only breast milk, or if water is the only addition to their diet of breast milk. The median duration of full breastfeeding was 1.7 months. As expected, the median duration of full breastfeeding was longer in rural areas than in urban areas and among women with less education than those with more education.

Table 10.4 Median duration and frequency of breastfeeding

Median duration of any breastfeeding, exclusive breastfeeding, and full breastfeeding among children under 5 years of age, and the percentage of children under 6 months of age who were breastfed six or more times in the 24 hours preceding the interview, according to background characteristics, Namibia 1992

Background characteristic	Median duration in months[1]			Number of children under 3 years of age	Children under 6 months	
	Any breast-feeding	Exclusive breast-feeding	Full breast-feeding[2]		Breastfed 6+ times in preceding 24 hours	Number of children
Sex of child						
Male	17.0	0.5	2.0	1231	83.8	222
Female	17.7	0.5	1.6	1263	79.8	196
Residence						
Urban	12.9	0.5	0.7	799	71.6	127
Rural	18.5	0.5	2.6	1695	86.4	291
Region						
Northwest	17.5	0.6	2.5	1119	87.3	206
Northeast	22.3	0.4	0.7	472	87.7	80
Central	14.8	0.4	2.9	303	(74.2)	37
South	11.1	0.4	0.6	600	68.4	95
Education						
No education	19.7	0.5	2.1	416	86.2	60
Primary incomplete	18.9	0.6	4.1	1016	87.6	159
Completed primary	17.0	0.5	0.6	254	(79.5)	37
Secondary/Higher	13.1	0.5	0.7	809	75.3	161
Assistance at delivery						
Medically trained	16.0	0.5	1.1	1718	80.9	311
Traditional midwife	19.2	0.8	2.3	149	*	17
Other or none	19.9	0.5	3.9	619	88.8	91
Total	17.3	0.5	1.7	2494	81.9	418
Mean	16.9	1.7	4.0		-	-
Prevalence/Incidence[3]	16.8	1.0	3.5	-	-	-

*Based on too few cases to show
[1]Medians and means are based on current status
[2]Either exclusive breastfeeding or breastfeeding and plain water only
[3]Prevalence-incidence mean

Eighty-two percent of children under six months of age were breastfed six or more times in the 24 hours preceding the interview. Children whose mothers live in rural areas or in the northern regions were more likely to be breastfed six or more times. For most other variables numbers are too small to make a detailed comparison.

10.2 Birth Weight

Data on birth weight are important for several reasons. First, national estimates of the incidence of low birth weight are internationally recognised indicators of the well-being of neonates and women of reproductive age. Second, weight at birth is an important determinant of the survival chances of a newborn. The main source of birth weight data in developing countries is health facility statistics. However, these data are limited to babies born in the facilities, a group which is markedly different from the overall population.

Recent studies have shown that surveys can provide useful information on birth weight (Moreno and Goldman, 1990). Therefore, the NDHS included questions on weight at birth for all children born in the five years preceding the survey. First, the mother was asked to recall the size of the child at birth: very large, large, average, small or very small. Then, she was asked whether the child had been weighed at birth, and, if so, what the weight of the child was (recorded in grams).

Table 10.5 shows that almost three-quarters of births in the last five years had been weighed at birth (72 percent). However, not all women could recall the weights: 44 percent of all births eventually had a numerical birth weight reported by the mother. The proportion of children with a numerical birth weight differs considerably by residence and region. In urban areas more than 60 percent of mothers knew the birth weight of their children, compared to 36 percent in rural areas. Birth weights were recalled for 57 percent of births in the South region, for 44 percent in the Northwest and Central regions, and 28 percent in the Northeast region.

Table 10.5 Birth weight data

Among children born in the five years preceding the survey, the proportion weighed at birth and the percent distribution by type of birth weight data (recalled weight or size at birth), according to background characteristics, Namibia 1992

Background characteristic	Weighed at birth		Don't know/ Missing	Total	Type of birth weight data			Total	Number
	Yes	No			Numeric weight	Size only	None		
Residence									
Urban	87.2	12.0	0.8	100.0	60.3	37.6	2.1	100.0	1253
Rural	63.9	35.5	0.7	100.0	36.2	62.2	1.6	100.0	2561
Region									
Northwest	73.4	26.0	0.6	100.0	44.0	55.5	0.6	100.0	1659
Northeast	54.5	45.0	0.5	100.0	27.6	72.0	0.4	100.0	726
Central	65.3	33.4	1.3	100.0	44.0	48.0	8.0	100.0	453
South	84.0	15.3	0.7	100.0	56.6	41.3	2.1	100.0	976
Education									
No education	47.0	51.4	1.6	100.0	20.3	73.3	6.4	100.0	673
Some incomplete	65.4	33.8	0.8	100.0	36.4	62.7	0.9	100.0	1558
Completed primary	79.4	20.0	0.6	100.0	45.8	53.6	0.6	100.0	378
Secondary/Higher	90.7	9.2	0.1	100.0	66.8	32.5	0.7	100.0	1205
Total	71.5	27.8	0.7	100.0	44.1	54.1	1.8	100.0	3814

Table 10.6 presents a national estimate of the mean birth weight and the incidence of low birth weight for births in the five years preceding the survey. Low birth weight is defined as birth weight less than 2500 grams. Since there was considerable heaping of responses at 2500 grams, half of these births have been considered as below 2500 grams. The mean birth weight for children with known birth weight was 3099 grams, and the incidence of low birth weight was 14 percent. As indicated above, these estimates may be biased, since women delivering in health facilities are a selective sample. Therefore, data on size at birth were used to obtain an estimate of mean birth weight and the incidence of low birth weight for the whole population.

Table 10.6 Mean birth weight and incidence of low birth weight

Mean birth weight (in grams) and incidence of low birth weight (<2500 grams) estimated from numerical birth weight data and size at birth among children born in the five years preceding the survey, Namibia 1992

Size at birth	Birth weight known		Children with numerical birth weight	
	Yes	No	Mean birth weight	Low birth weight (<2500 g)
Very large	6.4	6.3	3657	3.5
Large	14.8	5.5	3489	2.8
Average	66.3	72.3	3171	7.7
Small	9.8	10.5	2571	39.6
Very small	9.6	5.3	2101	72.4
Don't know/Missing	3.2	0.2	2738	34.9
Total	100.0	100.0	3099	14.0

	Percent of all births	Mean birth weight	Low birth weight (<2500 g)
Children with numerical weight	44.9	3099	14.0
Children with no numerical weight	55.1	3048	17.4
All children	100.0	3071	15.9

Comparing the subjective sizes of children at birth by recall status (known weight or not) shows that the distribution among children with no known birth weight is skewed towards smaller sizes compared to children with known birth weights: there are more small children and fewer large children if the birth weight was not known. Among children with known birth weight there is a strong relationship between birth weight and reported size at birth. The mean birth weights for each size category are used to calculate the mean birth weight among children with no numerical birth weight. Among children with no numerical birth weight the mean birth weight was 3048 grams, with 17.4 percent below 2500 grams. Therefore, the mean birth weight for all children in Namibia is estimated at 3071 grams and the incidence of low birth weight is 15.9 percent.

10.3 Nutritional Status of Children

Nutritional status is a major determinant of children's susceptibility to diseases. Nutritional status is influenced by feeding practices as well as infections. Provision of inadequate or unbalanced diet and recurrent or chronic diseases have been associated with poor nutritional status. To assess the nutritional status of children, height and weight were measured and used to construct the following indices: height-for-age, weight-for-height, and weight-for-age.

In the NDHS, all children under five years whose mothers were present in the sample household the night before the interview were eligible to be included in the anthropometric data collection. However, not all eligible children are included in the results presented here. Height or weight measurements were missing for about 27 percent of eligible children; one or both of the measurements were grossly improbable in 4 percent of cases. The date of birth was not known or was found to be incomplete for 1.5 percent of the

children. Since two of the measures (height-for-age, and weight-for-age) depends on the accuracy of the child's age, children with incomplete birth dates are excluded from the analysis. The main reason for the high proportion of missing values was that some children were not staying with their mothers: 16 percent of all children under five were not with their mothers at the time of the survey.

Although the term "height" is used throughout this analysis, children younger than 24 months were measured lying on a measuring board (recumbent length), while standing height was measured for older children. For the measurement of weight a digital scale with accuracy of $\pm$100 grams was used.

As recommended by the World Health Organisation (WHO), the nutritional status of children in the survey was compared with an international reference population defined by the U.S. National Center for Health Statistics (NCHS) and accepted by the U.S. Centers for Disease Control (CDC). The use of this reference population is based on the finding that well-nourished young children of all population groups (for which data exist) follow similar growth patterns. The reference population serves as a point of comparison, facilitating the examination of differences in the anthropometric status of subgroups in a population and of changes in nutritional status over time. Although there are inherent variations in height and weight, these variations tend to approximate the normal distribution when the population is large.

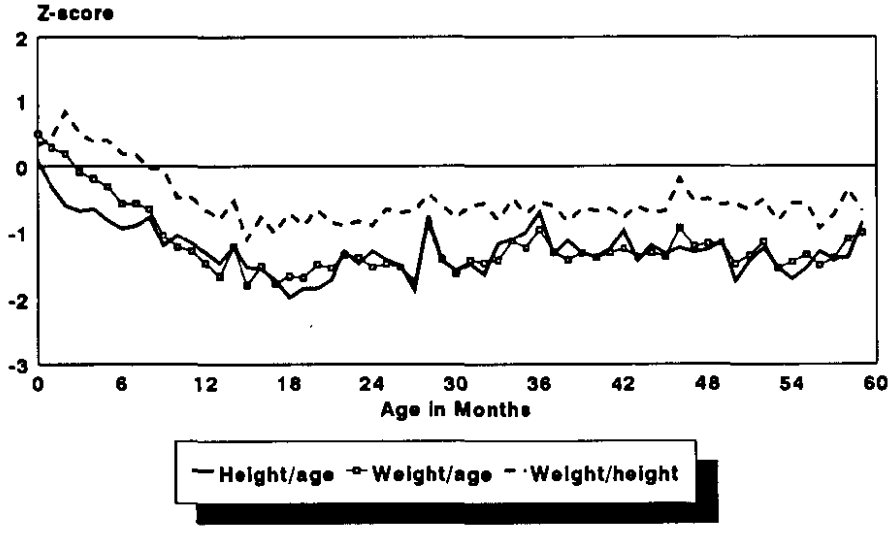
The height-for-age index is an indicator of linear growth retardation. Children whose height-for-age is below minus two standard deviation (-2SD) from the median of the reference population are considered short for their age (also referred to as "stunted"), and are chronically undernourished. Children who are below minus three standard deviations (-3SD) from the median of the reference population are considered severely stunted. Stunting reflects the outcome of a failure to receive adequate nutrition over a long period of time, and is also affected by recurrent and chronic illness. Height-for-age, therefore, represents a measure of the long-term effects of undernutrition in a population and does not vary appreciably according to the season of data collection.

The weight-for-height index measures body mass in relation to body length, and describes current nutritional status. Children who are below minus two standard deviations (-2SD) from the median of the reference population are considered thin, "wasted", and are acutely undernourished. Wasting represents the failure to receive adequate nutrition in the period immediately preceding the survey and may be the result of recent episodes of illness, causing loss of weight and the onset of undernutrition. Wasting may also reflect acute food shortage. Children whose weight-for-height is below minus three standard deviations (-3SD) from the median of the reference population are considered to be severely wasted.

Weight-for-age is a composite index of height-for-age and weight-for-height; it takes into account both acute and chronic undernutrition. It is a useful tool in clinical settings for continuous assessment of nutritional progress and growth. Children whose weight-for-age is below minus two standard deviations from the median of the reference population are classified as "underweight". In the reference population only 2.3 percent of children fall below minus two standard deviation (-2SD) for each of the three indices.

Figure 10.3 shows the growth of children under 5 years by age in months. For each of the three indicators a comparison is made with the growth of the reference population and expressed as the mean number of standard deviations from the median of the reference population. Regarding weight-for-height, the nutritional status remains very close to the reference population. However, regarding height-for-age and weight-for-age, nutritional status of children falls below the standard population during the first 18 months of age and tends to stabilise thereafter. The decline in nutritional status is rapid during the first 12 months of life.

Figure 10.3
Growth of Children Under Five Years
Mean Z-scores by Age in Months



Note: Compared to the median of the NCHS/CDC/WHO reference population

NDHS 1992

The distribution of nutritional status based on height-for-age, weight-for-height, and weight-for-age indices, by the child's age and selected demographic and socioeconomic characteristics is shown in Table 10.7 (see also Figure 10.4). More than one-fourth of children (28 percent) were found to be stunted, while 8 percent were severely stunted. Stunting was found to be less common among children under one year of age. However, a rapid increase in stunting occurred during the first year of life, and in the second year of life 37 percent of children were stunted. There were only minor differences in stunting by sex of the child (females were slightly better off), birth order and birth interval. Urban children had lower levels of stunting than rural children (22 versus 31 percent, respectively). Marked differences were observed by region. Stunting levels were much higher in the Northeast region (42 percent) than elsewhere in Namibia. Fifteen percent of children under five in the Northeast region were severely stunted. Educational differences were also pronounced: stunting was two times lower if mothers had at least some secondary education, compared to children of mothers with no education or primary education.

The short term nutritional consequences of drought and the diarrhoea epidemic in northern Namibia at the time the NDHS was conducted can best be examined with weight-for-height data. The weight-for-height indicator gives information about children's recent nutritional status. Severe wasting represents failure to receive adequate nutrition in the period immediately preceding the survey and may be the result of recent illness, or of seasonal variations in food supply. Almost 9 percent of children were wasted (i.e., below two standard deviations from the median of the reference population, while 2 percent were severely wasted (below -3SD). Wasting was most common among children 12-23 months (13 percent), and increases with increasing birth order of the child. The length of birth intervals had no effect on wasting. Wasting was most common in the Central region (13 percent), followed by the Northwest (10 percent), the Northeast (8 percent) and the South (5 percent) regions. In general, the figures for wasting in Namibia are higher than those reported for most other DHS countries in sub-Saharan Africa, particularly when considered in relation to the relatively low levels of stunting. The higher level of wasting in Namibia during the NDHS fieldwork may have been related to the drought during 1992 (see Figure 10.5).

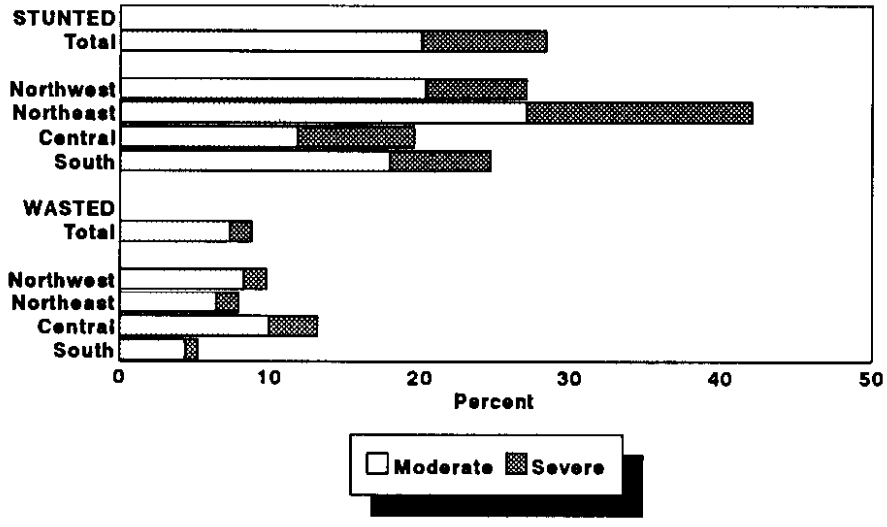
Table 10.7 Nutritional status by background characteristics

Percentage of children under five years who are classified as undernourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, by selected background characteristics, Namibia 1992

Background characteristic	Height-for-age		Weight-for-height		Weight-for-age		Number of children
	Percentage below -3 SD	Percentage below -2 SD[1]	Percentage below -3 SD	Percentage below -2 SD[1]	Percentage below -3 SD	Percentage below - 2 SD[1]	
Age of child (months)							
<6	3.4	13.2	0.6	4.7	0.6	4.7	339
6-11	7.8	23.9	0.7	7.2	4.1	19.7	322
12-23	12.4	37.4	2.8	12.6	8.8	36.0	594
24-35	9.7	32.9	1.1	8.4	8.6	32.9	451
36-47	5.7	26.3	2.4	8.0	4.2	25.4	384
48-59	7.8	28.7	0.3	7.7	4.9	28.7	340
Sex							
Male	8.7	30.3	1.8	8.7	5.8	26.9	1203
Female	7.9	26.6	1.2	8.5	5.6	25.5	1227
Birth order							
1	8.5	26.8	1.1	6.5	5.1	23.0	615
2-3	9.6	28.9	1.4	8.6	5.5	25.6	815
4-5	8.2	29.6	2.7	9.3	6.8	26.3	467
6+	6.4	28.5	1.1	10.4	5.8	30.6	533
Birth interval							
First birth	8.4	27.0	1.1	6.6	5.1	23.1	619
< 24 months	10.1	32.4	1.5	8.4	5.9	27.3	357
24-47 months	7.9	29.3	1.6	9.7	5.7	27.6	963
48+ months	7.7	25.5	1.8	9.1	6.4	26.5	492
Residence							
Urban	5.4	21.8	0.6	6.6	2.8	17.8	736
Rural	9.6	31.3	1.9	9.5	7.0	29.8	1694
Region							
Northwest	6.7	27.1	1.5	9.8	6.3	30.0	1093
Northeast	15.0	42.1	1.5	7.9	8.7	31.1	447
Central	7.8	19.6	3.2	13.2	4.6	20.5	263
South	6.7	24.7	0.8	5.2	3.1	18.4	627
Education							
No education	12.1	35.1	2.0	11.0	7.2	30.5	443
Some primary	10.2	34.4	1.5	9.3	8.2	31.8	971
Completed primary	8.6	31.7	0.7	7.6	4.7	27.2	236
Secondary/Higher	3.8	16.2	1.4	6.7	2.1	16.5	779
All children	8.3	28.4	1.5	8.6	5.7	26.2	2430

Note: Figures are for children born in the period 1-59 months preceding the survey. Each index is expressed in terms of the number of standard deviation (SD) units from the median of the NCHS/CDC/WHO international reference population. Children are classified as undernourished if their z-scores are below minus two or minus three standard deviations (-2 SD or -3 SD) from the median of the reference population.
[1]Includes children who are below -3 SD

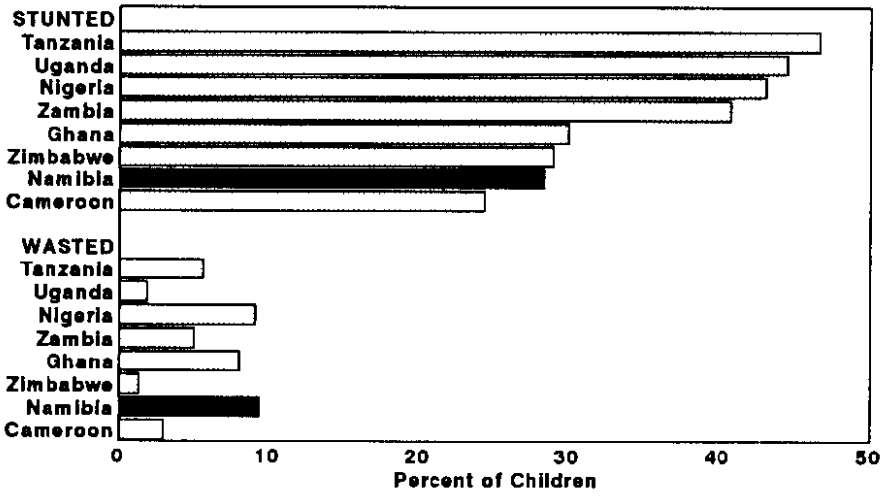
Figure 10.4
Nutritional Status of Children Under Five Years of Age by Region



Stunted: Ht/Age <-2SD from reference population
Wasted: Wt/Ht <-2SD from reference population
Moderate: <-2SD; Severe: <-3SD

NDHS 1992

Figure 10.5
Nutritional Status of Children Under Five Selected DHS Surveys in Sub-Saharan Africa 1988-1992



Stunted: Ht/Age <-2SD from reference population
Wasted: Wt/Ht <-2SD from reference population
Moderate: <-2SD; Severe: <-3SD

NDHS 1992

Weight-for-age provides an index of chronic and acute undernutrition, but does not distinguish between a child who is underweight because of stunting and one who is underweight because of wasting. Overall, 26 percent were underweight, including 6 percent below minus three standard deviations (-3SD) from the median of the reference population and therefore classified as severely underweight. The prevalence of underweight status was lowest among children under 6 months of age (5 percent) and varied little by sex or birth order or birth interval. Larger differences were evident by region. Nearly one-third of children in the two northern regions of Namibia were underweight, compared to about one-fifth of children in the Central and South regions. Children of more educated mothers were less likely to be underweight than children with little or no education.

10.4 Mother's Nutritional Status

Several indicators can be used to assess the nutritional status of women (Krasovec and Anderson, 1991). During the NDHS, data were collected on height and weight of women with living children under 5 years of age. It is important to note that anthropometric data were not collected for women who had no children under age five. This implies that several groups of women are underrepresented: for instance women 15-19 and women 45-49 years. The same equipment used for child anthropometry was used for adult anthropometry. The measuring board was equipped with an extension to be able to measure adults, while a digital bathroom scale with accuracy of ±100 grams was used to obtain weights for both women and children. An insertion tape was used to measure arm circumference.

Table 10.8 shows the means and standard deviations for four anthropometric indicators: height, weight, body mass index (BMI) and upper arm circumference.

Height is associated with socioeconomic status over generations and useful to identify women at nutritional risk. In addition, maternal height is used to predict the risk of difficult delivery, since short stature is correlated with small pelvis size. The risk of low birth weight also appears to be higher for children of short women. The optimal cut-off point varies among populations, but is likely to be in the range 140-150 cm. The mean height of women measured in the NDHS was 160.1 cm. Less than 2 percent of women were shorter than 145 cm, while 5 percent were below 150 cm. The mean weight was 58.3 kg, excluding pregnant women.

Body mass indices are used to assess thinness or obesity. The most commonly used index is the BMI, which is defined as weight in kilograms divided by the squared height in metres. A cut-off point of 18.5 has been recommended for defining chronic

Table 10.8 Anthropometric indiators of maternal nutritional status

Percent distribution and mean and standard deviation for women who had a birth in the five years preceding the survey by selected anthropometric indicators (height, weight, body mass index, and arm circumference), Namibia 1992

Indicator	Total
Height (cm.)	
< 140	0.7
140-144	0.9
145-149	3.4
150-159	38.6
160-169	46.0
170-179	7.7
≥180	0.3
Missing	2.5
Mean	**160.1**
Standard deviation	10.6
Number of women	2653
Weight (kg.)	
< 40	2.0
40-59	21.8
50-59	38.6
60-69	18.2
≥70	14.6
Missing	4.9
Mean	**58.3**
Standard deviation	12.9
Number of women	2249
BMI	
< 16.0	1.3
16.0-18.4	11.4
18.5-19.9	13.9
20.0-22.9	34.0
23.0-25.9	17.5
26.0-28.9	7.6
≥29.0	8.5
Missing	5.8
Mean	**22.5**
Standard deviation	4.3
Number of women	2249
Arm circumference (cm.)	
< 21.0	2.8
21.0-21.9	3.4
22.0-22.9	6.5
23.0-23.9	10.6
24.0-24.9	11.5
25.0-25.9	12.2
26.0-26.9	11.5
27.0-27.9	9.8
28.0-28.9	8.2
29.0-29.9	5.8
≥30.0	14.9
Missing	2.7
Mean	**26.5**
Standard deviation	3.8
Number of women	2653

energy deficiency. Obesity has not been clearly defined. The mean BMI among Namibian women who were not pregnant at the time of the survey and had living children under five years of age was 22.5. However, almost 14 percent of women had a BMI below 18.5, suggesting chronic energy deficiency.

Maternal upper arm circumference can be used as an indicator of maternal nutritional status in non-pregnant women because of its high correlation with maternal weight-for-height, and as a tool during pregnancy to screen for risk of low birth weight and late fetal and infant mortality. The recommended cut-off points for assessing these risks are in the order of 21-23.5 cm. The mean arm circumference of women with children under five years in Namibia was 26.5 cm. Three percent had an arm circumference below 21 cm, while 13 percent of women were below 23 cm.

