Botswana

Family Health Survey II
1988

Central Statistics Office
Ministry of Finance and Development Planning

Family Health Division
Ministry of Health

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

Botswana Family Health Survey II 1988

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This report presents the findings of the Botswana Family Health Survey II (BFHS-II). implemented by the Government of Botswana, through the Family Health Division of the Ministry of Health and the Central Statistics Office of the Ministry of Finance and Development Planning in 1988. The survey is part of the worldwide Demographic and Health Surveys (DHS) program, which is designed to collect data on fertility, family planning, and maternal and child health. Additional information on this survey can be obtained from the Central Statistics Office, Ministry of Finance and Development Planning, Private Bag 0024, Gaborone, Botswana or the Family Health Division, Ministry of Health, P.O. Box 992, Gaborone, Botswana.

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

FOREWORD

The Botswana Family Health Survey II was a collaborative effort between the Ministry of Health, the Central Statistics Office, and the Institute for Resource Development Inc. The survey is part of the worldwide Demographic and Health Surveys (DHS) programme, which is designed to collect data on fertility, family planning, and maternal and child health which is critical to the measurement of the Maternal and Child Health Family Planning Programme performance, future direction and emphasis.

The timely data generated by the survey is most welcome, for it comes at a time when current demographic trends and the impact of problems associated with rapid population growth can no longer be underplayed.

Given its scope and representativeness, and also given what the programme has achieved over the years, the present survey results will provide policy-makers and programme managers with a clear indication of issues and problems which need to be vehemently addressed and will also assist in determining strategies, both short term and long term, to be considered in tackling the emerging fertility problems of the 1990s, particularly among teens.

It is my belief that although the national family planning programme has made tremendous achievements over the years, this is not to say that profound challenges do not lie ahead of us. Male involvement in family planning and teenage fertility programmes are critical challenges which will need mobilisation of more financial resources and skilled manpower for effective programme support. Such inevitable programme expansion is required, if our national resources are to balance with our socioeconomic needs and development, and thus have a positive impact on the welfare of every Motswana.

As the Government of Botswana is fully committed to shifting greater emphasis for family planning programmes to the community (e.g., through community-based distribution systems) as well as to the individual, the challenge for the national family planning programme is to continue to provide reliable, high quality services to meet the needs of continuing users and the growing number of potential users.

I would therefore remind all those concerned that the availability of resources together with current and accurate BFHS-II data will undoubtedly expedite achievement of our goals and enhance formulation of more comprehensive, meaningful, and cost-effective family planning and population policies.

I would also like to take this opportunity to encourage those who have worked tirelessly to improve the status of the national family planning programme and also urge them to sustain the momentum of the programme.

Finally, let me point out that this survey clearly demonstrates how two government ministries plus an external institution can cooperate to produce work of excellent quality, for the mutual benefit of not only themselves but many others. All the institutions and individuals who were involved in the survey are congratulated.

Ministry of Health

P.O. Molosi
Permanent Secretary

ACKNOWLEDGEMENTS

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2. The Central Statistics Office staff who worked diligently towards the successful and timely completion of the survey.

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5. The finance section of the Ministry of Finance and Development Planning for administering the funds for the survey.

6. USAID/Botswana staff and the Institute for Resource Development/Macro Systems, Inc.

7. The interviewers for their diligent work.

8. Last, but not least, we profusely express our gratitude to all respondents of this survey for their cooperation and patience in responding to a long interview for without them there would have been no survey.

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PREFACE

The Botswana Family Health Survey II (BFHS-II) globally known as the Demographic and Health Surveys (DHS) Program is part of a world-wide survey programme that is funded by the United States Agency for International Development (USAID).

The BFHS-II was a national sample survey designed to provide information on fertility, family planning, and health in Botswana. The BFHS-II involved interviewing a randomly selected group of women between 15 and 49 years of age. These women were asked questions about their background, the children they had given births to, their knowledge and use of family planning methods, some health matters and other information which will be helpful to policy-makers and administrators in the health and family planning areas.

This report should provide a wealth of information for the study of demographic trends and infant and child mortality, and the interaction between family planning and child health. The impact of the Botswana Family Planning Programme can also be evaluated through these data in conjunction with other data sources like the 1981 Census, the 1984 Botswana Family Health Survey and the 1987 Botswana Demographic Survey.

Central Statistics Office
Ministry of Finance and Development Planning

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CONTENTS

Page

Page

Page

Page

LIST OF TABLES

Page

Page

Page

Page

Page

Page

Page

LIST OF FIGURES

Page

RESUME AND RECOMMENDATIONS

The Botswana Family Health Survey II (BFHS-II) was conducted on behalf of the Family Health Division of the Ministry of Health by the Central Statistics Office through its Continuous Household Integrated Programme of Surveys. Financial and technical assistance for the survey was provided by the Institute for Resource Development, under a contract with the U.S. Agency for International Development, Washington. The objective of the survey was to provide information on family planning awareness, approval and use, basic indicators of maternal and child health and other topics related to family health. The survey data can also be used to evaluate progress achieved by the Maternal and Child Health/Family Planning programme since the Botswana Family Health Survey (BFHS) of 1984. A nationally representative sample of 4,368 women, age 15-49 years, was interviewed in both urban and rural areas between August and December 1988.

RESUME

The BFHS-II found that current fertility levels in Botswana remain high; however, the results show a decline in fertility in recent years.

- The total fertility rate for the five-year period prior to the BFHS-II indicates that the average woman, beginning her reproductive period at this time, would have 5 births by her 50th birthday.

- There are large differences in fertility by education: current fertility rates indicate that women with secondary or higher education can expect to have a total of 3.3 births in their lifetime while women with no education will have 6 births.

- A comparison of the fertility data from the census, the BFHS and the BFHS-II shows that total fertility dropped from 7.1 in 1981 to 6.5 in 1984 and 5.0 in 1988.

- Declining fertility among women at all levels of education coupled with a growing number of women achieving higher levels of education could account for the large decline in fertility.

- The fertility decline is occurring in the context of increasing use of modern methods of contraception. Data on fertility trends show that fertility began to decline 10-15 years before the survey, which coincides with the introduction of the family planning programme in 1973.

The BFHS-II found that traditional practices of breastfeeding and post-partum abstinence continue to be important factors in protecting women from a subsequent pregnancy. However, there is evidence that the duration of these practices is being curtailed among urban women.

- On average, women breastfeed for 19 months, the resumption of menstruation is delayed for 12 months following childbirth and sexual relations are delayed for 13 months.

- Taking into account the effects of both post-partum amenorrhea and abstinence, a woman is not at risk of pregnancy for an average of nearly 16 months.

- The duration of breastfeeding and protection from pregnancy because of post-partum amenorrhea or abstinence from sexual relations is five months longer for rural women than for urban. Furthermore, there is evidence of a decline in breastfeeding among urban women since 1984.

Knowledge of family planning methods and of places to obtain them is critical in the decision whether to use family planning and which method to use. The BFHS-II found that the MCH/FP programme has been quite successful in educating women about family planning.

- Knowledge of modern methods of contraception is high with 95 percent of all women knowing at least one modern method. Women are most likely to know the pill, followed by the IUD, injection, and the condom.

- Knowledge of family planning methods has increased steadily over the past 4 years. In 1984, 75 percent of women reported knowing at least one method as compared to 95 percent in 1988.

- Virtually all women who had heard of a method were able to name a source for that method and most women named a government facility.

Use of contraception is the most important measurement of success in a family planning programme. The BFHS-II found that more than half of Batswana women have used a modern method of family planning at sometime and three out of ten women are currently using a contraceptive method to delay or avoid a birth.

- Thirty-two percent of women in union and 30 percent of all women currently use a method of family planning.

- Since the introduction of integrated MCH/FP services in 1984, the use of modern methods of contraception increased from 16 to 30 percent, with major increases in the use of the pill, injection, and female sterilization.

- The use of family planning is related to a woman's residence and education. Thirty-nine percent of urban women use contraception compared with 26 percent of rural women; and contraceptive prevalence increases from 18 percent among women with no education to over 40 percent among women who have secondary or higher education.

- Government health facilities are the major source of family planning services; 94 percent of current users obtain their method from a government facility.

The BFHS-II found that women who are not currently using family planning, but do not wish to become pregnant soon, report a number of barriers to using family planning. A significant number of these women do intend to use family planning in the future.

- Half of the women who were not using contraception would be unhappy if they became pregnant soon. The principal reasons cited for nonuse were infrequent sex, opposition to family planning, inconvenience, cost, and opposition of partner to family planning.

- Five out of ten nonusers said they intend to use family planning in the future and most said they would use in the next twelve months.

The BFHS-II also looked at the issue of women's perceptions about their partner's attitudes toward family planning. Within couples, male approval is much lower than that of females, although the reported level of partner's approval has increased since 1984.

- While 92 percent of respondents approved of family planning, only 57 percent thought their partner approved of family planning.

- Perception of male approval of family planning has increased since 1984, when only 40 percent of respondents reported that their partners' approved of family planning.

- Seven in ten women had discussed family planning with their partner in the past year and three in ten couples had more than one conversation about it.

The BFHS-II results suggest that Batswana women have a growing interest in spacing births but continue to have a preference for many children.

- The importance of spacing births at least two years apart has become more widely known between 1984 and 1988. Twenty-one percent of women in union interviewed in the 1984 BFHS wanted to wait at least two years before their next birth compared to 29 percent in 1988.

- The use of contraception for delaying a first and subsequent births has clearly been adopted by younger women. For example, among women 20-24 at the time of the survey, 50 percent had first used family planning before their first or second birth.

- The proportion of women in union who do not want any more children, 33 percent, is unchanged from the 1984 BFHS.

- Three-quarters of women said the ideal family was 4 or more children and 30 percent expressed a preference for 6 or more children.

The BFHS-II documents that many women had a birth sooner that they would have liked although only a minority of women had another birth when they preferred not to have any more children.

- Almost half of the births in the five years before the survey were not wanted at the time they occurred, but only five percent were not wanted at all.

- Six out of ten first births, predominantly to teenagers, occur before they are wanted.

- The BFHS-II found that few Batswana women have unwanted births. If all the unwanted births in the five years before the survey had been prevented, the current fertility rate would only be 6 percent lower.

Women can be considered in need of family planning if they are not currently using a method of contraception and either want no more births or want to postpone the next birth for two or more years. The BFHS-II found that 45 percent of women in union are in need of family planning.

- Twenty-one percent of women are in need of family planning because they want no more children and 24 percent are in need because they wish to delay their next birth.

- Slightly more than half of the women in need intend to use family planning. A higher proportion of women in need and who want no more children intend to use family planning than women in need who want to postpone a birth.

Since teenage pregnancy places the health and welfare of teenagers and their births at risk, the Government of Botswana encourages women to wait until age 20 before their first pregnancy. The BFHS-II found that nearly one-quarter of teenagers had at least one birth and an additional 5 percent were pregnant with their first child at the time of the survey.

- Four in ten teenage women with no education had at least one birth compared with less than two in ten teenagers with secondary or higher education.

- The proportion of teenage mothers has increased from 15 percent in 1971 to 24 percent in 1988.

- Among teenagers who had been pregnant, the average age at first pregnancy was 16 years.

- Two-thirds of teenagers who did not use a method of contraception when they first had sexual intercourse said it was because they did not know about family planning.

- One-third of teenagers who became pregnant (9 percent of all teenage women) left school because of pregnancy. Only one-fifth of those who left school were readmitted.

The BFHS-II also documents that the MCH/FP programme has made a successful contribution to the reduction of infant and child mortality, though children of mothers with no education and children born soon after a previous birth have higher mortality rates.

- The infant and childhood mortality rates for the five-year period preceding the BFHS-II are 37 and 16 per 1000, respectively.

- The extended duration of breastfeeding, widespread coverage of the immunisation program, general access to clean water, and the high usage of oral rehydration therapy for diarrhoea treatment, as well as the nutrition, health, and income generating programmes established to counter the effects of drought between 1982 and 1988, are important contributing factors to the low rate of infant and child mortality.

- While there is no significant difference in infant mortality between the children of urban and rural mothers, children of mothers with no education have a greater probability of dying in the first year of life than children of mothers who attended school.

- Infants born after an interval of less than two years since the previous birth are twice as likely to die as infants born after an interval of two or more years.

The BFHS-II documents that maternal and child health services are widely used by women in Botswana and the programme has expanded significantly since 1984.

- BFHS-II found that a large proportion of births in the five years before the survey, 90 percent, received antenatal care from a doctor or a nurse.

- The percentage of births whose mothers received a tetanus toxoid injection during pregnancy was also high at 84 percent.

- Since 1984, there had been an increase in the proportion of births delivered by trained health personnel, from 66 to 77 percent.

- The proportion of infants and mothers receiving postnatal care rose from 54 percent in 1984 to 71 percent.

- Health cards were seen in the BFHS-II for 74 percent of children age 12-23 months and mothers reported immunisations for an additional 22 percent. Among children age 12-23 with health cards, 89 percent were fully immunised.

The BFHS-II found that a significant proportion of ill children received appropriate treatment. Although a large proportion of children who suffered from diarrhoea were treated with oral rehydration therapy, of concern is the significant proportion for whom fluid and food intake was cut down during the diarrhoeal episode.

- Ten percent of children had diarrhoea in the two weeks before the survey. Almost half of the children with diarrhoea received oral rehydration therapy in the form of a solution prepared from a special packet of salts (ORS); one-quarter were treated with a homemade sugar and salt solution.

- Fluid and/or food intake was decreased for more than a third of the children with diarrhoea.

- The majority of children reported to have fever or respiratory illness in the four weeks before the survey were taken to health facilities for treatment.

The BFHS-II included questions on knowledge of AIDS, the ways the disease is transmitted, who is at highest risk, and behaviors that will help someone avoid the disease. In the absence of either a vaccine or a cure for AIDS, education about prevention is the main strategy for combatting the epidemic. Nearly all women interviewed in the BFHS-II had heard of AIDS. However, many women lack correct information or have misconceptions about the disease.

- Nine out of ten women had heard about AIDS.
- Three-quarters of women who knew about AIDS had correct information about routes of transmission.
- Half of the respondents thought that people who had casual contact with a person with AIDS were at high risk of contracting the disease.
- Most women had heard about AIDS from the radio. Over half of the women had also received some information about AIDS from a pamphlet or poster.
- Three-quarters of women reported AIDS could be avoided by limiting sex partners; four in ten women also mentioned the use of condoms to avoid AIDS.

Selected Indicators of Progress Made Between 1984 and 1988:

	1984	1988
Total Fertility Rate	6.5	5.0
Percentage of teenagers who are mothers	23	24
Family Planning Knowledge and Use		
Percentage of all women knowing a method	75	95
Percentage of all women knowing a source	69	95
Percentage of all women currently using any modern method	16	29
Percentage of women in union using any modern method	19	32
Utilization of MCH Services		
Percentage of births receiving antenatal care	90	92
Percentage of births having medically supervised deliveries	66	77
Percentage of births receiving postnatal care	54	71
Percentage of births visited at home by health worker immediately after delivery	26	35

RECOMMENDATIONS

The results of the 1984 BFHS showed that the Botswana MCH/FP programme has made considerable progress in providing health and contraceptive services to women of childbearing age. The 1988 BFHS (BFHS-II) confirms this and documents the further progress made between 1984 and 1988. The results of the BFHS-II indicate that utilization of MCH services has increased, along with knowledge and use of family planning. However, the 1988 findings also point to areas of the MCH/FP programme that need improvement.

I. An area where additional effort is needed is in Information, Education, and Communication (also recommended in 1984):

1. Counselling services should be strengthened so that they are better able to disseminate information about family planning and dispel misconceptions women have regarding the use of contraception. The strengthening of the services should be targeted not only towards clients but also health workers.

2. Information, education, and communication (IEC) activities at the district level need strengthening by training or designating officers specifically to carry out these services.

II. Outstanding recommendations from the 1984 BFHS should continue to receive emphasis:

1. Further efforts should be directed toward educating and counseling teenagers (both boys and girls) about responsible sexual behavior.

2. Additional attention should be placed on informing men about the health and other benefits of family planning. Emphasis should be placed on the importance of couple communication in this area and on the fact that childbearing is the joint responsibility of the couple and not the choice of the man or woman alone.

3. Stress should continue to be placed on the health benefits of traditional practices such as breastfeeding and post-partum abstinence.

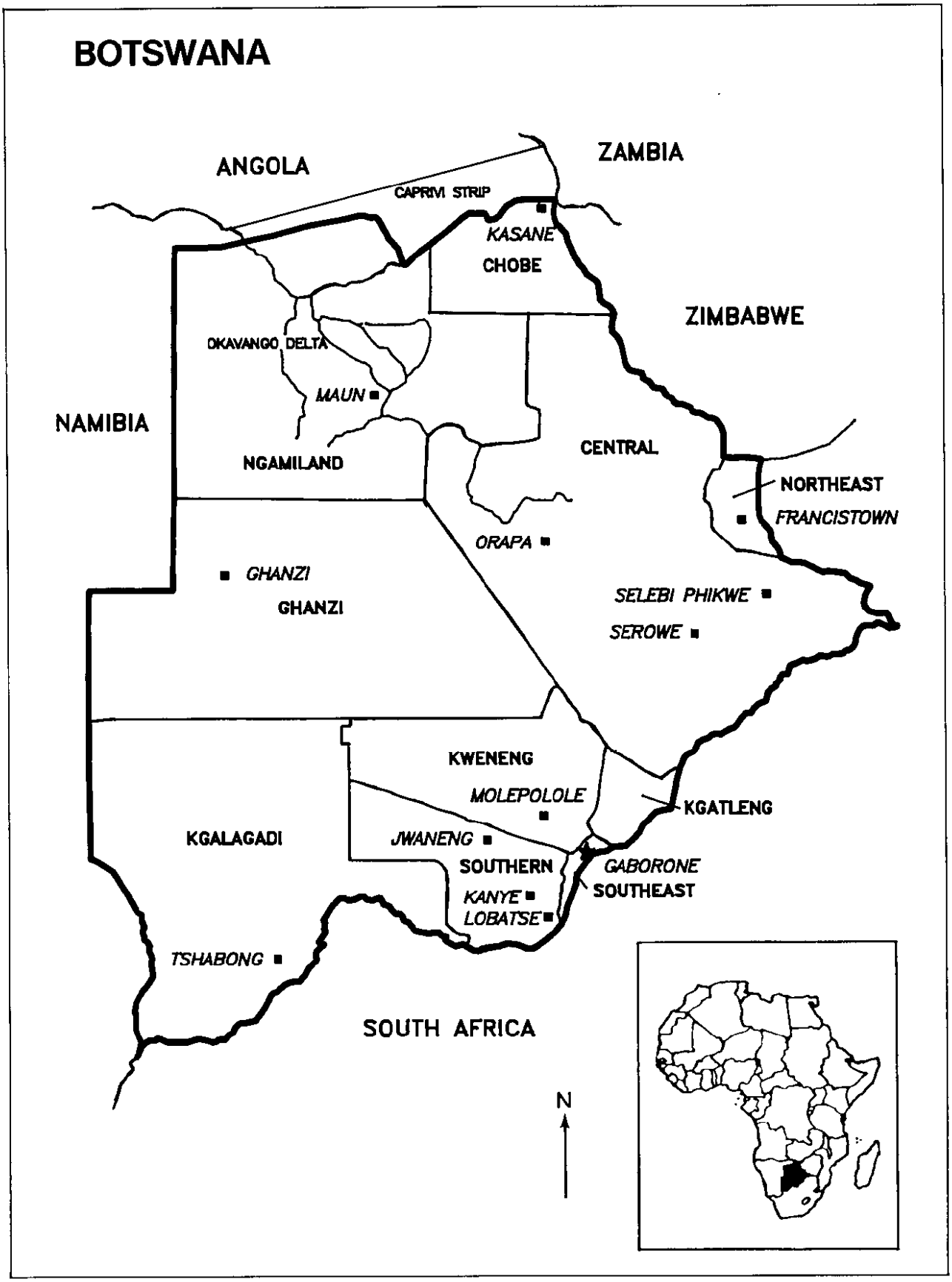
4. IEC materials targeting special population subgroups, e.g., illiterate women, should be developed.

5. Emphasis should be placed on identifying women in need of family planning services, particularly those concerned about limiting their family size. Counseling about family planning during the provision of antenatal and post-partum services is a key mechanism in reaching these women.

6. Potential acceptors should be counseled about the most appropriate methods for their age, life situation and fertility intentions.

7. Research should be undertaken to further investigate the determinants and consequences of adolescent childbearing.

8. Acceptors should be informed about possible side effects associated with the method they adopt, and follow-up of acceptors should be emphasized to reduce the levels of discontinuation due to side effects.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TSHABONG
SOUTH AFRICA
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1. BACKGROUND

1.1 GEOGRAPHY, CLIMATE, AND ECONOMY

The Republic of Botswana, 582,000 square kilometres in size, lies at the centre of the Southern Africa Plateau at a mean altitude of 1,000 meters above sea level. Formerly the Bechuanaland Protectorate, it is bounded by the Republic of South Africa, Namibia, Zambia and Zimbabwe.

The climate of Botswana is semi-arid. Temperatures are very high in summer and low during winter nights, often reaching sub-zero levels. Winter days are mild. Rainfall is seasonal with uneven distribution. Most rivers flow seasonally, except in the Northwest District where the major rivers are perennial. Ground water exists at varying depths in most parts of Botswana. A sand-covered thirstland, named the Kgalagadi (Kalahari) Desert, comprises 84 percent of the territory of Botswana. The soil of the Kgalagadi is sandy and of poor quality; yet, this thirstland frequently sustains abundant vegetation which contrasts with the general absence of surface water.

The availability of water is a dominant factor influencing the pattern of settlement. Water is needed to support and sustain the growth of crops and grass, to supply mining and other industrial needs, and to meet the demands of human settlements. About 87 percent of the population lives in the eastern part of Botswana where rainfall is more regular, ground water is available, and the soil is relatively fertile.

Drought has become a frequent occurrence in the country, and severe drought from 1982 to 1988 resulted in declining agricultural production and farm income. The semi-arid climate limits the arable land to less than 5 percent of the total land area and is a serious constraint on agricultural production.

The exploitation of minerals also influences settlement patterns. Mineral prospecting is one of Botswana's principal industries. The results of the standard methods of prospecting and the more recent air survey methods have been positive. There are copper and nickel ores at Selibe Phikwe, silver ore near Francistown, manganese and traces of asbestos near Kanye, coal in Morupule and other places such as Kgaswe and, more importantly, diamonds at Orapa, Letlhakane and Jwaneng. Along the Ghanzi ridge, minerals such as asbestos, lead, zinc, and uranium may also be found. The mines and their associated activities--transport, power, communications, and the provisioning of the mine workers--are a major source of employment in Botswana.