Table 10.9 presents mean height, percent below 145 cm, mean BMI, percent with BMI below 18.5, mean upper arm circumference and percent with arm circumference less than 23 cm by background characteristics. Variation in height was limited by place of residence (urban or rural), education, age and parity. Women in the Northeast region were slightly taller than women in the other regions. Differences in BMI were somewhat more pronounced. Women in the Central and South regions were better nourished than women in the two northern regions: for instance, 11 percent of women in the South and Central regions had a BMI below 18.5 compared to 16 percent in the Northeast and Northwest regions. More educated women also had higher BMI. Arm circumference varied by region: the mean arm circumference for women in the Northeast region was 1-2 cm less than in other regions. Mean arm circumference increased by age: 24.4 cm among women under 20 years, 26.4 at 20-34 years and 27.6 for women aged 35 and over.

Table 10.9 Differentials in maternal anthropometric indicators

Mean height and percentage of women shorter than 145 centimetres, mean body mass index (BMI) and percentage of women whose BMI is less than 18.5, and mean arm circumference and percentage of women with arm circumference less than 23 centimetres, according to selected background characteristics, Namibia 1992

Background characteristic	Height			BMI			Arm circumference		
	Mean	Percent <145cm	Number	Mean	Percent <18.5	Number	Mean	Percent <23 cm.	Number
Residence									
Urban	160.3	1.7	909	24.1	8.7	790	27.5	10.3	909
Rural	159.9	1.6	1678	21.6	17.0	1329	25.9	14.5	1671
Region									
Northwest	160.0	1.8	1062	21.5	16.1	850	26.5	8.8	1058
Northeast	161.2	0.4	490	21.2	16.1	368	25.3	17.3	490
Central	160.1	1.8	330	23.8	11.1	281	26.8	15.7	329
South	159.4	2.2	705	24.0	10.8	621	27.1	15.2	704
Region									
No education	159.5	2.5	444	21.9	19.8	356	26.2	15.2	441
Primary incomplete	159.8	1.6	1023	21.8	16.4	813	26.1	15.1	1023
Completed primary	159.2	2.4	243	22.4	11.3	197	26.4	11.1	244
Secondary +	160.9	1.0	877	23.5	9.1	753	27.1	10.1	871
Age of woman									
< 20	159.3	0.6	217	20.8	18.9	175	24.4	27.7	218
20-34	159.8	1.9	1733	22.6	12.4	1410	26.4	13.2	1729
≥35	161.0	1.2	636	22.9	16.3	535	27.6	7.5	632
Children ever born									
1	159.9	1.1	725	21.7	15.9	599	25.3	19.2	727
2-3	160.2	1.8	830	22.6	11.9	676	26.5	13.4	828
4-5	159.4	2.3	491	23.3	12.7	400	27.2	9.5	485
6+	160.6	1.7	541	22.6	15.3	445	27.5	7.3	541
Total	160.1	1.6	2587	22.5	13.9	2119	26.5	13.0	2580

CHAPTER 11

AVAILABILITY OF HEALTH SERVICES

Use of health services is determined by supply as well as demand. In the NDHS women were asked to indicate the nearest health facility and give the name and type of this facility (hospital, health centre or clinic). If the nearest facility was not a hospital, but a clinic or health centre, the respondent was asked to name the nearest hospital as well. In addition, all women were asked whether their communities were served by an outreach clinic. For each health facility (or outreach service) women were asked the distance to the facility, travel time and means of transport (rural areas only). Supervisors had been instructed to measure distances to health facilities wherever possible to assist the woman and the interviewer to make more accurate estimates of distance. Questions were also asked about the availability of specific health services in each health facility: antenatal care, delivery care, immunisation and family planning. It is obvious that a woman can only report on such services if she knows about the facility. Some women may not know that certain services are available in certain clinics. Therefore, the results presented in this chapter are based on the *women's perceptions of distances and travel time to specific services.* In Chapter 9 (Maternal and Child Health) distance and travel time to health facilities were used as background characteristics to examine factors affecting health services utilisation. In this chapter the focus is on availability of services, as perceived by the respondents.

Table 11.1 shows the number of health facilities in Namibia by type of facility and region. There are 47 hospitals, including 5 private mining company hospitals which serve workers and their families. In the South and Central regions, there is one hospital providing services for every 17,000 people; in the Northeast region there is one hospital for every 39,000 people, and in the Northwest region one hospital for 71,000 people.

Table 11.1 Number of health facilities and population served

Number of health facilities and population served by type of facility and region, Namibia 1992

Region	Hospitals	Health centres	Clinics	PHC clinics	Total population[1]	Population/ hospital	Population/ static facility	Population/ facility
Northwest	9	1	66	17	642600	71400	8455	6910
Northeast	5	10	61	15	194100	38820	2554	2133
Central[2]	10	2	32	11	169251	16925	3847	3077
South[3]	23	*6*	*56*	17	383940	*16693*	4517	3764
Total	47	19	215	60	1389891	29572	4946	4076

[1]Population data from 1991 census projections
[2]Includes 2 private hospitals
[3]Includes 3 private hospitals

Health centres are not common in Namibia, being found mostly in the Northeast region. Clinics are a more common type of facility (215 clinics), while there are 60 primary health care (PHC) clinics, which are regular outreach services operated by hospitals, health centres or clinics. The Northwest region clearly has the smallest number of facilities in relation to its population size.

In the NDHS, women's reporting of travel time to the nearest health facility was better than their reporting of distance. Only 3 percent of women could not give a travel time, while 30 percent of women could not provide a distance. In the latter case, women were assigned the median distance for all women in the cluster if they were residents of that cluster. If distance was missing for visitors no distance was imputed.

The results presented below are preliminary. Linking the data to information on specific services provided by each health facility in Namibia needs to be done at a later stage to assess the quality of women's knowledge of the presence of specific services in the health facilities.

11.1 Distance and Time to Nearest Health Facility

Table 11.2 shows that the nearest health facility was most likely to be a PHC clinic (60 percent of women), followed by a hospital (30 percent), and a clinic or health centre (9 percent). It has to be noted, however, that the distinction between mobile PHC clinic and static facilities may not have always been clear to women and interviewers. For example, static health facilities and PHC outreach clinics go by the same name (e.g., Bundu clinic and Bundu PHC clinic) and it is likely that many clinics have been misclassified as PHC clinics. As expected, in urban areas hospitals are much more prevalent, being the nearest source for 42 percent of women, compared to rural areas. In the Central region hospitals are the nearest facility for more than half of women. In the two northern regions PHC clinics are the nearest facility for about 60 percent of women.

Table 11.2 Proximity to health facilities

Percent distribution of women by type of health facility located nearest, according to residence and region, Namibia 1992

Residence/ Region	Hospital	Health centre	PHC clinic	Missing	Total percent	Number of women
Residence						
Urban	41.8	9.2	48.9	0.1	100.0	2077
Rural	23.2	9.4	67.4	0.0	100.0	3344
Region						
Northwest	25.0	11.8	63.2	0.0	100.0	2246
Northeast	18.1	4.7	77.1	0.0	100.0	879
Central	52.6	1.2	46.0	0.2	100.0	674
South	35.0	11.8	53.1	0.1	100.0	1622
Total	30.3	9.3	60.3	0.1	100.0	5421

Data concerning distance and travel time to the nearest health facility are shown in Table 11.3. Although 62 percent of women have a health facility within 5 km, more than half of rural women have to travel at least 5 km to reach a health facility (median 5.2 km). Of the four regions, women in the Northwest region generally live farther from a health facility.

Table 11.3 Distance and time to nearest health facility

Percent distribution of women by distance and time to the nearest health facility, according to residence and region, Namibia 1992

Residence/ Region	Kilometres						Missing/ Don't know	Total percent	Total number	Median	Minutes					Missing/ Don't know	Total percent	Total number	Median
	0-4	5-9	10-19	20-29	30-59	60+					<15	15-29	30-59	60-119	120+				
Residence																			
Urban	86.6	5.5	1.9	0.6	0.5	2.2	2.7	100.0	2077	1.3	40.9	24.8	21.6	7.6	5.0	0.1	100.0	2077	18.1
Rural	46.7	13.4	13.4	8.2	6.8	7.6	3.9	100.0	3344	5.2	9.5	10.3	21.7	29.5	28.9	0.1	100.0	3344	72.3
Region																			
Northwest	45.7	18.9	17.0	8.5	5.1	2.8	1.9	100.0	2246	5.4	10.8	11.2	21.2	26.7	30.2	0.0	100.0	2246	70.9
Northeast	82.2	3.0	2.9	4.3	0.1	0.0	7.4	100.0	879	0.7	15.8	12.9	23.5	24.9	22.8	0.0	100.0	879	44.8
Central	63.3	3.6	4.3	3.2	6.4	11.1	8.2	100.0	674	2.2	25.1	22.1	21.2	21.2	10.0	0.4	100.0	674	32.3
South	72.9	5.5	3.2	2.2	4.8	10.0	1.4	100.0	1622	1.9	38.0	21.2	21.5	11.4	7.7	0.1	100.0	1622	19.7
Total	62.0	10.4	9.0	5.3	4.4	5.5	3.4	100.0	5421	2.8	21.5	15.8	21.7	21.1	19.7	0.1	100.0	5421	40.0

A health facility can be reached within 15 minutes by 22 percent of women, within half an hour by 37 percent, and within one hour by 59 percent. One in 5 women has to travel more than two hours to reach a health facility. In rural areas, 29 percent of women have to travel more than 2 hours, and the median travel time is 72 minutes. There are marked differences between the regions: the median travel time is 71 minutes in the Northwest region, 45 minutes in the Northeast, 32 minutes in the Central region, and 20 minutes in the South region.

Table 11.4 presents information about distance and travel time to the nearest hospital. Most women knew a hospital (90 percent). Only in the Northeast region were 31 percent of women not able to identify a hospital. The median distance to a hospital is 3 km for urban women, 31 km for rural women, and 26 km

A health facility can be reached within 15 minutes by 22 percent of women, within half an hour by 37 percent, and within one hour by 59 percent. One in 5 women has to travel more than two hours to reach a hospital. The median distance to a hospital is 3 km for urban women, 31 km for rural women, and 26 km for women in the Northwest region. Travel time varies accordingly, with the exception of the Northeast region. While women in the Northeast region generally report being close to a hospital (median distance 4 km), the median travel time is more than one and a half hours. This discrepancy may have several causes. First, 15 percent of women could not give a distance but were able to give a travel time. These women may have been far from hospitals. Second, travel is difficult in a large part of the Northeast region because of rivers and swamps. Third, estimates of distance and time may have been incorrect.

11.2 Availability of Various Health Services

Women were asked whether specific services were provided at the health facilities nearest to them. The services included antenatal care, maternity care, vaccination and family planning services. The usefulness of the recalled data to assess availability of services depends on the women's knowledge of the services available. In the optimum case, women know whether the service is available or not, and the data can be considered as an indicator of service availability. If a large proportion of women do not know whether the service is available, then the data are more an indicator of perceived availability of services. Increased efforts to promote the services that are available may be needed as much as increasing accessibility to enhance use of services. A third possibility is that a respondent may give incorrect information about the services available: for instance, she said there were no family planning services, but actually, such services were available at the nearest clinic. In this case availability of services is underestimated.

Table 11.5 presents data on the women's knowledge of the services available at the nearest health facility or nearest hospital. Since women could report more than one facility (if the nearest facility was not a hospital), the number of cases in this table exceeds the number of respondents in the NDHS.

Regarding antenatal care most women know whether such services are available or not in the nearest health facility or hospital. Nationally, three-quarters of women report that antenatal care is available at the nearest health facility or hospital. In the Northwest and Northeast regions more than one-fifth said there were no antenatal services available. "Don't know" responses were only common in the South region (11 percent). Half of the "don't know" responses came from women whose nearest hospital was one of the large hospitals in Windhoek (State Hospital and Katutura Hospital). Similarly, half of the "no" responses in the South region came from women nearest to these hospitals, which, however, do offer such services.

Questions on the availability of delivery care and vaccination services showed a similar picture, with the exception that delivery care was less frequently available at the nearest health facility or hospital and vaccination services were more frequently available than antenatal care. "Don't know" responses were not a problem, except in the South region.

Table 11.4 Distance and time to nearest hospital

Percent distribution of women by distance and time to the nearest hospital, according to residence and region, Namibia 1992

Residence/ Region	Kilometres						Missing/ Don't know distance	Doesn't know place	Total percent	Total number	Median	Minutes					Missing/ Don't know time	Doesn't know place	Total percent	Total number	Median
	0-4	5-9	10-19	20-29	30-59	60+						<15	15-29	30-59	60-119	120+					
Residence																					
Urban	69.4	10.0	3.1	0.7	2.4	8.0	3.3	3.1	100.0	2077	2.9	29.2	21.8	22.8	15.0	7.7	0.3	3.1	100.0	2077	27.3
Rural	8.5	6.0	13.9	9.9	23.8	17.3	6.4	14.2	100.0	3344	31.4	2.7	5.6	14.4	24.8	38.3	0.1	14.2	100.0	3344	94.7
Region																					
Northwest	10.2	7.5	19.8	13.1	29.9	9.6	2.0	7.7	100.0	2246	25.7	5.4	8.9	16.7	23.2	38.1	0.0	7.7	100.0	2246	88.8
Northeast	32.8	4.6	1.5	3.1	4.7	7.3	14.9	31.1	100.0	879	3.9	1.5	3.2	15.3	16.8	32.1	0.0	31.1	100.0	879	96.2
Central	41.2	1.2	2.1	1.4	9.1	28.2	9.4	7.3	100.0	674	5.4	17.3	16.0	17.1	23.0	18.9	0.4	7.3	100.0	674	45.6
South	57.3	11.7	3.5	0.9	4.4	17.0	2.7	2.7	100.0	1622	3.6	27.5	18.6	20.4	19.6	10.9	0.4	2.7	100.0	1622	32.3
Total	31.8	7.5	9.8	6.4	15.6	13.7	5.2	9.9	100.0	5421	13.1	12.9	11.8	17.6	21.1	26.6	0.2	9.9	100.0	5421	65.9

Table 11.5 Availability of health services at nearest health facility/hospital

Percent distribution of facilities by availability of various health services at the nearest health facility or nearest hospital, according to region, Namibia 1992

Service	Northwest	Northeast	Central	South	Total
Antenatal care					
Yes	75.8	72.8	92.5	78.8	77.7
No	21.4	25.3	4.5	9.7	17.1
Don't know	2.7	1.7	2.4	11.3	5.1
Missing	0.1	0.2	0.6	0.1	0.2
Total	100.0	100.0	100.0	100.0	100.0
Delivery care					
Yes	62.0	66.0	82.2	67.0	65.9
No	35.9	33.1	15.2	25.7	30.6
Don't know	2.0	0.7	2.0	7.2	3.3
Missing	0.1	0.2	0.6	0.2	0.2
Total	100.0	100.0	100.0	100.0	100.0
Vaccination					
Yes	97.3	97.0	96.7	87.9	94.4
No	2.2	2.3	1.4	4.4	2.8
Don't know	0.4	0.4	1.4	7.6	2.6
Missing	0.1	0.2	0.6	0.1	0.2
Total	100.0	100.0	100.0	100.0	100.0
Family planning services					
Yes	41.7	86.6	84.7	84.7	66.1
No	12.7	8.4	2.0	3.4	8.3
Don't know	45.4	4.7	9.3	11.7	25.4
Missing	0.1	0.3	0.8	0.1	0.2
Total	100.0	100.0	100.0	100.0	100.0
Number of facilities reported by women	3971	1481	796	2651	8898

A different picture emerges when considering family planning services. According to the national health policy, health facilities that offer antenatal services should also offer family planning services. For three of the four regions the proportion of women who say their nearest health facility or hospital provides family planning services is similar to that for antenatal care, although "don't know responses" are more common in the Northeast and Central regions for family planning services than for antenatal services. The main difference, however, is in the Northwest region, where 45 percent of women did not know whether family planning services were offered at the nearest health facilities. In many of these health facilities family planning services may not be available. A large proportion of health facilities in the Northwest region are small, mission-run facilities, which offer limited services. In other cases, the data may reflect a lack of knowledge. For example, 41 percent of women in the Northwest region who named a hospital as their nearest facility did not know whether there were family planning services available (all hospitals in the Northwest region have family planning services).

11.3 Antenatal and Delivery Care

Since most health facilities in Namibia provide antenatal care, the availability of antenatal services follows the patterns described above (see Table 11.6 and Figure 11.1). Four percent of women did not know a place for antenatal care, and most of these women were in the South region. Almost half of women in Namibia have a facility with antenatal services within 5 km, but rural women were a median distance of 15 km from antenatal services. The travel time exceeded one hour for more than half of women in both northern regions.

Delivery care is available within 5 km for 39 percent of women in Namibia, and within 10 km for 48 percent (see Table 11.7). Rural women are at a disadvantage compared to urban women: 39 percent are more than 30 km from a health facility with delivery care. Women in Namibia are about one hour from delivery care, although 28 percent have to travel more than 2 hours or more. The latter include mainly women in the Northwest and Northeast regions.

11.4 Immunisation

In general, immunisation services are closer to women than other services (see Table 11.8). Sixty-two percent had immunisation services within 5 km; 43 percent could reach such services within 30 minutes and 64 percent within 1 hour.

11.5 Family Planning

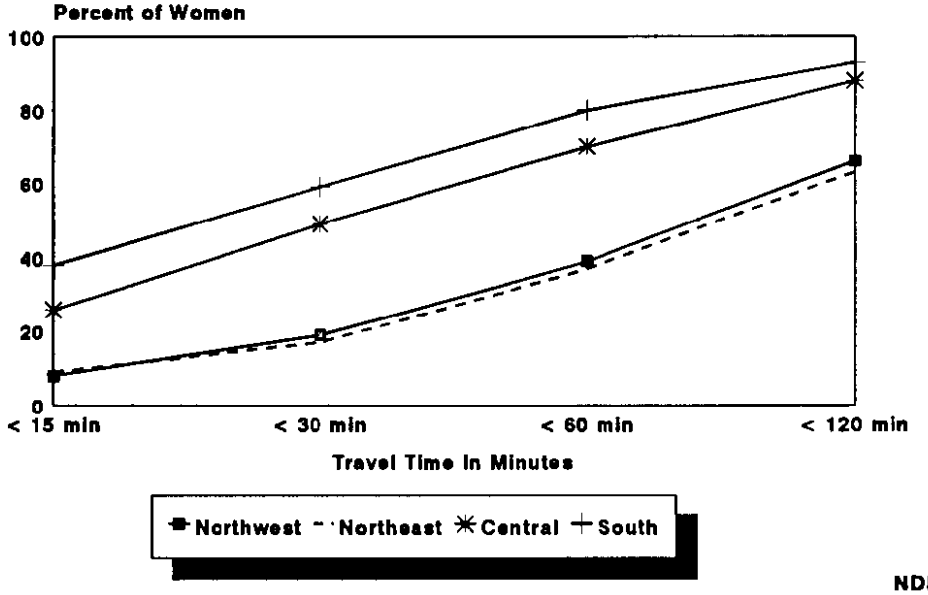
About one in five women could not name a place that provided family planning services (see Table 11.9). This proportion was especially high in the Northwest region. This could be due to lack of knowledge of existing services to lack of availability of such services. Half of women had family planning services available within one hour travel time. These services are considerably closer to urban women than to rural women; almost 80 percent of urban women live within one hour of a facility providing family planning services compared to only 30 percent of rural women. However, 31 percent of rural women reported to have family planning services available within one hour.

Table 11.6 Distance and time to nearest facility providing antenatal care

Percent distribution of women by distance and time to the nearest facility providing antenatal care, according to residence and region, Namibia 1992

Residence/ Region	Kilometres						Missing/ Don't know distance	Doesn't know place	Total percent	Total number	Median	Minutes					Don't know time	Missing/ Doesn't know place	Total percent	Total number	Median
	0-4	5-9	10-19	20-29	30-59	60+						<15	15-29	30-59	60-119	120+					
Residence																					
Urban	76.5	8.0	2.3	0.9	1.2	2.8	2.6	5.7	100.0	2077	1.9	37.1	22.6	19.6	9.6	5.2	0.2	5.7	100.0	2077	18.9
Rural	27.9	11.0	14.0	10.9	18.9	9.8	5.4	2.1	100.0	3344	15.2	7.7	9.1	19.6	27.6	33.8	0.1	2.1	100.0	3344	80.0
Region																					
Northwest	24.9	14.5	17.0	11.8	22.2	6.1	2.0	1.4	100.0	2246	15.2	8.4	10.8	19.8	26.1	33.5	0.0	1.4	100.0	2246	76.7
Northeast	57.8	5.0	5.7	6.7	5.4	6.5	12.4	0.6	100.0	879	1.5	9.2	7.3	20.1	25.6	37.3	0.0	0.5	100.0	879	82.7
Central	59.5	3.7	4.3	2.9	7.5	11.8	8.6	1.8	100.0	674	2.3	26.0	22.6	21.0	18.2	10.0	0.4	1.8	100.0	674	30.3
South	65.0	8.5	3.4	2.4	3.8	7.0	1.3	8.6	100.0	1622	2.4	36.0	19.2	18.5	11.8	5.6	0.2	8.6	100.0	1622	19.6
Total	46.5	9.8	9.5	7.1	12.1	7.1	4.3	3.5	100.0	5421	4.8	19.0	14.3	19.6	20.7	22.9	0.1	3.4	100.0	5421	43.4

Figure 11.1
Travel Time to Nearest Facility Providing Antenatal Care for Women 15-49 by Region



NDHS 1992

Table 11.7 Distance and time to nearest facility providing delivery care

Percent distribution of women by distance and time to the nearest facility providing delivery care place according to residence and region, Namibia 1992

Residence/ Region	Kilometres						Missing/ Don't know distance	Doesn't know place	Total percent	Total number	Median	Minutes					Missing/ Don't know time	Doesn't know place	Total percent	Total number	Median
	0-4	5-9	10-19	20-29	30-59	60+						<15	15-29	30-59	60-119	120+					
Residence																					
Urban	73.5	9.2	2.7	0.8	2.0	5.6	3.2	3.0	100.0	2077	2.7	31.3	22.7	22.3	13.3	7.1	0.2	3.0	100.0	2077	24.7
Rural	17.8	8.2	16.6	11.5	24.5	14.3	5.9	1.2	100.0	3344	23.3	5.5	7.4	17.1	27.8	40.8	0.1	1.2	100.0	3344	90.8
Region																					
Northwest	15.7	10.1	19.9	13.1	29.2	9.0	2.1	0.7	100.0	2246	22.1	6.7	10.0	18.1	24.6	39.7	0.0	0.7	100.0	2246	85.9
Northeast	49.2	5.9	10.4	6.8	8.1	6.8	12.7	0.1	100.0	879	2.8	6.7	5.8	18.8	24.6	44.0	0.0	0.1	100.0	879	93.3
Central	51.5	2.7	3.0	2.3	9.4	20.3	9.4	1.2	100.0	674	3.0	21.4	19.6	19.4	24.1	13.7	0.5	1.2	100.0	674	38.2
South	60.9	10.3	3.3	1.9	4.4	12.0	2.4	4.7	100.0	1622	3.3	29.5	19.2	20.6	17.0	8.7	0.2	4.7	100.0	1622	28.7
Total	39.1	8.6	11.3	7.4	15.9	11.0	4.8	1.9	100.0	5421	9.0	15.4	13.3	19.1	22.3	27.9	0.2	1.9	100.0	5421	62.5

Table 11.8 Distance and time to nearest facility providing vaccination services

Percent distribution of women by distance and time to the nearest facility providing vaccination services, according to residence and region, Namibia 1992

Residence/ Region	Kilometres						Missing/ Don't know distance	Doesn't know place	Total percent	Total number	Median	Minutes					Missing/ Don't know time	Doesn't know place	Total percent	Total number	Median
	0-4	5-9	10-19	20-29	30-59	60+						<15	15-29	30-59	60-119	120+					
Residence																					
Urban	82.3	5.0	1.9	0.7	0.6	1.6	2.7	5.3	100.0	2077	1.3	42.9	22.8	18.9	6.7	3.3	0.1	5.3	100.0	2077	16.7
Rural	49.1	13.1	12.5	6.9	6.4	6.7	4.1	1.2	100.0	3344	4.6	15.0	13.1	22.9	26.8	20.8	0.1	1.2	100.0	3344	50.1
Region																					
Northwest	45.6	19.0	16.2	8.1	5.5	3.4	1.9	0.3	100.0	2246	5.3	12.3	13.2	22.9	26.4	24.8	0.0	0.3	100.0	2246	62.2
Northeast	86.6	0.8	2.4	0.9	0.9	0.0	8.0	0.3	100.0	879	0.6	30.2	17.6	24.0	19.0	8.9	0.0	0.3	100.0	879	31.4
Central	60.8	4.3	3.7	3.2	6.2	10.3	8.6	2.9	100.0	674	2.0	27.5	22.8	21.2	17.3	8.0	0.4	2.9	100.0	674	28.2
South	71.1	4.8	3.0	2.2	3.2	6.9	1.3	7.5	100.0	1622	1.7	41.2	18.9	17.9	9.8	4.6	0.1	7.5	100.0	1622	17.4
Total	61.8	10.0	8.5	4.5	4.2	4.8	3.5	2.8	100.0	5421	2.6	25.7	16.8	21.4	19.1	14.1	0.1	2.8	100.0	5421	34.8

Table 11.9 Distance and time to nearest facility providing family planning services

Percent distribution of women by distance and time to the nearest facility providing family planning services, according to residence and region, Namibia 1992

Residence/ Region	Kilometres						Missing/ Don't know distance	Doesn't know place	Total percent	Total number	Median	Minutes					Missing/ Don't know time	Doesn't know place	Total percent	Total number	Median
	0-4	5-9	10-19	20-29	30-59	60+						<15	15-29	30-59	60-119	120+					
Residence																					
Urban	78.3	4.7	1.4	0.6	1.1	2.2	1.6	10.1	100.0	2077	1.4	40.0	21.3	18.1	6.9	3.5	0.1	10.1	100.0	2077	17.0
Rural	21.6	5.8	10.8	7.6	15.6	7.0	3.3	28.3	100.0	3344	16.3	7.2	7.4	15.5	20.0	21.7	0.0	28.3	100.0	3344	72.7
Region																					
Northwest	11.3	6.7	11.8	8.2	18.8	4.6	1.1	37.6	100.0	2246	21.1	5.8	7.4	12.7	15.9	20.6	0.0	37.6	100.0	2246	73.9
Northeast	68.2	4.5	6.7	3.6	2.4	0.1	7.7	6.7	100.0	879	0.8	14.0	10.3	23.4	21.8	23.8	0.0	6.7	100.0	879	54.5
Central	56.9	3.9	3.6	2.7	7.1	9.8	5.3	10.7	100.0	674	2.1	26.4	20.9	19.3	15.5	7.1	0.2	10.7	100.0	674	27.1
South	68.6	4.7	2.5	1.9	3.4	6.8	1.0	11.1	100.0	1622	1.8	39.5	17.9	16.9	9.8	4.8	0.1	11.1	100.0	1622	17.5
Total	43.3	5.4	7.2	4.9	10.1	5.2	2.7	21.3	100.0	5421	2.9	19.8	12.7	16.5	15.0	14.7	0.0	21.3	100.0	5421	37.3

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APPENDIX A

PERSONS INVOLVED IN THE NAMIBIA DEMOGRAPHIC AND HEALTH SURVEY

APPENDIX A

PERSONS INVOLVED IN THE NAMIBIA DEMOGRAPHIC AND HEALTH SURVEY

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APPENDIX B

SURVEY DESIGN

APPENDIX B

SURVEY DESIGN

B.1 Sample Design

Introduction

The sample for the Namibia Demographic and Health Survey (NDHS) was designed to yield a nationally representative probability sample of 5000 completed interviews with women between the ages of 15 and 49, regardless of their marital status, selected from 175 area units throughout the country. The design involved a two-stage stratified sample, which is self-weighting in each of the three main reporting domains: the Northwest region, the Northeast region, and the combined Central and South region.

Area Sampling Frame

The Republic of Namibia undertook a population and housing census in 1991 (the census dates were from 21 to 30 October). For this purpose, the country was divided into 27 census districts. Each district was in turn demarcated into enumeration areas (EAs). A list of 2177 EAs, together with their measure of size, which is the EA population as recorded manually from the Enumerator's Record Books, was compiled and used to select the area units for the NDHS.

Sample Design

Within each of the three domains (Northwest, Northeast, and Central/South), the sampling frame for the NDHS was stratified by urban and rural, and then by census district. The sample was then selected in two stages: at the first stage, 175 primary sampling units (PSU) were selected from the frame with probability proportional to size, the size being the population in the PSU. In general, a PSU corresponds to an EA as defined for the 1991 population and housing census. For each selected PSU, the Enumerator's Record Books obtained from the census was used as the frame for selecting the households to be included in the survey.

Sampling Parameters

The objective of the sample design was to obtain 5000 completed individual interviews with women between the ages of 15 and 49 regardless of their marital status. To allow for nonresponse and other losses, an appropriate number of households was selected so as to obtain 5500 eligible women. A proportional allocation of the 5500 women to the three domains would have yielded approximately 2400, 800, and 2300 to the Northwest, Northeast and Central/South regions, respectively. While the samples for the Northwest and Central/South regions would have been sufficiently large for providing reliable estimates, it was not the case for the Northeast region. For this reason, it was necessary to double the sampling rate for the Northeast region relative to the other two regions. Table B.1 shows the allocation of the sample to the three regions as well as the implied number of households and PSUs to be selected in each region.

Table B.1 Sample allocation

Number of women, households, and PSUs selected in the 1992 Namibia sample, by region

Region	Number of women	Number of households[1]			Number of PSUs[2]		
		Urban	Rural	Total	Urban	Rural	Total
Northwest	2100	145	1864	2009	5	62	67
Northeast	1415	214	1139	1353	7	38	45
Central/South	1985	1238	661	1899	41	22	63
Total	5500	1597	3664	5261	53	122	175

[1]The number of households was calculated taking into account the estimated number of women in each household, then inflated by 10 percent to allow for household nonresponse and other loss. The urban/rural allocation was proportional.
[2]An average of 30 households were to be selected in each PSU.

Sampling Probabilities

At the first stage, the sampling probability for the i^{th} PSU in each domain is:

$$P_{1i} = aM_i / \sum M_i$$

where a is the number of PSUs to be selected in the domain, M_i the population size of the i^{th} PSU according to the sampling frame, and ΣM_i the total size of the domain in the frame.

If P_{2i} is the sampling probability at the second stage (or household selection stage) in the i^{th} PSU, then, in order for the sample to be self-weighting with domain overall probability f, we have:

$$P_{1i} P_{2i} = f$$

so that

$$P_{2i} = f / P_{1i}$$

The sampling interval I_{2i} for household selection in the i^{th} PSU is

$$I_{2i} = 1 / P_{2i}$$

This interval is computed for each selected PSU selected, then used for systematic selection of households.

Response Rates

Table B.2 summarises the results of the household and individual interviews by region and residence. The household response rate for the NDHS was 90.9 percent, with not much difference between urban and rural areas. The high proportion of dwellings not found in the Northeast region is mainly due to the fact that fieldwork was terminated early in this region and nine clusters were not interviewed (see section on Fieldwork).

Table B.2 Sample implementation

Percent distribution of households and eligible women in the DHS sample by results of the interview and household, eligible women and overall response rates, according to sample domain and urban-rural residence, Namibia 1992

Result	Region				Residence		Total
	Northwest	Northeast	Central	South	Urban	Rural	
Selected households							
Completed (C)	89.0	76.1	75.9	80.3	82.2	81.8	81.9
Household present but no competent respondent at home (HP)	0.7	0.6	0.3	0.5	0.6	0.5	0.5
Refused (R)	0.6	0.7	0.9	0.9	1.0	0.7	0.8
Dwelling not found (DNF)	4.8	13.4	1.4	2.0	4.5	5.6	5.2
Household absent (HA)	2.1	2.4	6.3	8.3	6.3	3.7	4.6
Dwelling vacant (DV)	0.9	3.9	5.9	5.2	3.7	3.4	3.5
Dwelling destroyed (DD)	1.4	1.2	2.0	0.4	0.4	1.5	1.2
Other (O)	0.6	1.7	7.2	2.4	1.3	2.9	2.4
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	1809	1023	790	1384	1642	3364	5006
Household response rate (HRR)[1]	95.7	93.4	83.8	86.9	89.9	91.4	90.9
Eligible women							
Completed (EWC)	91.5	93.8	97.2	91.8	91.9	93.1	92.7
Not at home (EWNH)	6.1	3.1	1.6	4.3	4.4	4.5	4.4
Postponed (EWP)	0.0	0.1	0.0	0.1	0.1	0.0	0.1
Refused (EWR)	0.7	1.2	0.2	2.1	1.8	0.7	1.1
Partly completed (EWPC)	0.6	0.0	0.3	0.3	0.3	0.3	0.3
Incapacitated (EWI)	0.8	0.8	0.5	0.6	0.4	0.9	0.7
Other (EWO)	0.3	1.0	0.2	0.8	1.1	0.3	0.6
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	2348	1450	577	1472	2057	3790	5847
Eligible woman response rate (EWRR)[2]	91.5	93.8	97.2	91.8	91.9	93.1	92.7
Overall response rate (ORR)[3]	87.6	87.6	81.5	79.7	82.7	85.1	84.3

Note: The household response rate is calculated for completed households as a proportion of completed, no competent respondent, postponed, refused, and household absent. The eligible woman response rate is calculated for completed interviews as a proportion of completed, not at home, postponed, refused, partially completed and "other." The overall response rate is the product of the household and woman response rates.

[1]Using the number of households falling into specific response categories, the household response rate (HRR) is calculated as:

$$\frac{C}{C + HP + P + R + HA + O}$$

[2]Using the number of eligible women falling into specific response categories, the eligible woman response rate (EWRR) is calculated as:

$$\frac{EWC}{EWC + EWNH + EWP + EWR + EWPC + EWO + EWI}$$

[3]The overall response rate (ORR) is calculated as:

$$ORR = HRR * EWRR$$

For women eligible to be interviewed individually, the response rate was 92.7 percent. The main reason for not interviewing the woman was absence (at three occasions). One percent of women refused to be interviewed.

B.2 Fieldwork and Data Analysis

Questionnaires

Two types of questionnaires were used in the NDHS: the Household Questionnaire and the Individual Questionnaire. The content of these questionnaires were based on the DHS model B questionnaire, which was designed for use in countries with low contraceptive prevalence. Additions and modifications to the model questionnaire were made in order to collect information particularly relevant to Namibia. Verbal autopsy and maternal mortality modules were added. The questionnaires were developed in English whereafter it was translated by experienced translators into six languages (Oshiwambo, Herero, Afrikaans, Lozi, Kwangali and Damara/Nama). The translation in the indigenous languages was necessary as it makes interviewing much less susceptible to interviewers interpretations. The prepared translation in the Damara/Nama language was not printed since the translated version would be required only in a small number of households, of which the majority speaks Afrikaans. All teams, however, carried a master copy of this questionnaire to serve as a reference should need arise.

The Household Questionnaire was used to enumerate all usual members of and visitors to the selected households and to obtain information on each individual's age, sex, relationship to the head of the household, and educational attainment. In addition, questions were asked about indicators of the socioeconomic position of the household, such as the source of water, sanitation facilities, and the availability of electricity and durable goods. Information recorded on the Household Questionnaire was used to identify respondents eligible for the individual interview. English versions of the questionnaires are reproduced in Appendix E.

The Individual Questionnaire was used to collect information about women age 15-49 years. These women were asked questions on the following topics:

- Respondent's background (education, religion, etc.)
- Availability of health services
- Birth history
- Knowledge and use of contraceptive methods
- Antenatal care and delivery care
- Breastfeeding and weaning practices
- Children's vaccinations
- Morbidity and treatment in children under five years
- Causes of death in children
- Marriage
- Fertility preferences
- Husband's background
- Women's employment
- Maternal and child anthropometry
- Maternal mortality

Pretest

In March and April 1992, a pretest was conducted to ensure that the questions were in a logical sequence, that the translations were comprehensible, appropriate and meaningful, and that the precoded

answers were adequate. Fieldwork was conducted in both urban and rural enumeration areas (EAs) in order to accommodate the different languages used in the NDHS.

Training for the pretest started in March and lasted two weeks. Staff from Macro International conducted the training. Altogether 16 interviewers were trained (mostly secondary school leavers), and two officers from the Ministry of Health and Social Services. The two trained officers and the Macro International staff supervised the field work. The fieldwork for the pretest was completed in two weeks. After the fieldwork, some interviewers and supervisors as well the Macro International staff gathered in Windhoek for a debriefing and all their experiences during the fieldwork were discussed. All these experiences were used to improve the quality of the final version of the questionnaire.

Recruitment of Field Staff

The four health regions, namely the Northwest, Northeast, Central and South region were requested to select and submit names of suitable candidates for the main survey. Candidates were selected on the following criteria: maturity, minimum educational qualification to be grade 10 or higher, ability to read and speak one of the major Namibian languages chosen for NDHS, and willingness to work in the field for several months.

In all, 56 female candidates were recruited as interviewers and 5 senior officials from the Ministry of Health and Social Services (MOHSS). Two of the interviewers excelled in the training session and as only 5 senior officials from the 8 could be recruited from the MOHSS, it was decided that these 2 interviewers would be selected as supervisors. At the end of four weeks intensive training, 35 female candidates (28 interviewers, 7 field editors) and 7 supervisors were finally selected for the fieldwork. Five trainees were selected to become data entry and editing staff. Assessment tests were used in selecting candidates. Due to the shortage of staff in the MOHSS and the workload on the staff of the Epidemiology Section a technical assistant was recruited for the Epidemiology Section to assist in the day-to-day preparation and logistic exercises of the NDHS activities.

Training of Field Staff

Staff from the Epidemiology Section (MOHSS) and from Macro International conducted the training of field staff which lasted for four weeks, beginning June 1992. The training lasted four weeks. The first two weeks were devoted to classroom lectures, demonstrations of interviewing techniques, and instruction on how to complete the questionnaires and assignment sheets, using the instruction manuals as guides. By the third week of training, interviewers were grouped by language, with their supervisors, for practice reading the questionnaires and role playing. The fourth week was devoted to practice fieldwork in EAs not selected in the NDHS sample and near the training center. The completed questionnaires for practice fieldwork were checked by the trainers and supervisors and errors were discussed during the evening sessions before proceeding to the next EA. During training, a series of assessment tests was given to the interviewers and supervisors. These tests were graded and the results were used in selecting interviewers and supervisors; those candidates who had a better grasp of the questionnaire, and were adept at detecting errors in completed questionnaires, were designated as field editors.

A Macro International consultant conducted the anthropometry training and was assisted by two staff from the Nutrition Unit (MOHSS). Arrangements were made with nurseries, day care centers, and hospitals for practice measuring of infants and children. All trainees received anthropometric training.

Composition of the Fieldwork Teams

At the end of the one-month training course, the fieldworkers were selected from the larger pool of trainees. A total of 28 interviewers and 7 field editors were selected. Fieldwork teams were composed of four female interviewers, one female editor, one male or female supervisor, and one driver. Initially three supervisors were used as drivers and later a driver was made available to one supervisor. In all, a total of 7 teams were engaged for the main survey. One team was used in the southern part of the country (South region), 1 in the central part (Central region), 3 in the northwestern part (Northwest region) and 2 teams were used in the northeastern part of the country (Northeast region).

Main Survey Fieldwork

The main survey fieldwork commenced immediately after training. For most of the teams the first week of fieldwork was conducted in Windhoek where the training took place, covering the selected urban EAs.

At the end of the first week, a debriefing session was held, during which field staff and trainers related their experiences and problems. There were question and answer sessions and solutions to problems were discussed. The procedures and fieldwork plan and itinerary were discussed before the teams were posted to their respective regions for the fieldwork.

Fieldwork for the main survey was conducted between July and November 1992. Although the exercise for the main survey was planned to last only for three months (July to September 1992), it was extended and the last team continued to work into early December. There were logistic problems, including shortage of transport, two teams have been involved in accidents, some interviewers had to leave prematurely to rewrite their standard 10 (O-level) examination, some quitted the NDHS for permanent jobs and three supervisors had to leave the NDHS for personal reasons in October. The fieldwork of one team in Northeast region (Kavango) stopped fieldwork in December, although they still had to compete nine more of the 30 selected EAs. Continued fieldwork would delay the survey considerably, and since Northeast region had been oversampled, it would not affect estimates of fertility and mortality too much.

Sixty-seven EAs were selected from the Northwest region, 45 for Northeast, and 63 for the combined Central/South region. Women eligible for the individual interview were identified during the household interview. Team supervisors located the housing units and assigned selected households to the interviewers. Completed household and individual questionnaires were handed over to the field editor, who checked to ensure that all relevant questions were correctly recorded, that the skip instructions were properly followed, and that responses were internally consistent. This field editing was done before the team left the EA so that the interviewer could return to the respondent to resolve any errors. Each questionnaire was field edited prior to being sent to the office in Windhoek for data entry.

Supervisors made sure that all the selected households and eligible respondents for an EA were interviewed, and that assignment sheets for the interviewers and supervisors were duly completed. All completed records were then tied together and sent to the Epidemiology Section office for data entry.

Data Processing

Data processing staff for the NDHS consisted of five data entry clerks of which one was used to control all incoming completed EAs from the field, and one supervisor (the head of data processing) from the Epidemiology Section. Periodic assistance was given by the Macro International staff. Four microcomputers were installed in the project office, Epidemiology Section, MOHSS, and were used to

process the data utilising ISSA software for processing. All data entry occurred in the project office in Windhoek.

Before questionnaires were passed for data entry, office editing was conducted. This entailed checking for internal consistency of responses recorded in the questionnaire, that skip instructions were properly followed, that there were no omissions, and that all entries were legible. This secured completeness of the questionnaires and speeded up the work of data entry staff.

Data entry started in July and was completed in the second week of December 1992. As data entry continued, editing was carried out every second week by running the ISSA program to check for inconsistencies, and corrections were made (when possible) by referencing the original questionnaire. A standard set of data quality tables were run every second week. These tables provided data on the performance of each team and were taken into the field to discuss the results with the supervisors to improve data collection. The staff from the Epidemiology Section visited the teams in the field every second week

The staff from the Epidemiology section with assistance from the Macro International staff completed the final editing in December 1992, and secondary editing was done by Macro International staff. Preparation and presentation of the Preliminary report was conducted in November and December 1992. The preliminary report was published in December 1992.

SCHEDULE OF ACTIVITIES FOR THE NAMIBIA DEMOGRAPHIC AND HEALTH SURVEY

Activity		Month begun	Month ended	Year
1.	Survey and questionnaire development; translation of questionnaires; preparation of interviewers' and supervisors' manuals	September	January	1991/92
2.	Development of sampling frame using the listings of census held in October 1991 and household listing	January	April	1992
3.	Pretest: training and fieldwork	March	April	1992
4.	Finalisation of questionnaires	April	May	1992
5.	Preparation of tabulation and analysis plan	April	May	1992
6.	Training of field personnel	June	June	1992
7.	Fieldwork for main survey	July	November	1992
8.	ISSA training for data entry	July	July	1992
9.	Data entry and editing	July	December	1992
10.	Preparation and publication of preliminary report	November	December	1992
11.	Tabulation, analysis and preparation of final report	December	January	1992/93
12.	First draft of final report	February	February	1993
13.	Preparation of summary report	March	March	1993
14.	Publication of final and summary reports	May	May	1993
15.	National Seminar	June	June	1993
16.	Audit	May	June	1993

APPENDIX C

ESTIMATES OF SAMPLING ERRORS

APPENDIX C

ESTIMATES OF SAMPLING ERRORS

The estimates from a sample survey are affected by two types of errors: (1) nonsampling error, and (2) sampling error. Nonsampling error is the result of mistakes made in implementing data collection and data processing, such as failure to locate and interview the correct household, misunderstanding of the questions on the part of either the interviewer or the respondent, and data entry errors. Although numerous efforts were made during the implementation of the NDHS to minimize this type of error, nonsampling errors are impossible to avoid and difficult to evaluate statistically.

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

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

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

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

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

in which

$$z_{hi} = y_{hi} - r.x_{hi} \text{ , and } z_h = y_h - r.x_h$$

where
- h represents the stratum which varies from 1 to H,
- m_h is the total number of enumeration areas selected in the h^{th} stratum,
- y_{hi} is the sum of the values of variable y in EA i in the h^{th} stratum,
- x_{hi} is the sum of the number of cases (women) in EA 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 1.0 indicates that the sample design is as efficient as a simple random sample, while a value greater than 1.0 indicates the increase in the sampling error due to the use of a more complex and less statistically efficient design. CLUSTERS also computes the relative error and confidence limits for the estimates.

Sampling errors for the NDHS are calculated for selected variables considered to be of primary interest. The results are presented in this appendix for the country as a whole, for urban and rural areas, and for the three regions: Northwest, Northeast and Central/South. For each variable, the type of statistic (mean or proportion) and the base population are given in Table C.1. Tables C.2 to C.7 present the value of the statistic (R), its standard error (SE), the number of unweighted (N) and weighted (WN) cases, the design effect (DEFT), the relative standard error (SE/R), and the 95 percent confidence limits (R±2SE), for each variable.

In general, the relative standard error for most estimates for the country as a whole is small, except for estimates of very small proportions. There are some differentials in the relative standard error for the estimates of sub-populations. For example, for the variable EVBORN (children ever born to women aged 15-49), the relative standard error as a percent of the estimated mean for the whole country is 1.7 percent; they are 3.3 and 2.0 percent for urban and for rural areas, respectively.

The confidence interval (e.g., as calculated for EVBORN) can be interpreted as follows: the overall average from the national sample is 2.436 and its standard error is .041. Therefore, to obtain the 95 percent confidence limits, one adds and subtracts twice the standard error to the sample estimate, ie. 2.436±.082. There is a high probability (95 percent) that the *true* average number of children ever born to all women aged 15 to 49 is between 2.354 and 2.518.

Table C.1 List of selected variables for sampling errors, Namibia 1992

Variable		Estimate	Base population
URBAN	Urban	Proportion	All women
NOEDUC	No education	Proportion	All women
SECOND	With secondary education or higher	Proportion	All women
NEVMAR	Never married	Proportion	All women
CURMAR	Currently married	Proportion	All women
MAR20	Married before age 20	Proportion	Women aged 20 and older
SEX18	Had first sexual intercourse before 18	Proportion	Women aged 20 and older
EVBORN	Children ever born	Mean	All women
EVB4049	Children ever born to women over 40	Mean	All women aged 40-49
SURVIV	Children surviving	Mean	All women
KMETHOD	Knowing any contraceptive method	Proportion	Currently married women
KSOURCE	Knowing source for any method	Proportion	Currently married women
EVUSE	Ever used any contraceptive method	Proportion	Currently married women
CUSING	Currently using any method	Proportion	Currently married women
CUMODERN	Currently using a modern method	Proportion	Currently married women
CUPILL	Currently using pill	Proportion	Currently married women
CUIUD	Currently using IUD	Proportion	Currently married women
CUSTERIL	Currently using female sterilisation	Proportion	Currently married women
CUPABST	Currently using periodic abstinence	Proportion	Currently married women
PSOURCE	Using public FP source	Proportion	Current users of modern methods
NOMORE	Wanting no more children	Proportion	Currently married women
DELAY	Wanting to delay at least 2 years	Proportion	Currently married women
IDEAL	Ideal number of children	Mean	All women
TETANUS	Mothers received tetanus injection	Proportion	Births in last 5 years
MDCARE	Received medical care at birth	Proportion	Births in last 5 years
DIARR2	Had diarrhea in last 2 weeks	Proportion	Children under 5
ORSTRE	Treated with ORS packets	Proportion	Children under 5 with diarrhea in last 2 weeks
MEDTRED	Consulted a medical facility for diarrhea	Proportion	Children under 5 with diarrhea in last 2 weeks
COUGH	Had cough and difficult breathing	Proportion	Children under 5 in last two weeks
MEDTREC	Consulted a medical facility for cough	Proportion	Children under 5 with cough in last two weeks
HCARD	Having health card	Proportion	Children 12-23 months
BCG	Received BCG vaccination	Proportion	Children 12-23 months
DPT3	Received DPT vaccination (3 doses)	Proportion	Children 12-23 months
POLIO3	Received polio vaccination (3 doses)	Proportion	Children 12-23 months
MEASLES	Received measles vaccination	Proportion	Children 12-23 months
FULLIM	Fully immunised	Proportion	Children 12-23 months