Botswana's gross domestic product (GDP) at current prices, increased from an estimated 36.6 million pula in 1966 to 1277.1 million pula in 1983/84. Mining is the largest contributor to the GDP. Agriculture's contribution to the GDP has declined substantially over the years from 25 percent in 1973/4 to 5 percent in 1983/4, while that of the mining sector has increased from 23 to 48 percent over the same period.

1.2 POPULATION

The population of Botswana is relatively homogenous compared to countries of East and West Africa. When compared with nearby countries, such as Lesotho and Swaziland, however, it is more heterogeneous. Most of Batswana are Tswana speaking, There are also found in the country Bakalanga, Hambukushu, Bayei, Basarwa (with their various dialects), Baherero, Ovambo, people of European stock, and some Ndebele, Shona, Nama and other people from the neighbouring countries.

According to recent censuses, the population has grown rapidly from 515,833 in 1964 to 649,083 in 1971, to 967,363 in 1981. The growth rate was 3.1 percent during the period 1964-71 and 4.1 percent during the period 1971-81. The increase cannot be fully accounted for by changes in fertility and mortality, and may be due partly to under-enumeration in the 1971 census and hidden migration into a Botswana during the 1971-81 inter-censal period. For example, fertility (measured by the crude birth rate) was estimated to be 48.7 per thousand, and mortality (measured by the crude death rate) was 13.9 per thousand during the inter-censal decade; the expected natural growth rate for this period would be 34.8 per thousand, instead of the 41.0 per thousand noted above. The natural growth rate of 3.48 percent per annum implies that the population will double every 20 years if the population continues to grow at the current rate. The total population for 1988 was estimated at 1.2 million.

One of the most critical aspects of this high growth rate is that it results in an unbalanced age structure, whereby the number of children (who are dependent) is nearly equal to the number of working age adults. A sustained high birth rate also leads to an increasingly larger number of children who require food, clothing, education, health services, shelter and future opportunities for employment.

The population of Botswana is distributed unevenly, with the highest concentrations in the southern and southeastern parts of the country and the lowest concentrations in the western and southwestern parts. The overall population density was 2.08 persons per square kilometre in 1988. The density varies from one region to another, being highest in the urban areas and lowest in rural areas. Within rural areas, localities with relatively good soil and water resources have a higher density than those with poorer resources. The population density has increased in all districts during the period 1971-81, though at different rates. In relative terms, only Kweneng District recorded a moderate increase (77 percent) while all other districts experienced gains in density in excess of 100 percent during the inter-censal period.

1.3 NATIONAL HEALTH PRIORITIES

When Botswana became independent in 1966, the Ministry of Health inherited a largely curative, urban health care system. Since then Botswana has adopted a primary health care strategy as the means for achieving health for all. Gradually, services have been altered to reflect this approach with an emphasis on prevention of disease and promotion of health. National health priorities, by order of importance, are listed in the National Development Plan VI (1985-91) as:

Primary Health Care,
Training and Manpower Development,
Planning and Statistics,
Hospital Services, and
Technical Support Services.

Under Primary Health Care (PHC), the Government's top priority, the expansion of services to reach all communities, especially those in the remote areas, is emphasized. More health posts are being staffed with enrolled nurses in order to increase the range of services that can be provided in these facilities on a daily basis. Another area of emphasis of the Botswana PHC programme is community participation and involvement. The training of family welfare educators receives considerable attention, as it is this cadre which is responsible for mobilizing communities to participate in health activities.

1.4 MATERNAL AND CHILD HEALTH/FAMILY PLANNING PROGRAMME

The maternal and child health/family planning (MCH/FP) programme is a major component of PHC; its tasks under the current National Development Plan include:

- Promotion of MCH/FP, with follow-up, and participation at the home level through the strengthening of family welfare educators in this area and data collection and use;
- Increased knowledge of and support for MCH/FP care which is effective, efficient, and acceptable at the community level;
- Identification of high risk groups among pregnant women, mothers, and children, and appropriate intervention;
- Protection of the health of mothers and infants through family planning services so that each family will be of a reasonable size, corresponding to its socio-economic and health conditions; and
- Continuation of the Expanded Programme on Immunization.

Maternal and child health/family planning services in Botswana originated in 1967, when several women in Francistown asked the Government Surgeon for contraceptives. These supplies were obtained from the International Planned Parenthood Association (IPPF) which subsequently began a pilot project in 1969 to introduce family planning in Serowe, a large village in the Central District. Six middle-aged women with children were trained as volunteer family welfare educators by an IPPF visiting team. In addition to human reproduction and family planning, the training included other subjects such as immunisations, breastfeeding, nutrition, child and maternal care, environmental sanitation, prevention of some major diseases and communication skills. Thus, from the beginning, family planning in Botswana has been integrated into the general context of maternal and child health and has never been a separate programme.

In 1973, the Maternal and Child Health/Family Planning (MCH/FP) Unit was formed in the Ministry of Health and a national programme was established. Family planning activities have been integrated into MCH services since the beginning of the national programme in 1973 because of their benefits to the health and welfare of families. The policy of the Government of Botswana affirms that these services be available to every family: "It is the basic right of every family to determine for itself how many children to have and when to have them. If couples are to exercise the choice of determining the number and spacing of their children, then public health agencies must provide them with the services, supplies and information on how to plan families" (Ministry of Health, 1976, p.i).

As a key component of the MCH/FP programme, it was decided to train 60 family welfare educators each year. Since 1973, more than 600 family welfare educators have successfully been trained by the MCH/FP Unit. Their role in the communities which select them is largely educational and motivational. In 1979, the Maternal and Child Health/Family Planning Unit joined with the Nutrition Unit and Health Education Unit to form the Family Health Division.

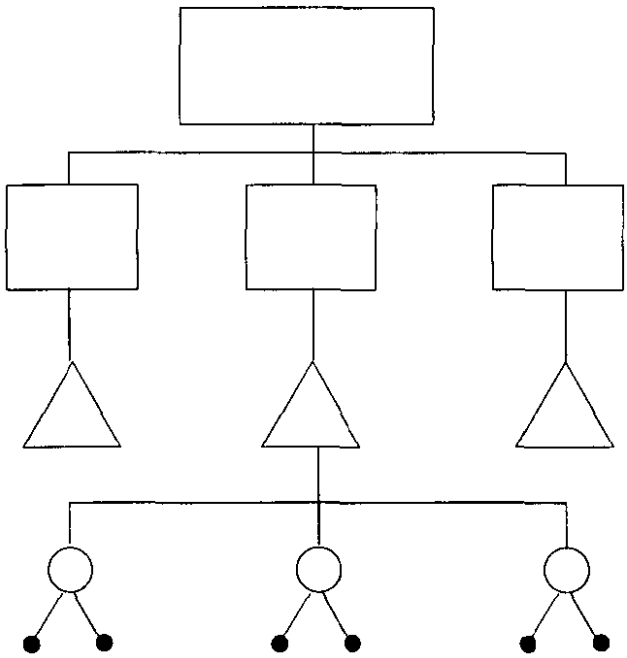
The main objectives of the Family Health Division are to reduce sickness and death among mothers, children and infants, to promote reproductive health, and to promote the physical and psychological health and development of children and adolescents. In order to achieve these objectives, health workers provide several services including antenatal care, supervised deliveries in health facilities, postnatal care, and family planning. They also vaccinate against infectious diseases, monitor the growth and development of children by periodic weighing and examination, supervise children's health in schools and encourage the community to participate in the health care of families.

MCH/FP services are available at all health facilities which provide curative and preventive care for the family. Since 1973, the number of service points has increased dramatically from 50 to more than 441 permanent facilities (see Figure 1.1). Emphasis has been placed on ensuring preventive care close to the predominantly rural population rather than on developing large, urban curative units. Participation is fostered through health education disseminated by home visits, school health education, village meetings, volunteer efforts, and the mass media.

Until 1984 family planning services were offered at only specified times during the week, as were child welfare, antenatal, postnatal, and other services. A typical mother would have to attend clinic sessions two to three times each month, once for antenatal services, again for child welfare services, and a third time for family planning services. In order to increase the accessibility of services, the MCH/FP Unit tested the integration of these services on a daily basis at several clinics late in 1984. From the initial pilot projects in two clinics in the Southeast District, integrated services have been extended to all parts of the country, such that today over 77 percent of clinics offer integrated services. With this approach, the entire family can obtain MCH/FP services on one day. Initial studies show that this approach has many advantages for both health personnel, service users, and the community.

The years after 1984 have seen an intensification of training in MCH/FP, both within and outside the country, with the aim of improving the quality of services. Many health workers have attended courses, seminars and workshops in the following areas of MCH/FP: integrated MCH/FP, counselling, contraceptive technology update, family planning clinical skills, family planning logistics,

Figure 1.1
Health Care Pyramid



Source: Medical Statistics Unit, 1989

family life education, fertility management, and maternal and child nutrition. Training has not been limited to service providers; National Health Institute (NHI) tutors have also received training. Furthermore, family planning has been integrated into the NHI curriculum.

Much progress has been made in reaching the populations in need of MCH/FP services, and many targets set in the 1979-1985 National Development Plan were met or exceeded by the end of the plan period.

For the current National Development Plan (NDP VI 1985-91), the MCH/FP targets are:

Infant Mortality Rate	Below 50/1000 live births
Women of reproductive age using modern methods of family planning	25%
Pregnant women attending antenatal clinics	98%
Supervised deliveries	70%
New-born babies with birth weight of at least 2500 grams	90%
Children under one year of age fully immunised	75%

In order to improve the quality and safety of family planning services in Botswana, the Family Health Division developed the Family Planning Policy Guidelines and Service Standards

in October 1987. These guidelines took effect in May 1988. The guidelines and standards, which were discussed at a national workshop and at interdistrict workshops held for most districts, have been welcomed by health workers. A clinical procedures manual for family planning has also been developed and is in final draft form. For a family planning programme to succeed there should be an uninterrupted flow of family planning commodities. To facilitate this, a drug and family planning logistics manual has been developed, and is nearing completion.

Information, education, and communication (IEC) is a very important component of any MCH/FP programme. Although many IEC activities in support of MCH/FP have been undertaken over the years, it is necessary to strengthen them further. In 1987, the Ministry of Health engaged a consultant to develop a three-year IEC programme to further promote MCH/FP activities. The design of this programme has been completed and--despite a shortage of manpower--implementation has started.

Teenage pregnancy continues to be a major concern in Botswana. In order to prepare teachers to teach family life education (FLE) to school children, two courses have been held, one for primary school teacher trainers and their education officers, and another for secondary school teachers and their education officers. The goal is for teachers and education officers trained in the two courses to form a core of trainees who, with support from the Family Health Division, will be responsible for training teachers in their areas. Already, district-level FLE workshops for teachers have been held in five districts.

1.5 POPULATION POLICY AND PROGRAMMES

In the past decade, key government officials, political leaders and chiefs have become concerned about the implications of rapid population growth in meeting overall development objectives. These concerns have been expressed through different media i.e. newspaper articles, speeches, and conference and workshop reports.

Key government officials have attended international conferences, where concerns about population and development were expressed, e.g., the Second African Conference on Population and Development held in Arusha, Tanzania in January 1984, the International Conference on Population held in Mexico City, Mexico in August 1984, and the All-African Population and Development Conference for Parliamentarians held in Harare, Zimbabwe. These conferences stressed the need for governments to develop population policies and implementation strategies.

In Botswana, workshops and conferences on population and development have been held to further sensitize policy makers on population and development matters. A seminar was held for policy makers and implementors in October 1985 to disseminate the results of the Botswana Family Health Survey of 1984. In September 1986, a conference on Population and Development for Parliamentarians and Chiefs was held. Another conference on the same subject was held for permanent secretaries and senior public officers in June 1987. These conferences called for the development of clear policies on population and development as well as teenage fertility. Also emanating from the conference for Parliamentarians and Chiefs has been the establishment of a National Parliamentary Council on Population and Development, whose mandate is to sensitize legislators and individual constituencies to population and development issues in the country. In

January 1989, the Government of Botswana created an Interministerial Programme Steering Committee on Population and Development to develop and implement a national population policy.

1.6 OBJECTIVES OF THE BOTSWANA FAMILY HEALTH SURVEY II

The Botswana Family Health Survey II (BFHS-II) was conducted on behalf of the Family Health Division of the Ministry of Health by the Central Statistics Office,through the Continuous Household Integrated Programme of Surveys. It was carried out as a sequel to the 1984 Botswana Family Health Survey and in conjunction with the second round of the 1987 Botswana Demographic Survey (BDS). Financial and technical assistance for the survey was provided by the Demographic and Health Surveys Programme at the Institute for Resource Development (IRD), under a contract with the United States Agency for International Development.

The objectives of the BFHS-II are to provide information on family planning awareness, approval and use, basic indicators of maternal and child health, and other topics related to family health. In addition, the BFHS-II complements the data collected in the BDS, by obtaining information needed to explore trends in fertility and mortality, and to examine the factors that influence these basic demographic indicators, particularly, the proximate determinants of fertility.

Specific objectives are:

- To collect information on fertility and family planning;
- To find out what type of women are likely to have more or fewer children or to use or not use family planning;
- To collect information on certain health-related matters such as antenatal checkups, supervised deliveries, postnatal care, breastfeeding, immunisation, and diarrhoea treatment;
- To develop skills in conducting periodic surveys designed to monitor changes in demographic rates, health status, and the use of family planning; and
- To provide internationally comparable data which can be used by researchers investigating topics related to fertility, mortality and maternal-child health.

1.7 BACKGROUND CHARACTERISTICS OF RESPONDENTS

The Botswana Family Health Survey II identified 4,648 eligible women and of these 4,368 women were successfully interviewed: 2,258 women residing in the urban areas and 2,110 in the rural areas. This section presents the distribution of the women interviewed for the BFHS-II by selected demographic and socioeconomic characteristics, as well as a comparison with the same information from previous sources as a measure of the quality of BFHS-II data. A description of the characteristics of the surveyed women provides a background for interpretation of survey findings for the report, while a discussion of the associations among some of the background variables is useful for an understanding of the data.

Table 1.1 Percent Distribution of Women 15-49 by Background Characteristics, 1981 Census, 1984 BFHS, and 1988 BFHS-II

Background Characteristic	1981 Census	1984 BFHS	1988 BFHS-II	Weighted Number of Women BFHS-II	Unweighted Number of Women BFHS-II
Age					
15-19	23.4	19.5	21.6	937	946
20-24	21.6	22.0	21.1	926	949
25-29	17.0	18.3	19.4	846	880
30-34	12.0	13.8	14.9	653	644
35-39	9.8	11.3	10.7	465	455
40-44	8.6	9.0	6.7	290	273
45-49	7.4	6.1	5.7	251	221
Union Status					
Never in union	54.1	29.0	52.9	2312	2283
Currently in union	40.8	65.1	39.0	1708	1734
Formerly in union	5.1	5.9	8.0	349	351
Residence					
Urban	21.2	23.6	30.1	1316	2258
Rural	78.8	76.4	69.9	3052	2110
Level of Education					
No Education	35.3	30.8	24.0	1045	899
Incomplete Primary	34.8	29.3	24.6	1073	1042
Complete Primary	21.1	24.0	25.5	1115	1164
Secondary or Higher	8.8	16.0	25.9	1135	1263
Total	100.0	100.0	100.0	4368	4368

Table 1.1 compares the age distribution of the women in the BFHS-II sample with the distribution of women 15-49 in the 1981 census and 1984 Botswana Family Health Survey (BFHS). The BFHS-II sample has a greater concentration of women at the ages 20-34 than the other two data sets. There is apparent under-sampling of teenagers in both the 1984 BFHS and the 1988 BFHS-II. An examination of the distribution of household members by age and sex enumerated in the BFHS-II household listing indicates a greater than expected number of women in the 10-14 age group for females and a dearth in the 15-19 age group. Some interviewers may have recorded women in the 15-19 year age group as having a younger age in the household listing in order to make them ineligible for the individual interview and thus lighten their work load. Similarly, it was also found that females in the 45-49 age group was under-enumerated relative to the 50-54 age group.

The greater concentration of women in the prime reproductive ages in the BFHS-II may also result from the fact that interviewers were more successful in interviewing women in selected households in the urban areas, where more young women are found. One consequence of the greater concentration of younger women is that estimates of contraceptive prevalence may be higher, and fertility lower, than if more older women had been interviewed.

The distribution of women by marital status in the BFHS-II is similar to that found in the 1981 census, whereas the 1984 BFHS classified a much greater proportion of women as currently in union. The 1984 BFHS included two additional probes to determine how many women reporting their marital status as separated, divorced, widowed, or single were actually living with a partner at the time of the interview. In response to these probes, almost half of the women who initially did not report themselves as married or in a consensual union said that they were currently living with a partner, resulting in a much higher estimate of the proportion currently in union.

Table 1.1 shows a rapid increase in the proportion of the Batswana population living in urban areas. The proportion of respondents residing in urban areas increased from 21 percent in 1981 to 24 percent in 1984, and rose to 30 percent by 1988. However, the BFHS-II may include a slightly greater proportion of urban women than is found in the population. There has also been a increase in the education of women in the 1980s. Only 30 percent of women 15-49 at the time of the 1981 census reported that they had completed primary school or higher, compared with more than 50 percent of women in the BFHS-II. In 1981, 35 percent of women of reproductive age had not attended any school; by 1988, only 24 percent had received no education.

The final two columns of Table 1.1 show the weighted and unweighted number of women. Weighting of data is necessary to compensate for differences in the selection probabilities and response rates. The weights are determined in such a way that the total number of weighted cases equals the total number of women interviewed. Therefore, for most of the sample, the weighted number of cases can serve as a rough guide for the actual number of cases. The main exceptions are when results are tabulated by the criteria used to define the sampling domains, in this case urban or rural residence, or any characteristics strongly associated with urban-rural residence. All results presented in this report are weighted and only the weighted number of cases is shown.

Table 1.2 shows the distribution of the surveyed women by education and according to age, urban-rural residence, and religion. Education is a major factor which determines the level of participation of women in the various sectors of the modern economy. Generally, women in Botswana play an active and significant role in the educational system both as students and as teachers. For the last ten years, female students have dominated the primary and junior secondary school system. However, this situation changes at senior secondary and higher levels of education.

The percent of women by education according to age cohort shows the increasing level of education among Batswana women. The percent of women with no education drops dramatically with decreasing age and, conversely, the proportion with at least completed primary schooling rises. As expected, urban women are better educated than their rural counterparts. The data also show variations in education by religion. Women who belong to the Spiritual-African Church, or profess to have no religion, have substantially less education than Catholic or Protestant women.

Table 1.2 Percent Distribution of Women by Education, According to Age, Urban-Rural Residence, and Religion, BFHS-II 1988

Background Characteristic	Education				Total	Number of Women
	No Education	Incomplete Primary	Complete Primary	Secondary or Higher		
Age						
15-19	5.5	19.6	37.1	37.8	100.0	937
20-24	15.3	16.8	32.4	35.5	100.0	926
25-29	29.5	18.7	27.3	24.5	100.0	846
30-34	34.5	26.3	18.9	20.3	100.0	653
35-39	34.5	35.6	17.9	12.1	100.0	464
40-44	33.2	45.4	8.5	12.9	100.0	290
45-49	47.8	42.3	2.0	7.9	100.0	251
Residence						
Urban	13.1	22.3	29.1	35.5	100.0	1316
Rural	28.6	25.5	24.0	21.9	100.0	3052
Religion						
Spiritual - African	24.1	26.7	28.1	21.1	100.0	1869
Protestant	15.1	23.2	24.2	37.5	100.0	980
Catholic	12.2	21.7	23.8	42.3	100.0	391
Other	6.4	19.3	15.2	59.1	100.0	50
No Religion	36.8	23.4	23.4	16.5	100.0	1075
Total	23.9	24.6	25.5	26.0	100.0	4368

2. EXPOSURE TO PREGNANCY, BREASTFEEDING AND POST-PARTUM INSUSCEPTIBILITY

The proximate determinants of fertility which have the greatest effect on exposure to pregnancy are the proportion of a woman's life spent in marriage or sexual unions, breastfeeding practices and their effect on delaying the return of menstrual periods after a birth, and the practice of abstaining from sexual relations following a birth. This chapter presents data on each of these fertility determinants and discusses their contribution to reducing the time that women are at risk of a pregnancy during the reproductive ages.

2.1 CURRENT UNION STATUS

The demographic significance of union patterns derives from the fact that most childbearing occurs in the context of formal or informal unions. Therefore, marriage and cohabitation are primary indicators of exposure to the risk of pregnancy, and important for understanding fertility. In Botswana, however, a union is not prerequisite to childbearing. Many women bear children before entering a stable union, visiting relationships are common, and many women have children in the context of such unions.

Unfortunately, the BFHS-II only obtained information about unions in which the woman was married or living with a partner. Thus, in addition to the standard indicator of current marital status, we also present in this chapter data on sexual activity. Problems exist with both measures as proxies for exposure to the risk of pregnancy. Current marital status underestimates the proportion of women exposed, because it does not take into account the large proportion of women in stable relationships that do not involve cohabitation. On the other hand, relying on reports of sexual activity may overestimate exposure, because women who ever had sexual intercourse, or even had sexual intercourse in the last month, may not have regular sexual relations.

Table 2.1 Percent Distribution of All Women by Current Marital Status, According to Age, BFHS-II 1988

Age	Current Marital Status						Total	Number of Women
	Never Married	Married	Living Together	Widowed	Divorced	Separated		
15-19	93.9	3.0	2.8	0.0	0.1	0.3	100.0	937
20-24	69.7	14.3	11.4	0.0	0.7	3.9	100.0	926
25-29	43.3	33.6	16.1	0.7	2.2	4.2	100.0	846
30-34	30.4	43.7	14.7	1.0	5.1	5.1	100.0	653
35-39	25.1	49.3	13.3	2.8	3.9	5.6	100.0	464
40-44	18.5	54.3	8.5	6.2	5.8	6.7	100.0	290
45-49	20.2	47.4	8.7	11.0	8.2	4.5	100.0	251
Total	52.9	28.3	10.8	1.6	2.6	3.8	100.0	4368

In the BFHS-II, women were asked if they had ever been married or had lived with a man. Those who replied that they had were asked about their current marital status. Table 2.1 shows that 53 percent of the women reported that they had never been married or lived with a man. Of the remaining 47 percent, 28 percent said they were currently married, 11 percent were living with a partner though not married, and the remainder (8 percent) were widowed, divorced, or separated.

The proportion of women reporting themselves to be currently in union in the BFHS-II is similar to the figure reported from the 1981 Census, but lower than the proportion reported in the 1984 BFHS. That survey included two additional probes to determine how many women reporting their marital status as separated, divorced, widowed or single, were actually living with a partner at the time of the interview. In response to these probes, almost half of the women not initially reporting themselves as married or in a consensual union said that they were living with a partner. The 1984 BFHS shows that 79 percent of all women were currently in union compared to 39 percent for the BFHS-II.

Table 2.2 Percent Distribution of Never-Married Women Who Have Ever Had Sexual Intercourse, According to Age, BFHS-II 1988

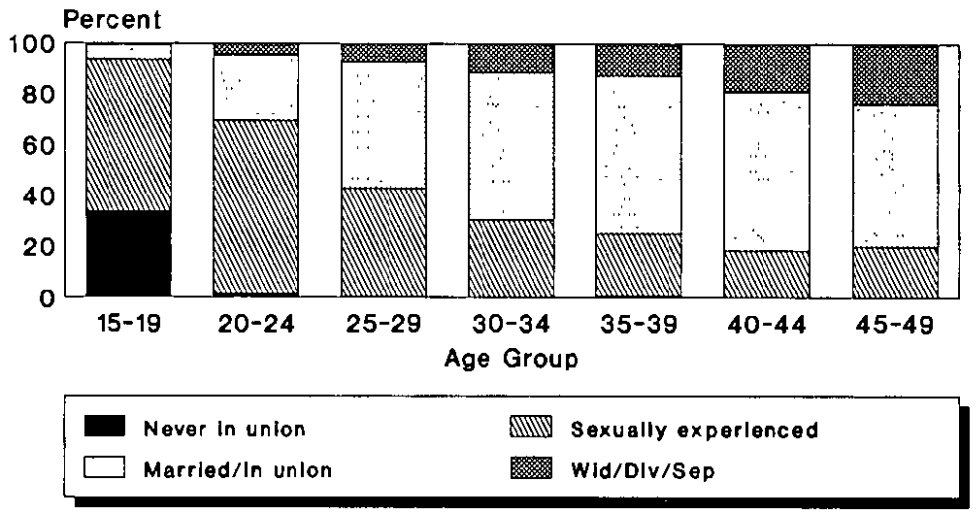
Age	Ever Had Sexual Intercourse	Never Had Sexual Intercourse	Total	Number of Women
15-19	64.0	36.0	100.0	880
20-24	97.7	2.3	100.0	646
25-29	99.3	0.7	100.0	366
30-34	100.0	0.0	100.0	199
35-39	97.6	2.4	100.0	116
40-44	100.0	0.0	100.0	54
45-49	100.0	0.0	100.0	51
Total	85.4	14.6	100.0	2311

It is likely that many of the women in the BFHS-II who had never lived with a partner had a current or past regular sexual relationship. Table 2.2 shows the percentage of never-married women who have had sexual intercourse by age, and Figure 2.1 shows the percent distribution of women by marital status, with never-married women divided into those with sexual experience and those without. As seen in Table 2.2, among women age 20 or older who report themselves as never having been married or in union, nearly all have had sexual intercourse. Adding the never-married women who have had sexual intercourse to those women who report themselves to be currently or previously in a union gives an estimate of the maximum number of women exposed to the risk of pregnancy. This percentage is 92 percent, a result which is only slightly higher that the 90 percent who reported themselves to be currently or previously in union in the 1984 BFHS.

Table 2.3 shows the proportion of women who had sexual intercourse in the month before the survey by current union status. As expected, the majority of women who are married or living together with a man were sexually active, with 70 percent of these women reporting sexual

intercourse in the month before the interview. More surprisingly, almost half of never-married women and women formerly in union also reported sexual intercourse in the month before the interview.

Figure 2.1
Union Status of Women 15-49
by Age Group



BFHS-II 1988

Table 2.3 Percentage of Women Having Sexual Intercourse in the Month Preceding the Survey by Current Marital Status, According to Age, BFHS-II 1988

Age	Never In Union**	Currently In Union	Formerly In Union	All Women
15-19	40.5	65.1	*	28.2
20-24	45.9	66.8	50.6	50.8
25-29	58.5	66.4	57.5	62.2
30-34	57.1	70.2	62.7	65.4
35-39	45.3	74.4	43.0	63.0
40-44	42.0	67.9	31.4	56.3
45-49	36.6	74.4	28.5	55.9
Total	47.4	69.5	46.0	52.3

* Fewer than 20 cases.
** Excludes women who have not yet had sexual intercourse.

In sum, while formal marriage is far from universal in Botswana, by age 20 a large proportion of Batswana women are regularly sexually active and exposed to pregnancy. To restrict the analysis of fertility and its determinants to women married or living with a partner, would underestimate the level of fertility and focus on a group that is not representative of the childbearing population. Thus, wherever possible, in the remainder of the report, analysis of fertility and its determinants will focus on all women, or all women who have ever had intercourse. The inclusion of all women who have ever had sexual intercourse may exaggerate the population at risk of a pregnancy by including some women who are not engaged in regular sexual relations. Nonetheless, the results of the 1984 BFHS and data on sexual intercourse from the BFHS-II show that most women over the age of 20 have a regular sexual partner, or are sexually active, and thus are at risk of a pregnancy.

2.2 AGE AT FIRST SEXUAL INTERCOURSE

If childbearing occurs predominantly in marriage, then the age at which a woman first enters a formal or consensual union is an indicator of the beginning of her reproductive life. However, as discussed above, childbearing is by no means restricted to unions in Botswana. In fact, the median age at first union, which is around 24 years of age, is five years after the median age at first birth.

Rather than focus on age at first union, this section looks at the age at first sexual intercourse. These data should be viewed with some caution. In many cases, the respondent reported her age at first sexual intercourse to be the same as her age at the time of her first birth. In most cases this would be impossible if one allows for a nine month period of pregnancy between the first sexual intercourse and the first birth. In the cases where an adjustment of one year would make the data consistent, this adjustment was made. If the inconsistency could not be resolved by lowering the age at first sexual intercourse by one year, the response was coded as inconsistent. Six percent of all responses to the question on age at first sexual intercourse were coded as inconsistent.

Table 2.4 shows that seven percent of women had sexual intercourse before age 15, sixty percent were sexually active by their 18th birthday, and over eighty percent had their first sexual intercourse before age 20. It is unclear whether the age at first sexual intercourse has changed in recent years. On the one hand, 11 percent of the respondents in the 1984 BFHS reported having sexual intercourse before age 15, compared to 7 percent in the 1988 BFHS-II. On the other hand, in the BFHS-II, more women were sexually active before age 15 in the 15-19 age group than in the 20-24 group and there is no change in the proportion of women who initiated sexual relations before age 18, among women currently age 20-24 and women 25 and older.

Table 2.5 presents the median age at first sexual intercourse by selected background characteristics. The median age is the exact age by which 50 percent of a cohort of women have had their first sexual intercourse. Only women 20-49 are included in this table since the median age at first intercourse for teenagers is influenced by the proportion that have not yet become sexually active. The median age at first sexual intercourse is 17.3, the same as in the 1984 BFHS. There is little difference in the age at which women have their first sexual experience. When older women, who initiated sexual intercourse 20-25 years ago, and younger women, who only recently became sexually active are compared, there is little difference in the age at which sexual activity

Table 2.4 Percent Distribution of All Women by Age at First Sexual Intercourse and Median Age at First Sexual Intercourse, According to Current Age, BFHS-II 1988

Current Age	Never Had Sexual Intercourse	Age at First Sexual Intercourse						Total	Number of Women	Median Age
		<15	15-17	18-19	20-21	22-24	25+			
15-19	34.4	8.3	50.6	6.7	0.0	0.0	0.0	100.0	922	-
20-24	1.7	6.7	58.2	25.9	6.9	0.6	0.0	100.0	888	17.2
25-29	0.4	8.0	56.6	26.1	7.2	1.6	0.1	100.0	781	17.1
30-34	0.0	7.5	55.4	26.0	7.5	3.3	0.3	100.0	602	17.3
35-39	0.7	7.5	54.2	27.3	7.1	2.7	0.5	100.0	434	17.2
40-44	0.0	8.2	50.9	26.6	9.4	3.4	1.5	100.0	270	17.3
45-49	0.0	2.0	46.8	32.5	13.0	3.0	2.5	100.0	229	18.1
Total	8.2	7.3	54.3	22.2	6.0	1.6	0.4	100.0	4126*	-

* Excludes 242 women whose age at first intercourse was inconsistent with age at first birth.
- Omitted due to censoring.

began. Residence is not associated with the age at first sexual intercourse; however, there are differentials between educational groups. Women with no education generally become sexually active one year earlier than women with some secondary education.

Table 2.5 Median Age at First Sexual Intercourse among Women 20-49, by Current Age and Selected Background Characteristics, BFHS-II 1988

Background Characteristic	Current Age						Total
	20-24	25-29	30-34	35-39	40-44	45-49	20-49
Residence							
Urban	17.3	17.2	17.3	17.5	17.7	17.7	17.3
Rural	17.2	17.1	17.4	17.0	17.2	18.1	17.3
Education							
No Education	16.7	16.5	16.9	16.8	17.5	17.8	16.9
Incomplete Primary	16.5	17.0	16.8	16.9	17.0	18.0	17.0
Complete Primary	17.4	17.3	17.6	17.7	17.5	*	17.4
Secondary or Higher	17.6	18.0	18.4	18.1	17.8	*	17.9
Total	17.2	17.1	17.3	17.2	17.3	18.1	17.3

* Fewer than 20 cases.

2.3 OTHER FACTORS AFFECTING EXPOSURE TO THE RISK OF PREGNANCY: BREASTFEEDING AND POST-PARTUM INSUSCEPTIBILITY

Breastfeeding is widely practised in Botswana. In recent years, the Botswana Breastfeeding Promotion and Protection Group--whose activities include organizing seminars, counselling, training of health workers, and development of materials on breastfeeding--has placed emphasis on advising

mothers on the benefits of the practise. Women are encouraged to breastfeed for two years after the birth. The Botswana government supports breastfeeding by allowing working mothers one hour a day additional time off for breastfeeding until their child's first birthday.

Table 2.6 Percentage of Births in the Last 36 Months Whose Mothers are Still Breastfeeding, Post-partum Amenorrheic, Abstaining, and Insusceptible to Pregnancy, by the Number of Months since Birth, BFHS-II 1988

Months since Birth	Still Breast-feeding	Still Amenor-rheic	Still Abstaining	Still Insuscep-tible	Number of Births
Less than 2	90.8	93.4	98.2	98.2	114
2-3	96.6	81.2	92.8	95.6	137
4-5	87.1	71.4	76.5	89.5	133
6-7	89.5	60.8	59.1	76.7	113
8-9	90.1	61.6	53.8	75.2	126
10-11	86.4	48.5	50.0	65.1	115
12-13	73.0	29.9	34.1	52.0	138
14-15	72.0	33.6	30.9	51.0	96
16-17	58.1	19.9	25.5	33.9	114
18-19	48.3	14.3	19.2	28.6	113
20-21	25.4	3.2	5.3	7.9	99
22-23	16.6	2.2	5.8	8.0	91
24-25	16.5	1.5	4.6	6.1	95
26-27	6.8	1.5	3.7	5.2	94
28-29	3.6	2.6	4.9	6.2	113
30-31	7.4	0.6	2.8	3.3	105
32-33	0.6	1.6	2.2	3.8	92
34-35	0.6	0.0	0.0	0.0	100
Total	51.9	32.2	34.6	42.7	1988

Table 2.6 shows that almost all Batswana babies are breastfed, most through the first year of life and well into the second. Almost three-quarters of children age 12-13 months are still being breastfed, and almost half of those 18-19 months are breastfed. These results are virtually identical to those from the 1984 BFHS, which showed that 73 percent of women breastfed for at least one year and 49 percent breastfed until the child was at least 18 months.

By lengthening the duration of post-partum amenorrhea--the period after a birth during which the women does not ovulate and hence is not at risk of becoming pregnant--breastfeeding may have a significant effect on the spacing of births. The effect of breastfeeding on post-partum amenorrhea depends both on the duration of the breastfeeding, and whether breastfeeding is supplemented with other liquids or foods. As expected, in view of the near universality and long duration of breastfeeding among Batswana mothers, the return of menstruation is delayed for a long time after each birth. Table 2.6 shows that 60 percent of mothers 6-7 months post-partum are still amenorrheic. This figure drops to 30 percent among mothers 12-13 months post-partum and to less than 15 percent among mothers 18-19 months post-partum.

Cultural values and customs which govern the resumption of sexual activity following childbirth have a significant impact on the health of the mother and child by delaying future pregnancies. These customs are common in Botswana. For example, the custom of "botsetsi" requires the mother and child to stay in a special confinement room for at least three months to ensure normal growth of the child and recovery of the mother after the birth. Among some ethnic groups, it is customary to refrain from sexual relations while breastfeeding.

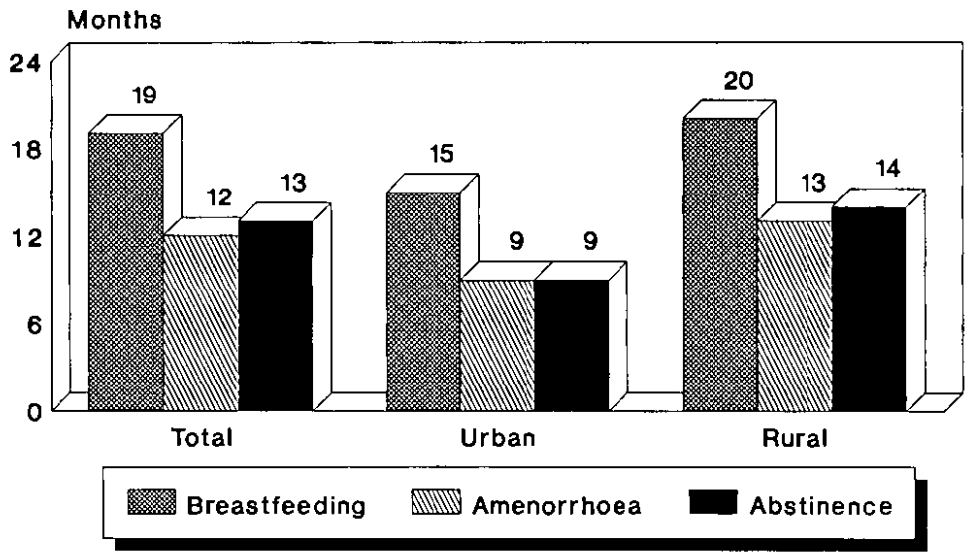
Due mainly to such cultural practices, Botswana women report long periods of sexual abstinence following childbirth. Sixty percent of women 6-7 months post-partum are still abstaining. Among women 12-13 months post-partum, one third have not resumed sexual relations, and among those 18-19 months post-partum, nearly 20 percent are still refraining from sexual intercourse.

The final column of Table 2.6 provides information about the proportion of mothers who are insusceptible to pregnancy, either because their period has not returned since their last birth, or because they are practicing sexual abstinence. The table shows that more than half of mothers 12-13 months post-partum are not yet at risk of a pregnancy, either because of post-partum amenorrhea or abstinence. The proportion of mothers who are insusceptible drops off rapidly after 12 months; among mothers 18-19 months post-partum less than 30 percent are insusceptible and among those 24-25 months post-partum, only 6 percent are protected from becoming pregnant by post-partum amenorrhea or abstinence.

Table 2.7 Mean Number of Months of Breastfeeding, Post-partum Amenorrhea, Post-partum Abstinence, and Post-partum Insusceptibility, by Selected Background Characteristics, BFHS-II 1988

Background Characteristic	Breast-feeding	Amenor-rheic	Abstinence	Insuscep-tibility	Number of Births
Age					
<30	19.1	11.6	13.9	16.1	1293
30+	18.3	11.6	10.6	14.8	698
Residence					
Urban	14.7	8.5	9.4	11.9	504
Rural	20.2	12.6	13.8	16.9	1487
Education					
No Education	20.2	12.6	11.6	16.0	570
Incomplete Primary	20.3	12.6	14.2	16.8	488
Complete Primary	18.0	10.7	12.3	14.9	523
Secondary or Higher	16.1	10.1	13.0	14.7	409
Total	18.8	11.6	12.7	15.6	1990

Figure 2.2
Mean Duration of Breastfeeding, Amenorrhoea and Post-partum Abstinence



BFHS-II 1988

Table 2.7 provides estimates of the mean duration in months of breastfeeding, post-partum amenorrhea, post-partum abstinence, and post-partum insusceptibility by selected background characteristics. These estimates were calculated using the "prevalence/incidence" method borrowed from epidemiology. The mean duration of breastfeeding (or amenorrhea, abstinence, etc.) is calculated by dividing the prevalence of the behavior by the incidence. Prevalence is defined as the number of women currently breastfeeding (or amenorrheic, abstaining, etc.) and incidence is the average number of births per month. This average is calculated on the basis of the number of births over 36 months to overcome problems of seasonality and fluctuations in the number of monthly births over short periods. A major advantage of the prevalence/incidence method over life table calculations is that it relies only on the mother's current status, e.g., breastfeeding or not, amenorrheic or not, etc., rather than on retrospective information on the number of months breastfeeding and other post-partum behaviors were practised.

The means in Table 2.7 confirm that relatively long durations of breastfeeding and post-partum amenorrhea and abstinence are practiced in Botswana. The mean duration of breastfeeding is nearly 19 months. On average, the resumption of menstruation is delayed for 12 months following childbirth and sexual relations for 13 months. Taking into account the effect of both post-partum amenorrhea and abstinence, a woman is not at risk of pregnancy for an average of nearly 16 months.

Younger women breastfeed for a slightly longer period than older women. Younger women also abstain from sexual relations for a longer period, contributing to a period of post-partum insusceptibility that is more than 16 months on average. This is encouraging, since a decrease in the duration of post-partum insusceptibility among younger women--which is often found as young

women become more educated, move to urban areas, and abandon traditional post-partum practices--would put a greater burden on the family planning programme to compensate for the increased risk of another pregnancy following shortly after the previous.

As seen in Figure 2.2, rural women in Botswana have considerably longer periods of breastfeeding, post-partum amenorrhea, and abstinence from sexual relations than urban women. Consequently, the period of post-partum insusceptibility is five months longer for rural women than urban. Furthermore, there is evidence of decline in breastfeeding in the urban areas of Botswana. The median duration of breastfeeding among urban women interviewed in the 1984 BFHS was 17.6 months. The mean duration calculated from the 1988 data was 14.7 months.[1] There are small differences in post-partum insusceptibility by level of education. On average, women with less education breastfeed for longer periods and thus have a longer duration of amenorrhea.

A comparison of the effects of residence and education on post-partum insusceptibility suggests that aspects of urban life, more than higher levels of educational attainment, cause erosion of traditional practices which protect a woman from another pregnancy for several months after a birth. These results suggest that the MCH/FP programme must work to maintain the customary post-partum practices which contribute significantly to the well being of mother and child by delaying the next pregnancy.

[1] The median duration of breastfeeding from the 1984 BFHS data was calculated by life table techniques while the mean duration from the 1988 BFHS-II survey was calculated using the incidence/prevalence method described in the text. Differences in the estimation techniques would underestimate the decline, since the mean duration is usually longer than the median duration--women who breastfeed for very long periods will affect the estimate of the mean but not the median. The median and mean duration of breastfeeding for rural women, 20.2 months, is identical in the two surveys.

3. FERTILITY

This chapter contains a discussion of levels, trends, and differentials in fertility in Botswana. The BFHS-II questionnaire included questions on the total number of live births and surviving children a woman had over her lifetime, as well as a detailed birth history. Each respondent was asked about the number of sons and daughters living with her, sons and daughters living away, and sons and daughters who died. Then the respondent was asked to provide a complete maternity history, including the sex of the child, date of birth, survival status, and current age or age at death.

3.1 FERTILITY LEVELS AND TRENDS

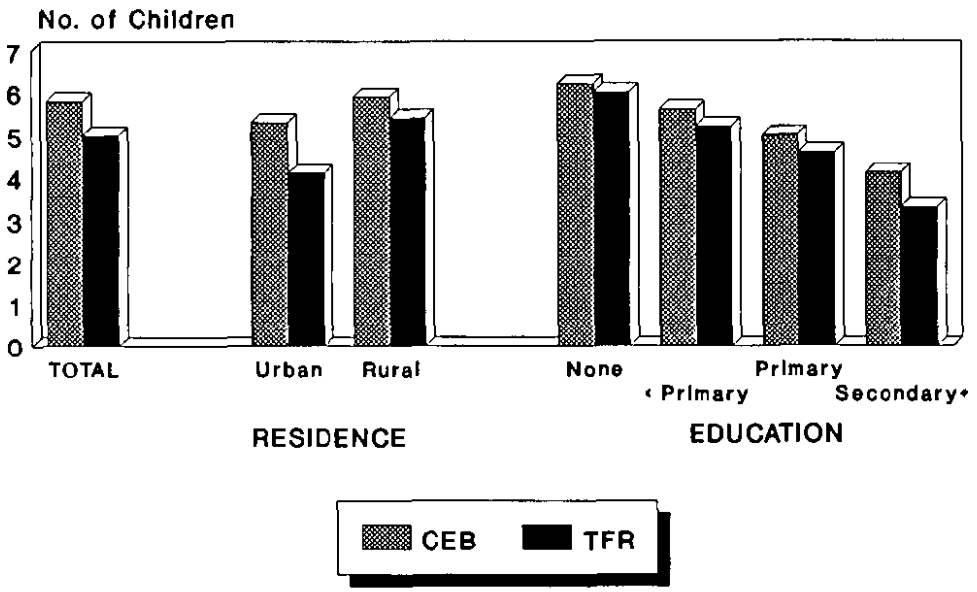
Table 3.1 and Figure 3.1 present data on current fertility by selected background characteristics of the respondents. The measure of current fertility is the total fertility rate. This represents the total number of births a woman would have by age 50 if she had children at the same rate as women currently in each age group. To indicate recent trends in fertility, the total fertility rate is shown for the calendar periods 1982-1984 and 1985 through the time of the survey in 1988. In order to examine differentials in recent fertility levels according to background characteristics, the total fertility rate is also shown for the 5-year period before the survey. The fourth column contains the mean number of children ever born to women 45-49 years of age which serves as a measure of cumulative fertility for women close to the end of their childbearing years.