Table C.2 Sampling errors, entire sample, Namibia 1992

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
URBAN	.383	.015	5421	5421	2.212	.038	.354	.412
NOEDUC	.145	.008	5421	5421	1.750	.058	.128	.162
SECOND	.371	.014	5421	5421	2.115	.037	.344	.399
NEVMAR	.513	.010	5421	5421	1.433	.019	.494	.533
CURMAR	.417	.009	5421	5421	1.415	.023	.398	.436
MAR20	.230	.008	4130	4162	1.190	.034	.215	.246
SEX18	.373	.012	4130	4162	1.655	.033	.348	.397
EVBORN	2.436	.041	5421	5421	1.124	.017	2.354	2.518
EVB4049	5.711	.115	855	865	1.087	.020	5.482	5.940
SURVIV	2.188	.036	5421	5421	1.091	.016	2.116	2.259
KMETHOD	.904	.010	2297	2259	1.624	.011	.884	.924
KSOURCE	.821	.013	2297	2259	1.608	.016	.795	.846
EVUSE	.519	.016	2297	2259	1.547	.031	.486	.551
CUSING	.289	.015	2297	2259	1.600	.052	.259	.319
CUMODERN	.260	.015	2297	2259	1.605	.056	.231	.290
CUPILL	.083	.007	2297	2259	1.186	.082	.069	.096
CUIUD	.021	.002	2297	2259	.811	.117	.016	.025
CUSTERIL	.074	.009	2297	2259	1.732	.127	.055	.093
CUPABST	.007	.002	2297	2259	1.117	.284	.003	.010
PSOURCE	.864	.019	1083	1162	1.798	.022	.827	.902
NOMORE	.258	.013	2297	2259	1.380	.049	.233	.283
DELAY	.297	.011	2297	2259	1.196	.038	.274	.320
IDEAL	5.008	.069	4992	4969	1.592	.014	4.871	5.145
TETANUS	.611	.011	3872	3814	1.236	.019	.589	.633
MDCARE	.682	.012	3872	3814	1.419	.018	.657	.707
DIARR2	.206	.009	3603	3562	1.296	.045	.188	.224
ORSTRE	.635	.019	834	733	1.038	.031	.596	.673
MEDTRED	.683	.018	834	733	1.007	.026	.647	.719
COUGH	.180	.009	3603	3562	1.215	.047	.163	.197
MEDTREC	.670	.063	732	642	1.051	.094	.544	.796
HCARD	.702	.017	796	787	1.054	.025	.668	.736
BCG	.913	.011	796	787	1.107	.012	.891	.936
DPT	.588	.020	796	787	1.136	.034	.548	.628
POLIO	.588	.020	796	787	1.136	.034	.548	.628
MEASLES	.757	.017	796	787	1.104	.022	.723	.791
FULLIM	.500	.023	796	787	1.276	.046	.455	.546

Table C.3 Sampling errors, urban areas, Namibia 1992

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
URBAN	1.000	.000	1891	2077	.000	.000	1.000	1.000
NOEDUC	.088	.012	1891	2077	1.817	.135	.064	.111
SECOND	.569	.028	1891	2077	2.472	.049	.513	.626
NEVMAR	.502	.017	1891	2077	1.446	.033	.468	.535
CURMAR	.422	.015	1891	2077	1.360	.037	.392	.453
MAR20	.180	.011	1540	1696	1.104	.060	.159	.202
SEX18	.371	.024	1540	1696	1.960	.065	.323	.419
EVBORN	2.185	.072	1891	2077	1.366	.033	2.040	2.330
EVB4049	4.736	.237	263	299	1.351	.050	4.262	5.210
SURVIV	1.973	.062	1891	2077	1.298	.031	1.849	2.097
KMETHOD	.955	.013	811	877	1.748	.013	.930	.981
KSOURCE	.940	.016	811	877	1.877	.017	.909	.971
EVUSE	.742	.031	811	877	2.034	.042	.680	.805
CUSING	.478	.033	811	877	1.893	.069	.412	.545
CUMODERN	.466	.033	811	877	1.881	.071	.400	.532
CUPILL	.147	.014	811	877	1.088	.092	.120	.174
CUIUD	.040	.005	811	877	.748	.128	.030	.051
CUSTERIL	.129	.023	811	877	1.924	.176	.084	.174
CUPABST	.006	.003	811	877	1.119	.497	.000	.012
PSOURCE	.838	.025	721	825	1.796	.029	.789	.888
NOMORE	.320	.021	811	877	1.292	.066	.278	.362
DELAY	.237	.017	811	877	1.140	.072	.203	.271
IDEAL	3.790	.110	1818	1992	1.881	.029	3.570	4.010
TETANUS	.546	.019	1163	1253	1.121	.035	.508	.584
MDCARE	.861	.016	1163	1253	1.403	.019	.828	.893
DIARR2	.135	.014	1085	1174	1.290	.104	.107	.163
ORSTRE	.613	.036	174	158	.878	.059	.540	.686
MEDTRED	.714	.037	174	158	.975	.052	.640	.788
COUGH	.131	.013	1085	1174	1.181	.100	.105	.158
MEDTREC	.737	.073	169	154	1.045	.099	.591	.883
HCARD	.589	.031	251	265	.984	.053	.526	.651
BCG	.929	.018	251	265	1.049	.019	.893	.964
DPT	.538	.031	251	265	.963	.058	.476	.600
POLIO	.538	.031	251	265	.963	.058	.476	.600
MEASLES	.778	.025	251	265	.938	.032	.728	.828
FULLIM	.462	.036	251	265	1.106	.077	.391	.534

Table C.4 Sampling errors, rural areas, Namibia 1992

Variable	Value (R)	Standard error (SE)	Number of cases Unweighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
URBAN	.000	.000	3530	3344	.000	.000	.000	.000
NOEDUC	.180	.011	3530	3344	1.697	.061	.158	.202
SECOND	.248	.013	3530	3344	1.811	.053	.222	.275
NEVMAR	.521	.012	3530	3344	1.433	.023	.497	.545
CURMAR	.413	.012	3530	3344	1.442	.029	.389	.437
MAR20	.265	.011	2590	2466	1.272	.042	.243	.287
SEX18	.374	.013	2590	2466	1.394	.035	.347	.400
EVBORN	2.592	.051	3530	3344	1.036	.020	2.491	2.693
EVB4049	6.227	.119	592	565	.935	.019	5.990	6.465
SURVIV	2.321	.045	3530	3344	1.025	.019	2.231	2.411
KMETHOD	.872	.014	1486	1382	1.617	.016	.844	.900
KSOURCE	.745	.018	1486	1382	1.574	.024	.709	.780
EVUSE	.377	.018	1486	1382	1.392	.046	.342	.412
CUSING	.169	.010	1486	1382	1.061	.061	.148	.189
CUMODERN	.130	.010	1486	1382	1.111	.075	.110	.149
CUPILL	.042	.006	1486	1382	1.172	.145	.030	.054
CUIUD	.008	.002	1486	1382	.950	.272	.004	.013
CUSTERIL	.040	.006	1486	1382	1.112	.142	.028	.051
CUPABST	.007	.002	1486	1382	1.110	.344	.002	.012
PSOURCE	.927	.016	362	337	1.194	.018	.895	.960
NOMORE	.219	.015	1486	1382	1.394	.068	.189	.249
DELAY	.335	.015	1486	1382	1.238	.045	.304	.365
IDEAL	5.823	.077	3174	2977	1.396	.013	5.669	5.977
TETANUS	.642	.015	2709	2561	1.378	.024	.612	.672
MDCARE	.595	.017	2709	2561	1.497	.028	.562	.628
DIARR2	.241	.011	2518	2387	1.281	.048	.218	.264
ORSTRE	.641	.023	660	575	1.089	.035	.595	.686
MEDTRED	.675	.021	660	575	1.033	.030	.633	.716
COUGH	.205	.011	2518	2387	1.275	.055	.182	.227
MEDTREC	.649	.066	563	488	1.094	.102	.296	.781
HCARD	.760	.021	545	521	1.171	.028	5.177	.802
BCG	.906	.014	545	521	1.146	.016	.877	.934
DPT	.613	.026	545	521	1.251	.042	.561	.665
POLIO	.613	.026	545	521	1.251	.042	.561	.665
MEASLES	.746	.022	545	521	1.181	.029	.702	.790
FULLIM	.520	.029	545	521	1.376	.056	.461	.578

Table C.5 Sampling errors, Northwest Region, Namibia 1992

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
URBAN	.079	.018	2149	2246	3.156	.233	.042	.115
NOEDUC	.112	.010	2149	2246	1.433	.087	.092	.131
SECOND	.310	.020	2149	2246	1.968	.063	.271	.349
NEVMAR	.639	.012	2149	2246	1.145	.019	.616	.663
CURMAR	.317	.011	2149	2246	1.117	.035	.295	.340
MAR20	.142	.007	1556	1626	.796	.050	.128	.156
SEX18	.192	.012	1556	1626	1.182	.062	.168	.215
EVBORN	2.407	.063	2149	2245	.982	.026	2.281	2.533
EVB4049	6.539	.126	345	360	.791	.019	6.286	6.792
SURVIV	2.181	.056	2149	2246	.962	.026	2.070	2.293
KMETHOD	.821	.022	682	713	1.518	.027	.777	.866
KSOURCE	.669	.030	682	713	1.667	.045	.608	.729
EVUSE	.189	.024	682	713	1.577	.125	.142	.236
CUSING	.087	.017	682	713	1.579	.197	.052	.121
CUMODERN	.073	.013	682	713	1.314	.179	.047	.100
CUPILL	.026	.009	682	713	1.537	.358	.008	.045
CUIUD	.007	.003	682	713	.989	.441	.001	.014
CUSTERIL	.031	.007	682	713	1.040	.224	.017	.045
CUPABST	.010	.004	682	713	1.122	.422	.002	.019
PSOURCE	.838	.046	130	136	1.409	.054	.747	.930
NOMORE	.163	.017	682	713	1.215	.106	.128	.197
DELAY	.378	.022	682	713	1.199	.059	.334	.423
IDEAL	6.201	.106	1876	1960	1.468	.017	5.990	6.413
TETANUS	.717	.017	1588	1659	1.232	.023	.683	.751
MDCARE	.669	.020	1588	1659	1.443	.030	.629	.710
DIARR2	.171	.012	1496	1563	1.224	.070	.147	.195
ORSTRE	.621	.031	256	267	.990	.049	.560	.682
MEDTRED	.652	.032	256	267	1.053	.049	.588	.717
COUGH	.169	.013	1496	1563	1.188	.074	.144	.194
MEDTREC	.621	.098	253	264	1.116	.158	.425	.817
HCARD	.745	.026	341	356	1.116	.035	.692	.797
BCG	.944	.015	341	356	1.192	.016	.915	.974
DPT	.680	.030	341	356	1.211	.045	.619	.741
POLIO	.680	.030	341	356	1.211	.045	.619	.741
MEASLES	.798	.024	341	356	1.099	.030	.750	.846
FULLIM	.572	.036	341	356	1.343	.063	.500	.644

Table C.6 Sampling errors, Northeast Region, Namibia 1992

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
URBAN	.170	.026	1360	879	2.569	.154	.118	.222
NOEDUC	.186	.012	1360	879	1.129	.064	.162	.210
SECOND	.228	.026	1360	879	2.246	.112	.177	.279
NEVMAR	.303	.019	1360	879	1.530	.063	.265	.341
CURMAR	.542	.024	1360	879	1.767	.044	.494	.589
MAR20	.607	.023	1005	652	1.461	.037	.562	.652
SEX18	.657	.014	1005	652	.947	.022	.629	.685
EVBORN	2.738	.085	1360	879	1.145	.031	2.568	2.909
EVB4049	6.603	.261	192	122	1.251	.040	6.080	7.126
SURVIV	2.343	.072	1360	879	1.137	.031	2.199	2.488
KMETHOD	.955	.006	724	476	.795	.006	.943	.967
KSOURCE	.834	.014	724	476	1.029	.017	.806	.863
EVUSE	.558	.018	724	476	.977	.032	.522	.594
CUSING	.215	.016	724	476	1.053	.075	.183	.247
CUMODERN	.109	.010	724	476	.902	.096	.088	.130
CUPILL	.048	.008	724	476	.997	.165	.032	.064
CUIUD	.001	.001	724	476	.924	.996	-.001	.004
CUSTERIL	.017	.004	724	476	.843	.239	.009	.025
CUPABST	.011	.005	724	476	1.190	.415	.002	.021
PSOURCE	.953	.022	188	108	1.436	.023	.908	.997
NOMORE	.144	.015	724	476	1.179	.107	.113	.175
DELAY	.430	.018	724	476	.952	.041	.395	.465
IDEAL	5.845	.079	1312	842	1.008	.014	5.687	6.003
TETANUS	.668	.024	1094	726	1.516	.037	.620	.716
MDCARE	.521	.025	1094	726	1.482	.049	.470	.571
DIARR2	.472	.024	989	656	1.491	.052	.424	.521
ORSTRE	.710	.027	448	310	1.155	.038	.656	.764
MEDTRED	.755	.016	448	310	.736	.021	.724	.786
COUGH	.388	.020	989	656	1.192	.051	.348	.427
MEDTREC	.717	.073	376	254	1.195	.102	.571	.863
HCARD	.757	.020	206	131	.672	.027	.716	.798
BCG	.862	.024	206	131	.973	.028	.813	.910
DPT	.431	.048	206	131	1.356	.110	.336	.526
POLIO	.431	.048	206	131	1.356	.110	.336	.526
MEASLES	.687	.050	206	131	1.541	.073	.586	.787
FULLIM	.366	.043	206	131	1.256	.117	.280	.451

Table C.7 Sampling errors, Central and South Regions, Namibia 1992

Variable	Value (R)	Standard error (SE)	Number of cases		Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
			Unweighted (N)	Weighted (WN)			R-2SE	R+2SE
URBAN	.763	.022	1912	2296	2.294	.029	.718	.807
NOEDUC	.162	.017	1912	2296	1.961	.102	.129	.195
SECOND	.486	.026	1912	2296	2.232	.052	.435	.537
NEVMAR	.471	.017	1912	2296	1.470	.036	.437	.504
CURMAR	.466	.016	1912	2296	1.434	.035	.433	.499
MAR20	.177	.013	1569	1884	1.310	.071	.151	.202
SEX18	.430	.024	1569	1884	1.891	.055	.383	.477
EVBORN	2.349	.068	1912	2296	1.253	.029	2.213	2.484
EVB4049	4.645	.212	318	382	1.289	.046	4.221	5.068
SURVIV	2.134	.059	1912	2296	1.188	.027	2.017	2.251
KMETHOD	.937	.014	891	1070	1.763	.015	.908	.966
KSOURCE	.916	.017	891	1070	1.785	.018	.883	.949
EVUSE	.721	.030	891	1070	1.970	.041	.661	.780
CUSING	.457	.029	891	1070	1.708	.062	.400	.514
CUMODERN	.452	.028	891	1070	1.692	.062	.396	.509
CUPILL	.136	.013	891	1070	1.100	.093	.111	.161
CUIUD	.038	.005	891	1070	.713	.120	.029	.047
CUSTERIL	.129	.019	891	1070	1.706	.149	.091	.167
CUPABST	.002	.002	891	1070	1.034	.730	-.001	.006
PSOURCE	.858	.022	765	919	1.761	.026	.813	.902
NOMORE	.373	.021	891	1070	1.322	.058	.330	.415
DELAY	.183	.016	891	1070	1.224	.087	.151	.215
IDEAL	3.603	.106	1804	2166	1.861	.029	3.391	3.814
TETANUS	.457	.021	1190	1429	1.273	.047	.415	.499
MDCARE	.779	.021	1190	1429	1.521	.027	.737	.821
DIARR2	.116	.011	1118	1342	1.167	.099	.093	.139
ORSTRE	.508	.042	130	156	.933	.082	.425	.591
MEDTRED	.592	.048	130	156	1.085	.080	.497	.688
COUGH	.092	.012	1118	1342	1.255	.126	.069	.115
MEDTREC	.710	.039	103	124	1.029	.055	.632	.788
HCARD	.627	.030	249	299	.963	.047	.567	.686
BCG	.900	.020	249	299	1.052	.022	.860	.940
DPT	.546	.030	249	299	.946	.055	.486	.606
POLIO	.546	.030	249	299	.946	.055	.486	.606
MEASLES	.739	.025	249	299	.906	.034	.688	.789
FULLIM	.474	.037	249	299	1.155	.077	.400	.547

APPENDIX D

DATA QUALITY TABLES

APPENDIX D

DATA QUALITY TABLES

Table D.1 Household age distribution

Single-year age distribution of the de facto household population by sex (weighted), Namibia 1992

	Males		Females			Males		Females	
Age	Number	Percent	Number	Percent	Age	Number	Percent	Number	Percent
<1	422	3.7	397	3.1	36	102	0.9	129	1.0
1	393	3.4	385	3.0	37	90	0.8	104	0.8
2	429	3.7	418	3.3	38	93	0.8	132	1.0
3	389	3.4	387	3.0	39	88	0.8	94	0.7
4	350	3.1	364	2.9	40	108	0.9	106	0.8
5	395	3.4	380	3.0	41	44	0.4	106	0.8
6	348	3.0	360	2.8	42	104	0.9	119	0.9
7	341	3.0	369	2.9	43	80	0.7	96	0.8
8	333	2.9	330	2.6	44	61	0.5	96	0.8
9	305	2.7	311	2.4	45	57	0.5	85	0.7
10	302	2.6	348	2.7	46	63	0.5	81	0.6
11	269	2.3	291	2.3	47	65	0.6	63	0.5
12	328	2.9	307	2.4	48	78	0.7	71	0.6
13	260	2.3	333	2.6	49	48	0.4	70	0.5
14	265	2.3	284	2.2	50	60	0.5	81	0.6
15	300	2.6	276	2.2	51	57	0.5	70	0.6
16	280	2.4	268	2.1	52	80	0.7	117	0.9
17	244	2.1	269	2.1	53	47	0.4	79	0.6
18	276	2.4	280	2.2	54	53	0.5	57	0.4
19	238	2.1	249	2.0	55	43	0.4	55	0.4
20	255	2.2	260	2.0	56	46	0.4	58	0.5
21	162	1.4	219	1.7	57	38	0.3	42	0.3
22	208	1.8	246	1.9	58	39	0.3	53	0.4
23	161	1.4	226	1.8	59	36	0.3	53	0.4
24	188	1.6	232	1.8	60	72	0.6	90	0.7
25	159	1.4	185	1.5	61	44	0.4	50	0.4
26	140	1.2	225	1.8	62	55	0.5	90	0.7
27	163	1.4	177	1.4	63	47	0.4	55	0.4
28	148	1.3	162	1.3	64	45	0.4	46	0.4
29	145	1.3	186	1.5	65	44	0.4	54	0.4
30	159	1.4	150	1.2	66	23	0.2	37	0.3
31	92	0.8	152	1.2	67	37	0.3	54	0.4
32	124	1.1	166	1.3	68	38	0.3	77	0.6
33	82	0.7	128	1.0	69	24	0.2	42	0.3
34	106	0.9	140	1.1	70+	402	3.5	459	3.6
35	100	0.9	136	1.1	Don't know, missing	208	1.8	63	0.5
					Total	11478	100.0	12729	100.0

Note: The de facto population includes all residents and nonresidents who slept in the household the night before the interview.

Table D.2 Age distribution of eligible and interviewed women

Five-year age distribution of the de facto household population of women aged 10-54, five year age distribution of interviewed women aged 15-49, and percentage of eligible women who were interviewed (weighted), Namibia 1992

Age	Household population of women		Interviewed women		Percent interviewed (weighted)
	Number	Percent	Number	Percent	
10-14	1563	NA	NA	NA	NA
15-19	1342	23.6	1259	23.2	93.8
20-24	1184	20.8	1119	20.6	94.5
25-29	935	16.4	890	16.4	95.3
30-34	737	13.0	722	13.3	97.9
25-39	594	10.5	567	10.5	95.4
40-44	523	9.2	507	9.3	96.8
45-49	369	6.5	358	6.6	96.8
50-54	404	NA	NA	NA	NA
15-49	5685	100.0	5421	100.0	95.4

Note: The de facto population includes all residents and nonresidents who slept in the household the night before interview.
NA = Not applicable

Table D.3 Completeness of reporting

Percentage of observations missing information for selected demographic and health questions (weighted), Namibia 1992

Subject	Reference group	Percentage missing information	Number of cases
Birth date	Births in last 15 years		
Month only		3.4	9702
Month and year		0.4	9702
Age at death	Deaths to births in last 15 years	0.8	918
Age/date at first union[1]	Ever-married women	4.8	2638
Respondent's education	All women	0.0	5421
Child's size at birth	Births in last 59 months	38.2	2758
Anthropometry[2]	Living children age 0-59 months		
Height missing		24.3	3599
Weight missing		26.4	3599
Height and weight missing		26.8	3599
Diarrhoea in last 2 weeks	Living children age 0-59 months	9.4	3599

[1]Both year and age missing
[2]Child not measured

Table D.4 Births by calendar year since birth

Distribution of births by calendar years since birth for living (L), dead (D), and all (T) children, according to reporting completeness, sex ratio at birth, and ratio of births by calendar year, Namibia 1992

	Number of births			Percentage with *complete birth date*[1]			Sex ratio *at birth*[2]			*Calendar ratio*[3]			*Male*			*Female*		
Year	L	D	T	L	D	T	L	D	T	L	D	T	L	D	T	L	D	T
92	597	24	621	99.8	95.6	99.7	112.9	87.4	111.8	NA	NA	NA	317	11	328	280	13	293
91	791	47	838	99.5	98.2	99.5	91.2	113.0	92.3	115.2	107.5	114.7	377	25	402	414	22	436
90	777	64	841	99.3	89.3	98.6	101.0	70.7	98.3	106.8	121.7	107.8	390	26	417	387	37	424
89	664	57	721	98.0	87.7	97.2	85.0	57.1	82.5	94.9	102.6	95.4	305	21	326	359	36	395
88	622	48	671	98.2	95.2	98.0	95.1	120.8	96.7	97.4	81.1	96.0	303	26	330	319	22	341
87	614	61	676	97.6	90.8	97.0	89.0	121.9	91.5	94.4	112.3	95.7	289	34	323	325	28	353
86	680	61	741	96.2	86.3	95.4	106.2	132.5	108.2	115.9	100.6	114.5	350	35	385	330	26	356
85	558	61	619	96.8	92.4	96.4	95.9	132.9	99.0	90.3	90.0	90.3	273	35	308	285	26	311
84	557	73	630	96.5	91.5	95.9	99.4	82.0	97.2	104.1	110.3	104.8	277	33	310	279	40	319
83	511	72	583	96.2	88.7	95.3	98.2	163.8	104.5	NA	NA	NA	253	45	298	258	27	285
88-92	3451	240	3691	99.0	92.5	98.6	96.2	84.1	95.4	NA	NA	NA	1693	110	1802	1759	130	1889
83-87	2920	329	3248	96.7	89.9	96.0	97.7	122.6	100.0	NA	NA	NA	1443	181	1624	1477	148	1624
78-82	2314	334	2648	95.9	85.5	94.6	95.5	109.1	97.1	NA	NA	NA	1130	174	1305	1183	160	1343
73-77	1724	229	1954	95.7	86.1	94.6	96.2	108.0	97.5	NA	NA	NA	845	119	965	879	110	989
<73	1450	214	1664	93.5	83.4	92.2	104.1	108.8	104.7	NA	NA	NA	739	112	851	710	103	813
All	11859	1347	13206	96.7	87.6	95.8	97.4	106.9	98.3	NA	NA	NA	5851	696	6547	6008	651	6659

NA = Not applicable

[1]Both year and month of birth given

[2]$(B_m/B_f)*100$, where B_m and B_f are the numbers of male and female births, respectively

[3]$[2B_x/(B_{x-1}+B_{x+1})]*100$, where B_x is the number of births in calendar year x

Table D.5 Reporting of age at death in days

Distribution of reported deaths under 1 month of age by age at death in days and the percentage of neonatal deaths reported to occur at ages 0-6 days, for five-year periods of birth preceding the survey, Namibia 1992

Age at death (in days)	Number of years preceding the survey				Total 0-19
	0-4	5-9	10-14	15-19	
<1	44	54	27	21	146
1	23	23	17	15	79
2	12	9	8	9	38
3	6	4	4	3	17
4	1	0	2	3	7
5	3	8	1	0	12
6	4	0	0	1	6
7	13	16	6	7	41
8	1	0	1	2	4
9	1	0	0	0	2
10	0	4	1	0	5
12	2	0	0	0	2
13	0	0	1	0	1
14	5	4	5	4	18
18	0	0	0	1	1
21	1	1	1	1	4
23	1	0	0	0	1
25	0	0	1	0	1
27	1	0	0	0	1
29	1	0	0	0	1
30	1	3	1	1	6
Missing	1	0	0	0	1
Total	122	128	77	68	394
Percent early neonatal[1]	76.5	77.3	77.5	77.4	77.1

[1](0-6days/0-30days) * 100

Table D.6 Reporting of age at death in months

Distribution of reported deaths under 2 years of age by age at death in months and the percentage of infant deaths reported to occur at ages under one month, for five-year periods of birth preceding the survey, Namibia 1992

Age at death (in months)	Number of years preceding the survey				Total
	0-4	5-9	10-14	15-19	0-19
<1[a]	122	128	77	68	395
1	16	29	17	8	70
2	9	11	20	5	45
3	11	5	13	7	36
4	11	10	8	2	31
5	10	5	9	7	30
6	7	7	17	13	45
7	7	6	5	6	24
8	4	3	4	3	15
9	3	2	10	4	19
10	3	4	2	1	11
11	6	3	4	0	13
12	11	20	22	7	61
13	0	5	6	4	15
14	1	6	5	6	19
15	0	4	4	3	12
16	1	1	3	1	7
17	2	1	1	0	3
18	6	2	6	3	17
19	0	1	2	1	5
20	0	3	1	0	4
21	0	1	1	0	3
22	1	0	1	0	2
23	1	2	0	0	3
1 year	2	1	4	1	8
Total 0-23	209	212	187	125	733
Percent neonatal[b]	58.6	60.2	41.1	54.4	53.9

[a]Includes deaths under 1 month reported in days
[b](Under 1 month/under 1 year) * 100

APPENDIX E

QUESTIONNAIRES

NAMIBIA MINISTRY OF HEALTH
AND SOCIAL SERVICES/
CENTRAL STATISTICAL OFFICE

CENSUS DISTRICT..... ☐☐

CENSUS EA CODE..... ☐☐☐

DEMOGRAPHIC AND HEALTH SURVEYS
HOUSEHOLD SCHEDULE

IDENTIFICATION

PLACE NAME _____
NAME OF RESPONDENT _____
LANGUAGE OF QUESTIONNAIRE _____

P.S.U. NUMBER..... ☐☐☐
HOUSEHOLD NUMBER..... ☐☐☐
REGION (Northwest=1, Northeast=2, Central=3, South=4)..... ☐
URBAN/RURAL (urban=1, rural=2)..... ☐

INTERVIEWER VISITS

	1	2	3	FINAL VISIT
DATE	_____	_____	_____	DAY ☐☐
				MONTH ☐☐
				YEAR ☐☐
INTERVIEWER'S NAME	_____	_____	_____	NAME ☐☐
RESULT***	_____	_____	_____	RESULT ☐
NEXT VISIT: DATE	_____	_____		TOTAL NUMBER OF VISITS ☐
TIME	_____	_____		

***RESULT CODES:
1 COMPLETED
2 HOUSEHOLD PRESENT BUT NO COMPETENT RESP. AT HOME
3 HOUSEHOLD ABSENT
4 POSTPONED
5 REFUSED
6 DWELLING VACANT OR ADDRESS NOT A DWELLING
7 DWELLING DESTROYED
8 DWELLING NOT FOUND
9 OTHER _____ (SPECIFY)

TOTAL IN HOUSEHOLD ☐☐

TOTAL ELIGIBLE WOMEN ☐☐

	FIELD EDITED BY	OFFICE EDITED BY	KEYED BY	KEYED BY
NAME	_____	_____	_____	☐☐
DATE	_____	_____	_____	

HOUSEHOLD SCHEDULE

Now we would like some information about the people who usually live in your household or who are staying with you now.

NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP TO HEAD OF HOUSEHOLD*	RESIDENCE		SEX	AGE	EDUCATION (IF AGED 6 OR OLDER)			PARENTAL SURVIVORSHIP AND RESIDENCE (IF AGED LESS THAN 15 YEARS)				ELIGIBILITY
	Please give me the names of the persons who usually live in your household and guests of the household who stayed here last night, starting with the head of the household.	What is the relationship of (NAME) to the head of the household?	Does (NAME) usually live there?	Did (NAME) sleep here last night?	Is (NAME) male or female?	How old is (NAME)?	Has (NAME) ever been to school?	What is the highest level of school (NAME) attended? / What is the highest grade (NAME) completed at that level?	IF AGED LESS THAN 25 YEARS: Is (NAME) still in school?	Is (NAME)'s natural mother alive?	IF ALIVE: Does (NAME)'s natural mother live in this household? IF YES: What is her name? RECORD MOTHER'S LINE NUMBER	Is (NAME)'s natural father alive?	IF ALIVE: Does (NAME)'s natural father live in this household? IF YES: What is his name? RECORD FATHER'S LINE NUMBER	CIRCLE LINE NUMBER OF WOMEN ELIGIBLE FOR INDIVIDUAL INTERVIEW
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
			YES NO	YES NO	M F	IN YEARS	YES NO	LEVEL GRADE	YES NO	YES NO DK		YES NO DK		
01			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		01
02			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		02
03			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		03
04			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		04
05			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		05
06			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		06
07			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		07
08			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		08
09			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		09
10			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		10

HOUSEHOLD SCHEDULE CONTINUED

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
			YES NO	YES NO	M F	IN YEARS	YES NO	LEVEL GRADE	YES NO	YES NO DK		YES NO DK		
11			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		11
12			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		12
13			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		13
14			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		14
15			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		15
16			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		16
17			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		17
18			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		18
19			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		19
20			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		20

TICK HERE IF CONTINUATION SHEET USED ☐ *TOTAL NUMBER OF ELIGIBLE WOMEN* ☐☐

Just to make sure that I have a complete listing:

1) Are there any other persons such as small children or infants that we have not listed? YES ☐ → ENTER EACH IN TABLE 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? YES ☐ → ENTER EACH IN TABLE NO ☐
3) Do you have any guests or temporary visitors staying here, or anyone else who slept here last night? YES ☐ → ENTER EACH IN TABLE NO ☐

* CODES FOR Q.3
RELATIONSHIP TO HEAD OF HOUSEHOLD:
01= HEAD
02= WIFE OR HUSBAND
03= SON OR DAUGHTER
04= SON OR DAUGHTER-IN-LAW
05= GRANDCHILD
06= PARENT
07= PARENT-IN-LAW
08= BROTHER OR SISTER
09= OTHER RELATIVE
10= ADOPTED/FOSTER CHILD
11= NOT RELATED
98= DK

** CODES FOR Q.9
LEVEL OF EDUCATION:
1= PRIMARY
2= SECONDARY
3= HIGHER
8= DK

GRADE:
00=LESS THAN 1 YEAR COMPLETED
98=DK

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
16	What is the source of water your household uses for handwashing and dishwashing?	PIPED INTO RESIDENCE/YARD/PLOT.....11 PUBLIC TAP.....12 WELL IN RESIDENCE/YARD/PLOT.....21 PUBLIC WELL.....22 SPRING.....31 RIVER/STREAM.....32 POND/LAKE.....33 DAM.....34 RAINWATER.....41 TANKER TRUCK.....51 OTHER_____71 (SPECIFY)	→18 →18 →18
17	How long does it take to go there, get water, and come back?	MINUTES..... ☐☐☐ ON PREMISES.....996	
18	Does your household get drinking water from this same source?	YES.....1 NO.....2	→20
19	What is the source of drinking water for members of your household?	PIPED INTO RESIDENCE/YARD/PLOT.....11 PUBLIC TAP.....12 WELL IN RESIDENCE/YARD/PLOT.....21 PUBLIC WELL.....22 SPRING.....31 RIVER/STREAM.....32 POND/LAKE.....33 DAM.....34 RAINWATER.....41 TANKER TRUCK.....51 OTHER_____71 (SPECIFY)	
20	What kind of toilet facility does your household have?	FLUSH TOILET.....11 TRADITIONAL PIT LATRINE.....21 VENTILATED IMPROVED PIT (VIP) LATRINE.....22 BUCKET.....23 NO FACILITY/BUSH/FIELD.....31 OTHER _____41 (SPECIFY)	
21	Does your household have: Electricity? A radio? A television? A refrigerator?	YES NO ELECTRICITY..... ..1 2 RADIO.....1 2 TELEVISION.....1 2 REFRIGERATOR.....1 2	
22	How many rooms in your household are used for sleeping?	ROOMS..... ☐☐	
23	MAIN MATERIAL OF THE FLOOR. RECORD OBSERVATION.	EARTH/SAND.....11 DUNG.....12 WOOD PLANKS.....21 PALMS/BAMBOO.....22 PARQUET OR POLISHED WOOD.....31 VINYL OR ASPHALT STRIPS.....32 CERAMIC TILES.....33 CEMENT.....34 CARPET.....35 OTHER _____41 (SPECIFY)	
24	Does any member of your household own: A donkey cart or horse? A bicycle? A motorcycle? A car?	YES NO DONKEY CART OR HORSE.....1 2 BICYCLE.....1 2 MOTORCYCLE.....1 2 CAR.....1 2	

NAMIBIA MINISTRY OF HEALTH
AND SOCIAL SERVICES/
CENTRAL STATISTICAL OFFICE

CENSUS DISTRICT..... ☐☐
CENSUS EA CODE..... ☐☐☐

NAMIBIA DEMOGRAPHIC AND HEALTH SURVEY

IDENTIFICATION

PLACE NAME _____

NAME OF HOUSEHOLD HEAD _____

P.S.U. NUMBER..... ☐☐☐

HOUSEHOLD NUMBER..... ☐☐

REGION (Northwest=1, Northeast=2, Central=3, South=4)..... ☐

URBAN/RURAL (urban=1, rural=2)..... ☐

NAME AND LINE NUMBER OF WOMAN _____ ☐☐

INTERVIEWER VISITS

	1	2	3	FINAL VISIT
DATE	_____	_____	_____	DAY ☐☐ MONTH ☐☐ YEAR ☐☐
INTERVIEWER'S NAME	_____	_____	_____	NAME ☐☐
RESULT*	_____	_____	_____	RESULT ☐
NEXT VISIT: DATE TIME	_____ _____	_____ _____		TOTAL NUMBER OF VISITS ☐

*RESULT CODES: 1 COMPLETED 3 POSTPONED 5 PARTLY COMPLETED
2 NOT AT HOME 4 REFUSED 6 OTHER_____ (SPECIFY)

LANGUAGE OF THE QUESTIONNAIRE..... ☐
1 ENGLISH 3 OSHIVAMBO 5 KWANGALI
2 AFRIKAANS 4 HERERO 6 LOZI

TRANSLATOR USED (yes = 1, no = 2)..... ☐

	FIELD EDITED BY	OFFICE EDITED BY	KEYED BY	KEYED BY
NAME DATE	_____ _____	_____ _____	_____ _____	☐☐

SECTION 1. RESPONDENT'S BACKGROUND

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
101	RECORD THE TIME.	HOUR..... ☐☐ MINUTES..... ☐☐	
102	First I would like to ask some questions about you and your household. For most of the time until you were 12 years old, did you live in a city, in a town, or in the countryside?	CITY.....1 TOWN.....2 COUNTRYSIDE.....3	
103	How long have you been living continuously in (NAME OF CURRENT PLACE OF RESIDENCE)?	YEARS..... ☐☐ ALWAYS.....95 VISITOR.....96	→105
104	Just before you moved here, did you live in a city, in a town, or in the countryside?	CITY.....1 TOWN.....2 COUNTRYSIDE.....3	
105	In what month and year were you born?	MONTH..... ☐☐ DK MONTH.....98 YEAR..... ☐☐ DK YEAR.....98	
106	How old were you at your last birthday? COMPARE AND CORRECT 105 AND/OR 106 IF INCONSISTENT.	AGE IN COMPLETED YEARS..... ☐☐	
107	Have you ever attended school?	YES.....1 NO.....2	→111
108	What is the highest level of school you attended: primary, secondary, or higher?	PRIMARY.....1 SECONDARY.....2 HIGHER.....3	
109	What is the highest grade you completed at that level?	GRADE..... ☐☐	
110	CHECK 108: PRIMARY ☐ ↓ SECONDARY OR HIGHER ☐		→112
111	Can you read and understand a letter or newspaper easily, with difficulty, or not at all?	EASILY.....1 WITH DIFFICULTY.....2 NOT AT ALL.....3	→113
112	Do you usually read a newspaper or magazine at least once a week?	YES.....1 NO.....2	
113	Do you usually listen to a radio at least once a week?	YES.....1 NO.....2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
114	Do you usually watch television at least once a week?	YES.....1 NO.....2	
115	What is your religion?	ROMAN CATHOLIC.....1 PROTESTANT.....2 NO RELIGION.....3 OTHER_____4 (SPECIFY)	
116	What is the main language spoken in your home?	ENGLISH.....1 AFRIKAANS.....2 OSHIVAMBO.....3 DAMARA / NAMA.....4 HERERO.....5 KWANGALI.....6 LOZI.....7 TSWANA.....8 SAN.....9 GERMAN.....10 OTHER_____11 (SPECIFY)	
117	CHECK Q.4 IN THE HOUSEHOLD QUESTIONNAIRE THE WOMAN INTERVIEWED IS NOT A USUAL RESIDENT ☐ ↓ THE WOMAN INTERVIEWED IS A USUAL RESIDENT ☐		→129
118	Now I would like to ask about the place in which you usually live. Do you usually live in a city, in a town, or in the countryside? IF CITY: In which city do you live?	CITY.....1 OTHER TOWN.....2 COUNTRYSIDE.....3	
119	In which region is that located?	NORTHWEST.....1 NORTHEAST.....2 CENTRAL.....3 SOUTH.....4	
120	Now I would like to ask about the household in which you usually live. What is the source of water your household uses for handwashing and dishwashing?	PIPED INTO RESIDENCE/YARD/PLOT.....11 PUBLIC TAP.....12 WELL IN RESIDENCE/YARD/PLOT.....21 PUBLIC WELL.....22 SPRING.....31 RIVER/STREAM.....32 POND/LAKE.....33 DAM.....34 RAINWATER.....41 TANKER TRUCK.....51 OTHER_____71 (SPECIFY)	→122 →122 →122
121	How long does it take to go there, get water, and come back?	MINUTES..... ☐☐☐ ON PREMISES.....996	
122	Does your household get drinking water from this same source?	YES.....1 NO.....2	→124

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES
123	What is the source of drinking water for members of your household?	PIPED INTO RESIDENCE/YARD/PLOT.....11 PUBLIC TAP.....12 *WELL IN RESIDENCE/YARD/PLOT*.....21 PUBLIC WELL.....22 SPRING.....31 RIVER/STREAM.....32 POND/LAKE.....33 DAM.....34 RAINWATER.....41 TANKER TRUCK.....51 OTHER _____ 71 (SPECIFY)
124	What kind of toilet facility does your household have?	FLUSH TOILET.....11 TRADITIONAL PIT LATRINE.....21 VENTILATED IMPROVED PIT (VIP) LATRINE.....22 BUCKET.....23 NO FACILITY/BUSH/FIELD.....31 OTHER _____ 41 (SPECIFY)
125	Does your household have: Electricity? A radio? A television? A refrigerator?	YES NO ELECTRICITY.....1 2 RADIO.....1 2 TELEVISION.....1 2 REFRIGERATOR.....1 2
126	How many rooms in your household are used for sleeping?	ROOMS..... ☐☐
127	Could you describe the main material of the floor of your home? Is it: Earth or sand? Dung? Wood planks? Palms or bamboo? Parquet or polished wood? Vinyl or asphalt strips? Ceramic tiles?	EARTH/SAND.....11 DUNG.....12 WOOD PLANKS.....21 PALMS/BAMBOO.....22 PARQUET OR POLISHED WOOD.....31 VINYL OR ASPHALT STRIPS.....32 CERAMIC TILES.....33 CEMENT.....34 CARPET.....35 OTHER _____ 41 (SPECIFY)
128	Does any member of your household own: A donkeycart/horse? A bicycle? A motorcycle? A car?	YES NO DONKEYCART/HORSE.....1 2 BICYCLE.....1 2 MOTORCYCLE.....1 2 CAR.....1 2
129	What is the name of the nearest health facility that provides health services to this (LOCALITY)? _____ (NAME)	☐☐☐
130	How far is it from here (in Km)? (RECORD '000' IF LESS THAN 1 KM. IF UNKNOWN RECORD '998')	KILOMETERS..... ☐☐☐

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
131	How do you get from here to (HEALTH FACILITY NAME)?	CAR / MOTORCYCLE.....1 PUBLIC TRANSPORT (BUS,TAXI).....2 ANIMAL / ANIMAL CART.....3 WALKING.....4 OTHER_____5 (SPECIFY)	→132 →132
131A	FOR RURAL CLUSTERS ONLY: How often per week is motorized transport available to you to go to the facility? (RECORD '00' IF LESS THAN ONCE PER WEEK) IF UNKNOWN RECORD '98')	NO. OF TIMES PER WEEK....	
132	How long does it take you to get from here to (HEALTH FACILITY NAME)? (RECORD IN MINUTES IF LESS THAN 2 HOURS AND IN HOURS IF 2 HOURS OR MORE)	MINUTES.....1 HOURS.....2 0	
133	Does (HEALTH FACILITY NAME) provide: antenatal care? delivery care? child immunization? family planning services?	YES NO DK ANTENATAL CARE.....1 2 8 DELIVERY CARE.....1 2 8 CHILD IMMUNIZATION.....1 2 8 FAMILY PLANNING.....1 2 8	
134	CHECK 129: IS THE NEAREST FACILITY A HOSPITAL?	NO ☐ ↓ YES ☐	→140
135	What is the name of the nearest hospital that provides health services to this locality? _____ (NAME)		
136	How far is it from here (in Km)? (RECORD '000' IF LESS THAN 1 KM. IF UNKNOWN RECORD '998')	KILOMETERS.....	
137	How do you get from here to (HOSPITAL NAME)?	CAR / MOTORCYCLE.....1 PUBLIC TRANSPORT (BUS, TAXI)....2 ANIMAL (CART).....3 WALKING.....4 OTHER_____5 (SPECIFY)	→138 →138
137A	FOR RURAL CLUSTERS ONLY: How often per week is motorized transport available to go to the hospital? (RECORD '00' IF LESS THAN ONCE PER WEEK) IF UNKNOWN RECORD '98')	NO. OF TIMES PER WEEK....	
138	How long does it take you to get from here to (HOSPITAL NAME)? (RECORD IN MINUTES IF LESS THAN 2 HOURS AND IN HOURS IF 2 HOURS OR MORE)	MINUTES.....1 HOURS.....2 0	
139	Does (HOSPITAL NAME) provide: antenatal care? delivery care? child immunization? family planning services?	YES NO DK ANTENATAL CARE.....1 2 8 DELIVERY CARE.....1 2 8 CHILD IMMUNIZATION.....1 2 8 FAMILY PLANNING.....1 2 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
140	Is (THIS LOCALITY) served by a PHC clinic (Mobile outreach)? IF YES, what is the name of the outreach point? IF NO, RECORD '000'. _____ (NAME)	☐☐☐ NO USE OF MOBILE CLINIC 000	→END
141	How far is it from here (in Km)? (RECORD '000' IF LESS THAN 1 KM. IF UNKNOWN RECORD '998')	KILOMETERS..... ☐☐☐	
142	How do you get from here to (OUTREACH POINT)?	CAR / MOTORCYCLE.....1 PUBLIC TRANSPORT (BUS, TAXI)....2 ANIMAL (CART).....3 WALKING.....4 OTHER_____5 (SPECIFY)	→143 →143
142A	FOR RURAL CLUSTERS ONLY: How often per week is motorized transport available to go to the outreach point? (RECORD '00' OF LESS THAN ONCE PER WEEK) IF UNKNOWN RECORD '98')	NO. OF TIMES PER WEEK.... ☐☐	
143	How long does it take you to get from here to (OUTREACH POINT)? (RECORD IN MINUTES IF LESS THAN 2 HOURS AND IN HOURS IF 2 HOURS OR MORE)	MINUTES.....1 ☐☐☐ HOURS.....2 0☐☐	
144	Does (OUTREACH POINT NAME) provide: antenatal care? child immunization? family planning services?	YES NO DK ANTENATAL CARE.....1 2 8 CHILD IMMUNIZATION.....1 2 8 FAMILY PLANNING.....1 2 8	

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. Have you ever given birth?	YES.....1 NO.....2	→206
202	Do you have any sons or daughters to whom you have given birth who are now living with you?	YES.....1 NO.....2	→204
203	How many sons live with you? And how many daughters live with you? IF NONE RECORD '00'.	SONS AT HOME..... DAUGHTERS AT HOME.....	
204	Do you have any sons or daughters to whom you have given birth who are alive but do not live with you?	YES.....1 NO.....2	→206
205	How many sons are alive but do not live with you? And how many daughters are alive but do not live with you? IF NONE RECORD '00'.	SONS ELSEWHERE..... DAUGHTERS ELSEWHERE.....	
206	Have you ever given birth to a boy or a girl who was born alive but later died? IF NO, PROBE: Any baby who cried or showed any sign of life but only survived a few hours or days?	YES.....1 NO.....2	→208
207	In all, how many boys have died? And how many girls have died? IF NONE RECORD '00'.	BOYS DEAD..... GIRLS DEAD.....	
208	SUM ANSWERS TO 203, 205, AND 207, AND ENTER TOTAL. IF NONE RECORD '00'.	TOTAL.....	
209	CHECK 208: Just to make sure that I have this right: you have had in TOTAL ____ births during your life. Is that correct? YES [ ] NO [ ] → PROBE AND CORRECT 201-209 AS NECESSARY		
210	CHECK 208: ONE OR MORE BIRTHS [ ] NO BIRTHS [ ]		→223

211 Now I would like to talk to you about all of your births, whether still alive or not, starting with the first one you had.

RECORD NAMES OF ALL THE BIRTHS IN 212. RECORD TWINS AND TRIPLETS ON SEPARATE LINES.

212 What name was given to your (first,next) baby?	213 RECORD SINGLE OR MULTIPLE BIRTH STATUS.	214 Is (NAME) a boy or a girl?	215 In what month and year was (NAME) born? PROBE: What is his/her birthday? OR: In what season was he/she born?	216 Is (NAME) still alive?	217 IF ALIVE: How old was (NAME) at his/her last birthday? RECORD AGE IN COMPLETED YEARS.	218 IF ALIVE: Is (NAME) living with you?	219 IF LESS THAN 15 YRS. OF AGE: With whom does he/she live? IF 15+: GO TO NEXT BIRTH.	220 IF DEAD: How old was he/she when he/she died? IF "1 YR.", PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN 1 MONTH, MONTHS IF LESS THAN TWO YEARS, OR YEARS.
01 (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR...	YES...1 NO....2 → 220	AGE IN YEARS	YES.....1 (GO TO NEXT BIRTH) NO.....2	FATHER.....1 OTHER RELATIVE.2 SOMEONE ELSE...3 (GO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3
02 (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR...	YES...1 NO....2 → 220	AGE IN YEARS	YES.....1 (GO TO NEXT BIRTH) NO.....2	FATHER.....1 OTHER RELATIVE.2 SOMEONE ELSE...3 (GO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3
03 (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR...	YES...1 NO....2 → 220	AGE IN YEARS	YES.....1 (GO TO NEXT BIRTH) NO.....2	FATHER.....1 OTHER RELATIVE.2 SOMEONE ELSE...3 (GO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3
04 (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR...	YES...1 NO....2 → 220	AGE IN YEARS	YES.....1 (GO TO NEXT BIRTH) NO.....2	FATHER.....1 OTHER RELATIVE.2 SOMEONE ELSE...3 (GO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3
05 (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR...	YES...1 NO....2 → 220	AGE IN YEARS	YES.....1 (GO TO NEXT BIRTH) NO.....2	FATHER.....1 OTHER RELATIVE.2 SOMEONE ELSE...3 (GO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3
06 (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR...	YES...1 NO....2 → 220	AGE IN YEARS	YES.....1 (GO TO NEXT BIRTH) NO.....2	FATHER.....1 OTHER RELATIVE.2 SOMEONE ELSE...3 (GO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3

212 What name was given to your next baby?	213 RECORD SINGLE OR MULTIPLE BIRTH STATUS.	214 Is (NAME) a boy or a girl?	215 In what month and year was (NAME) born? PROBE: What is his/her birthday? OR: In what season?	216 Is (NAME) still alive?	217 IF ALIVE: How old was (NAME) at his/her last birthday? RECORD AGE IN COMPLETED YEARS.	218 IF ALIVE: Is (NAME) living with you?	219 IF LESS THAN 15 YRS. OF AGE: With whom does he/she live? IF 15+: GO TO NEXT BIRTH.	220 IF DEAD: How old was he/she when he/she died? IF "1 YR.", PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN 1 MONTH, MONTHS IF LESS THAN TWO YEARS, OR YEARS.
07 (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR...	YES...1 NO....2 → 220	AGE IN YEARS	YES.....1 (GO TO NEXT BIRTH) NO.....2	FATHER.....1 OTHER RELATIVE.2 SOMEONE ELSE...3 (GO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3
08 (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR...	YES...1 NO....2 → 220	AGE IN YEARS	YES.....1 (GO TO NEXT BIRTH) NO.....2	FATHER.....1 OTHER RELATIVE.2 SOMEONE ELSE...3 (GO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3
09 (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR...	YES...1 NO....2 → 220	AGE IN YEARS	YES.....1 (GO TO NEXT BIRTH) NO.....2	FATHER.....1 OTHER RELATIVE.2 SOMEONE ELSE...3 (GO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3
10 (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR...	YES...1 NO....2 → 220	AGE IN YEARS	YES.....1 (GO TO NEXT BIRTH) NO.....2	FATHER.....1 OTHER RELATIVE.2 SOMEONE ELSE...3 (GO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3
11 (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR...	YES...1 NO....2 → 220	AGE IN YEARS	YES.....1 (GO TO NEXT BIRTH) NO.....2	FATHER.....1 OTHER RELATIVE.2 SOMEONE ELSE...3 (GO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3
12 (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR...	YES...1 NO....2 → 220	AGE IN YEARS	YES.....1 (GO TO NEXT BIRTH) NO.....2	FATHER.....1 OTHER RELATIVE.2 SOMEONE ELSE...3 (GO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3

212 What name was given to your next baby?	213 RECORD SINGLE OR MULTIPLE BIRTH STATUS.	214 Is (NAME) a boy or a girl?	215 In what month and year was (NAME) born? PROBE: What is his/her birthday? OR: In what season?	216 Is (NAME) still alive?	217 IF ALIVE: How old was (NAME) at his/her last birthday? RECORD AGE IN COMPLETED YEARS.	218 IF ALIVE: Is (NAME) living with you?	219 IF LESS THAN 15 YRS. OF AGE: With whom does he/she live? IF 15+: GO TO NEXT BIRTH.	220 IF DEAD: How old was he/she when he/she died? IF "1 YR.", PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN 1 MONTH, MONTHS IF LESS THAN TWO YEARS, OR YEARS.
13 ____ (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR...	YES...1 NO....2 → 220	AGE IN YEARS	YES.....1 (GO TO NEXT BIRTH) NO.....2	FATHER.....1 OTHER RELATIVE.2 SOMEONE ELSE...3 (GO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3
14 ____ (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR...	YES...1 NO....2 → 220	AGE IN YEARS	YES.....1 (GO TO NEXT BIRTH) NO.....2	FATHER.....1 OTHER RELATIVE.2 SOMEONE ELSE...3 (GO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3

221 COMPARE 208 WITH NUMBER OF BIRTHS IN HISTORY ABOVE AND MARK:

NUMBERS ARE SAME ☐ ↓

NUMBERS ARE DIFFERENT ☐ → (PROBE AND RECONCILE)

CHECK: FOR EACH BIRTH: YEAR OF BIRTH IS RECORDED. ☐

FOR EACH LIVING CHILD: CURRENT AGE IS RECORDED. ☐

FOR EACH DEAD CHILD: AGE AT DEATH IS RECORDED. ☐

FOR AGE AT DEATH 12 MONTHS: PROBE TO DETERMINE EXACT NUMBER OF MONTHS. ☐

222 CHECK 215 AND ENTER THE NUMBER OF BIRTHS SINCE JANUARY 1987. IF NONE, RECORD 0. ☐

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
223	Are you pregnant now?	YES.....1 NO.....2 UNSURE.....8	→226
224	How many months pregnant are you?	MONTHS..... ☐☐	
225	At the time you became pregnant, did you want to become pregnant <u>then</u>, did you want to wait until <u>later</u>, or did you <u>not</u> want to become pregnant at all?	THEN.....1 LATER.....2 NOT AT ALL.....3	
226	When did your last menstrual period start?	DAYS AGO.....1 ☐☐ WEEKS AGO.....2 ☐☐ MONTHS AGO.....3 ☐☐ YEARS AGO.....4 ☐☐ IN MENOPAUSE.....994 BEFORE LAST BIRTH.....995 NEVER MENSTRUATED.....996	
227	Between the first day of a woman's period and the first day of her <u>next</u> period, are there certain times when she has a greater chance of becoming pregnant than other times?	YES.....1 NO.....2 DK.....8	→301
228	During which times of the monthly cycle does a women have 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 OTHER _____ 5 (SPECIFY) DK.....8	

SECTION 3. CONTRACEPTION

301 Now I would like to talk about family planning - the various ways or methods that a couple can use to delay or avoid a pregnancy. Which ways or methods have you heard about?