Table 3.1 Total Fertility Rates for Calendar Year Periods and for Five Years Preceding the Survey, and Mean Number of Children Ever Born to Women 45-49 Years of Age, by Selected Background Characteristics, BFHS-II 1988

Background Characteristics	Total Fertility Rates: 1985-1988	1982-1984	0-4 Years Before Survey	Mean Number of Children Ever Born to Women Age 45-49
Residence				
Urban	3.9	5.0	4.1	5.3
Rural	5.4	6.1	5.4	5.9
Education				
No Education	5.9	7.1	6.0	6.2
Incomplete Primary	5.2	5.9	5.2	5.6
Complete Primary	4.7	5.0	4.6	5.0
Secondary or Higher	3.4	3.6	3.3	4.1
Total	4.9	5.9	5.0	5.8

Fertility in Botswana remains high. The total fertility rate for the five-year period prior to the survey is 5.0 children per women. The fertility of urban women is lower than that of rural

Figure 3.1
Children Ever Born to Women 45-49 and Total Fertility Rate 0-4 Years Before the Survey



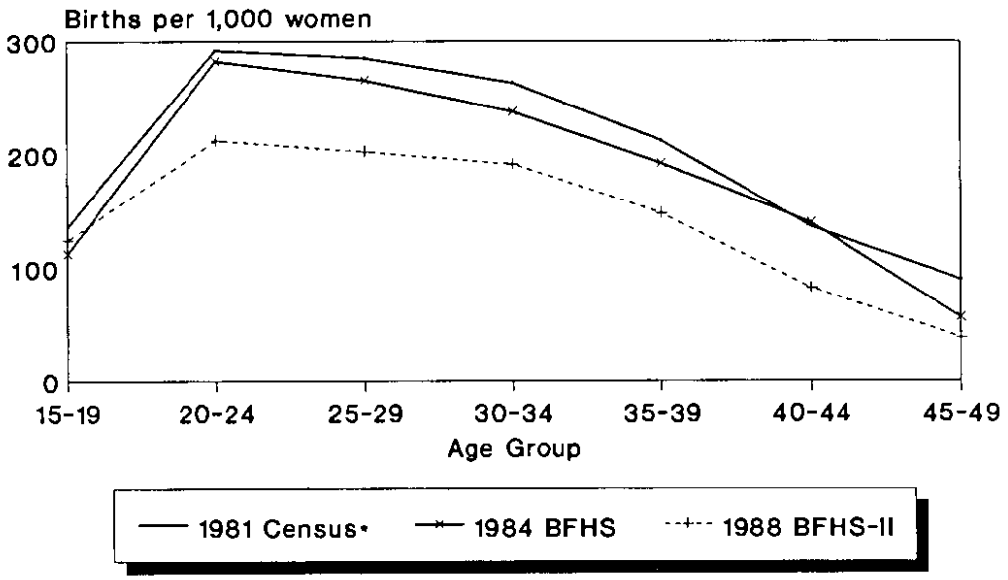
Fertility in Botswana remains high. The total fertility rate for the five-year period prior to the survey is 5.0 children per women. The fertility of urban women is lower than that of rural women. At current fertility rates, urban women can expect to have four children, while rural women will have more than five. The largest differences in fertility are by level of education. Women with secondary or higher education have a total fertility rate of only 3.3, while the total fertility rate of women with no education, 6 births per woman, is almost twice as high.

The survey results show a recent decline in fertility in Botswana. One indicator of this decline is the difference between current fertility, as measured by the total fertility rate, and the cumulative fertility of women currently at the end of their childbearing years, represented by the mean number of children born to women 45-49. This latter measure reflects the fertility levels prevailing in the past when these women passed through their childbearing years. At 5.8 births per woman, cumulative fertility is almost one birth higher than the current total fertility rate of 5.0.

Another indicator of recent fertility decline is the drop in the fertility rate from 5.9 in the period 1982-1984 to 4.9 in the next three-year period. This is an exceptionally steep rate of decline. An examination of the birth history data shows heaping of births in 1982 and a deficit of births for the previous year. Some of the births reported to have occurred in 1982 probably occurred prior to that year, causing fertility for the period 1982-1984 to be overestimated. Nonetheless, it is clear that there was a significant decline in fertility in the recent period.

Fertility has declined more among urban than rural women. This is expected, since the opportunities for employment and other factors associated with urban life generally have a negative effect on fertility. A comparison of the TFRs for the two periods preceding the survey by level of education shows a much greater decline in fertility between the period 1982-1984 and 1985-1988 for women with no education and incomplete primary school, than for women who have completed primary school. However, fertility in the earlier period for less educated women is most likely overestimated because of misreporting of birth dates by these women. If the mean number of children ever born to women 45-49 is compared to the fertility rate for the five-year period preceding the survey, it appears that women at all levels of education less than secondary have experienced similar declines in fertility, while fertility has declined the most among women with more than secondary education.

Figure 3.2
Age-Specific Fertility Rates
1981 Census, 1984 BFHS, and 1988 BFHS-II



*Adjusted rates

Figure 3.2, a comparison of the fertility data from the BFHS-II with the 1981 census and the 1984 BFHS, shows a large decline in fertility for women of all ages except teenagers. The adjusted total fertility rate was 7.1 in 1981 and 6.5 in 1984, compared with 5.0 in 1988. A more detailed analysis of the fertility data from the three surveys is necessary in order to determine if such a sharp decline in fertility actually occurred over the last ten years, or whether one or more of the rates is inaccurate. However, preliminary analysis suggests that declining fertility among women of all socioeconomic groups, measured by level of education, and a shift to a greater concentration of women at higher levels of education could account for the large decline in fertility.

Furthermore, the fertility decline is occurring in the context of increasing use of modern methods of contraception in Botswana.

The complete birth history data can be used to analyze trends in fertility for successive five-year periods in the past. Omission of births and incorrect reporting of birth dates can affect the accuracy of trends, and the trends derived from birth history data should be viewed with caution. Table 3.2 shows the age-specific fertility rates for five-year periods preceding the survey. There are indications that fertility began to decline some 10-15 years before the survey, about the same time the Family Planning Programme was introduced in 1973. The trend in the period rates also suggests that fertility decline has accelerated in recent years.

Table 3.2 Age-Specific Fertility Rate (per 1,000 women) for Five-Year Periods Preceding the Survey, by Age of Woman at Birth, BFHS-II 1988

Maternal Age	Number of Years Preceding Survey						
	0-4	5-9	10-14	15-19	20-24	25-29	30-34
15-19	125	150	167	132	121	106	(58)
20-24	212	258	286	289	282	(266)	-
25-29	202	256	287	244	(233)	-	-
30-34	191	242	226	(251)	-	-	-
35-39	148	170	(217)	-	-	-	-
40-44	83	(124)	-	-	-	-	-
45-49	(38)	-	-	-	-	-	-

Note: Figures in parenthesis are based on partially truncated information.

3.2 CURRENT PREGNANCY

Table 3.3 looks at data on current pregnancy, a measure of immediate future fertility. The data on those currently pregnant also gives an indication of the demand for antenatal services. There is likely to be some under-reporting of current pregnancies, due to embarrassment or uncertainty, particularly among women in the first three months of pregnancy. Seven percent of the women in the survey reported being pregnant. The proportion pregnant was highest in the 25-29 age group.

3.3 CHILDREN EVER BORN

Data collected on the number of children ever born can be used to examine levels and patterns of cumulative fertility in Botswana. In the BFHS-II questionnaire, the total number of children ever born is ascertained by a series of questions designed to maximize recall. The number of children ever born is a measure of lifetime fertility and reflects the accumulation of births in the past. While such information may have limited relevance to the current situation, the data provide insight into fertility patterns by age, which is important for understanding current fertility.

Table 3.3 Percent of All Women who were Pregnant at the Time of the Survey, by Age, BFHS-II 1988

Age	Percent Pregnant	Number of Women
15-19	5.5	937
20-24	8.0	926
25-29	10.2	846
30-34	8.0	653
35-39	6.6	464
40-44	3.9	290
45-49	1.4	251
Total	7.1	4368

Table 3.4 presents the number of children ever born, for all women and for women ever in a union and never in a union. The distribution of children born to women never in union emphasizes the significant amount of childbearing that occurs outside of unions.

Women in Botswana have an average of 2.6 children. Fertility increases rapidly with age. The average number of live births is one for women in their early twenties, more than two for women in their late twenties, and almost four for women 30-34. Women 45-49, who are nearing the end of their childbearing years, have an average of almost six births. The proportion of childless women declines rapidly with age, to a level of three percent among women 45-49 years old. This is in the expected range of 3-5 percent and suggests that primary sterility is not a factor influencing fertility levels in Botswana.

Among women ever in union (including currently married women, those living with a partner, and women who are widowed, divorced or separated), 42 percent of the teenagers 15-19 have never had a child; 47 percent have had one child, and 12 percent have had two. The majority of women ever in union have had at least two children by age 25 and three by age 30. Only six percent of women ever in union are childless, while almost half have had four or more children. The mean number of children born among women ever in a union is 3.9.

Slightly more than three-quarters of never-married teenagers have never had a child, 19 percent have had one child and two percent have had two children. However, by age 25 the majority of never-married women have had at least one child. At the younger ages, never-married women have had, on average, one-half fewer births than their married peers; the difference is one birth by age 30, and almost two births by the end of the childbearing years. While the mean number of children ever born to women never in union is less than half that of women in union, this is due partly to the fact that young women make up a larger proportion of the never-married group.

Table 3.4 Percent Distribution of All Women, Women Ever in Union, and Women Never in Union by Number of Children Ever Born and Mean Number of Children Ever Born, According to Age, BFHS-II 1988

Age	Number of Children Ever Born											Total	Number of Women	Mean
	None	1	2	3	4	5	6	7	8	9	10+			
All Women														
15-19	76.5	21.0	2.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	937	0.3
20-24	25.4	42.5	23.6	7.1	1.4	0.0	0.0	0.0	0.0	0.0	0.0	100.0	926	1.2
25-29	5.8	18.8	26.4	24.4	16.6	5.7	1.6	0.3	0.3	0.0	0.0	100.0	846	2.5
30-34	5.4	6.2	12.9	22.0	19.0	19.0	9.8	4.2	0.8	0.5	0.1	100.0	653	3.7
35-39	1.4	5.3	7.2	10.2	15.6	14.7	18.6	12.4	9.2	4.1	1.4	100.0	464	5.1
40-44	4.9	3.9	10.0	11.3	8.5	10.0	12.6	12.3	11.8	7.2	7.7	100.0	290	5.4
45-49	3.2	5.2	7.1	7.7	11.5	13.3	13.2	9.5	7.4	11.7	10.3	100.0	251	5.8
Total	24.4	19.2	14.4	11.8	9.2	6.9	5.3	3.4	2.4	1.7	1.3	100.0	4368	2.6
Women Ever in Union														
15-19	41.6	46.7	11.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	57	0.7
20-24	16.3	33.9	34.9	13.8	1.2	0.0	0.0	0.0	0.0	0.0	0.0	100.0	280	1.5
25-29	3.7	13.8	22.4	28.0	19.7	9.1	2.5	0.3	0.5	0.0	0.0	100.0	480	2.9
30-34	4.3	5.3	10.2	19.9	18.8	21.0	13.6	5.2	1.2	0.4	0.1	100.0	455	4.0
35-39	1.1	3.3	5.7	6.8	14.7	15.8	21.7	13.3	11.2	4.7	1.8	100.0	348	5.5
40-44	2.7	3.6	7.6	11.3	8.3	10.5	13.4	11.8	13.2	8.2	9.4	100.0	236	5.8
45-49	3.5	5.8	5.8	8.0	9.9	12.5	13.0	10.4	6.8	12.5	11.9	100.0	200	5.9
Total	6.0	11.8	15.0	16.0	13.3	11.9	10.0	5.8	4.5	3.0	2.6	100.0	2056	3.9
Women Never in Union														
15-19	78.8	19.4	1.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	880	0.2
20-24	29.4	46.2	18.8	4.2	1.4	0.0	0.0	0.0	0.0	0.0	0.0	100.0	646	1.0
25-29	8.5	25.3	31.6	19.8	12.6	1.3	0.6	0.4	0.0	0.0	0.0	100.0	366	2.1
30-34	8.0	8.2	19.3	26.9	19.4	14.4	1.0	2.0	0.0	0.7	0.0	100.0	198	3.0
35-39	2.5	11.2	11.7	20.5	18.2	11.5	9.2	9.7	3.0	2.5	0.0	100.0	116	4.0
40-44	14.5	5.4	20.4	11.3	9.1	7.5	9.1	14.5	5.4	2.7	0.0	100.0	54	3.8
45-49	2.3	2.9	12.0	6.9	17.7	16.6	13.7	5.7	9.7	8.6	4.0	100.0	51	5.2
Total	40.8	25.8	13.9	8.1	5.6	2.6	1.2	1.2	0.5	0.4	0.1	100.0	2312	1.4

3.4 AGE AT FIRST BIRTH

The onset of childbearing is an important demographic indicator. Postponement of first births can make a large contribution to overall fertility decline. Furthermore, the proportion of women who become mothers before the age of 20 is a measure of the magnitude of teenage pregnancy, which is regarded as a major health and social problem in many countries including Botswana.

Table 3.5 Percent Distribution of All Women by Age at First Birth and Median Age at First Birth, According to Current Age, BFHS-II 1988

Current Age	No Births	Age at First Birth						Total Percent	Number of Women	Median Age at First Birth
		<15	15-17	18-19	20-21	22-24	25+			
15-19	76.5	0.9	16.6	5.9	0.0	0.0	0.0	100.0	937	-
20-24	25.4	1.6	24.0	29.1	15.5	4.4	0.0	100.0	926	19.7
25-29	5.8	3.8	26.8	30.5	20.6	9.9	2.5	100.0	846	19.2
30-34	5.4	2.6	24.8	32.9	17.7	10.7	5.9	100.0	653	19.3
35-39	1.4	2.2	24.5	29.7	19.9	14.9	7.3	100.0	464	19.6
40-44	4.9	1.6	18.4	29.8	21.6	11.0	12.8	100.0	290	20.0
45-49	3.2	2.4	13.6	22.5	23.2	15.0	19.9	100.0	251	20.9
Total	24.4	2.1	22.2	24.7	14.8	7.6	4.1	100.0	4368	-

- Omitted due to censoring.

The percent distribution of all women by current age and age at first birth is shown in Table 3.5. The median age at first birth for the age groups in which more than fifty percent of the women have had a birth are shown in the final column of Table 3.5. Very few women report having their first birth before age 15. The majority of first births occur between age 15 and 20. The median age at birth in Botswana is slightly under twenty years. There appears to be no significant difference in median age between older women who had their first child many years ago and younger women who had their first birth recently. It is likely that the later age at first birth reported by older women is due to misreporting of the dates of first births.

Table 3.6 presents the median age at first birth for different age groups and compares age at entry into motherhood for different sub-groups of the population. There is no significant difference in age at first birth between urban and rural women. The effect of secondary and higher education on delaying the age at first birth, however, is pronounced. The median age at first birth for women who have attended secondary school is at least one year later for all cohorts.

3.5 TEENAGE PREGNANCY

Since pregnancy before the age of 20 places the health and welfare of teenagers and their births at risk, the policy of the Government of Botswana is to encourage individuals and families to delay the first pregnancy until that age. There is growing concern in Botswana at what is perceived as being a disturbingly high and increasing rate of teenage pregnancy. The subject of

Table 3.6 Median Age at First Birth Among Women 25-49, by Current Age and Selected Background Characteristics, BFHS-II 1988

Background Characteristic	Current Age 20-24	25-29	30-34	35-39	40-44	45-49	Total
Residence							
Urban	19.5	19.4	19.5	20.2	20.7	20.7	19.7
Rural	19.7	19.1	19.3	19.5	19.9	20.9	19.6
Education							
No Education	19.0	18.5	18.9	19.3	19.9	21.2	19.1
Incomplete Primary	18.9	18.7	18.8	19.2	19.6	20.3	19.2
Complete Primary	19.5	19.3	19.2	20.1	21.1	*	19.5
Secondary or Higher	20.7	20.5	20.8	21.9	21.7	*	20.8
Total	19.7	19.2	19.3	19.6	20.0	20.9	19.6

* Fewer than 20 cases.

teenage pregnancy has received wide publicity because of the public's concern over the number of cases of school dropouts and reports of baby dumping.

Several organizations, including the Botswana Family Welfare Association, the Young Women Christian Association, the Women Affairs Unit, and the Maokaneng Radio Programme, have introduced programmes to educate youth about the risk of becoming pregnant during their teens and provide information and counselling to teenagers on how to avoid pregnancy. Other programmes provide classes for teenage mothers or carry out studies to assess the extent and impact of teenage pregnancy.

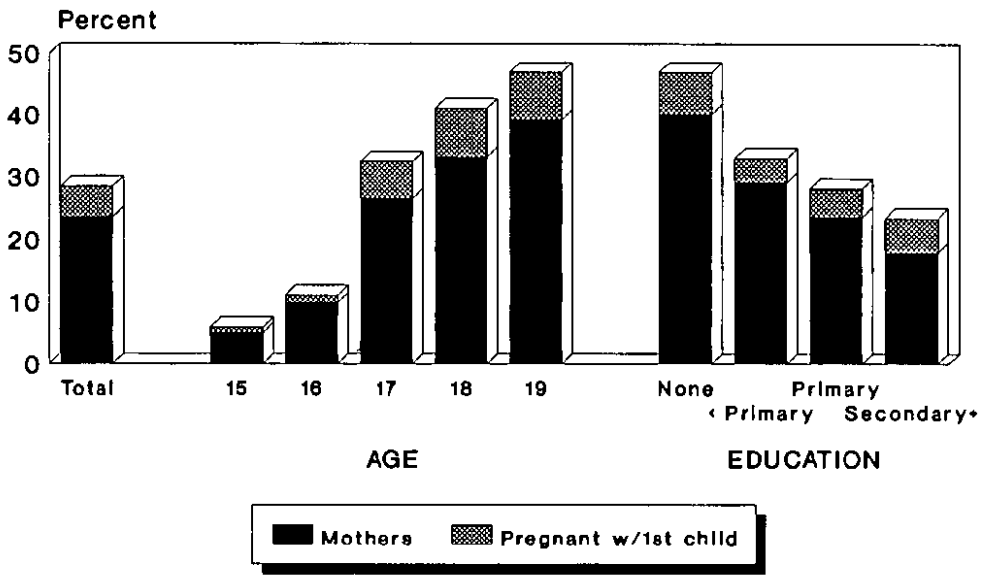
The BFHS-II included questions on the circumstances at the time women became pregnant for the first time. All respondents were asked if they ever left school because of pregnancy and, if so, did they return to school. Respondents who were not married at the time they had their first birth were asked about the use of family planning when they first had sexual intercourse, their parents' reaction to their pregnancy, and whether they or their child had a continuing relationship with the father of the child. Selected results from these questions are presented in this section. It is anticipated that a full report on teenage pregnancy in Botswana, based on the BFHS-II findings, will be published at a later date.

Table 3.7 and Figure 3.3 show the percentage of teenagers who are mothers, by background characteristics. Nearly one-quarter of teenagers have had at least one birth and an additional five percent were pregnant with their first child at the time of the survey. If only those teenagers who have initiated sexual relations are considered (two-thirds of all teenagers), the proportion who have had a birth or were pregnant at the time of the interview is 43 percent. Among teens who have been pregnant at least once, the average age at first pregnancy is 16 years.

Table 3.7 Percentage of Teenagers 15-19 Who are Mothers or Pregnant with their First Child, and Mean Age at First Pregnancy, According to Selected Background Characteristics, BFHS-II 1988

Background Characteristic	Percentage Who Are: Mothers	Pregnant with First Child	Number of Teenagers	Mean Age at 1st Pregnancy
Age				
15	5.1	0.9	160	14.3
16	9.9	1.1	211	14.8
17	26.5	5.9	127	15.3
18	33.2	7.8	244	16.2
19	39.2	7.7	196	17.0
Residence				
Urban	21.0	5.2	291	16.2
Rural	24.6	4.7	646	16.1
Level of Education				
No Education	40.1	6.8	51	16.0
Incomplete Primary	29.1	3.9	184	15.6
Complete Primary	23.6	4.5	348	16.2
Secondary or Higher	18.0	5.4	354	16.4
Total	23.5	4.9	938	16.1

Figure 3.3
Percentage of Teenage Women Who are Mothers or Pregnant with First Child



BFHS-II 1988

There is an inverse relationship between teenage parenthood and education. Among teens with no education, 40 percent have had at least one birth, compared to 18 percent of women with secondary or higher education. Surprisingly, the average age at first pregnancy is only slightly higher for women with complete primary or higher education than for women with incomplete primary or no education.

The trend since 1971 in the proportion of teenage mothers is shown for all teenagers and according to urban-rural residence in Table 3.8. There is a definite upward trend in the proportion of teenage mothers. The proportion increases from 15 percent in 1971 to 24 percent in 1988. Trend data according to place of residence is available since 1981. The data show that the proportion of teenage mothers has increased in both urban and rural areas.

Table 3.8 Percentage of Teenagers 15-19 Who are Mothers, 1971 to 1988, According to Urban-Rural Residence

	Urban	Rural	Total
1971	NA	NA	15.4
1981	17.4	21.1	20.3
1984	17.6	24.6	22.6
1988	21.0	24.8	23.7

NA Not available
Source: 1971 and 1981 Population Census
1984 Botswana Family Health Survey

One of the principal concerns about teenage pregnancy in Botswana is its impact on drop-out rates of teenage girls. Table 3.9 shows that 9 percent of teenagers left school because of pregnancy. These women constitute one-third of all teenagers who have ever been pregnant. The proportion who left school because of pregnancy is greatest among women age 18 at the time of the survey. Women in urban areas were more likely to drop out of school, probably because urban women generally stayed in school longer and thus were more likely to face a conflict between their pregnancy and school. About one-fifth of the teens who left school due to pregnancy were readmitted.

Table 3.9 Percentage of Teenagers 15-19 Who Left School Due to Pregnancy, and Percentage Who Left School Who Were Readmitted, According to Age and Residence, BFHS-II 1988

	Left School Because of Pregnancy	Readmitted to School	Number of Teenagers
Age			
15	2.0	0.0	160
16	6.0	4.6	211
17	10.3	20.0	127
18	15.1	23.6	244
19	10.7	37.5	196
Residence			
Urban	10.4	26.9	291
Rural	8.7	20.5	646
Total	9.3	22.8	937

4. FAMILY PLANNING KNOWLEDGE AND USE

Family planning activities have been integrated into maternal and child health services in Botswana since the beginning of the national programme in 1973. The policy of the Government affirms that these services be available to every family and it is the basic right of each family to determine the number of children and when to have them.

Family planning services are available at all levels of health care including private doctors and pharmacies, although the majority of the services are provided by more than 440 public health facilities. Since 1984, family planning services have been available on a daily basis along with other curative and preventive services. The family planning programme offers a wide range of modern contraceptive methods:

Oral Contraceptives (Pill),
Intra-Uterine Device (IUD),
Depo-Provera Injection,
Condom,
Diaphragm,
Contraceptive Foam and Jelly, and
Female and Male Sterilisation.

Health facilities charge a nominal fee of 40 thebe, about 20 US cents, for out-patient consultations, including family planning services; condoms are provided without charge. Participation in the family planning programme is fostered by health education disseminated through home visits, kgotla, volunteer efforts, the media, schools, and talks at health facilities. The Family Health Division is in the process of developing alternative distribution outlets for contraceptives: a new programme offers condoms at the work place in selected private sector industries and plans are underway to launch a condom vending machine pilot project.

This chapter looks at several aspects of the knowledge and use of family planning among Batswana women. It begins with an appraisal of the knowledge of family planning methods and sources of supply, and then presents findings on past and current use of contraception. The latter part of the chapter focuses on reasons for nonuse and discontinuation of contraception, intention to use in the future, attitudes of respondents toward family planning, and the acceptability of various sources of family planning messages.

These topics are of practical use to policy and programme staff in several ways. The early sections concern the main pre-condition to adoption of contraception, knowledge of methods and sources of supply. Levels of contraceptive use provide the most obvious and widely accepted criteria of success for any family planning programme. Practical problems with particular methods, or more general doubts about family planning, that might prevent a woman from using contraception, are potential obstacles to further advances in the programme. Survey findings on these topics can guide administrators in the improvement and expansion of family planning services. Data on attitudes towards family planning and acceptability of media messages on family planning are useful in guiding the content of information and education campaigns and targeting groups

according to their need for information and the type of sources from which they are comfortable receiving information.

4.1 KNOWLEDGE OF FAMILY PLANNING

Knowledge of family planning methods and of places to obtain them are crucial elements in an individual or couple's decision whether to use family planning and which method to use. Presumably, improved knowledge of family planning methods will be followed by greater use.

Data on knowledge of family planning methods were obtained by first asking respondents to name all the different ways that a woman or man could delay or avoid a pregnancy. If a respondent did not spontaneously name a particular method, the method was described by the interviewer and the respondent was asked if she recognized the method. Probing was used to collect data on 10 methods: pill, IUD, injection, diaphragm/foam/jelly (vaginal methods), condom, female sterilisation, male sterilisation, periodic abstinence (rhythm), withdrawal and prolonged abstinence. In addition, provision was made in the questionnaire to record any other methods, e.g., folk methods, spontaneously named by the respondent.

For each modern method[1] named or recognized, the respondent was asked where she would go if she wanted to obtain that method. If the respondent knew of periodic abstinence, she was asked where she would go to obtain advice about the method. Finally, for all methods that the respondent knew, she was asked what problem, if any, she associated with the use of that method.

The percentages of all women and women currently in union who know each method of family planning and a source for that method are shown in Table 4.1. Knowledge of modern methods of contraception is high in Botswana with 95 percent of all women knowing at least one modern method of family planning. Women not currently in union were as likely to know methods of family planning as women in union. Knowledge has increased steadily since the BFHS was conducted in 1984.[2] In 1984, 75 percent of the women reported knowing at least one modern method of contraception, compared to 95 percent in 1988.

Women are most likely to have heard of the pill, followed by the IUD, injection, and the condom. These were also the methods most often recognized in 1984. However, among all women, pill knowledge rose from 72 to 94 percent, IUD knowledge from 66 to 89 percent, knowledge of injection from 62 to 88 percent, and condom knowledge from 48 to 87 percent. Male sterilisation, diaphragm, foam, and jelly, and female sterilisation are the least known of the modern methods. The low level of knowledge of vaginal methods can be attributed to the lack

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[1] Modern methods of family planning include the pill, IUD, injection, diaphragm/foam/jelly, condom, and female and male sterilisation.

[2] The 1984 BFHS differed somewhat from the BFHS-II in the manner in which information on contraceptive knowledge was collected. In both surveys, women were first asked to name all the family planning methods that they knew. Interviewers then probed to find out if women recognized methods they had not mentioned spontaneously. In the 1984 BFHS, the interviewers used only the name of the method when they probed; in the BFHS-II both the name and a brief description were used. Some of the difference in knowledge between the two surveys may be related to differences in the probing techniques.

Table 4.1 Percentage of All Women and Women Currently In Union Who Know a Family Planning Method and Who Know a Source (For Information or Services), by Specific Method, BFHS-II 1988

Method	Know Method		Know Source	
	All Women	Women Currently in Union	All Women	Women Currently in Union
Any Method	95.4	94.8	94.8	94.3
Any Modern Method	95.1	94.4	94.7	94.2
Pill	94.5	93.6	94.0	93.3
IUD	89.4	89.5	88.5	89.2
Injection	87.6	89.4	87.1	89.2
Diaphragm/Foam/Jelly	50.9	51.3	50.4	51.1
Condom	87.4	87.1	85.8	86.1
Female Sterilisation	57.6	66.6	56.5	65.7
Male Sterilisation	23.2	24.7	22.8	24.2
Any Traditional Method	41.5	45.6	21.0	21.9
Periodic Abstinence	23.0	23.8	21.0	21.9
Withdrawal	25.2	29.1	-	-
Other	3.1	3.9	-	-
Abstinence	27.5	32.8	-	-
Number	4368	1708	4368	1708

- Question not asked.

of attention paid to these methods by health workers. While health workers are instructed to provide information on all methods offered by the programme, in practice emphasis is on temporary methods which are perceived to be both effective and easy to use, such as the pill, IUD, and injection. Although knowledge of vaginal methods and female and male sterilisation continues to lag behind that of other modern methods, knowledge of these methods also rose significantly between 1984 and 1988.

Traditional methods were named less frequently in the 1988 survey than in 1984. Reported knowledge about traditional methods is particularly sensitive to the degree of probing and it is possible that differences in questionnaire design account for the lower reporting of these methods in the BFHS-II. However, it is logical that there would be a reduction in the dissemination of information about these methods as modern methods become more accessible.

Lack of knowledge of sources for methods is not an obstacle to use in Botswana. Columns two and four of Table 4.1 show that virtually all women who have heard of a method were able to name a source for that method. This is not surprising, as the government health network is widely recognized as a source for all health care including family planning.

The percentages of all women knowing a modern method of family planning and a source for that method by selected background characteristics are presented in Table 4.2. There is little variation in knowledge of methods and sources among sub-groups of Batswana women. There are no differences in the level of knowledge by whether the respondent is currently or was formerly

in union, or has never been in union. Except for the oldest women, more than 90 percent of women regardless of age know a modern method and a source. The highest level of knowledge is found in the 25-29 age group. Respondents residing in rural areas show only a slightly lower level of knowledge than urban dwellers. Looking at the data on knowledge by level of education, respondents with no education are less knowledgeable about methods or sources in comparison with the remainder of women who have attended school.

Table 4.2 Percentage of All Women Who Know at Least One Modern Method of Family Planning and Who Know a Source for a Modern Method, by Selected Background Characteristics, BFHS-II 1988

Background Characteristic	Know Modern Method	Know Source	Number of Women
Union Status			
Never in Union	95.8	95.2	2312
Currently in Union	94.4	94.2	1708
Previously in Union	94.4	94.4	349
Age			
15-19	94.0	92.8	937
20-24	96.9	96.5	926
25-29	97.9	97.7	846
30-34	95.7	95.7	653
35-39	95.5	95.5	464
40-44	91.9	91.7	290
45-49	84.9	84.9	251
Residence			
Urban	98.5	98.4	1316
Rural	93.7	93.2	3052
Education			
No Education	86.9	86.2	1045
Incomplete Primary	95.1	94.5	1073
Complete Primary	98.6	98.3	1115
Secondary or Higher	99.4	99.3	1135
Total	95.1	94.7	4368

4.2 KNOWLEDGE OF SOURCES FOR FAMILY PLANNING METHODS

Table 4.3 shows that most women who know a method named the government clinic as the source of supply, although government health posts are the most common type of public health facility. It appears that many respondents did not differentiate between a health post and a clinic and simply referred to their local health facility as a clinic. Private doctors and clinics and pharmacies play a minor role in supplying methods in Botswana. The popularity of government facilities is undoubtably due to the fact that they are easily accessible and that family planning services are provided free or at a very low cost.

Table 4.3 Percent Distribution of Women Who Know a Family Planning Method by Supply Source They Would Use if They Wanted the Method, According to Specific Method, BFHS-II 1988

Supply Source Named	Family Planning Method Known							
	Pill	IUD	Injection	Diaphragm/ Foam/ Jelly	Condom	Female Sterili-sation	Male Sterili-sation	Periodic Abstinence*
Government Health Post	2.2	1.4	1.5	1.6	2.0	0.2	0.4	2.5
Government Clinic	87.2	81.4	81.9	83.9	84.0	22.1	21.2	63.9
Government Hospital/ Health Centre	9.0	15.3	15.3	12.2	10.2	74.7	74.7	13.2
Private Doctor/Clinic	0.7	0.9	0.7	0.9	0.5	0.8	1.9	2.3
Pharmacy	0.3	0.0	0.0	0.4	1.4	0.1	0.0	0.1
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.2	9.1
None	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Don't know	0.4	0.7	0.3	0.6	1.2	1.3	1.2	2.5
Missing	0.1	0.3	0.3	0.4	0.6	0.7	0.3	6.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of Women	4126	3905	3828	2225	3817	2517	1012	1004

* Refers to source for information about the method.

Slightly over 20 percent of the women who knew about female or male sterilisation reported the government clinic as a potential source of the operation. However, sterilisations are carried out only in health centres and hospitals. These women may be misinformed about obtaining female or male sterilisation at a government clinic or, again, they may not be clearly differentiating between various types of health facilities.

4.3 ACCEPTABILITY OF METHODS

In order to identify potential obstacles to the wider use of family planning methods, women in the BFHS-II who reported knowing a method of contraception were asked what was the main problem, if any, they perceived in using the method. Table 4.4 shows the distribution of women who have heard of a method, by the main problem they perceive in using the method. As can be seen in Table 4.4, only a minority of women reported knowing of problems with methods. The proportion reporting "no problem" with the method ranges from 16 percent for injection to 69 percent for prolonged abstinence. Additionally, many women answered "don't know" when asked about problems with specific methods: 18 percent for periodic abstinence to 63 percent for the diaphragm/foam/jelly.

Nevertheless, significant minorities of women reported concerns about specific methods. One in three women who know the pill, IUD, or injection reported that health concerns were the major problem with the method. One-quarter of the women who know about female or male sterilisation reported the irreversibility of the method as a problem. One in seven women who know about periodic abstinence or withdrawal reported that they were ineffective.

More women than one would expect, 9 percent, considered the IUD to be ineffective. Another unexpected result is that 9 percent of women who know about injection reported the

main problem to be that the method was permanent. This suggests that some women are misinformed about the efficacy and reversibility of these contraceptive methods.

Table 4.4 Percent Distribution of Women Who Know a Family Planning Method by Main Problem Perceived in Using the Method, According to Specific Method, BFHS-II 1988

Main Problem Perceived	Family Planning Method Known									
	Pill	IUD	Injection	Diaphragm/ Foam/ Jelly	Condom	Female Steril-isation	Male Steril-isation	Periodic Absti-nence	With-drawal	Absti-nence
No problem	38.4	19.2	16.1	22.1	42.3	23.9	22.5	52.4	49.3	68.8
Not effective	3.9	8.6	1.4	6.4	7.7	1.0	0.9	16.8	15.8	6.6
Partner disapproves	0.3	0.3	0.1	0.3	1.3	0.2	0.7	2.0	2.2	1.7
Health concerns	34.3	34.1	34.0	5.0	7.2	14.7	11.1	1.5	2.4	1.6
Access/availability	0.0	0.0	0.2	0.0	0.0	0.4	0.3	0.0	0.1	0.0
Costs too much	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Inconvenient to use	0.6	0.8	0.5	2.6	2.7	0.0	0.1	1.1	3.0	1.8
Method permanent	0.4	0.1	8.4	0.2	0.1	22.3	27.9	0.1	0.2	0.0
Other	0.3	0.4	0.6	0.2	0.4	0.3	0.0	0.3	0.7	0.0
Don't know	21.7	36.2	38.7	63.0	37.5	36.2	35.9	24.3	24.9	17.9
Missing	0.1	0.1	0.2	0.2	0.6	1.0	0.5	1.5	1.2	1.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of Women	4126	3905	3828	2225	3817	2517	1012	1004	1099	1202

The fact that the respondents did not mention cost, access, or availability as a problem reinforces the impression that the majority of the population is aware of the widespread availability of family planning services in the country. It is also interesting to note that few women reported partner's disapproval to be a problem in using any of the methods.

4.4 EVER USE OF FAMILY PLANNING METHODS

More than half of Batswana women have used a modern method of family planning at some time. Table 4.5 shows that the method used by most women, 46 percent, was the pill. The IUD has been used by 13 percent of women, and contraceptive injection by 10 percent. The least used modern methods are vaginal methods and male sterilisation. Ever use of traditional methods is much lower than that of modern methods.

The pill has been widely used among women in all age groups with the highest percentage of ever-use among women aged 25-29. IUD use has been concentrated among women currently between tbe ages of 25 and 34, while injection has been used mostly by women over age 35. This age pattern of method use reflects the general practice of the family planning programme to recommend the pill to childless women, the IUD to younger women with children, and injection to women over 35.

The number of living children at the time of the first use of family planning is an indicator of whether contraception is being adopted to delay or limit births. Table 4.6 presents the percent

Table 4.5 Percentage of All Women and Women in Union Who Have Ever Used a Family Planning Method by Specific Method and Age, BFHS-II 1988

Age	Any Method	Any Modern Method	Any Traditional Method	Family Planning Method Ever Used: Pill	IUD	Injection	Diaphragm/ Foam Jelly	Condom	Female Sterilisation	Male sterilisation	Periodic Abstinence	Withdrawal	Other	Abstinence	Number of Women
All Women															
15-19	26.5	25.5	2.8	19.5	1.6	0.2	0.4	7.2	0.0	0.0	1.7	0.7	0.0	1.5	937
20-24	60.3	58.9	9.5	52.4	10.9	4.4	0.3	11.6	0.0	0.2	4.9	2.7	0.4	5.3	926
25-29	73.2	72.1	13.8	65.6	19.8	11.6	0.4	11.1	0.5	0.0	4.9	5.5	1.3	6.9	846
30-34	70.1	67.9	13.1	58.0	23.5	15.2	1.3	12.1	2.0	0.2	4.4	5.4	0.9	9.0	653
35-39	65.3	63.5	13.6	51.5	19.1	23.1	1.0	8.8	5.9	0.4	4.4	5.6	1.1	7.6	464
40-44	55.0	52.3	12.1	36.1	12.4	20.7	1.2	8.6	11.4	0.6	4.0	5.6	1.2	8.4	290
45-49	40.2	31.1	14.6	21.4	7.9	10.0	1.9	5.5	7.3	0.8	7.3	6.9	1.0	9.4	251
Total	56.0	54.1	10.3	45.8	13.3	9.9	0.7	9.8	2.2	0.2	4.2	4.0	0.7	6.0	4368
Women In Union															
15-19	36.6	33.9	7.5	23.7	0.0	1.1	0.0	12.4	0.0	0.0	3.8	6.4	0.0	3.8	54
20-24	59.5	57.2	11.7	50.7	15.6	6.5	1.1	6.8	0.0	0.0	5.5	4.3	0.5	5.2	238
25-29	68.6	67.6	13.9	61.1	17.9	14.0	0.8	10.5	1.0	0.0	4.5	5.6	1.1	7.2	420
30-34	69.9	66.7	14.6	55.2	23.9	16.9	1.9	13.3	1.9	0.3	4.9	5.9	1.0	10.9	382
35-39	68.1	66.7	12.7	54.1	20.1	23.3	1.1	8.7	7.3	0.7	5.4	5.9	1.6	5.8	290
40-44	56.6	52.3	14.5	31.8	13.4	18.8	1.1	9.7	15.7	1.0	4.9	5.9	1.0	9.7	182
45-49	40.8	30.7	15.5	19.8	8.1	10.5	2.9	8.9	8.5	0.4	7.0	7.8	0.4	9.7	140
Total	63.0	60.1	13.5	49.4	17.4	15.0	1.3	10.1	4.3	0.3	5.1	5.8	1.0	7.9	1708

distribution of all women by the number of living children at the time they first used family planning. In interpreting the data in Table 4.6, it is important to keep in mind that the family planning programme in Botswana is only 15 years old, and as such, older women had little access to contraception when they were bearing their first children.

Table 4.6 Percent Distribution of All Women by Number of Living Children at Time of First Use of Contraception, According to Current Age, BFHS-II 1988

Current Age	Never Used	Number of Living Children					Missing	Total	Number of Women
		None	1	2	3	4+			
15-19	73.5	19.6	6.3	0.2	0.0	0.0	0.4	100.0	937
20-24	39.7	20.4	30.6	7.4	1.2	0.5	0.2	100.0	926
25-29	26.8	7.3	32.7	19.1	8.6	5.2	0.3	100.0	846
30-34	29.9	6.4	19.5	20.3	11.3	12.3	0.2	100.0	653
35-39	34.7	3.4	11.0	10.5	12.6	27.4	0.4	100.0	464
40-44	45.0	4.2	8.5	5.2	9.0	27.4	0.7	100.0	290
45-49	59.8	3.1	7.5	2.9	8.4	18.3	0.0	100.0	251
Total	44.0	11.7	19.2	10.0	6.0	8.7	0.3	100.0	4368

The use of contraception for delaying a first birth and spacing subsequent births has clearly been adopted by younger women. Twenty percent of women age 15-24 used a contraceptive method before their first birth. Thirty percent of women age 20-29 adopted contraception to delay their second birth. The use of family planning for spacing purposes is consistent with the policy of the family planning programme, which is to provide family planning services "to benefit the health and welfare of individuals and of the families". In practice, this means an emphasis on family planning for spacing rather than limiting purposes.

A basic knowledge of the reproductive cycle and the fertile period are important for the successful practice of periodic abstinence. In the BFHS-II, women were asked when during the menstrual cycle they thought a woman has the greatest chance of becoming pregnant. Table 4.7 presents the distribution of all women, and those women who have ever used periodic abstinence, by the time during the ovulatory cycle when they think a woman is most likely to get pregnant. Although the interviewers provided an additional probe, many respondents bad great difficulty in answering this question. The majority of the women responded "don't know". It is difficult to ascertain whether they really did not know or they could not understand the question.

Ever-users of periodic abstinence appear to have at least understood the question, suggesting that they had some knowledge of the existence and importance of the fertile period. Three-quarters of ever-users of periodic abstinence provided an answer to the question, although only 8 percent gave the correct answer, "in the middle of the cycle". This lack of knowledge about the ovulatory cycle is an issue which needs to be addressed, not only for users of periodic abstinence--for whom the correct knowledge is critical to successful use of the method--but also for all women to educate them about their physiology.

Table 4.7 Percent Distribution of All Women and Women Who Have Ever Used Periodic Abstinence by Knowledge of the Fertile Period During the Ovulatory Cycle, BFHS-II 1988

Fertile Period	All Women	Periodic Abstinence Users
During her period	1.2	1.4
Just after her period has ended	15.2	34.7
Middle of the cycle	3.4	7.6
Just before her period begins	10.4	22.1
At any time	5.5	5.1
Other	0.4	1.4
Don't know	63.8	27.2
Missing	0.2	0.3
Total	100.0	100.0
Number of Women	4368	182

4.5 CURRENT USE OF FAMILY PLANNING METHODS

Table 4.8 shows that 33 percent of women in union and 30 percent of all women were currently using contraception at the time of the BFHS-II. Virtually all use is modern methods. Nearly half of current users rely on the pill. Of the rest, most are using the IUD, injection, and female sterilisation (the latter method being concentrated among women in union). Both prevalence and method mix vary with age. Younger and older women are less likely to use family planning than women in the mid-childbearing years. The pill and IUD are the principal methods among women under 39, whereas injection and female sterilisation are more commonly used by women age 40 and over. As seen in Table 4.9, the median age at sterilisation is 34 and, on average, a woman has 5.4 children at the time of the sterilisation procedure.

The data in Tables 4.8 and 4.9 show that method use by age and parity generally follows the Botswana Family Planning Policy Guidelines, which provide the following recommendations:

- All women who are under 35 years of age and for whom there are no contra-indications are eligible to use the combined oral contraceptives as a method of contraception.

- All women with at least one living child and for whom there are no contra-indications may use an IUD.

- Couples and individuals who feel they have achieved a desired family size and those who cannot use other methods may use Depo-Provera. Lactating mothers may also use Depo-Provera as a contraceptive method.

- Sterilisation methods of contraception should be provided to clients who feel they have achieved a desired family size.