CIRCLE CODE 1 IN 302 FOR EACH METHOD MENTIONED SPONTANEOUSLY.
THEN PROCEED DOWN THE COLUMN, READING THE NAME AND DESCRIPTION OF EACH METHOD NOT MENTIONED SPONTANEOUSLY.
CIRCLE CODE 2 IF METHOD IS RECOGNIZED, AND CODE 3 IF NOT RECOGNIZED.
THEN, FOR EACH METHOD WITH CODE 1 OR 2 CIRCLED IN 302, ASK 303-304 BEFORE PROCEEDING TO THE NEXT METHOD.

	302 Have you ever heard of (METHOD)? READ DESCRIPTION OF EACH METHOD.	303 Have you ever used (METHOD)?	304 Do you know where a person could go to get (METHOD)?
01 PILL Women can take a pill every day.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	YES.....1 NO.....2
02 IUD Women can have a loop or coil placed inside them by a doctor or a nurse.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	YES.....1 NO.....2
03 INJECTIONS Women can have an injection by a doctor or nurse which stops them from becoming pregnant for several months.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	YES.....1 NO.....2
04 DIAPHRAGM,FOAM,JELLY Women can place a sponge, suppository, diaphragm, jelly or cream inside them before intercourse.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	YES.....1 NO.....2
05 CONDOM Men can use a rubber sheath during sexual intercourse.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	YES.....1 NO.....2
06 FEMALE STERILIZATION Women can have an operation to avoid having any more children.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	Have you ever had an operation to avoid having any more children? YES.....1 NO.....2	YES.....1 NO.....2
07 MALE STERILIZATION Men can have an operation to avoid having any more children.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	YES.....1 NO.....2
08 PERIODIC ABSTINENCE Couples can avoid having sexual intercourse on certain days of the month when the woman is more likely to become pregnant.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	Do you know where a person can obtain advice on how to use periodic abstinence? YES.....1 NO.....2
09 WITHDRAWAL Men can be careful and pull out before climax.	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	
10 Have you heard of any other ways or methods that women or men can use to avoid pregnancy? 1 _____ (SPECIFY) 2 _____ (SPECIFY) 3 _____ (SPECIFY)	YES/SPONT.....1 NO.....3	YES.....1 NO.....2 YES.....1 NO.....2 YES.....1 NO.....2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
305	CHECK 303: NOT A SINGLE "YES" (NEVER USED) ☐ AT LEAST ONE "YES" (EVER USED) ☐ → SKIP TO 308		
306	Have you ever used anything or tried in any way to delay or avoid getting pregnant?	YES..... ☐ NO..... ☐ → 324	
307	What have you used or done? CORRECT 303-305 (AND 302 IF NECESSARY).		
308	Now I would like to ask you about the time when you first did something or used a method to avoid getting pregnant. How many living children did you have at that time, if any? IF NONE, RECORD '00'.	NUMBER OF CHILDREN..... ☐☐	
309	CHECK 223: NOT PREGNANT OR UNSURE ☐ PREGNANT ☐ → 324		
310	CHECK 303: WOMAN NOT STERILIZED ☐ WOMAN STERILIZED ☐ → 312A		
311	Are you currently doing something or using any method to delay or avoid getting pregnant?	YES.....1 NO.....2 → 324	
312 312A	Which method are you using? CIRCLE '06' FOR FEMALE STERILIZATION.	PILL.....01 IUD.....02 INJECTIONS.....03 DIAPHRAGM/FOAM/JELLY.....04 CONDOM.....05 FEMALE STERILIZATION.....06 MALE STERILIZATION.....07 PERIODIC ABSTINENCE.....08 WITHDRAWAL.....09 OTHER _____ 10 (SPECIFY)	01-07 → 318 08-10 → 323
313	At the time you first started using the pill, did you consult a doctor or a nurse ?	YES.....1 NO.....2 DK.....8	
314	At the time you last got pills, did you consult a doctor or a nurse?	YES.....1 NO.....2	
315	May I see the package of pills you are using now? RECORD NAME OF BRAND.	TRIPHASIT.....1 OVRAL.....2 MICROVAL.....3 NORDETTE.....4 OTHER _____ 5 (SPECIFY) PACKAGE NOT SEEN.....6	1-5 → 317

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
316	Do you know the brand name of the pills you are now using? RECORD NAME OF BRAND.	TRIPHASIT..... 1 OVRAL.....2 MICROVAL.....3 NORDETTE.....4 OTHER_____5 (SPECIFY) DK.....8	
317	How much does one (packet/cycle) of pills cost you?	COST (rand)..... ☐☐.☐☐ FREE.....996 DK.....998	
318	CHECK 312: SHE/HE STERILIZED ☐ → Where did the sterilization take place? USING ANOTHER METHOD ☐ → Where did you obtain (METHOD) the last time? _____ (NAME OF PLACE)	GOVERNMENT HOSPITAL.....11 GOVERNMENT HEALTH CENTER / GOVERNMENT CLINIC.....12 PHC CLINIC (MOBILE).....13 FIELD WORKER.....14 →321 PRIVATE DOCTOR.....21 PRIVATE HOSPITAL OR CLINIC.....22 PHARMACY.....23 SHOP.....31 FRIENDS/RELATIVES.....32 OTHER _____41 (SPECIFY) DK.....98 →321	
319	How long does it take to travel from your home to this place? IF 90 MINUTES OR LESS, RECORD MINUTES. OTHERWISE, RECORD HOURS.	MINUTES.....1 ☐☐ HOURS.....2 ☐☐ DK.....998	
320	Is it easy or difficult to get there?	EASY.....1 DIFFICULT.....2	
321	CHECK 312: SHE/HE STERILIZED ☐ → USING ANOTHER METHOD ☐ →		→323
322	In what month and year was the sterilization operation performed?	MONTH..... ☐☐ YEAR..... ☐☐ →329	
323	For how many months have you been using (CURRENT METHOD) continuously? IF LESS THAN 1 MONTH, RECORD '00'.	MONTHS..... ☐☐ →329 8 YEARS OR LONGER.....96	
324	Do you intend to use a method to delay or avoid pregnancy at any time in the future?	YES.....1 →326 NO.....2 DK.....8 →330	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
325	What is the main reason you do not intend to use a method?	WANTS CHILDREN.....01 LACK OF KNOWLEDGE.....02 PARTNER OPPOSED.....03 COST TOO MUCH.....04 SIDE EFFECTS.....05 HEALTH CONCERNS.....06 HARD TO GET METHODS.....07 RELIGION.....08 OPPOSED TO FAMILY PLANNING.....09 FATALISTIC.....10 OTHER PEOPLE OPPOSED.....11 INFREQUENT SEX.....12 DIFFICULT TO GET PREGNANT.....13 MENOPAUSAL/HAD HYSTERECTOMY....14 INCONVENIENT.....15 NOT MARRIED.....16 OTHER _____ 17 (SPECIFY) DK.....98	→330
326	Do you intend to use a method within the next 12 months?	YES.....1 NO.....2 DK.....8	
327	When you use a method, which method would you prefer to use?	PILL.....01 IUD.....02 INJECTIONS.....03 DIAPHRAGM/FOAM/JELLY.....04 CONDOM.....05 FEMALE STERILIZATION.....06 MALE STERILIZATION.....07 PERIODIC ABSTINENCE.....08 WITHDRAWAL.....09 OTHER _____ 10 (SPECIFY) UNSURE.....98	→330
328	Where can you get (METHOD MENTIONED IN 327)? _____ (NAME OF PLACE)	GOVERNMENT HOSPITAL.....11 GOVERNMENT HEALTH CENTER / GOVERNMENT CLINIC.....12 PHC CLINIC (MOBILE).....13 FIELD WORKER.....14 PRIVATE DOCTOR.....21 PRIVATE HOSPITAL OR CLINIC.....22 PHARMACY.....23 SHOP.....31 FRIENDS/RELATIVES.....32 OTHER _____ 41 (SPECIFY) DK.....98	→332 →334 →332 →332 →334 →330

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
329	CHECK 312: USING PERIODIC ABSTINENCE, WITHDRAWAL, OTHER TRADITIONAL METHOD ☐	USING A MODERN METHOD ☐	→334
330	Do you know of a place where you can obtain a method of family planning?	YES.....1 NO.....2	→334
331	Where is that? _____ (NAME OF PLACE)	GOVERNMENT HOSPITAL.....11 GOVERNMENT HEALTH CENTER / GOVERNMENT CLINIC.....12 PHC CLINIC (MOBILE).....13 FIELD WORKER.....14 →334 PRIVATE DOCTOR.....21 PRIVATE HOSPITAL OR CLINIC.....22 PHARMACY.....23 SHOP.....31 FRIENDS/RELATIVES.....32 OTHER _____ (SPECIFY) 41 →334	
332	How long does it take to travel from your home to this place? IF LESS THAN 2 HOURS, RECORD MINUTES. OTHERWISE, RECORD HOURS.	MINUTES.....1 ☐☐ HOURS.....2 0 ☐☐ DK.....9998	
333	Is it easy or difficult to get there?	EASY.....1 DIFFICULT.....2	
334	Is it acceptable or not acceptable to you for family planning information to be provided on the radio or television?	ACCEPTABLE.....1 NOT ACCEPTABLE.....2 DK.....8	

401 CHECK 222:
ONE OR MORE BIRTHS SINCE JAN. 1987 ☐ V
NO BIRTHS SINCE JAN. 1987 ☐ → (SKIP TO 501)

402 ENTER THE LINE NUMBER, NAME, AND SURVIVAL STATUS OF EACH BIRTH SINCE JANUARY 1987 IN THE TABLE. ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS. BEGIN WITH THE LAST BIRTH. (IF THERE ARE MORE THAN 3 BIRTHS, USE ADDITIONAL FORMS).

Now I would like to ask you some more questions about the health of all your children born in the past five years. (We will talk about one child at a time.)

	LINE NUMBER FROM Q. 212	☐☐	☐☐	☐☐
	FROM Q. 212 AND Q. 216	LAST BIRTH NAME _____ ALIVE ☐ V DEAD ☐ V	NEXT-TO-LAST BIRTH NAME _____ ALIVE ☐ V DEAD ☐ V	SECOND-FROM-LAST BIRTH NAME _____ ALIVE ☐ V DEAD ☐ V
403	At the time you became pregnant with (NAME), did you want to become pregnant then, did you want to wait until later or did you want no more children at all?	THEN.....1 (SKIP TO 405) ← LATER.....2 NO MORE.....3 (SKIP TO 405) ←	THEN.....1 (SKIP TO 405) ← LATER.....2 NO MORE.....3 (SKIP TO 405) ←	THEN.....1 (SKIP TO 405) ← LATER.....2 NO MORE.....3 (SKIP TO 405) ←
404	How much longer would you like to have waited?	MONTHS.....1 ☐☐ YEARS.....2 ☐☐ DK.....998	MONTHS.....1 ☐☐ YEARS.....2 ☐☐ DK.....998	MONTHS.....1 ☐☐ YEARS.....2 ☐☐ DK.....998
405	When you were pregnant with (NAME), did you see anyone for antenatal care for this pregnancy? IF YES, Whom did you see? Anyone else? RECORD ALL PERSONS SEEN.	DOCTOR.....A NURSE/MIDWIFE.....B TRADITIONAL BIRTH ATTENDANT.....C OTHER _____ (SPECIFY) D NO ONE.....E (SKIP TO 409) ←	DOCTOR.....A NURSE/MIDWIFE.....B TRADITIONAL BIRTH ATTENDANT.....C OTHER _____ (SPECIFY) D NO ONE.....E (SKIP TO 409) ←	DOCTOR.....A NURSE/MIDWIFE.....B TRADITIONAL BIRTH ATTENDANT.....C OTHER _____ (SPECIFY) D NO ONE.....E (SKIP TO 409) ←
406	Were you given an antenatal card for this pregnancy?	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8
407	How many months pregnant were you when you first saw someone for an antenatal check on this pregnancy?	MONTHS..... ☐☐ DK.....98	MONTHS..... ☐☐ DK.....98	MONTHS..... ☐☐ DK.....98
408	How many antenatal visits did you have during this pregnancy?	NO. OF VISITS..... ☐☐ DK.....98	NO. OF VISITS..... ☐☐ DK.....98	NO. OF VISITS..... ☐☐ DK.....98
409	When you were pregnant with (NAME) were you given an injection in the upper arm to prevent the baby from getting tetanus, that is, convulsions after birth?	YES.....1 NO.....2 (SKIP TO 411) ← DK.....8	YES.....1 NO.....2 (SKIP TO 411) ← DK.....8	YES.....1 NO.....2 (SKIP TO 411) ← DK.....8
410	During this pregnancy how many times did you get this injection?	TIMES..... ☐ DK.....8	TIMES..... ☐ DK.....8	TIMES..... ☐ DK.....8

		LAST BIRTH NAME __________	NEXT-TO-LAST BIRTH NAME __________	SECOND-FROM-LAST BIRTH NAME __________
411	Where did you give birth to (NAME)?	YOUR HOME................11 OTHER HOME...............12 GVT. HOSPITAL............21 GVT. HEALTH CENTER.......22 GVT. HEALTH CLINIC.......23 PRIVATE HOSPITAL/CLINIC..31 OTHER__________41 (SPECIFY)	YOUR HOME................11 OTHER HOME...............12 GVT. HOSPITAL............21 GVT. HEALTH CENTER.......22 GVT. HEALTH CLINIC.......23 PRIVATE HOSPITAL/CLINIC..31 OTHER__________41 (SPECIFY)	YOUR HOME................11 OTHER HOME...............12 GVT. HOSPITAL............21 GVT. HEALTH CENTER.......22 GVT. HEALTH CLINIC.......23 PRIVATE HOSPITAL/CLINIC..31 OTHER__________41 (SPECIFY)
412A	Who assisted with the delivery of (NAME)? Anyone else? PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS ASSISTING.	DOCTOR...................A NURSE/MIDWIFE............B TRADITIONAL BIRTH ATTENDANT..............C RELATIVE.................D OTHER__________E (SPECIFY) NO ONE...................F	DOCTOR...................A NURSE/MIDWIFE............B TRADITIONAL BIRTH ATTENDANT..............C RELATIVE.................D OTHER__________E (SPECIFY) NO ONE...................F	DOCTOR...................A NURSE/MIDWIFE............B TRADITIONAL BIRTH ATTENDANT..............C RELATIVE.................D OTHER__________E (SPECIFY) NO ONE...................F
412B	Did you experience any complications during labor and/or delivery of (NAME)? IF YES, What kind of problem(s) did you have? RECORD ALL PROBLEMS LISTED.	LABOR MORE THAN 24 HOURS..A EXCESSIVE BLEEDING........B CONVULSIONS...............C MALPRESENTATION...........D (Breech, transverse) MULTIPLE PREGNANCY........E HIGH FEVER................F OTHER__________G (SPECIFY) NONE......................H	LABOR MORE THAN 24 HOURS..A EXCESSIVE BLEEDING........B CONVULSIONS...............C MALPRESENTATION...........D (Breech, transverse) MULTIPLE PREGNANCY........E HIGH FEVER................F OTHER__________G (SPECIFY) NONE......................H	LABOR MORE THAN 24 HOURS..A EXCESSIVE BLEEDING........B CONVULSIONS...............C MALPRESENTATION...........D (Breech, transverse) MULTIPLE PREGNANCY........E HIGH FEVER................F OTHER__________G (SPECIFY) NONE......................H
413	Was (NAME) born on time or prematurely?	ON TIME.................1 PREMATURELY.............2 DK......................8	ON TIME.................1 PREMATURELY.............2 DK......................8	ON TIME.................1 PREMATURELY.............2 DK......................8
414	Was (NAME) delivered by caesarian section?	YES.....................1 NO......................2	YES.....................1 NO......................2	YES.....................1 NO......................2
415	When (NAME) was born, was he/she: very large, larger than average, average, smaller than average, or very small?	VERY LARGE...............1 LARGER THAN AVERAGE......2 AVERAGE..................3 SMALLER THAN AVERAGE.....4 VERY SMALL...............5 DK.......................8	VERY LARGE...............1 LARGER THAN AVERAGE......2 AVERAGE..................3 SMALLER THAN AVERAGE.....4 VERY SMALL...............5 DK.......................8	VERY LARGE...............1 LARGER THAN AVERAGE......2 AVERAGE..................3 SMALLER THAN AVERAGE.....4 VERY SMALL...............5 DK.......................8
416	Was (NAME) weighed at birth?	YES.....................1 NO......................2 (SKIP TO 418)	YES.....................1 NO......................2 (SKIP TO 419)	YES.....................1 NO......................2 (SKIP TO 419)
417	How much did (NAME) weigh?	GRAMS........ [ ][ ][ ][ ] DK.....................98	GRAMS........ [ ][ ][ ][ ] DK.....................98	GRAMS........ [ ][ ][ ][ ] DK.....................98
418	Has your period returned since the birth of (NAME)?	YES ....1 (SKIP TO 420) NO......................2 (SKIP TO 421)		
419	Did your period return between the birth of (NAME) and your next pregnancy?		YES ....1 NO......................2 (SKIP TO 423)	YES ....1 NO......................2 (SKIP TO 423)
420	For how many months after the birth of (NAME) did you <u>not</u> have a period?	MONTHS............. [ ][ ] DK.....................98	MONTHS............. [ ][ ] DK.....................98	MONTHS............. [ ][ ] DK.....................98

		LAST BIRTH NAME ______	NEXT-TO-LAST BIRTH NAME ______	SECOND-FROM-LAST BIRTH NAME ______
421	CHECK 223: RESPONDENT PREGNANT?	NOT PREGNANT ☐ PREGNANT OR UNSURE ☐ (SKIP TO 423)		
422	Have you resumed sexual relations since the birth of (NAME)?	YES......................1 NO.......................2 (SKIP TO 424)		
423	For how many months after the birth of (NAME) did you not have sexual relations?	MONTHS.............. ☐☐ DK......................98	MONTHS.............. ☐☐ DK......................98	MONTHS.............. ☐☐ DK......................98
424	Did you ever breastfeed (NAME)?	YES......................1 (SKIP TO 426) NO.......................2	YES......................1 (SKIP TO 433) NO.......................2	YES......................1 (SKIP TO 433) NO.......................2
425	Why did you not breastfeed (NAME)?	MOTHER ILL/WEAK.........01 CHILD ILL/WEAK..........02 CHILD DIED..............03 NIPPLE/BREAST PROBLEM...04 INSUFFICIENT MILK.......05 MOTHER WORKING..........06 CHILD REFUSED...........07 OTHER______________08 (SPECIFY) (SKIP TO 435)	MOTHER ILL/WEAK.........01 CHILD ILL/WEAK..........02 CHILD DIED..............03 NIPPLE/BREAST PROBLEM...04 INSUFFICIENT MILK.......05 MOTHER WORKING..........06 CHILD REFUSED...........07 OTHER______________08 (SPECIFY) (SKIP TO 435)	MOTHER ILL/WEAK.........01 CHILD ILL/WEAK..........02 CHILD DIED..............03 NIPPLE/BREAST PROBLEM...04 INSUFFICIENT MILK.......05 MOTHER WORKING..........06 CHILD REFUSED...........07 OTHER______________08 (SPECIFY) (SKIP TO 435)
426	How long after birth did you first put (NAME) to the breast? IF LESS THAN 1 HOUR, RECORD '00' HOURS. IF LESS THAN 24 HOURS, RECORD HOURS. OTHERWISE, RECORD DAYS.	IMMEDIATELY............000 HOURS..............1 ☐☐ DAYS...............2 ☐☐		
427	CHECK 216: CHILD ALIVE?	ALIVE ☐ DEAD ☐ (SKIP TO 433)		
428	Are you still breast-feeding (NAME)?	YES......................1 NO.......................2 (SKIP TO 433)		
429	How many times did you breastfeed last night between sunset and sunrise? IF ANSWER IS NOT NUMERIC, PROBE FOR APPROXIMATE NO.	NUMBER OF NIGHTTIME FEEDINGS ☐☐		
430	How many times did you breastfeed yesterday during the daylight hours? IF ANSWER IS NOT NUMERIC, PROBE FOR APPROXIMATE NO.	NUMBER OF DAYLIGHT FEEDINGS ☐☐		

		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
431	At any time yesterday or last night was (NAME) given any of the following? Plain water? Sugar water? Juice? Herbal tea? Baby formula? Fresh /sour milk? Tinned or powdered milk? Other liquids? Any solid or mushy food?	YES NO PLAIN WATER.....1 2 SUGAR WATER.....1 2 JUICE.....1 2 HERBAL TEA.....1 2 BABY FORMULA.....1 2 FRESH/SOUR MILK.....1 2 TINNED/POWDERED MILK.1 2 OTHER LIQUIDS.....1 2 SOLID/MUSHY FOOD.....1 2		
432	CHECK 431. FOOD OR LIQUID GIVEN YESTERDAY?	"YES" TO ONE OR MORE → (SKIP TO 437) "NO" TO ALL → (SKIP TO 436)		
433	For how many months did you breastfeed (NAME)?	MONTHS.. ... . [ ] UNTIL DIED.....96 (SKIP TO 436)	MONTHS..... [ ] UNTIL DIED.....96 (SKIP TO 436)	MONTHS..... [ ] UNTIL DIED.....96 (SKIP TO 436)
434	Why did you stop breastfeeding (NAME)?	MOTHER ILL/WEAK.....01 CHILD ILL/WEAK.....02 CHILD DIED.....03 NIPPLE/BREAST PROBLEM...04 INSUFFICIENT MILK.....05 MOTHER WORKING.....06 CHILD REFUSED..... ....07 WEANING AGE..... 08 BECAME PREGNANT.....09 STARTED USING CONTRACEPTION.....10 OTHER_____11 (SPECIFY)	MOTHER ILL/WEAK.....01 CHILD ILL/WEAK.....02 CHILD DIED.....03 NIPPLE/BREAST PROBLEM...04 INSUFFICIENT MILK.....05 MOTHER WORKING.....06 CHILD REFUSED.....07 WEANING AGE.....08 BECAME PREGNANT.....09 STARTED USING CONTRACEPTION.....10 OTHER_____11 (SPECIFY)	MOTHER ILL/WEAK..... ...01 CHILD ILL/WEAK.....02 CHILD DIED.....03 NIPPLE/BREAST PROBLEM...04 INSUFFICIENT MILK.....05 MOTHER WORKING.....06 CHILD REFUSED.....07 WEANING AGE.....08 BECAME PREGNANT.....09 STARTED USING CONTRACEPTION.....10 OTHER_____11 (SPECIFY)
435	CHECK 216 CHILD ALIVE?	ALIVE → (SKIP TO 437) DEAD	ALIVE → (SKIP TO 437) DEAD	ALIVE → (SKIP TO 437) DEAD
436	Was (NAME) ever given water or anything else to drink or eat (other than breastmilk)?	YES.....1 NO.....2 (SKIP TO 440)	YES.....1 NO.....2 (SKIP TO 440)	YES.. .....1 NO.....2 (SKIP TO 440)

		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
437	How many months old was (NAME) when you started giving the following on a regular basis?: Formula or milk other than breastmilk?	AGE IN MONTHS..... ☐☐ NOT GIVEN.....96	AGE IN MONTHS..... ☐☐ NOT GIVEN.....96	AGE IN MONTHS..... ☐☐ NOT GIVEN.....96
	Plain water?	AGE IN MONTHS..... ☐☐ NOT GIVEN.....96	AGE IN MONTHS..... ☐☐ NOT GIVEN.....96	AGE IN MONTHS..... ☐☐ NOT GIVEN.....96
	Other liquids?	AGE IN MONTHS..... ☐☐ NOT GIVEN.....96	AGE IN MONTHS..... ☐☐ NOT GIVEN.....96	AGE IN MONTHS..... ☐☐ NOT GIVEN.....96
	Any solid or mushy food?	AGE IN MONTHS..... ☐☐ NOT GIVEN.....96	AGE IN MONTHS..... ☐☐ NOT GIVEN.....96	AGE IN MONTHS..... ☐☐ NOT GIVEN.....96
	IF LESS THAN 1 MONTH, RECORD '00'.		(SKIP TO 440)	(SKIP TO 440)
438	CHECK 216: CHILD ALIVE?	ALIVE ☐ DEAD ☐ (SKIP TO 440)		
439	Did (NAME) drink anything from a bottle with a nipple *yesterday or last night?*	YES.....1 NO.....2 *DK*.....8		
440	GO BACK TO 403 FOR NEXT BIRTH; OR, IF NO MORE BIRTHS, GO TO FIRST COLUMN OF 441			

441 ENTER THE LINE NUMBER, NAME, AND SURVIVAL STATUS OF EACH BIRTH SINCE JANUARY 1987 IN THE TABLE. ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS. BEGIN WITH THE LAST BIRTH. (IF THERE ARE MORE THAN 3 BIRTHS, USE ADDITIONAL FORMS).