Table 4.8 Percent Distribution of All Women and Women in Union by Current Use of Specific Family Planning Methods, According to Age, BFHS-II 1988

Age	Any Method	Any Modern Method	Family Planning Method Used											Not Using	Total	Number of Women
			Pill	IUD	Injec-tion	Diaphragm/ Foam/ Jelly	Condom	Female Sterili-sation	Male Sterili-sation	Periodic Absti-nence	With-drawal	Other	Prolonged Absti-nence			
All Women																
15-19	14.7	14.3	11.4	0.9	0.1	0.0	1.9	0.0	0.0	0.2	0.2	0.0	0.1	85.3	100.0	937
20-24	31.5	31.2	25.1	4.0	1.0	0.0	1.0	0.0	0.0	0.2	0.0	0.0	0.2	68.5	100.0	926
25-29	39.7	38.7	27.0	5.9	4.4	0.0	0.9	0.5	0.0	0.2	0.1	0.2	0.5	60.3	100.0	846
30-34	37.5	36.4	20.5	6.9	5.4	0.0	1.5	2.0	0.1	0.2	0.4	0.2	0.2	62.5	100.0	653
35-39	36.1	35.1	11.7	8.4	6.8	0.1	1.7	5.9	0.4	0.3	0.1	0.4	0.3	63.9	100.0	464
40-44	29.7	29.0	4.7	3.6	7.9	0.0	1.0	11.4	0.4	0.0	0.0	0.0	0.7	70.3	100.0	290
45-49	13.3	11.9	1.6	2.2	1.2	0.0	0.0	6.7	0.2	0.0	0.0	0.2	1.2	86.7	100.0	251
Total	29.7	28.9	17.7	4.5	3.2	0.0	1.3	2.2	0.1	0.2	0.1	0.1	0.3	70.3	100.0	4368
Women In Union																
15-19	17.2	14.5	10.8	0.0	1.1	0.0	2.7	0.0	0.0	0.0	2.7	0.0	0.0	82.8	100.0	54
20-24	25.8	25.2	16.8	5.1	2.6	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.6	74.2	100.0	238
25-29	37.1	36.0	23.3	5.4	5.4	0.0	0.9	1.0	0.0	0.1	0.1	0.5	0.3	62.9	100.0	420
30-34	35.6	33.7	16.5	7.2	6.1	0.0	2.0	1.9	0.2	0.4	0.8	0.4	0.4	64.4	100.0	382
35-39	38.3	37.5	11.9	8.2	7.6	0.2	1.6	7.3	0.7	0.2	0.2	0.4	0.0	61.7	100.0	290
40-44	36.1	35.0	4.8	4.0	8.6	0.0	1.3	15.7	0.6	0.0	0.0	0.0	1.1	63.9	100.0	182
45-49	16.7	14.7	1.4	2.3	2.1	0.0	0.0	8.5	0.4	0.0	0.0	0.0	2.1	83.3	100.0	140
Total	33.0	31.7	14.8	5.6	5.4	0.0	1.3	4.3	0.3	0.2	0.3	0.3	0.5	67.0	100.0	1708

Table 4.9 Percent Distribution of Sterilised Women by Age and Median Age at the Time of the Sterilisation, and Percent Distribution of Sterilised Women by Number of Children and Mean Number of Children at the Time of Sterilisation, BFHS-II 1988

	Age at the Time of the Sterilisation							
	<25	25-29	30-34	35-39	40-44	Total	Number	Median
Sterilised Women	9.4	11.6	31.4	35.1	12.5	100.0	95.1	34.1

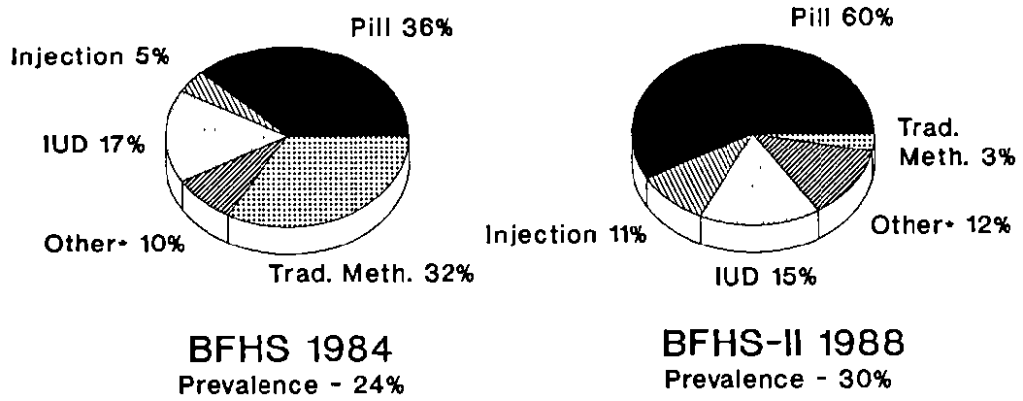
	Number of Children at the Time of the Sterilisation									
	0-2	3	4	5	6	7	8+	Total	Number	Mean
Sterilised Women	8.8	18.6	10.1	10.7	19.5	15.8	16.5	100.0	95.1	5.4

The principal exception to compliance with the guidelines is that a significant number of women aged 35-39, and a smaller number over age 40 are currently using the pill. There are elevated health risks involved in using the pill for women over 35. The number of older women who use the pill as their contraceptive method, contrary to programme guidelines, is a concern that should be addressed by programme managers.

Table 4.10 Percent Distribution of All Women and Women in Union by the Family Planning Method Currently Used, BFHS 1984 and BFHS-II 1988

Method	All Women		Women in Union	
	BFHS	BFHS-II	BFHS	BFHS-II
Any Method	23.5	29.7	27.8	33.0
Any Modern Method	16.0	28.9	18.6	31.7
Pill	8.5	17.7	10.0	14.8
IUD	4.1	9.5	4.8	5.6
Injection	1.1	3.2	1.0	5.4
Diaphragm/Foam/Jelly	0.1	0.0	0.1	0.0
Condom	1.0	1.3	1.2	1.3
Female Sterilisation	1.2	2.2	1.5	4.3
Male Sterilisation	0.0	0.1	0.0	0.3
Any Traditional Method	7.5	0.8	9.2	1.3
Not Currently Using	76.5	70.3	72.2	67.0
Total	100.0	100.0	100.0	100.0
Number of Women	3064	4368	2433	1708

Figure 4.1
Current Use of Specific Methods of Family Planning, Women 15-49, 1984 and 1988



* Includes condom, vaginal methods, female and male sterilisation

Table 4.10 and Figure 4.1 compare the current use of family planning reported in the 1984 BFHS with the results from the 1988 BFHS-II. Overall, the increase in contraceptive prevalence among all women is just over six percentage points. However, use of modern methods has almost doubled, increasing from 16 to 29 percent. As seen in Figure 4.1, the major increases are in the use of the pill, injection, and female sterilisation. IUD use rose only slightly among women in union. There appears to be no change in condom use, despite increased efforts to promote use of this method in the past few years. The low reporting of condom use may be associated with the difficulty in getting women to report use of a male method. Only one percent of the women in the BFHS-II reported using traditional methods, compared with 9 percent in 1984.

Current contraceptive prevalence for all women by selected background characteristics is shown in Table 4.11. Differences in contraceptive prevalence by marital status are small, though use is slightly higher among currently married women. There are significant differences in overall contraceptive use between urban and rural dwellers. Thirty-nine percent of urban women use contraception, compared with 26 percent of rural women. The majority of users in both urban and rural areas rely on the pill. Urban women are more likely to use the IUD, while injection is more common among rural women.

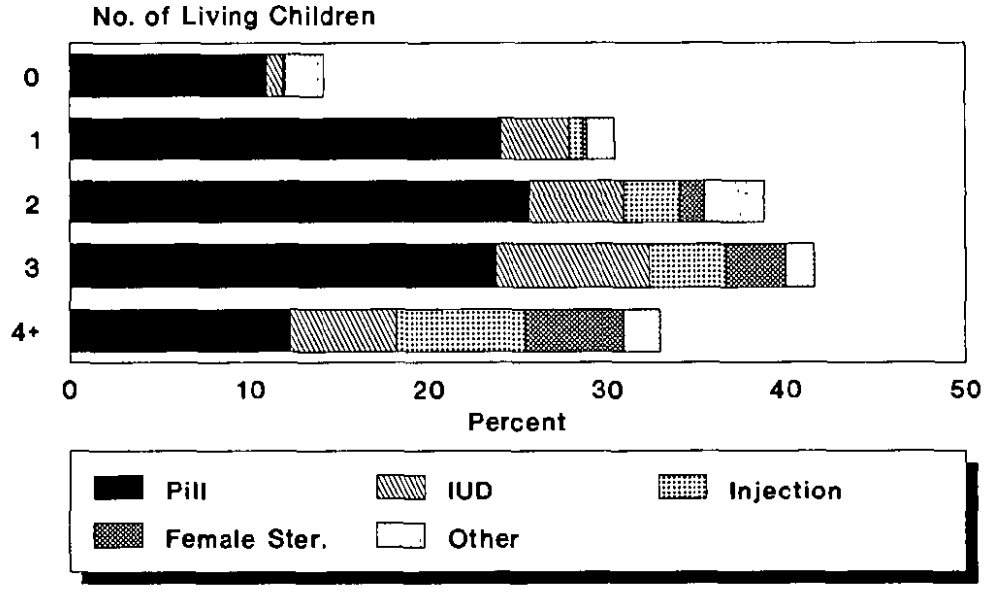
Table 4.11 Percent Distribution of All Women by Current Use of Specific Family Planning Methods, According to Selected Background Characteristics, BFHS-II 1988

Background Characteristic	Any Method	Any Modern Method	Family Planning Method Used							Not Using	Total	Number of Women
			Pill	IUD	Injection	Condom	Female Sterilisation	Male Sterilisation	Any Traditional Method			
Union Status												
Never In Union	27.3	26.9	20.5	3.3	1.5	1.3	0.4	0.0	0.4	72.7	100.0	2312
Currently In Union	33.0	31.7	14.8	5.6	5.4	1.3	4.3	0.3	1.3	67.0	100.0	1708
Previously In Union	29.5	28.9	13.9	6.9	3.5	0.9	3.7	0.0	0.6	70.5	100.0	349
Residence												
Urban	38.8	38.2	23.6	7.3	2.7	2.0	2.4	0.2	0.6	61.2	100.0	1316
Rural	25.8	24.9	15.2	3.3	3.4	0.9	2.1	0.0	0.9	74.2	100.0	3052
Education												
No Education	18.4	17.4	8.7	2.1	4.7	0.3	1.6	0.0	1.0	81.6	100.0	1045
Incomplete Primary	26.4	25.8	13.6	4.1	4.2	0.5	3.4	0.0	0.5	73.6	100.0	1073
Complete Primary	31.7	31.1	21.3	4.3	2.7	1.5	1.3	0.0	0.6	68.3	100.0	1115
Secondary or Higher	41.3	40.3	26.3	7.3	1.4	2.5	2.4	0.4	1.0	58.7	100.0	1135
Number of Living Children												
None	14.2	13.6	11.0	0.9	0.0	1.6	0.1	0.0	0.6	85.8	100.0	1109
1	30.6	30.4	24.1	3.8	0.8	1.4	0.2	0.0	0.2	69.4	100.0	860
2	38.9	37.2	25.7	5.3	3.1	1.4	1.4	0.2	1.7	61.1	100.0	658
3	41.7	41.2	23.8	8.6	4.3	0.9	3.3	0.2	0.5	58.3	100.0	536
4 or more	33.0	32.1	12.3	5.9	7.3	0.9	5.5	0.2	0.9	67.0	100.0	1205
Religion												
Spiritual/African	27.2	26.4	16.7	4.6	2.7	1.1	1.3	0.0	0.8	72.8	100.0	1869
Protestant	33.6	33.1	19.7	4.6	3.8	1.5	3.4	0.1	0.5	66.4	100.0	980
Catholic	42.0	40.0	24.0	6.0	2.9	2.8	3.9	0.5	2.0	58.0	100.0	391
Other	38.1	32.8	9.4	9.4	2.9	3.5	6.4	1.2	5.3	61.9	100.0	50
No Religion	25.6	25.2	15.8	3.3	3.5	0.7	1.8	0.1	0.4	74.4	100.0	1075
Total	29.7	28.9	17.7	4.5	3.2	1.3	2.2	0.1	0.8	70.3	100.0	4368

The use of family planning is related to a woman's level of education. Prevalence increases from 18 percent among women with no education to over 40 percent among women who have some secondary or higher education. The variation in method mix according to education is related to the interaction between age and educational level. Older women are concentrated among the least educated and younger women among the most educated. Hence, women with no education, who are older, are more likely to be using injection, while women with primary or higher education, who are younger, are more likely to be using the pill or IUD.

The reliance on contraception for spacing can be clearly seen in the variation in the use of specific methods by number of living children shown in Figure 4.2. Fourteen percent of childless women are using contraception to delay a first birth. These women rely mainly on the pill. Prevalence is twice as high (31 percent) for women with one child. Again, the principal method is the pill, though about one-tenth of users have adopted the IUD. The use of family planning peaks among women with two or three children. Among these users, the proportion relying on the pill declines slightly, IUD use increases, and injection is added to the method mix. Finally, among women with four or more children, pill and IUD use decline, the use of injection increases, and one out of six users has chosen female sterilisation.

Figure 4.2
Current Use of Family Planning by Number of Living Children



BFHS-II 1988

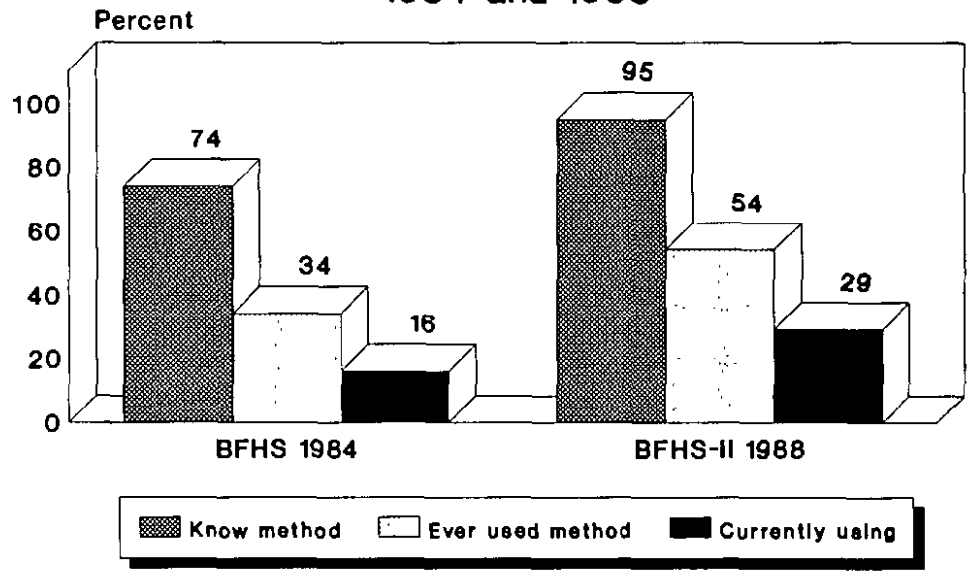
With regard to religion, Protestant and Catholic women are more likely to use contraception than women belonging to the Spiritual/African churches or who report no religion. While the lower use among women of the Spiritual/African Church is more likely due to associated socioeconomic characteristics--such as lower education (see Table 1.2)--rather than to religion per se, the findings suggest that the churches are a potential way of reaching these women.

Table 4.12 Percentage of All Women Currently Using a Modern Method of Family Planning, According to Selected Background Characteristics, BFHS 1984 and BFHS-II 1988

Background Characteristic	Currently Using Modern Method	
	BFHS	BFHS-II
Union Status		
Never In Union	2.5	26.9
Currently In Union	18.6	31.7
Previously In Union	10.4	28.9
Age		
15-19	11.4	14.3
20-24	21.6	31.2
25-29	23.4	38.7
30-34	25.0	36.4
35-39	17.4	35.1
40-44	8.8	29.0
45-49	7.5	11.9
Residence		
Urban	25.4	38.2
Rural	13.2	24.9
Education		
No Education	7.5	17.4
Incomplete Primary	14.9	25.8
Complete Primary	20.9	31.1
Secondary or Higher	27.6	40.3
Number of Living Children		
None	5.0	13.6
1	17.5	30.4
2	20.6	37.2
3	25.0	41.2
4 or more	17.5	32.1
Religion		
Spiritual/African	16.9	26.4
Protestant	21.1	33.1
Catholic	22.3	40.0
Other	14.4	32.8
No Religion	9.5	25.2
Total	16.0	28.9

Table 4.12 shows the percentage of all women and women currently in union using a modern method of family planning according to selected background characteristics, for 1984 and 1988. Contraceptive prevalence among women never in union and women previously in union has risen sharply since 1984. Caution should be used in comparing the data for women never in union, as the definition used in the 1984 BFHS is much more likely to restrict this category to women who are not sexually active, while the definition used in the BFHS-II includes many sexually active women. Prevalence among women never in union increased from 3 to 27 percent, while prevalence among women previously in union increased from 10 to 29 percent. The impact of introducing family planning services on a daily basis most likely had a large impact on women not currently in union, as this change removed the potential for embarrassment if seen going to the clinic on the days when it was known that only family planning services were being offered.

Figure 4.3
Knowledge and Use of Modern Methods of Family Planning, Women 15-49, 1984 and 1988



Contraceptive prevalence has increased dramatically among women between the ages of 20 and 45, with more modest gains among the youngest and oldest women. The use of family planning increased significantly both among urban and rural women and among all women for all levels of education and religious backgrounds. One of the largest relative gains was made among women with no children, for whom use of modern family planning methods trebled since 1984.

Figure 4.3 summarizes the changes in knowledge and use of modern methods of family planning between 1984 and 1988. In 1984, three-quarters of Batswana women knew at least one modern method of family planning, but only one-third had ever used a modern method and half of those women, 16 percent of all women, were currently using a modern method. By 1988, knowledge of modern methods was virtually universal. Slightly more than half of all women had used at least one modern method and almost 30 percent were using a modern method of family planning at the time of the survey.

4.6 CURRENT SOURCE OF SUPPLY OF FAMILY PLANNING METHODS

Family planning services are available on a daily basis at all levels of the government health care delivery system--hospitals, health centres, clinics, health posts, and mobile stops. Most family services are offered by nurses who have been trained in MCH/FP and who are responsible for prescribing pills, inserting IUDs and performing post-insertion check-ups, giving injections, monitoring clients for any contra-indications or side effects and advising women who experience side effects. The family welfare educator, who usually is the sole staff member of the health post, distributes condoms and foam and resupplies pills to users who have experienced no problems. The family welfare educator also can provide the first cycle of pills to new acceptors; however, new acceptors must be examined by a nurse before being resupplied.

Outside of the public health care delivery system, contraceptive methods also can be obtained from private doctors and pharmacies. There are no private non-profit organizations providing family planning services in Botswana.

Table 4.13 Percent Distribution of Current Users by Most Recent Source of Supply or Information, According to Specific Method, BFHS II 1988

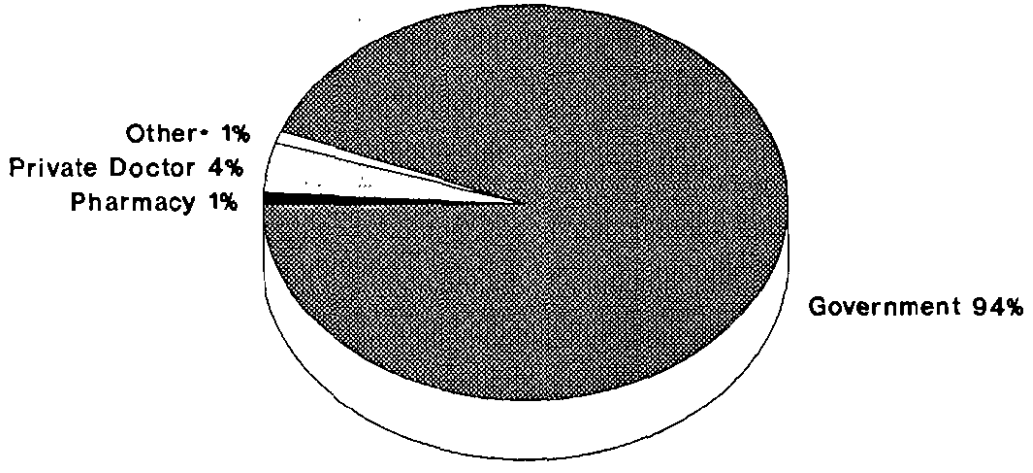
Source of Supply	Supply Methods				Clinic Methods			All Methods
	Pill	Condom	Injection	Total	IUD	Female Sterilisation	Total	
Government Health Post	2.5	5.2	4.2	2.9	0.7	0.0	0.5	2.4
Government Clinic	85.0	58.4	77.5	82.4	67.5	0.0	44.8	73.6
Government Hospital or Health Centre	8.9	6.3	14.0	9.5	25.2	91.4	46.9	18.2
Private Doctor or Clinic	2.0	1.1	4.0	2.2	6.5	7.9	7.6	3.5
Pharmacy	1.2	11.6	0.0	1.7	0.0	0.0	0.0	1.3
Other	0.3	3.2	0.0	0.4	0.0	0.6	0.2	0.3
Don't know	0.0	14.2	0.0	0.8	0.0	0.0	0.0	0.6
Missing	0.1	0.0	0.4	0.1	0.0	0.0	0.0	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of Current Users	774	55	139	968*	196	95	296**	1264

* Includes one diaphragm user.
** Includes four women who reported that their current method was male sterilisation.

As shown in Table 4.13 and Figure 4.4, government clinics and hospitals are the major source of contraceptives. The major source of supply methods, i.e., pill, condom, and injection are government clinics. Health posts are most likely under-reported because respondents may not differentiate between a clinic and a health post. The reported source of clinical methods is split between government clinics and hospitals. Private providers, doctors and pharmacies, are the source of only 4 percent of users of supply methods, principally condom users, and 8 percent of users of clinical methods. Fourteen percent of condom users did not know the source, probably because they were obtained by their partners.

Current users of a contraception method were asked whether there was anything they particularly disliked about the services received at their current source of supply. Ninety-eight percent of the users said that they did not encounter any problems with the services.

Figure 4.4
Source of Family Planning Supply
Current Users of Modern Methods



* Includes categories Don't Know and Missing

BFHS-II 1988

4.7 REASONS FOR DISCONTINUATION AND NONUSE OF FAMILY PLANNING

Of primary importance to programme administrators are the reasons why family planning users stop using their adopted method. Table 4.14 considers the main reasons for discontinuing the last method, among women who have discontinued use of a method during the five years preceding the survey. The table indicates that the most common reason for discontinuing a method

was health concerns, mainly associated with injection (63 percent), the IUD (41 percent), and the pill (32 percent). The second most cited reason for discontinuing a method was the desire to become pregnant; 36 percent of the women discontinued using the pill and the IUD and 32 percent discontinued using a traditional method in order to become pregnant. The most commonly cited reason for discontinuing traditional methods was method failure. A high level of method failure was also reported for the pill and IUD; some of the these IUD failures might be rejection of the IUD from the uterus.

Table 4.14 Percent Distribution of Women Who Have Discontinued a Contraceptive Method in the Last Five Years by Main Reason for Last Discontinuation, According to Specific Method, BFHS-II 1988

Reason for Discontinuation	Method Discontinued					
	Pill	IUD	Injection	Condom	Any Traditional Method	All Methods
To become pregnant	35.5	35.5	16.8	13.4	32.2	32.2
Method failed	16.5	14.8	6.7	8.0	40.0	15.9
Partner disapproves	4.6	2.1	0.0	13.4	8.4	4.4
Health concerns	32.0	40.6	62.7	11.0	0.0	33.4
Access/availability	1.5	0.0	5.2	3.5	0.0	1.7
Inconvenient to Use	1.7	0.4	1.5	12.9	1.3	2.3
Infrequent sex	1.9	0.0	0.0	7.4	0.0	1.6
Prefer Permanent Method	0.2	1.2	0.0	7.5	3.2	0.8
Fatalistic	0.2	0.0	0.0	0.0	0.0	0.1
Other	5.3	5.1	7.0	16.9	13.5	6.4
Don't know	0.2	0.4	0.0	2.5	0.0	0.3
Missing	0.4	0.0	0.0	3.5	1.3	0.9
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number	734	166	95	58	45	1121*

* Includes 6 women who discontinued the diaphragm and 17 women whose last method was missing.