	LINE NUMBER FROM Q. 212	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
442	Do you have a health passport or card where (NAME'S) vaccinations are written down? IF YES: May I see it, please?	YES, SEEN.....1 (SKIP TO 444) YES, NOT SEEN.....2 (SKIP TO 446) NO CARD.....3	YES, SEEN.....1 (SKIP TO 444) YES, NOT SEEN.....2 (SKIP TO 446) NO CARD.....3	YES, SEEN.....1 (SKIP TO 444) YES, NOT SEEN.....2 (SKIP TO 446) NO CARD.....3
443	Did you ever have a health passport or vaccination card for (NAME)?	YES.....1 (SKIP TO 446) NO.....2	YES.....1 (SKIP TO 446) NO.....2	YES.....1 (SKIP TO 446) NO.....2
444	(1) COPY VACCINATION DATES FOR EACH VACCINE FROM THE CARD. (2) WRITE '44' IN 'DAY' COLUMN, IF CARD SHOWS THAT A VACCINATION WAS GIVEN, BUT NO DATE RECORDED. POLIO 0 BCG POLIO 1 DPT 1 POLIO 2 DPT 2 POLIO 3 DPT 3 MEASLES	DAY MO YR P0 BCG P1 D1 P2 D2 P3 D3 MEA	DAY MO YR P0 BCG P1 D1 P2 D2 P3 D3 MEA	DAY MO YR P0 BCG P1 D1 P2 D2 P3 D3 MEA
445	Has (NAME) received any vaccinations that are not recorded on this card? RECORD 'YES' ONLY IF RESPONDENT MENTIONS BCG, DPT 1-3, POLIO 1-3 AND/OR MEASLES VACCINE(S).	YES.....1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 444) NO.....2 DK.....8 (SKIP TO 447A)	YES.....1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 444) NO.....2 DK.....8 (SKIP TO 447A)	YES.....1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 444) NO.....2 DK.....8 (SKIP TO 447A)
446	Did (NAME) ever receive any vaccinations to prevent him/her from getting diseases?	YES.....1 NO.....2 (SKIP TO 447A) DK.....8	YES.....1 NO.....2 (SKIP TO 447A) DK.....8	YES.....1 NO.....2 (SKIP TO 447A) DK.....8

		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
447	Please tell me if (NAME) (has) received any of the following vaccinations:			
	A BCG vaccination against tuberculosis, that is, an injection in the left upper arm that caused a scar? a scar?	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8
	Polio vaccine, that is, drops in the mouth?	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8
	IF YES: How many times?	NUMBER OF TIMES.....	NUMBER OF TIMES.....	NUMBER OF TIMES.....
	An injection against measles?	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8
447A	Did (NAME) ever have measles?	YES.....1 NO.....2 (SKIP TO 448) DK.....8	YES.....1 NO.....2 (SKIP TO 448) DK.....8	YES.....1 NO.....2 (SKIP TO 448) DK.....8
447B	How old was (NAME) when he/she had measles? RECORD IN MONTHS IF LESS THAN 2 YEARS. OTHERWISE RECORD IN YEARS.	MONTHS.....1 YEARS.....2 DK.....998	MONTHS.....1 YEARS.....2 DK.....998	MONTHS.....1 YEARS.....2 DK.....998
448	CHECK 216: CHILD ALIVE?	ALIVE DEAD (SKIP TO 450)	ALIVE DEAD (SKIP TO 450)	ALIVE DEAD (SKIP TO 450)
449	GO BACK TO 442 FOR NEXT BIRTH; OR, IF NO MORE BIRTHS, SKIP TO 477.			
450	Has (NAME) been ill with a fever at any time in the last 2 weeks?	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8
451	Has (NAME) been ill with a cough at any time in the last 2 weeks?	YES.....1 NO.....2 (SKIP TO 455) DK.....8	YES.....1 NO.....2 (SKIP TO 455) DK.....8	YES.....1 NO.....2 (SKIP TO 455) DK.....8
452	Has (NAME) been ill with a cough in the last 24 hours?	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8
453	For how many days (has the cough lasted/did the cough last)? IF LESS THAN 1 DAY, RECORD '00'.	DAYS.....	DAYS.....	DAYS.....
454	When (NAME) had the illness with a cough, did he/she breathe faster than usual with short, rapid breaths?	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8

		LAST BIRTH NAME ______	NEXT-TO-LAST BIRTH NAME ______	SECOND-FROM-LAST BIRTH NAME ______
455	CHECK 450 AND 451: FEVER OR COUGH?	"YES" IN EITHER 450 OR 451 [ ] OTHER [ ] →(SKIP TO 460)	"YES" IN EITHER 450 OR 451 [ ] OTHER [ ] →(SKIP TO 460)	"YES" IN EITHER 450 OR 451 [ ] OTHER [ ] →(SKIP TO 460)
456	Was anything given to treat the fever/cough?	YES......................1 NO.......................2 (SKIP TO 458)← DK.......................8	YES......................1 NO.......................2 (SKIP TO 458)← DK.......................8	YES......................1 NO.......................2 (SKIP TO 458)← DK.......................8
457	What was given to treat the fever/cough? Anything else? RECORD ALL MENTIONED.	INJECTION................A ANTIBIOTIC (PILL OR SYRUP).........B ANTIMALARIAL (PILL OR SYRUP).........C COUGH SYRUP..............D OTHER PILL OR SYRUP......E UNKNOWN PILL OR SYRUP....F HOME REMEDY/ HERBAL MEDICINE.........G OTHER ______ H (SPECIFY)	INJECTION................A ANTIBIOTIC (PILL OR SYRUP).........B ANTIMALARIAL (PILL OR SYRUP).........C COUGH SYRUP..............D OTHER PILL OR SYRUP......E UNKNOWN PILL OR SYRUP....F HOME REMEDY/ HERBAL MEDICINE.........G OTHER ______ H (SPECIFY)	INJECTION................A ANTIBIOTIC (PILL OR SYRUP).........B ANTIMALARIAL (PILL OR SYRUP).........C COUGH SYRUP..............D OTHER PILL OR SYRUP......E UNKNOWN PILL OR SYRUP....F HOME REMEDY/ HERBAL MEDICINE.........G OTHER ______ H (SPECIFY)
458	Did you seek advice or consultation for the fever/cough?	YES......................1 NO.......................2 (SKIP TO 460)←	YES......................1 NO.......................2 (SKIP TO 460)←	YES......................1 NO.......................2 (SKIP TO 460)←
459	Where did you seek advice or consultation? Anywhere else? RECORD ALL MENTIONED.	GVT. HOSPITAL.............A GVT. HEALTH CENTER........B GVT. CLINIC...............C PHC CLINIC (MOBILE).......D COMMUNITY HEALTH WORKER...E PVT. HOSPITAL/CLINIC......F PHARMACY..................G PRIVATE DOCTOR............H SHOP......................J TRADITIONAL PRACTITIONER.............K OTHER ______ L (SPECIFY)	GVT. HOSPITAL.............A GVT. HEALTH CENTER........B GVT. CLINIC...............C PHC CLINIC (MOBILE).......D COMMUNITY HEALTH WORKER...E PVT. HOSPITAL/CLINIC......F PHARMACY..................G PRIVATE DOCTOR............H SHOP......................J TRADITIONAL PRACTITIONER.............K OTHER ______ L (SPECIFY)	GVT. HOSPITAL.............A GVT. HEALTH CENTER........B GVT. CLINIC...............C PHC CLINIC (MOBILE).......D COMMUNITY HEALTH WORKER...E PVT. HOSPITAL/CLINIC......F PHARMACY..................G PRIVATE DOCTOR............H SHOP......................J TRADITIONAL PRACTITIONER.............K OTHER ______ L (SPECIFY)
460	Has (NAME) had diarrhoea in the last two weeks?	YES......................1 (SKIP TO 461A)← NO.......................2 DK.......................8	YES......................1 (SKIP TO 461A)← NO.......................2 DK.......................8	YES......................1 (SKIP TO 461A)← NO.......................2 DK.......................8
461	GO BACK TO 442 FOR NEXT BIRTH; OR, IF NO MORE BIRTHS, SKIP TO 477.			
461A	How many stools did (NAME) have on the worst day of the episode?	NUMBER OF STOOLS....[ ][ ] DK.....................98	NUMBER OF STOOLS....[ ][ ] DK.....................98	NUMBER OF STOOLS....[ ][ ] DK.....................98
461B	Was the diarrhoea episode of (NAME) mild or severe?	Mild.....................1 Severe...................2 DK.......................8	Mild.....................1 Severe...................2 DK.......................8	Mild.....................1 Severe...................2 DK.......................8
462	Has (NAME) had diarrhoea in the last 24 hours?	YES......................1 NO.......................2 DK.......................8	YES......................1 NO.......................2 DK.......................8	YES......................1 NO.......................2 DK.......................8
463	For how many days (has the diarrhoea lasted/did the diarrhoea last)? IF LESS THAN 1 DAY, RECORD '00'.	DAYS................[ ][ ]	DAYS................[ ][ ]	DAYS................[ ][ ]
464	Was there any blood in the stools?	YES......................1 NO.......................2 DK.......................8	YES......................1 NO.......................2 DK.......................8 (SKIP TO 468)	YES......................1 NO.......................2 DK.......................8 (SKIP TO 466,

		LAST BIRTH NAME ________	NEXT-TO-LAST BIRTH NAME ________	SECOND-FROM-LAST BIRTH NAME ________
465	CHECK 424/428: LAST CHILD STILL BREASTFED?	YES ☐ NO ☐ (SKIP TO 468)		
466	During (NAME)'s diarrhoea, did you change the frequency of breastfeeding?	YES.....................1 NO......................2 (SKIP TO 468)		
467	Did you <u>increase</u> the number of breastfeeds or <u>reduce</u> them, or did you <u>stop completely</u>?	INCREASED...............1 REDUCED.................2 STOPPED COMPLETELY.......3		
468	(Aside from breastmilk) Was he/she given the same amount to drink as before the diarrhea, or more, or less?	SAME....................1 MORE....................2 LESS....................3 DK......................8	SAME....................1 MORE....................2 LESS....................3 DK......................8	SAME....................1 MORE....................2 LESS....................3 DK......................8
469	Was anything given to treat the diarrhea?	YES.....................1 NO......................2 (SKIP TO 471) DK......................8	YES.....................1 NO......................2 (SKIP TO 471) DK......................8	YES.....................1 NO......................2 (SKIP TO 471) DK......................8
470	What was given to treat the diarrhoea? Anything else? RECORD ALL MENTIONED.	FLUID FROM ORS PACKET....A RECOMMENDED HOME FLUID...B ANTIBIOTIC PILL OR SYRUP...................C OTHER PILL OR SYRUP......D UNKNOWN PILL OR SYRUP....E INJECTION................F (I.V.) INTRAVENOUS.......G HOME REMEDIES/ HERBAL MEDICINES........H OTHER________________I (SPECIFY)	FLUID FROM ORS PACKET....A RECOMMENDED HOME FLUID...B ANTIBIOTIC PILL OR SYRUP...................C OTHER PILL OR SYRUP...................D INJECTION................E (I.V.) INTRAVENOUS.......F HOME REMEDIES/ HERBAL MEDICINES........G OTHER________________H (SPECIFY)	FLUID FROM ORS PACKET....A RECOMMENDED HOME FLUID...B ANTIBIOTIC PILL OR SYRUP...................C OTHER PILL OR SYRUP...................D INJECTION................E (I.V.) INTRAVENOUS.......F HOME REMEDIES/ HERBAL MEDICINES........G OTHER________________H (SPECIFY)
471	Did you seek advice or consultation for the diarrhoea?	YES.....................1 NO......................2 (SKIP TO 473)	YES.....................1 NO......................2 (SKIP TO 473)	YES.....................1 NO......................2 (SKIP TO 473)
472	Where did you seek advice or consultation? Anywhere else? RECORD ALL MENTIONED.	GVT. HOSPITAL............A GVT. HEALTH CENTER........B GVT. CLINIC..............C PHC CLINIC (MOBILE).......D COMMUNITY HEALTH WORKER...E PVT. HOSPITAL/CLINIC......F PHARMACY.................G PRIVATE DOCTOR...........H SHOP.....................J TRADITIONAL PRACTITIONER.............K OTHER________________L (SPECIFY)	GVT. HOSPITAL............A GVT. HEALTH CENTER........B GVT. CLINIC..............C PHC CLINIC (MOBILE).......D COMMUNITY HEALTH WORKER...E PVT. HOSPITAL/CLINIC......F PHARMACY.................G PRIVATE DOCTOR...........H SHOP.....................J TRADITIONAL PRACTITIONER.............K OTHER________________L (SPECIFY)	GVT. HOSPITAL............A GVT. HEALTH CENTER........B GVT. CLINIC..............C PHC CLINIC (MOBILE).......D COMMUNITY HEALTH WORKER...E PVT. HOSPITAL/CLINIC......F PHARMACY.................G PRIVATE DOCTOR...........H SHOP.....................J TRADITIONAL PRACTITIONER.............K OTHER________________L (SPECIFY)

		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
473	CHECK 470: ORS FLUID FROM PACKET MENTIONED?	NO, ORS FLUID NOT MENTIONED ☐ YES, ORS FLUID MENTIONED ☐ → (SKIP TO 475)	NO, ORS FLUID NOT MENTIONED ☐ YES, ORS FLUID MENTIONED ☐ → (SKIP TO 475)	NO, ORS FLUID NOT MENTIONED ☐ YES, ORS FLUID MENTIONED ☐ → (SKIP TO 475)
474	Was (NAME) given fluid from ORS packet when he/she had the diarrhoea?	YES.....1 NO.....2 → (SKIP TO 476) DK.....8	YES.....1 NO.....2 → (SKIP TO 476) DK.....8	YES.....1 NO.....2 → (SKIP TO 476) DK.....8
475	For how many days was (NAME) given (LOCAL NAME)? IF LESS THAN 1 DAY, RECORD '00'.	DAYS..... ☐☐ DK.....98	DAYS..... ☐☐ DK.....98	DAYS..... ☐☐ DK.....98
476	GO BACK TO 442 FOR NEXT BIRTH; OR, IF NO MORE BIRTHS, GO TO 477.			

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
477	CHECK 470 AND 474 (ALL COLUMNS): ORS FLUID FROM PACKET MENTIONED ☐ →	→ 481	
		ORS FLUID NOT MENTIONED OR 470 AND 474 NOT ASKED ☐ →	
478	Have you ever heard of a special product called ORS packet you can get for the treatment of diarrhea?	YES.....1 → 480 NO.....2	
479	Have you ever seen a packet like this before? SHOW PACKET.	YES.....1 NO.....2 → 501	
480	Have you ever prepared a solution with one of these packets to treat diarrhea in yourself or someone else? SHOW PACKET.	YES.....1 NO.....2 → 483	
481	The last time you prepared the ORS packet solution, did you prepare the whole packet at once or only part of the packet?	WHOLE PACKET AT ONCE.....1 PART OF PACKET.....2 → 483	
482	How much water did you use to prepare ORS packet the last time you made it?	LESS THAN 1/4 LITER.....01 1/4 LITER.....02 1/2 LITER.....03 1 LITER.....04 FOLLOWED PACKAGE INSTRUCTIONS..05 OTHER _____ 06 (SPECIFY) DK.....98	
483	Where can you get the ORS packet? PROBE: Anywhere else? RECORD ALL PLACES MENTIONED.	GVT. HOSPITAL.....A GVT. HEALTH CENTER.....B GVT. HEALTH POST.....C PHC CLINIC (MOBILE).....D COMMUNITY HEALTH WORKER.....E PRIVATE DOCTOR.....F PVT. HOSPITAL/CLINIC.....G PHARMACY.....H SHOP.....I TRADITIONAL PRACTITIONER.....J OTHER _____ K (SPECIFY) DK.....L	

484 CHECK 216:
ONE OR MORE DEATHS SINCE JAN. 1987 ☐ | NO DEATHS SINCE JAN. 1987 ☐ → (SKIP TO 501)

ENTER IN THE TABLE, THE LINE NUMBER AND NAME OF EACH CHILD BORN SINCE JANUARY 1987 WHO LATER DIED.
ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS. BEGIN WITH THE LAST OF THESE BIRTHS. (IF THERE ARE MORE THAN 3 BIRTHS, USE ADDITIONAL FORMS).
I would now like to ask you some specific questions about the events and symptoms (NAME) had during the time before he/she died. I know it may be difficult to talk about children you have had who died after they were born, but this information is very important in helping to plan health programs to prevent other children from dying.

No.	Question	Last deceased child	Next-to-last deceased child	Second from last deceased child
	LINE NUMBER FROM Q. 212	☐☐	☐☐	☐☐
485	FROM Q. 212	LAST DECEASED CHILD NAME ________	NEXT-TO-LAST DECEASED CHILD NAME ________	SECOND FROM LAST DECEASED CHILD NAME ________
486A	What do you think was the cause of (NAME)'s death?	________ ☐☐ ________	________ ☐☐ ________	________ ☐☐ ________
486B	During the illness that led to (NAME)'s death, did you seek advice or treatment from anywhere/anyone? IF YES, SPECIFY. CIRCLE ALL THAT APPLY.	GVT. HOSPITAL............A GVT. HEALTH CENTER.......B GVT. HEALTH POST.........C PHC CLINIC (MOBILE)......D COMMUNITY HEALTH WORKER..E PRIVATE DOCTOR...........F PVT. HOSPITAL/CLINIC.....G PHARMACY.................H SHOP.....................I TRADITIONAL PRACTITIONER............J OTHER ________ K (SPECIFY) NONE.....................L	GVT. HOSPITAL............A GVT. HEALTH CENTER.......B GVT. HEALTH POST.........C PHC CLINIC (MOBILE)......D COMMUNITY HEALTH WORKER..E PRIVATE DOCTOR...........F PVT. HOSPITAL/CLINIC.....G PHARMACY.................H SHOP.....................I TRADITIONAL PRACTITIONER............J OTHER ________ K (SPECIFY) NONE.....................L	GVT. HOSPITAL............A GVT. HEALTH CENTER.......B GVT. HEALTH POST.........C PHC CLINIC (MOBILE)......D COMMUNITY HEALTH WORKER..E PRIVATE DOCTOR...........F PVT. HOSPITAL/CLINIC.....G PHARMACY.................H SHOP.....................I TRADITIONAL PRACTITIONER............J OTHER ________ K (SPECIFY) NONE.....................L
486C	Where did (NAME) die?	AT HOME..................1 IN A HEALTH FACILITY.....2 ON THE WAY TO FACILITY...3 OTHER ________ 4 (SPECIFY)	AT HOME..................1 IN A HEALTH FACILITY.....2 ON THE WAY TO FACILITY...3 OTHER ________ 4 (SPECIFY)	AT HOME..................1 IN A HEALTH FACILITY.....2 ON THE WAY TO FACILITY...3 OTHER ________ 4 (SPECIFY)
487	CHECK Q. 220 AGE AT DEATH	LESS THAN 1 MONTH ☐ 1 MONTH OR OLDER ☐ → SKIP TO 491A	LESS THAN 1 MONTH ☐ 1 MONTH OR OLDER ☐ → SKIP TO 491A	LESS THAN 1 MONTH ☐ 1 MONTH OR OLDER ☐ → SKIP TO 491A
488A	Was (NAME) born after a difficult delivery?	YES......................1 NO.......................2 DK.......................8	YES......................1 NO.......................2 DK.......................8	YES......................1 NO.......................2 DK.......................8
488B	Was (NAME) malformed in any way? IF YES, SPECIFY.	YES......................1 ________ (SPECIFY) NO.......................2 DK.......................8	YES......................1 ________ (SPECIFY) NO.......................2 DK.......................8	YES......................1 ________ (SPECIFY) NO.......................2 DK.......................8
488C	Did (NAME) suck or drink normally during the first two days of life?	YES......................1 NO.......................2 DK.......................8	YES......................1 NO.......................2 DK.......................8	YES......................1 NO.......................2 DK.......................8
488D	Did (NAME) have a decrease in sucking or difficulty sucking during the days before death?	YES......................1 NO.......................2 DK.......................8	YES......................1 NO.......................2 DK.......................8	YES......................1 NO.......................2 DK.......................8
488E	Did (NAME) have convulsions or spasms during the disease that led to death?	YES......................1 NO.......................2 DK.......................8	YES......................1 NO.......................2 DK.......................8	YES......................1 NO.......................2 DK.......................8