Condom users reported a variety of reasons for discontinuing including health concerns--as condom use is also associated with the prevention of sexually transmitted disease, some women may disapprove of condoms for fear of the implication that they have such a disease. Other reasons for discontinuing condom use are that the partner disapproves, the method is inconvenient, and preference for a more permanent method. By the latter, it is likely meant preference for a method that is not associated with coitus.

The group of women who discontinued contraceptive use due to health concerns most likely encompasses both women who experienced health related problems with their family planning method or were advised against using the method, and women who discontinued due to rumors or myths which people still hold about modern family planning methods. The high levels of failure reported for the pill and the IUD suggest that women may use the method improperly. Finally, there appears to be dissatisfaction with the condom for a number of reasons. In order to sustain

continued use, the programme should intensify efforts to inform users about the methods they adopt and follow-up to ensure that methods are used properly.

Table 4.15 gives the distribution of non-pregnant women who are sexually active and not using any contraceptive method by whether they would be happy or unhappy if they became pregnant in the next few weeks. The table shows that a significant percentage of women (48 percent) said they would be unhappy, an indication that many women would prefer to wait before the next pregnancy. Forty-four percent of the respondents expressed a desire to become pregnant soon. Few women (8 percent) said it wouldn't matter. The majority of women with three or more children said they would be unhappy if they became pregnant in the next month.

Table 4.15 Percent Distribution of Non-Pregnant Women Who Are Sexually Active and Who Are Not Using Any Contraceptive Method by Attitude Toward Becoming Pregnant in the Next Few Weeks, According to Number of Living Children, BFHS-II 1988

Number of Living Children	Happy	Unhappy	Would Not Matter	Missing	Total	Number of Women
None	50.6	44.1	5.0	0.3	100.0	536
1	56.5	33.4	7.8	2.2	100.0	300
2	51.7	38.1	10.1	0.0	100.0	218
3	37.1	53.6	7.8	1.4	100.0	183
4+	28.7	61.5	9.4	0.4	100.0	549
Total	43.6	47.9	7.8	0.7	100.0	1784

The women that reported that they would be unhappy if they became pregnant were then asked why they were not using a method of contraception. Table 4.16 gives the distribution of non-pregnant, nonusers by age and main reason for nonuse.

Women less than age 20 cited a variety of reasons for not using family planning even when they would be unhappy if they became pregnant. Twenty percent of the respondents said they were opposed to family planning, and another 10 percent said their partners or others disapprove. Seven percent said they did not know about family planning, while 15 percent feel the costs are too much--another indicator of lack of knowledge since methods are available at a nominal cost or free. An additional 7 percent cited health concerns about using family planning and 4 percent thought family planning was inconvenient. Twenty-five percent of young women could not provide a reason for nonuse of a method.

Responses to a question on why the respondent did not use a method of family planning the first time she had sexual intercourse were also tabulated for women under 20. Over two-thirds of teenagers cited lack of knowledge of family planning as the reason for not using contraception at that time. Eleven percent said they were opposed to family planning and another 5 percent said their partner or others disapproved. Difficulty in getting methods, or that family planning was

Table 4.16 Percent Distribution of Non-Pregnant Women Who Are Sexually Active and Who Are Not Using Any Contraceptive Method and Who Would be Unhappy if They Became Pregnant by Main Reason for Nonuse, According to Age, BFHS-II 1988

Reason for Nonuse	Age			Total
	<20	20-29	30+	
Lack of knowledge	6.8	5.1	4.6	5.3
Opposed to family planning	19.9	14.4	12.0	14.8
Partner disapproves	1.5	8.3	8.5	6.6
Others disapprove	8.3	2.5	0.5	3.2
Infrequent sex	7.3	19.1	21.4	17.0
Post-partum/breastfeeding	3.4	1.1	0.3	1.4
Menopausal/subfecund	0.0	0.2	0.4	0.2
Health concerns	6.9	0.5	0.5	2.2
Access/availability	0.0	0.5	0.0	0.1
Costs too much	14.8	8.6	9.1	10.5
Fatalistic	0.0	0.0	1.5	0.7
Religion	0.9	1.0	1.5	1.2
Inconvenient	4.1	21.4	15.4	14.2
Other	0.6	0.0	6.6	3.0
Don't know	25.3	16.5	16.2	18.7
Missing	0.3	0.8	1.3	0.9
Total	100.0	100.0	100.0	100.0
Number of Women	227	254	375	856

inconvenient to use, were each mentioned by 3 percent of teenagers. Eight percent said they did not know why they did not use a method at that time.

A significant percentage of the women over age 20 cited inconvenience and infrequent sex as the main reason for nonuse. Opposition to family planning by the respondent or her partner were also important reasons. While only a small percentage said they do not know about family planning, a larger proportion perceived the cost to be excessive.

These data suggest a number of obstacles that Batswana women perceive to be barriers to using family planning. The results imply a need for an effective information, education, and communication programme that would build acceptance of family planning, reassure women about the benefits as well as risks of family planning, portray family planning as something that is easy to use, and spread the word that family planning methods are widely available for only a nominal cost.

4.8 INTENTIONS TO USE FAMILY PLANNING IN THE FUTURE

The data in Table 4.17 give an indication of the intent of nonusers to use a contraceptive method in the near future. More than 50 percent of the respondents indicated that they would use contraception in the future, and most said they would use in the next 12 months. Forty percent of the women do not intend to use family planning in the future and the remaining women were undecided.

Table 4.17 Percent Distribution of Women Who Have Had Sexual Intercourse Who Are Not Currently Using Any Contraceptive Method, by Intention to Use in the Future, According to Number of Living Children, BFHS-II 1988

Intention to Use in the Future	Number of Living Children					Total
	None	1	2	3	4+	
Intend to Use in Next 12 Months	41.1	57.0	49.3	52.6	41.7	47.3
Intend to Use Later	9.2	4.9	4.8	3.0	2.3	4.9
Intend to Use, Unsure about When	2.7	4.8	3.6	3.1	2.2	3.2
Unsure about Whether to Use	6.0	2.1	5.9	6.4	4.2	4.7
Does Not Intend to Use	41.0	31.0	36.4	34.3	49.4	39.9
Missing	0.0	0.1	0.0	0.6	0.2	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number	620	597	402	312	808	2740

Table 4.18 Percent Distribution of Women Who Have Had Sexual Intercourse 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, BFHS-II 1988

Preferred Method	Intend to Use in Next 12 Months	Intend to Use Later	Total
Pill	59.6	62.8	59.9
IUD	14.8	12.8	14.6
Injection	15.9	10.7	15.4
Diaphragm/Foam/Jelly	0.4	0.0	0.4
Condom	1.0	1.1	1.0
Female Sterilisation	1.9	2.0	1.9
Periodic Abstinence	0.2	0.0	0.1
Other	0.2	0.0	0.1
Abstinence	0.1	0.0	0.1
Don't know	5.9	10.7	6.3
Total	100.0	100.0	100.0
Number of Women	1295	133	1428

Women who were not using contraception but who intend to use a method were asked which method they preferred. Table 4.18 presents the distribution of women according to their preferred method and whether they intend to use in the next 12 months or not. The majority of the respondents plan to use the pill, with much smaller proportions stating a preference for the IUD and injection.

4.9 ACCEPTABILITY OF MEDIA MESSAGES ON FAMILY PLANNING

Information about family planning is disseminated through various channels: home visits, kgotla, schools, community meetings, work places, individual counselling, and talks at health facilities. In the BFHS-II, respondents were asked whether it was acceptable to them for family planning to be advertised through the radio, kgotla or school.

Table 4.19 Percentage of All Women Who Believe That it is Acceptable to Have Messages About Family Planning on the Radio, at Kgotla, and at School, by Age, BFHS-II 1988

Source of FP Message	Age							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Radio	66.5	55.7	48.4	48.2	50.2	52.0	58.5	54.8
Kgotla	66.3	72.2	76.8	71.1	68.0	69.0	62.0	70.4
School	88.5	87.5	86.6	83.5	82.3	79.5	73.6	85.1

Table 4.19 shows the percentage of all women who believe it is acceptable to have family planning messages on the radio, at kgotla, and at school. The school is the most widely accepted source for family planning information with 85 percent of the respondents finding this to be an acceptable source. Fewer respondents chose the kgotla as a forum for disseminating family planning messages. The radio was less acceptable than either the school and kgotla with only 55 percent approving of the radio as a source of family planning information.

The acceptance of media messages on family planning at school steadily declines with increases in age; almost 90 percent of teenagers approve of family planning messages in the school, but only about three-quarters of women over 40 approve. The kgotla is most popular among those aged 20-34, but less popular among the youngest and oldest women. Acceptance of radio has the opposite age pattern; it is most acceptable among the youngest and oldest women, and less acceptable to those between the ages of 25 and 40.

4.10 APPROVAL OF FAMILY PLANNING BY RESPONDENTS AND PARTNERS

Information was collected in the BFHS-II regarding whether women approve of the use of contraceptive methods and whether women currently in a union think that their partners approve of family planning. As shown in Table 4.20, 92 percent of women who know at least one method of contraception approve of family planning. The proportion of women knowing a method who approve of family planning is the same as in the 1984 BFHS. Table 4.21 presents the respondents' opinion about their partner's attitude toward the use of family planning, for all women in union. Fifty-seven percent said their partner approved, one-third thought he disapproved and 9 percent were unsure.

Women in union who knew a contraceptive method were asked the number of times they discussed family planning with their partner. Inter-partner communication is an important step

Table 4.20 Percent Distribution of All Women Knowing a Contraceptive Method by Attitude Toward the Use of Family Planning, According to Residence, BFHS-II 1988

Respondent's Attitude	Residence		Total
	Urban	Rural	
Disapproves	6.1	7.0	6.7
Approves	93.1	91.3	91.9
Don't know	0.7	1.7	1.4
Missing	0.0	0.0	0.0
Total	100.0	100.0	100.0
Number of Women	1296	2869	4166

towards eventual adoption and sustained use of family planning. Table 4.22 shows that 70 percent of women had discussed family planning with their partner at least once in the past year; more than 40 percent of the women said that they had discussed family planning with their partner once or twice in the past year and almost 30 percent had discussed it more often. This was true for women for all ages except women aged 45-49, among whom only a minority had discussed family planning with their partner. Surprisingly, education is not a factor in facilitating communication between partners about family planning; approximately the same proportions of women of all levels of education had discussed family planning with their partner in the past year.

Table 4.21 Percent Distribution of Women in Union Who Know a Contraceptive Method, by the Respondent's Opinion of Partner's Attitude Toward the Use of Family Planning, BFHS-II 1988

Respondent's Opinion of Partner's Attitude Toward Family Planning	Residence		Total
	Urban	Rural	
Disapproves	24.0	36.5	32.4
Approves	65.9	52.7	57.1
Don't know	9.0	9.5	9.3
Missing	1.1	1.2	1.2
Total	100.0	100.0	100.0
Number of Women	539	1080	1619

The percentage of women in union who approve of family planning, the percentage who think their partner approves, and the percentage of those couples currently using a family planning method are shown in Table 4.23. Except among the oldest women, there is little variation in approval by the respondent by age, urban or rural residence, or level of education, with approval ranging from 85 to 95 percent among the subgroups.

Table 4.22 Percent Distribution of Women in Union Who Know a Family Planning Method, by Number of Times Discussed Family Planning with Partner, According to Current Age and Education, BFHS-II 1988

	Number of Times Discussed Family Planning					
	Never	Once or Twice	More Often	Missing	Total	Number of Women
Age						
15-19	23.4	56.1	16.4	4.1	100.0	50
20-24	22.3	48.9	25.4	3.4	100.0	231
25-29	24.2	46.8	28.4	0.6	100.0	407
30-34	26.8	44.0	28.5	0.7	100.0	367
35-39	30.1	39.1	30.0	0.7	100.0	277
40-44	28.0	44.8	26.5	0.7	100.0	169
45-49	59.8	18.4	21.8	0.0	100.0	118
Education						
No Educstion	37.0	38.5	23.8	0.7	100.0	472
Incomplete Primary	29.4	41.3	27.9	1.4	100.0	487
Complete Primary	22.1	50.3	26.8	0.9	100.0	334
Secondary or Higher	21.6	45.2	31.6	1.5	100.0	326
Total	28.5	43.1	27.2	1.1	100.0	1619

Table 4.23 Percentage of Women in Union Who Know a Family Planning Method, Who Approve of Family Planning and Who Say their Partner Approves of Family Planning, and Percentage of Couples Currently Using Family Planning, by Selected Background Characteristics, BFHS-II 1988

Background Characteristic	Woman Approves	Partner Approves	Couple Currently Using FP	Number of Women
Age				
15-19	86.6	45.6	18.7	50
20-24	88.3	54.4	26.7	231
25-29	93.4	61.4	38.4	407
30-34	93.5	62.3	37.0	367
35-39	89.1	58.5	40.1	277
40-44	93.0	57.6	39.0	169
45-49	74.8	32.6	19.9	118
Residence				
Urban	92.0	65.9	41.8	539
Rural	89.6	52.7	31.3	1080
Education				
No Education	84.5	43.4	23.8	472
Incomplete Primary	90.2	51.0	31.0	487
Complete Primary	93.2	61.4	39.2	334
Secondary or Higher	96.3	81.9	52.0	326
Total	90.4	57.1	34.8	1619

Despite the same amount of discussion of family planning between partners among all subgroups, reporting of partner's approval is higher among women 25-44 than among younger or older women and higher among the urban than rural women. Partner's approval of family planning is also influenced by the level of education, nearly doubling from 43 percent for partners of women who have no education to 82 percent for partners of women who have some secondary or higher education.

Current use appears to be more closely correlated with the respondent's perception of her partner's approval of family planning than her own approval. Within each category of women shown in Table 4.23, current use is equal to about 60 percent of the level of partner's approval reported by that group of women, regardless of the level of the respondent's approval. It is impossible to know whether the partner's approval led to the adoption of a method, or whether the women began to use family planning and the partner came to accept it.

While the reported level of partner's approval has increased since 1984, when 48 percent of women who knew a method said their partner approved of family planning, male approval is still much lower than that of females. Furthermore, results of the BFHS-II which relate partner's approval to current use suggest that male approval can be an important factor in adoption and sustained use of family planning. The family planning programme recognizes that efforts to build support for family planning among men have lagged behind those focussed on women. Many men are opposed to family planning simply because they have not been involved and feel excluded. Other men think family planning is dangerous because they lack information about specific family planning methods. The family planning programme needs to develop materials and intensify efforts which target males in order to build support for family planning among Batswana men and to sustain the continued growth of the use of family planning among Batswana couples.

5. FERTILITY PREFERENCES

This chapter assesses the need for contraception among Batswana women. Several questions were included in the BFHS-II to ascertain whether the respondent wants more children; if so, how long she would prefer to wait before the next child; and if she were to start afresh, how many children in all she would want. Until very recently, the family planning programme in Botswana emphasized delay of the first pregnancy and child spacing over the limitation of family size. The extent to which this objective has been achieved will be examined in this chapter. Also examined are the extent to which unwanted pregnancies occur and the effect the prevention of such pregnancies would have on the fertility rate. These questions are of interest first, because of the concern of the Government of Botswana that couples have the freedom and ability to bear the number of children they want, when they want them, and second, because of the implications of rapid population growth in meeting overall development objectives.

Information on fertility preferences has been criticized on the grounds that responses to survey questions reflect ephemeral views which are held with little conviction, and that they tend to ignore the effect of social pressures or attitudes of other family members who may significantly influence reproductive decisions. Since the family planning programme in Botswana is relatively new--as is the concept of fertility regulation for many women--the first criticism may hold. Unfortunately, we have no data to address the second objection. Since no surveys have been conducted in which both women and their partners, or other relatives, were interviewed, the extent of the effect of the husband's or other family members' attitude on family size and contraception has not been established.

The inclusion of women who are currently pregnant complicates the measurement of views on future childbearing. In the case of these women, the question on desire for more children was rephrased to refer to desire for another child, after the one that they were expecting. The number of living children should therefore be taken to include the current pregnancy.

5.1 DESIRE FOR ADDITIONAL CHILDREN

Table 5.1 shows the distribution of women in union by desire for children, according to the number of living children. Figure 5.1 and the last column of Table 5.1, which present the fertility preferences for all women in union, indicate that more than half of the women interviewed would like to have another child: 24 percent would like to have another child soon (within the next two years) and 29 percent want another child but want to wait at least two years. One-third of the women want no more children.

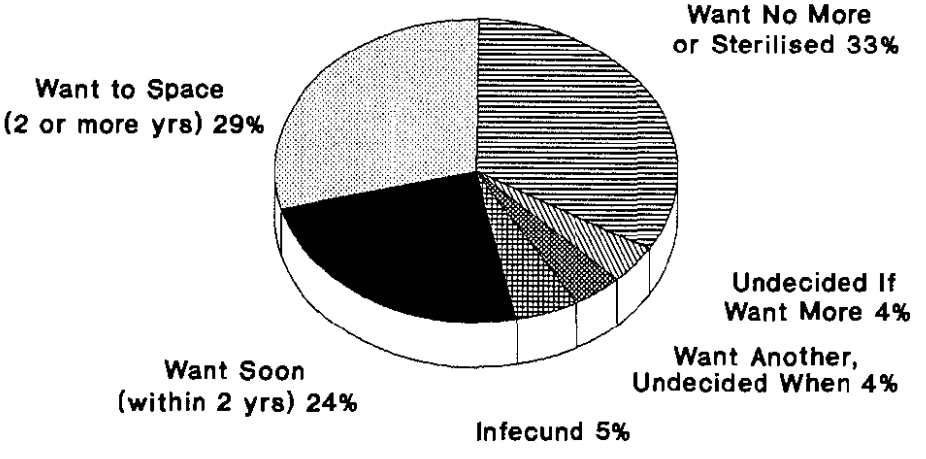
The results in Table 5.1, shown graphically in Figure 5.2, suggest that Batswana women continue to have a preference for large families. Sixty percent of women with 4 living children, 44 percent of women with 5 living children, and 24 percent of women with 6 or more living children still want another child. Among those women with none or one child, the majority would like to have another birth soon--within the next two years. Most women with two or more children, who want another child, would prefer to wait at least two years before their next birth.

Table 5.1 Percent Distribution of Women in Union by Desire for Children and Timing, According to Number of Living Children, BFHS-II 1988

Desire for Children and Timing	Number of Living Children*							Total
	0	1	2	3	4	5	6+	
Wants another within two years	63.8	48.4	25.2	21.8	20.8	15.7	7.0	23.8
Wants another after two or more years	9.5	37.2	39.5	39.7	33.9	26.0	13.8	29.2
Wants another, unsure when	9.7	4.5	4.8	2.8	6.7	2.7	2.7	4.3
Undecided	1.9	0.9	3.8	2.7	3.5	5.8	5.8	3.8
Wants no more**	1.9	5.1	22.5	26.6	29.8	44.9	62.7	32.7
Declared infecund	8.6	2.3	1.8	5.7	4.5	4.0	7.9	5.0
Missing	4.5	1.5	2.3	0.7	0.8	0.9	0.2	1.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of Women	104	198	272	299	254	194	386	1708

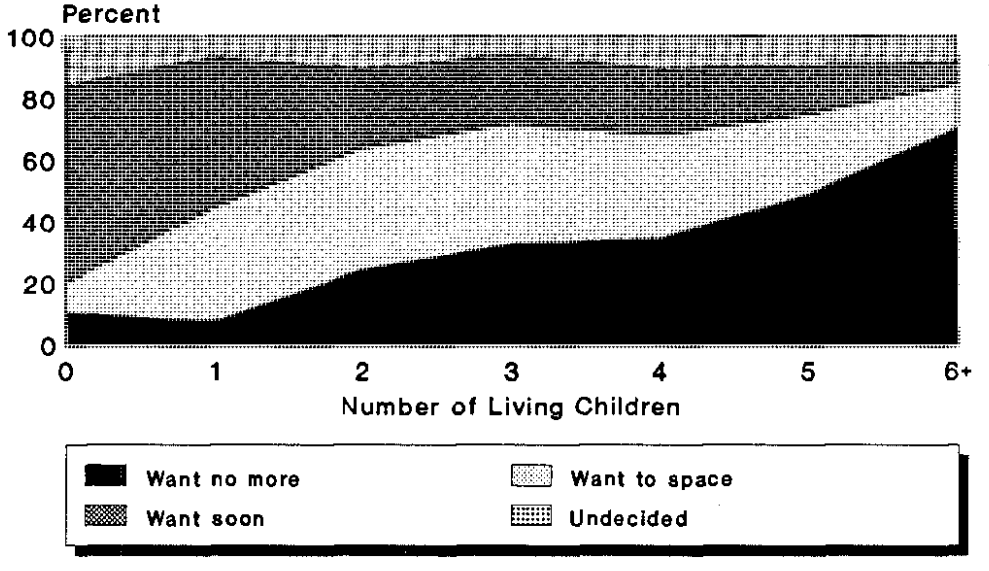
* Includes current pregnancy.
** Includes sterilised women.

Figure 5.1
Fertility Preferences
Women in Union 15-49



BFHS-II 1988

Figure 5.2
Fertility Preferences by Number of Living Children
Women in Union 15-49



BFHS-II 1988

The proportion of women in union who do not want any more children, 33 percent, is unchanged from the 1984 BFHS. However, the importance of spacing births at least two years apart seems to have become more widely know: 24 percent of women in the BFHS-II said they wanted another child soon while 29 percent said they wanted to wait at least two years. By comparison, in the 1984 BFHS 25 percent of women wanted a child within the next two years, 12 percent said they wanted a child at any time, and only 21 percent wanted to wait at least two years.

The desire for additional children is closely related to the age of the respondent. Table 5.2 indicates that the proportion wanting a child within two years decreases as age increases--from 38 percent among women age 15-19 to 16 percent for women age 45-49; while the percentage of those who do not want any more children increases with age from 11 percent among women age 15-19 to 53 percent for women 45-49.

Table 5.3 shows the percentage of women who want no more children by background characteristics. Among women in union with two or three living children, women in urban areas and those with higher education were more likely to say that they did not want any more children--i.e., that they thought 2 or 3 children were enough--than women in rural areas or with primary or less education. This may reflect the economic realities in urban areas which make children more expensive to raise, as well as the fact that education levels are higher in urban areas. However, 50 percent of women with four or more children, irrespective of residence or education, stated a preference for additional children.