	FROM Q. 212	LAST DEGEASED CHILD NAME _____	NEXT-TO-LAST DECEASED CHILD NAME _____	SECOND-FROM-LAST DECEASED CHILD NAME
489A	During the disease that led to death, did (NAME) have a cough?	YES.....1 NO.....2 (SKIP TO 490) DK.....8	YES.....1 NO.....2 (SKIP TO 490) DK.....8	YES.....1 NO.....2 (SKIP TO 490) DK.....8
489B	For how many days did the cough last? IF LESS THAN 1 DAY, RECORD '00'.	DAYS.....	DAYS.....	DAYS.....
489C	When (NAME) had the illness with the cough, did he/she have difficult or rapid breathing?	YES.....1 NO.....2 (SKIP TO 490) DK.....8	YES.....1 NO.....2 (SKIP TO 490) DK.....8	YES.....1 NO.....2 (SKIP TO 490) DK.....8
489D	For how many days did the difficult or rapid breathing last? IF LESS THAN 1 DAY, RECORD '00'.	DAYS.....	DAYS.....	DAYS.....
490	GO BACK TO 485 FOR NEXT DECEASED CHILD; IF NO MORE DECEASED CHILDREN, GO TO 501.			
491A	During the disease that led to death, did (NAME) have loose or liquid stools, that is diarrhoea?	YES.....1 NO.....2 (SKIP TO 492A) DK.....8	YES.....1 NO.....2 (SKIP TO 492A) DK.....8	YES.....1 NO.....2 (SKIP TO 492A) DK.....8
491B	Was the diarrhoea episode of (NAME) mild or severe?	MILD.....1 SEVERE.....2 DK.....8	MILD.....1 SEVERE.....2 DK.....8	MILD.....1 SEVERE.....2 DK.....8
491C	For how long did the diarrhoea last? IF LESS THAN 1 DAY, RECORD '00'.	DAYS.....1 WEEKS.....2 MONTHS.....3 DK.....998	DAYS.....1 WEEKS.....2 MONTHS.....3 DK.....998	DAYS.....1 WEEKS.....2 MONTHS.....3 DK.....998
491D	Was there any blood in the stool?	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8
492A	During the disease that led to death, did (NAME) have a cough?	YES.....1 NO.....2 (SKIP TO 493A) DK.....8	YES.....1 NO.....2 (SKIP TO 493A) DK.....8	YES.....1 NO.....2 (SKIP TO 493A) DK.....8
492B	For how long did the cough last? IF LESS THAN 1 DAY, RECORD '00'.	DAYS.....1 WEEKS.....2 MONTHS.....3 DK.....998	DAYS.....1 WEEKS.....2 MONTHS.....3 DK.....998	DAYS.....1 WEEKS.....2 MONTHS.....3 DK.....998
492C	When (NAME) had the illness with the cough, did he/she have difficult/rapid breathing?	YES.....1 NO.....2 (SKIP TO 493A) DK.....8	YES.....1 NO.....2 (SKIP TO 493A) DK.....8	YES.....1 NO.....2 (SKIP TO 493A) DK.....8

	FROM Q. 212	LAST DECEASED CHILD NAME _____	NEXT-TO-LAST DECEASED CHILD NAME _____	SECOND-FROM-LAST DECEASED CHILD NAME
492D	For how long did the difficult/rapid breathing last? IF LESS THAN 1 DAY, RECORD '00'.	DAYS.....1 WEEKS.....2 MONTHS.....3 DK.....998	DAYS.....1 WEEKS.....2 MONTHS.....3 DK.....998	DAYS.....1 WEEKS.....2 MONTHS.....3 DK.....998
493A	During the disease that led to death, did (NAME) have a fever?	YES.....1 NO.....2 (SKIP TO 494A) DK.....8	YES.....1 NO.....2 (SKIP TO 494A) DK.....8	YES.....1 NO.....2 (SKIP TO 494A) DK.....8
493B	Was the fever of (NAME) mild or severe?	MILD.....1 SEVERE.....2 DK.....8	MILD.....1 SEVERE.....2 DK.....8	MILD.....1 SEVERE.....2 DK.....8
493C	How long did the fever last? IF LESS THAN 1 DAY, RECORD '00'.	DAYS.....1 WEEKS.....2 MONTHS.....3 DK.....998	DAYS.....1 WEEKS.....2 MONTHS.....3 DK.....998	DAYS.....1 WEEKS.....2 MONTHS.....3 DK.....998
493D	During the disease that led to *death, was (NAME) unconscious?*	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8
493E	During the disease that led to death, did (NAME) have convulsions?	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8
494A	During the disease that led to death, did (NAME) have a skin rash all over his/her body and face?	YES.....1 NO.....2 (SKIP TO 495A) DK.....8	YES.....1 NO.....2 (SKIP TO 495A) DK.....8	YES.....1 NO.....2 (SKIP TO 495A) DK.....8
494B	How long did the rash last? IF LESS THAN 1 DAY, RECORD '00'.	DAYS.....1 WEEKS.....2 MONTHS.....3 DK.....998	DAYS.....1 WEEKS.....2 MONTHS.....3 DK.....998	DAYS.....1 WEEKS.....2 MONTHS.....3 DK.....998
495A	During the disease that led to death, was (NAME) very thin?	YES.....1 NO.....2 *(SKIP TO 496)* DK.....8	YES.....1 NO.....2 *(SKIP TO 496)* DK.....8	YES.....1 NO.....2 *(SKIP TO 496)* DK.....8
495B	How long was (NAME) very thin?	DAYS.....1 WEEKS.....2 MONTHS.....3 DK.....998	DAYS.....1 WEEKS.....2 MONTHS.....3 DK.....998	DAYS.....1 WEEKS.....2 MONTHS.....3 DK.....998
495C	During the disease that led to death, did (NAME) have swelling of the feet or legs?	YES.....1 NO.....2 (SKIP TO 496) DK.....8	YES.....1 NO.....2 (SKIP TO 496) DK.....8	YES.....1 NO.....2 (SKIP TO 496) DK.....8
495D	How long was the swelling present? IF LESS THAN 1 DAY, RECORD '00'.	DAYS.....1 WEEKS.....2 MONTHS.....3 DK.....998	DAYS.....1 WEEKS.....2 MONTHS.....3 DK.....998	DAYS.....1 WEEKS.....2 MONTHS.....3 DK.....998
496	GO BACK TO 485 FOR NEXT DECEASED CHILD, IF NO MORE DECEASED CHILDREN, GO TO 501.			

SECTION 5. MARRIAGE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
501	Have you ever been married or lived with a man?	YES.....1 NO.....2	→512
502	Are you now married or living with a man, or are you now widowed, divorced, or no longer living together?	MARRIED.....1 LIVING TOGETHER.....2 WIDOWED.....3 DIVORCED.....4 NO LONGER LIVING TOGETHER.....5	→507
503	Is your husband/partner living with you now or is he staying elsewhere?	LIVING WITH HER.....1 STAYING ELSEWHERE.....2	
504	Does your husband/partner have any other wives besides yourself?	YES.....1 NO.....2 DK.....8	→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/partner?	MONTH..... DK MONTH.....98 YEAR..... DK YEAR.....98	
509	How old were you when you started living with him?	AGE..... DK AGE.....98	
510	CHECK 508 AND 509: YEAR AND AGE GIVEN? YES ☐ NO ☐		→513
511	CHECK CONSISTENCY OF 508 AND 509: YEAR OF BIRTH (105) ☐☐ PLUS + AGE AT MARRIAGE (509) ☐☐ = CALCULATED YEAR OF MARRIAGE ☐☐ IF NECESSARY, CALCULATE YEAR OF BIRTH CURRENT YEAR 92 MINUS - CURRENT AGE (106) ☐☐ = CALCULATED YEAR OF BIRTH ☐☐ IS THE CALCULATED YEAR OF MARRIAGE WITHIN ONE YEAR OF THE REPORTED YEAR OF MARRIAGE (508) ? YES ☐ (SKIP TO 513) NO ☐ →PROBE AND CORRECT 508 AND 509.		

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
512	IF NEVER IN UNION: Have you ever had sexual intercourse?	YES.....1 NO.....2	→517
513	Now we need some details about your sexual activity in order to get a better understanding of family planning and fertility. *How many times did you have sexual intercourse in the last four weeks?*	TIMES..... ☐☐	
514	How many times in a month do you <u>usually</u> have sexual intercourse?	TIMES..... ☐☐	
515	When was the last time you had sexual intercourse?	DAYS AGO.....1 WEEKS AGO.....2 MONTHS AGO.....3 YEARS AGO.....4 BEFORE LAST BIRTH.....996	☐☐
516	How old were you when you first had sexual intercourse?	AGE..... ☐☐ FIRST TIME WHEN MARRIED.....96	
517	PRESENCE OF OTHERS AT THIS POINT.	YES NO CHILDREN UNDER 10.....1 2 HUSBAND.....1 2 OTHER MALES.....1 2 OTHER FEMALES.....1 2	

SECTION 6. FERTILITY PREFERENCES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
601	CHECK 312: SHE/HE NOT STERILIZED HE OR SHE STERILIZED		→607
602	CHECK 501 AND 502: CURRENTLY MARRIED OR LIVING TOGETHER NOT MARRIED/ NOT LIVING TOGETHER		→614
603	CHECK 223: NOT PREGNANT OR UNSURE Now I have some questions about the future. Would you like to have (a/another) child or would you prefer not to have any (more) children? PREGNANT Now I have some questions about the future. 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/NONE.....2 SAYS SHE CAN'T GET PREGNANT.....3 UNDECIDED OR DK.....8	→610
604	CHECK 223: NOT PREGNANT OR UNSURE How long would you like to wait from now before the birth of (a/another) child? PREGNANT How long would you like to wait after the birth of the child you are expecting before the birth of another child?	MONTHS.....1 YEARS.....2 SOON/NOW.....994 SAYS SHE CAN'T GET PREGNANT...995 OTHER _____ 996 (SPECIFY) DK.....998	→610
605	CHECK 216 AND 223: HAS LIVING CHILDREN OR PREGNANT? YES NO		→610
606	CHECK 223: NOT PREGNANT OR UNSURE How old would you like your youngest child to be when your next child is born? PREGNANT How old would you like the child you are expecting to be when your next child is born?	AGE OF CHILD YEARS..... DK.....98	→610
607	Given your present circumstances, if you had to do it over again, do you think you would make the same decision to have a sterilization?	YES.....1 NO.....2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
608	Do you regret that (you/your husband) had the operation not to have any (more) children?	YES.....1 NO.....2	→614
609	Why do you regret it?	RESPONDENT WANTS ANOTHER CHILD..1 PARTNER WANTS ANOTHER CHILD.....2 SIDE EFFECTS.....3 OTHER REASON_____4 (SPECIFY)	→614
610	Do you think that your husband/partner approves or disapproves of couples using a method to avoid pregnancy?	APPROVES.....1 DISAPPROVES.....2 DK.....8	
611	How often have you talked to your husband/partner about family planning in the past year?	NEVER.....1 ONCE OR TWICE.....2 MORE OFTEN.....3	
612	Have you and your husband/partner ever discussed the number of children you would like to have?	YES.....1 NO.....2	
613	Do you think your husband/partner wants the <u>same</u> number of children that you want, or does he want <u>more</u> or <u>fewer</u> than you want?	SAME NUMBER.....1 MORE CHILDREN.....2 FEWER CHILDREN.....3 DK.....8	
614	How long should a couple wait before starting sexual intercourse after the birth of a baby?	MONTHS.....1 ☐☐ YEARS.....2 ☐☐ *OTHER*_____996 (SPECIFY)	
615	Should a mother wait until she has completely stopped breastfeeding before starting to have sexual relations again, or doesn't it matter?	WAIT.....1 DOESN'T MATTER.....2	
616	In general, do you approve or disapprove of couples using a method to avoid pregnancy?	APPROVE.....1 DISAPPROVE.....2	
617	CHECK 216: 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? NO LIVING CHILDREN ☐ → If you could choose exactly the number of children to have in your whole life, how many would that be? RECORD SINGLE NUMBER OR OTHER ANSWER.	NUMBER..... ☐☐ OTHER ANSWER_____96 (SPECIFY)	
618	What do you think is the best number of months or years between the birth of one child and the birth of the next child?	MONTHS.....1 ☐☐ YEARS.....2 ☐☐ OTHER_____996 (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 TOGETHER ☐ → ASK QUESTIONS ABOUT CURRENT OR MOST RECENT HUSBAND/PARTNER. NEVER MARRIED/ NEVER LIVED TOGETHER ☐		708
702	Did your (last) husband/partner ever attend school?	YES.....1 NO.....2	705
703	What was the highest level of school he attended: primary, secondary, or higher?	PRIMARY.....1 SECONDARY.....2 HIGHER.....3 DK.....8	705
704	What was the highest grade he completed at that level?	GRADE..... ☐☐ DK.....98	
705	What kind of work does (did) your (last) husband/partner mainly do?	_____ ☐☐ _____ _____	
706	CHECK 705: WORKS (WORKED) IN AGRICULTURE ☐ → ↓ DOES (DID) NOT WORK IN AGRICULTURE ☐		708
707	(Does/did) your husband/partner work mainly on his own land or family land, or (does/did) he rent land, or (does/did) he work on communal land, or (does/did) he work on someone else's land?	HIS/FAMILY LAND.....1 RENTED LAND.....2 COMMUNAL LAND.....3 SOMEONE ELSE'S LAND.....4	
708	Aside from your own housework, are you currently working?	YES.....1 NO.....2	710
709	As you know, some women take up jobs for which they are paid in cash or kind. Others sell things, have a small business or work on the family farm or in the family business. Are you currently doing any of these things or any other work?	YES.....1 NO.....2	717

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
710	What is your occupation, that is, what kind of work do you do?	_____ ☐☐ _____ _____	
711	In your current work, do you work for a member of your family, for someone else, or are you self-employed?	FOR FAMILY MEMBER.....1 FOR SOMEONE ELSE.....2 SELF-EMPLOYED.....3	
712	Do you earn cash for this work? PROBE: Do you make money for working?	YES.....1 NO.....2	
713	Do you do this work at home or away from home?	HOME.....1 AWAY.....2	
714	CHECK 215/216/218: HAS CHILD BORN SINCE JAN. 1987 AND LIVING AT HOME?	YES ☐ → NO ☐ → 717	
715	While you are working, do you <u>usually</u> have (NAME OF YOUNGEST CHILD AT HOME) with you, <u>sometimes</u> have him/her with you, or <u>never</u> have him/her with you?	USUALLY.....1 → 717 SOMETIMES.....2 NEVER.....3	
716	Who usually takes care of (NAME OF YOUNGEST CHILD AT HOME) *while you are working?*	HUSBAND/PARTNER.....01 OLDER CHILD(REN).....02 OTHER RELATIVES.....03 NEIGHBORS.....04 FRIENDS.....05 SERVANTS/HIRED HELP.....06 CHILD IS IN SCHOOL.....07 INSTITUTIONAL CHILDCARE.....08 OTHER_____09 (SPECIFY)	

SECTION 8. MATERNAL MORTALITY

801 Now I would like to ask you some questions about your brothers and sisters, that is, all of the children born to your natural mother, including those who are living with you, those living elsewhere, and those who have died.

How many children did your mother give birth to, including you?

NUMBER OF BIRTHS TO NATURAL MOTHER..... ☐☐

802 CHECK 801:

TWO OR MORE BIRTHS ☐ → ONLY ONE BIRTH (RESPONDENT ONLY) ☐ → SKIP TO END

803 How many of these births did your mother have before you were born?

NUMBER OF PRECEDING BIRTHS..... ☐☐

	[1]	[2]	[3]	[4]	[5]	[6]	[7]
804 What are the names of all your mother's children, starting with the firstborn?							
805 Is (NAME) male or female?	MALE.....1 FEMALE.....2	MALE.....1 FEMALE.....2	MALE.....1 FEMALE.....2	MALE.....1 FEMALE.....2	MALE.....1 FEMALE.....2	MALE.....1 FEMALE.....2	MALE.....1 FEMALE.....2
806 Is (NAME) still alive?	YES.....1 NO.....2 → GO TO 808 DK.....8 → GO TO [2]	YES.....1 NO.....2 → GO TO 808 DK.....8 → GO TO [3]	YES.....1 NO.....2 → GO TO 808 DK.....8 → GO TO [4]	YES.....1 NO.....2 → GO TO 808 DK.....8 → GO TO [5]	YES.....1 NO.....2 → GO TO 808 DK.....8 → GO TO [6]	YES.....1 NO.....2 → GO TO 808 DK.....8 → GO TO [7]	YES.....1 NO.....2 → GO TO 808 DK.....8 → GO TO [8]
807 How old is (NAME)?	☐☐ GO TO [2]	☐☐ GO TO [3]	☐☐ GO TO [4]	☐☐ GO TO [5]	☐☐ GO TO [6]	☐☐ GO TO [7]	☐☐ GO TO [8]
808 How many years ago did (NAME) die?	☐☐	☐☐	☐☐	☐☐	☐☐	☐☐	☐☐
809 How old was (NAME) when she/he died?	☐☐ IF MALE OR DIED BEFORE 13 YEARS OF AGE GO TO [2]	☐☐ IF MALE OR DIED BEFORE 13 YEARS OF AGE GO TO [3]	☐☐ IF MALE OR DIED BEFORE 13 YEARS OF AGE GO TO [4]	☐☐ IF MALE OR DIED BEFORE 13 YEARS OF AGE GO TO [5]	☐☐ IF MALE OR DIED BEFORE 13 YEARS OF AGE GO TO [6]	☐☐ IF MALE OR DIED BEFORE 13 YEARS OF AGE GO TO [7]	☐☐ IF MALE OR DIED BEFORE 13 YEARS OF AGE GO TO [8]
810 Was (NAME) pregnant when she died?	YES.....1 → GO TO 813 NO.....2 DK.....8	YES.....1 → GO TO 813 NO.....2 DK.....8	YES.....1 → GO TO 813 NO.....2 DK.....8	YES.....1 → GO TO 813 NO.....2 DK.....8	YES.....1 → GO TO 813 NO.....2 DK.....8	YES.....1 → GO TO 813 NO.....2 DK.....8	YES.....1 → GO TO 813 NO.....2 DK.....8
811 Did (NAME) die during childbirth?	YES.....1 → GO TO 813 NO.....2 DK.....8	YES.....1 → GO TO 813 NO.....2 DK.....8	YES.....1 → GO TO 813 NO.....2 DK.....8	YES.....1 → GO TO 813 NO.....2 DK.....8	YES.....1 → GO TO 813 NO.....2 DK.....8	YES.....1 → GO TO 813 NO.....2 DK.....8	YES.....1 → GO TO 813 NO.....2 DK.....8
812 Did (NAME) die within six weeks after the end of a pregnancy or childbirth?	YES.....1 NO.....2 → GO TO [2] DK.....8	YES.....1 NO.....2 → GO TO [3] DK.....8	YES.....1 NO.....2 → GO TO [4] DK.....8	YES.....1 NO.....2 → GO TO [5] DK.....8	YES.....1 NO.....2 → GO TO [6] DK.....8	YES.....1 NO.....2 → GO TO [7] DK.....8	YES.....1 NO.....2 → GO TO [8] DK.....8
813 How many children had (NAME) given birth to before that pregnancy?	☐☐	☐☐	☐☐	☐☐	☐☐	☐☐	☐☐

	[8]	[9]	[10]	[11]	[12]	[13]	[14]
804 What are the names of all your mother's children, starting with the firstborn?							
805 Is (NAME) male or female?	MALE.....1 FEMALE.....2	MALE.....1 FEMALE.....2	MALE.....1 FEMALE.....2	MALE.....1 FEMALE.....2	MALE.....1 FEMALE.....2	MALE.....1 FEMALE.....2	MALE.....1 FEMALE.....2
806 Is (NAME) still alive?	YES.....1 NO.....2 GO TO 808 DK.....8 GO TO [9]	YES.....1 NO.....2 GO TO 808 DK.....8 GO TO [10]	YES.....1 NO.....2 GO TO 808 DK.....8 GO TO [11]	YES.....1 NO.....2 GO TO 808 DK.....8 GO TO [12]	YES.....1 NO.....2 GO TO 808 DK.....8 GO TO [13]	YES.....1 NO.....2 GO TO 808 DK.....8 GO TO [14]	YES.....1 NO.....2 GO TO 808 DK.....8 GO TO NEXT
807 How old is (NAME)?	GO TO [9]	GO TO [10]	GO TO [11]	GO TO [12]	GO TO [13]	GO TO [14]	GO TO NEXT SECTION
808 How many years ago did (NAME) die?							
809 How old was (NAME) when she/he died?	IF MALE OR DIED BEFORE 13 YEARS OF AGE GO TO [9]	IF MALE OR DIED BEFORE 13 YEARS OF AGE GO TO [10]	IF MALE OR DIED BEFORE 13 YEARS OF AGE GO TO [11]	IF MALE OR DIED BEFORE 13 YEARS OF AGE GO TO [12]	IF MALE OR DIED BEFORE 13 YEARS OF AGE GO TO [13]	IF MALE OR DIED BEFORE 13 YEARS OF AGE GO TO [14]	IF MALE OR DIED BEFORE 13 YEARS OF AGE GO TO NEXT
810 Was (NAME) pregnant when she died?	YES.....1 GO TO 813 NO.....2 DK.....8	YES.....1 GO TO 813 NO.....2 DK.....8	YES.....1 GO TO 813 NO.....2 DK.....8	YES.....1 GO TO 813 NO.....2 DK.....8	YES.....1 GO TO 813 NO.....2 DK.....8	YES.....1 GO TO 813 NO.....2 DK.....8	YES.....1 GO TO 813 NO.....2 DK.....8
811 Did (NAME) die during childbirth?	YES.....1 GO TO 813 NO.....2 DK.....8	YES.....1 GO TO 813 NO.....2 DK.....8	YES.....1 GO TO 813 NO.....2 DK.....8	YES.....1 GO TO 813 NO.....2 DK.....8	YES.....1 GO TO 813 NO.....2 DK.....8	YES.....1 GO TO 813 NO.....2 DK.....8	YES.....1 GO TO 813 NO.....2 DK.....8
812 Did (NAME) die within six weeks after the end of a childbirth?	YES.....1 NO.....2 GO TO [9] DK.....8	YES.....1 NO.....2 GO TO [10] DK.....8	YES.....1 NO.....2 GO TO [11] DK.....8	YES.....1 NO.....2 GO TO [12] DK.....8	YES.....1 NO.....2 GO TO [13] DK.....8	YES.....1 NO.....2 GO TO [14] DK.....8	YES.....1 NO.....2 GO TO NEXT DK.....8
813 How many children had (NAME) given birth to before that pregnancy?							

814	RECORD THE TIME WHEN INTERVIEW COMPLETED.	HOURS.....	
		MINUTES.....	

SECTION 9. HEIGHT AND WEIGHT

901	CHECK 222:		
	ONE OR MORE BIRTHS SINCE JAN. 1987	↓	NO BIRTHS SINCE JAN. 1987 → END

INTERVIEWER: IN 902 (COLUMNS 2-4) RECORD THE LINE NUMBER FOR EACH CHILD BORN SINCE JANUARY 1987 AND STILL ALIVE. IN 903 AND 904 RECORD THE NAME AND BIRTH DATE FOR THE RESPONDENT AND FOR ALL LIVING CHILDREN BORN SINCE JANUARY 1987. IN 906 AND 908 RECORD HEIGHT AND WEIGHT OF THE RESPONDENT AND THE LIVING CHILDREN. (NOTE: ALL RESPONDENTS WITH ONE OR MORE BIRTHS SINCE JANUARY 1987 SHOULD BE WEIGHED AND MEASURED EVEN IF ALL OF THE CHILDREN HAVE DIED).

	[1] RESPONDENT	[2] YOUNGEST LIVING CHILD	[3] NEXT-TO-YOUNGEST LIVING CHILD	[4] SECOND-TO-YOUNGEST LIVING CHILD
902 LINE NO. FROM Q.212				
903 NAME FROM Q.212 FOR CHILDREN	(NAME)	(NAME)	(NAME)	(NAME)
904 DATE OF BIRTH FROM Q.103 FOR RESPONDENT FROM Q.215 FOR CHILDREN, AND ASK FOR DAY OF BIRTH	MONTH.... YEAR.....	DAY..... MONTH.... YEAR.....	DAY..... MONTH.... YEAR.....	DAY..... MONTH.... YEAR.....
905 BCG SCAR ON TOP OF LEFT UPPER ARM		SCAR SEEN.....1 NO SCAR.....2	SCAR SEEN.....1 NO SCAR.....2	SCAR SEEN.....1 NO SCAR.....2
906 HEIGHT (in centimeters) IF AGE UNDER 24 MOS, MEASURE LYING, IF 24 MOS OR MORE, MEASURE STANDING.	.	.	.	.
907 WEIGHT (in kilograms)	.	.	.	.
908 MID-UPPER ARM CIRCUMFERENCE (in millimeters)				
909 DATE WEIGHED AND MEASURED	DAY..... MONTH.... YEAR.....	DAY..... MONTH.... YEAR.....	DAY..... MONTH.... YEAR.....	DAY..... MONTH.... YEAR.....
910 RESULT	MEASURED.....1 NOT PRESENT....3 REFUSED.....4 OTHER.....6 (SPECIFY)	CHILD MEASURED.1 CHILD SICK.....2 CHILD NOT PRESENT.....3 CHILD REFUSED..4 MOTHER REFUSED.5 OTHER.....6 (SPECIFY)	CHILD MEASURED.1 CHILD SICK.....2 CHILD NOT PRESENT.....3 CHILD REFUSED..4 MOTHER REFUSED.5 OTHER.....6 (SPECIFY)	CHILD MEASURED.1 CHILD SICK.....2 CHILD NOT PRESENT.....3 CHILD REFUSED..4 MOTHER REFUSED.5 OTHER.....6 (SPECIFY)

911 NAME OF MEASURER: _____ NAME OF ASSISTANT: _____

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

Comments About Respondent: _____

_____

_____

Comments on Specific Questions: _____

_____

_____

Any Other Comments: _____

_____

SUPERVISOR'S OBSERVATIONS

_____

_____

_____

_____

Name of Supervisor: _____ Date: _____

EDITOR'S OBSERVATIONS

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