Table 5.2 Percent Distribution of Women in Union by Desire for Children and Timing, According to Current Age, BFHS-II 1988

Desire for Children and Timing	Current Age							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Wants another within two years	38.1	30.4	25.3	23.4	19.8	20.8	15.9	23.8
Wants another after two or more years	39.8	49.2	38.1	34.1	17.8	9.2	1.4	29.2
Wants another, unsure when	1.1	3.9	4.1	4.2	5.7	5.2	3.1	4.3
Undecided	1.1	2.2	4.0	4.0	3.6	3.2	7.8	3.8
Wants no more*	10.8	10.4	26.6	32.1	45.3	48.0	52.6	32.7
Declared infecund	5.4	0.6	1.3	2.1	6.9	12.1	18.2	5.0
Missing	3.8	3.3	0.6	0.3	0.9	1.4	1.0	1.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	54	238	420	382	290	182	140	1708

* Includes sterilised women.

Table 5.3 Percentage of Women in Union Who Want No More Children (Including Sterilised Women) by Number of Living Children and Selected Background Characteristics, BFHS-II 1988

Background Characteristic	Number of Living Children*					Total
	None	1	2	3	4+	
Residence						
Urban	1.5	6.9	27.1	34.8	49.7	31.5
Rural	2.2	3.8	18.6	22.2	48.2	33.2
Education						
No Education	4.8	2.3	18.0	20.9	50.0	34.9
Incomplete Primary	0.0	1.6	19.3	26.6	49.9	37.9
Complete Primary	0.0	7.6	13.5	22.8	40.1	23.4
Secondary or Higher	2.1	7.6	32.8	36.7	50.6	30.4
Total	1.9	5.1	22.5	26.6	48.5	32.7

* Includes current pregnancy.

In sum, the family planning programme appears to have been successful in disseminating its message on the importance of birth spacing, as indicated by the increasing proportion of women who wish to delay their next birth. However, women continue to express a desire for relatively large families of five or more children. The three tables clearly demonstrate that the desire to have more children is influenced by the number of living children, age, education and residence.

5.2 FUTURE NEED FOR FAMILY PLANNING

Table 5.4 examines the need for and the intention to use family planning among women in union according to residence and education. Women are considered to be in need of family planning if they are not currently using a method of family planning and either want no more births or want to postpone the next birth for two or more years. Some women may not have been using a method of family planning at the time of the survey because they were not at risk of a pregnancy, i.e., they were pregnant, amenorrheic or abstaining from sexual relations following a birth, or did not currently have a partner. While they are not currently at risk of getting pregnant, it is likely that they will be in the near future. The results in Table 5.4 should not be viewed as an estimate of current need for family, but rather a maximum estimate of those in need of family planning to avoid an unwanted or unplanned pregnancy, now or in the future.

Table 5.4 Percentage of Women in Union Who Are in Need of Family Planning and the Percentage Who Are in Need and Who Intend to Use Family Planning in the Future by Selected Background Characteristics, BFHS-II 1988

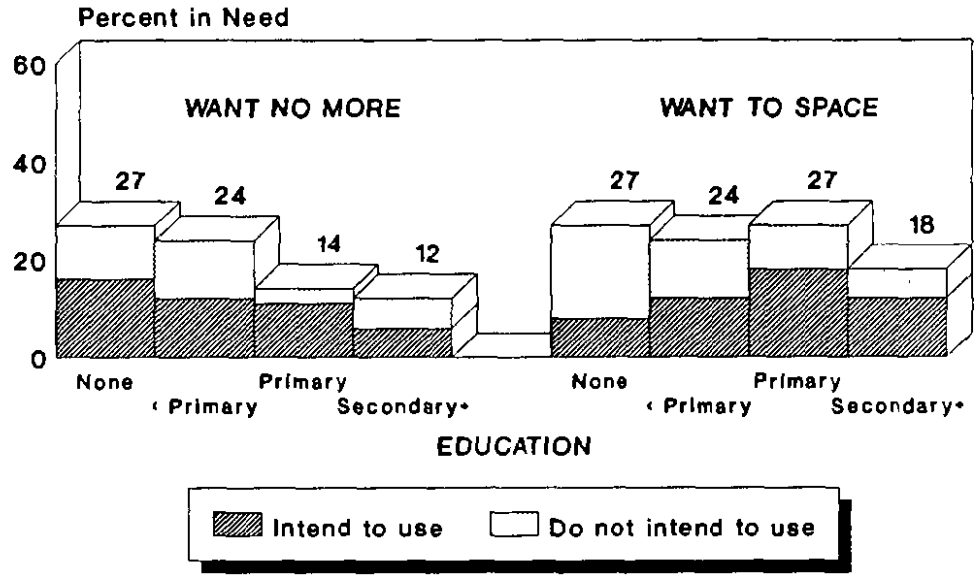
Background Characteristic	In Need*			In Need and Intend to Use			Number of Women
	Want no More	Want to Space	Total	Want no More	Want to Space	Total	
Residence							
Urban	17.0	21.5	38.5	10.4	12.0	22.3	540
Rural	22.2	25.4	47.6	12.8	11.9	24.7	1167
Education							
No Education	27.1	26.7	53.7	16.1	7.6	23.8	550
Incomplete Primary	23.7	23.7	47.4	12.2	12.4	24.6	496
Complete Primary	13.7	26.9	40.6	11.0	18.2	29.2	334
Secondary or Higher	11.8	17.9	29.7	5.9	11.9	17.7	327
Total	20.6	24.2	44.7	12.0	11.9	23.9	1708

* Includes women who are not using a method of family planning and who either want no more births or want to postpone their next birth for two or more years.

Overall, 45 percent of the women in union are in need of family planning, because they want no more children or wish to delay the next birth for at least two years. Slightly more than half of these women are in need of family planning for postponing their next birth, while slightly less than half do not want another child. Almost one-quarter of women in union are in need of family planning and intend to use; this constitutes about half of the women in need. A higher proportion of women who want no more children and are not using a method of family planning intend to use family planning in the future, than women who want to postpone a birth.

The need for family planning is greater among rural than urban women; however, the proportion in need and who intend to use is nearly the same for urban and rural women. The proportion in need of family planning is much higher among women with no education or little education (54 and 47 percent respectively) compared with those who have more education (30

Figure 5.3
Need for Family Planning
Women in Union Not Using Contraception



BFHS-II 1988

percent for those with secondary education or higher). Unfortunately, the gap between need and intent to use is greater among those with no or little education--among whom 44 and 52 percent, respectively, of women in need intend to use, compared with 60 percent of women with secondary education or higher. As can be seen in Figure 5.3, the largest gap between need and intention to use family planning is among less educated women who want to delay their next birth.

5.3 IDEAL NUMBER OF CHILDREN

Table 5.5 presents the distribution of all women interviewed by the ideal number of children, according to the actual number of living children they have. The table also shows the mean ideal number of children for all women and women in union. Thus far in this chapter, interest has focussed on the respondent's wishes for children in the future, implicitly taking into account the number of children she has already borne. In ascertaining the total ideal number of children, the respondent was required to perform the more difficult task of considering abstractly and independently of her actual family size, the number of children she would choose if she were to start again.

The preference for large families among Batswana women is clear: 32 percent said the ideal family size was 4 children, 12 percent said 5 children, and 30 percent expressed a preference for 6 or more children. The average ideal family size among all women was 4.7 and among women in union, 5.4. There is a correlation between actual and ideal number of children, which can be

Table 5.5 Percent Distribution of All Women by Ideal Number of Children and Mean Ideal Number of Children for All Women and Women in Union, According to Number of Living Children, BFHS-II 1988

Ideal Number of Children	Number of Living Children*							
	None	1	2	3	4	5	6+	Total
None	1.0	0.3	0.6	0.4	0.0	0.0	0.0	0.4
1	2.9	5.8	0.8	1.4	1.5	0.2	0.5	2.4
2	20.3	11.1	15.2	3.2	4.8	5.2	2.5	10.8
3	12.2	12.4	9.4	17.4	1.0	10.9	2.4	10.1
4	33.2	39.1	40.4	31.4	33.9	9.6	17.8	31.9
5	12.6	10.5	9.9	11.5	10.7	23.6	8.2	11.6
6+	15.1	19.0	21.6	32.9	45.4	46.0	62.3	29.9
Non-Numeric Response	2.6	1.8	2.2	2.0	2.7	4.5	6.3	2.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	1028	878	665	549	427	287	533	4368
Mean (All Women)	3.9	4.2	4.3	4.8	5.4	5.6	6.5	4.7
Mean (Women in Union)	4.8	5.0	4.7	4.9	5.7	5.8	6.5	5.4

* Includes current pregnancy.

seen in the fact that the mean number of children increases from 3.9 among women with no children to 6.5 among women with 6 or more children. There are several possible reasons for this pattern. First, to the extent that women implement their preferences, those who want large families will tend to achieve larger families. Second, women who already have large families may find it difficult to admit that they would not have some of their children if they could start again. Finally, it is possible that women with large families, who are on average older than women with smaller families, have larger ideal family sizes because they hold more traditional family size preferences than younger women.

Despite the likelihood that rationalizations occur, some respondents reported an ideal family size that was smaller than their current number of children. This can be taken as an indicator of surplus or unwanted fertility. Unwanted fertility only appears to any significant degree among women with 5 or more children. Twenty-six percent of women with 5 children and 31 percent of women with 6 or more children said that if they could start their lives again they would have fewer children than their actual number.

The ideal number of children is somewhat smaller than the expected family size reported in the 1984 BFHS. However, due to differences in questions asked about ideal or expected family size a direct comparison is not possible. In general, the difference is too small to conclude there has been a significant change in family size norms.

Table 5.6 shows the mean ideal number of children for all women by residence and education. The mean ideal number of children clearly increases with age and decreases with education. This is consistent with the fact that many traditional Batswana women, who are generally older and less educated, believe that the more children one has the more prestige one

Table 5.6 Mean Ideal Number of Children for All Women by Age and Selected Background Characteristics, BFHS-II 1988

Background Characteristic	Age							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Residence								
Urban	3.8	4.2	4.4	4.7	5.1	5.0	5.7	4.4
Rural	3.6	4.3	4.9	5.4	5.9	6.3	6.3	4.9
Education								
No Education	3.2	4.7	5.6	5.5	6.2	6.6	6.5	5.6
Incomplete Primary	3.6	4.6	4.5	5.7	5.8	6.0	6.2	5.1
Complete Primary	3.7	4.2	4.8	5.1	5.4	6.0	*	4.4
Secondary or Higher	3.7	3.9	4.0	4.0	4.5	3.9	*	3.9
Total	3.7	4.2	4.8	5.2	5.7	6.0	6.2	4.7

* Fewer than 20 cases.

gains. There are also large differences between urban and rural women in the ideal number of children. This probably reflects the economic realities in urban areas which make children more expensive to raise, as well as the fact that education levels are higher in urban areas.

5.4 UNPLANNED AND UNWANTED FERTILITY

Women who had at least one birth in the five years preceding the survey were asked whether the births were planned, i.e., that they were wanted then, wanted later, or not wanted. These questions are an indicator of the degree to which couples successfully control childbearing. In addition, the data from these questions can be used to gauge the effect of the prevention of unwanted births on period fertility.

Questions on whether a pregnancy was wanted or planned are demanding for the respondent. She is required to recall accurately her wishes at one or more points in time in the last five years and to report them honestly. The danger of rationalization is present and an unwanted conception may become a cherished child. Despite these potential problems, results from a number of surveys in various countries have proved plausible. Results in Table 5.7 show that respondents are willing to report unwanted pregnancies, although the results probably underestimate the level of unwanted fertility.

Table 5.7 shows that almost half of the births (48 percent) were not wanted at the time they occurred and an additional 5 percent were not wanted at all. Of the births which were wanted later, three-quarters were to women who had not used any method of family planning in the interval before the pregnancy. Forty percent of the pregnancies which occurred to women using contraception in the interval prior to that pregnancy were not wanted at the time they occurred and 7 percent were not wanted at all. These results suggest that a significant number of women experienced a contraceptive failure, or discontinued using a method because they were dissatisfied with that method, and subsequently had an unwanted pregnancy. A particularly interesting result is that 59 percent of first births occurred at a time when they were not wanted, predominantly to women who did not use contraception in the interval. The majority of first births

Table 5.7 Percent Distribution of All Births in the Last Five Years by Contraceptive Practice and Planning Status, According to Birth Order, BFHS-II 1988

Contraceptive Practice and Planning Status	Birth Order 1	2	3	4+	Total
Non-Contraceptive Interval					
Wanted child then	30.3	26.8	27.5	30.9	29.5
Wanted child later	49.9	29.1	24.6	32.7	35.2
Child not wanted	1.9	0.9	1.2	4.9	2.8
Contraceptive Interval					
Wanted child then	7.5	22.8	26.9	15.9	16.8
Wanted child later	8.8	17.3	15.8	11.3	12.5
Child not wanted	0.8	2.1	2.2	3.0	2.1
Unclassifiable	0.6	0.9	1.9	1.4	1.2
Total	100.0	100.0	100.0	100.0	100.0
Number of Births	897	666	548	1380	3492

occur when the mother is still a teenager. The large proportion of women who report these births as occurring too early is a cry for help in preventing early teenage births.

Table 5.8 presents the percentage of women who had a birth within 12 months before the survey, according to whether the birth was planned, mistimed or unwanted. The table shows that a large proportion of pregnancies (75 percent) which occurred among teenagers were not wanted at the time they occurred. There is also a surprisingly large proportion of women age 40 and over (52 percent) who said they had wanted their last pregnancy then. The explanation in this case could be that most of these women wanted to complete their desired family size before menopause.

It is possible to use the data on whether births were wanted or not (and ignoring whether they were mistimed) to calculate a total "wanted" fertility rate. This rate is calculated in the same manner as the conventional total fertility rate, except the births classified as unwanted are omitted from the numerator. Wanted fertility rates express the level of fertility that theoretically would result if all unwanted births were prevented. A comparison of the conventional total fertility rate with wanted fertility rates indicates the potential demographic impact of the elimination of unwanted births.

Table 5.9 presents a comparison between the wanted fertility rate and the actual total fertility rate, by residence and education. Overall, the wanted fertility rate is only about 6 percent lower than the current total fertility rate. This is consistent with the results presented throughout this chapter that show that most Batswana women desire large families and have few unwanted births. Thus, even if all unwanted births could be eliminated, fertility in Botswana would only be slightly lower than the current rates.

Table 5.8 Percent Distribution of Births in the Last 12 Months by Fertility Planning Status, According to Birth Order and Age, BFHS-II 1988

Birth Order and Age	Planning Status: Wanted Child Then	Wanted Child Later	Child Not Wanted	Unclassifiable	Total	Number of Births
Birth Order						
1-2	38.1	57.2	3.5	1.2	100.0	390
3+	42.4	47.4	8.9	1.3	100.0	402
Current Age						
15-19	22.2	74.7	3.2	0.0	100.0	128
20-24	39.3	55.3	4.6	0.8	100.0	250
25-29	47.1	45.4	5.0	2.5	100.0	187
30-34	48.9	45.8	3.5	1.8	100.0	114
35-39	39.2	38.8	21.2	0.7	100.0	79
40-49	52.3	35.7	10.2	1.8	100.0	34
Total	40.3	52.2	6.2	1.2	100.0	792

Table 5.9 Total Wanted Fertility Rates and Total Fertility Rates for the Five Years Preceding the Survey, by Selected Background Characteristics, BFHS-II 1988

Background Characteristic	Wanted Fertility Rate	Total Fertility Rate
Residence		
Urban	3.8	4.1
Rural	5.0	5.4
Education		
No Education	5.4	6.0
Incomplete Primary	5.0	5.2
Complete Primary	4.4	4.6
Secondary or Higher	3.2	3.3
Total	4.7	5.0

In sum, the responses to questions on future childbearing intentions, ideal number of children, and whether recent births were unwanted or unplanned show that Batswana women continue to have a preference for many children. The ideal family size among all women was almost 5 children. However, women are clearly interested in spacing their births and report a large proportion of their births to have occurred earlier than the respondent would have liked. This problem was especially severe among teenagers, where three-quarters had a birth before they intended. A desire to delay and space births appears to be the principal motivation for the recent increase in the use of modern methods of family planning methods in Botswana.

6. MORTALITY AND HEALTH

The main objectives of the Maternal and Child Health/Family Planning Unit of the Family Health Division are to reduce sickness and death among mothers and children by promoting the reproductive health of women as well as the physical health and development of children and adolescents.

In order to achieve these objectives, health workers provide antenatal care, supervise deliveries in health facilities, provide postnatal care and family planning services, vaccinate against infectious diseases, monitor the growth and development of children by periodic weighing and examination, supervise children's health in the schools and encourage the community to participate in the health care of families.

This chapter concerns the important and related subjects of mortality and health. These topics are relevant both to the demographic assessment of the population and to health policies and programmes. Estimates of infant and childhood mortality may be an input to population projections, particularly if the level of adult mortality is known from other sources. Information on mortality and the health status of children serves the needs of the Family Health Division by locating sectors of the population which are at high risk and by assessing the coverage of existing services.

6.1 LEVELS AND TRENDS IN INFANT AND CHILDHOOD MORTALITY

The BFHS-II used a full birth history to collect data on infant and childhood deaths. All respondents in the BFHS-II were asked to provide a complete maternity history, including the sex of the child, date of birth, survival status, and current age or age at death of each live birth. The reliability of the estimates calculated from this data depends upon full recall of children who have died, the absence of any severe differential displacement of birth dates of surviving and dead children, and the accurate reporting of age at death. The last point is of major concern because it can result in some heaping of deaths at age 12 months or 1 year. Estimates of infant and childhood mortality derived from the BFHS-II data for earlier periods should be interpreted with caution because of possible omissions of dead children in the more distant past.

Table 6.1 presents estimates of infant and childhood mortality calculated from the birth history data. Mortality rates are presented for three age intervals. The infant mortality rate ($_1q_0$) is the probability of dying between birth and the first birthday. The childhood mortality rate ($_4q_1$) is the probability of dying between the first and fifth birthday, and under five mortality ($_5q_0$) is the probability of dying between birth and age five.

Infant and childhood mortality rates for three five-year periods prior to the survey are presented in Table 6.1 and Figure 6.1. The 1983-1988 rate includes information from the months in 1988 which preceded the interview. Since fieldwork was conducted from August to early December of 1988, on average, more than nine months of 1988 are included. The infant mortality rate for the most recent period, 1983-1988, is 37 deaths before age one for each 1000 births. A similarly low infant mortality rate was found in a diarrhoea morbidity, mortality and treatment survey conducted in 1986 (Ministry of Health and World Health Organization, 1986). The

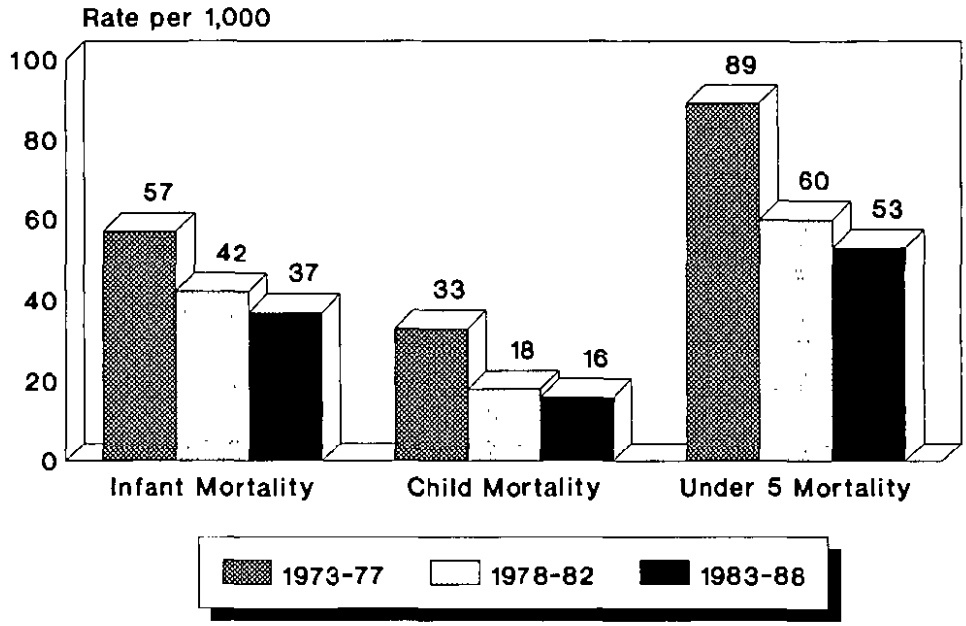
extended duration of breastfeeding, widespread coverage of the immunisation programme, general access to clean water, and the high usage of oral rehydration therapy for diarrhoea are all important contributing factors to the low rate of infant mortality in Botswana.

Table 6.1 Infant and Childhood Mortality for Five-Year Calendar Period, BFHS-II 1988

Period	Infant Mortality Rate (1q0)	Childhood Mortality Rate (4q1)	Under Age 5 Mortality Rate (5q0)
1983-1988*	37.4	16.0	52.7
1978-1982	42.1	18.5	59.8
1973-1977	57.3	33.2	88.6

* Includes events in the calendar year of survey up to, but excluding, month of interview.

Figure 6.1
Trends in Infant and Child Mortality



BFHS-II 1988

Table 6.1 also shows that both infant and childhood mortality have declined steadily in Botswana since the mid-1970s. The infant mortality rate was estimated to be 57 deaths per 1000 births in 1973-1977. Infant mortality declined by 35 percent from 1973-1977 to the most recent five-year period. The decline in childhood mortality is even greater--52 percent between 1973-1977 and 1983-1988.

One probable cause of the decline in infant and childhood mortality were the nutrition, health, and income generating programmes established to counter the effects of drought in Botswana between 1982 and 1988. During this period, the government provided supplementary food to children under five at health facilities--rations consisted of corn, beans, soya milk, oil, and other basic foodstuffs. The distribution of supplementary food brought more children than usual to the health facilities, where their health and nutritional status could be closely monitored. In addition, drought relief programmes, such as brick-making and road construction, brought income to households, enabling them to buy food they could no longer obtain through farming. As a result, malnutrition declined in Botswana during the drought. It is thought that the absence of waterborne diseases--due to the drought--may also have been a factor in the decrease in infant mortality. Additionally, the expansion of MCH programmes, not related to the drought, including increased utilization of oral rehydration therapy (ORT), greater immunisation coverage, and the increased number of supervised deliveries contributed to the decline in mortality.

Lacking data from the vital registration system, estimates of infant and child mortality in Botswana have traditionally been computed from census data on the number of deaths in the year before the enumeration and survey data on the proportion of dead children among all births, tabulated by age of the mother. It is important to bear in mind when examining trends in infant and child mortality in Botswana that differences in data collection and estimation procedures between the censuses and the various surveys would contribute to the different rates that have been obtained.

The 1984 BFHS reported an infant mortality rate of 70 deaths per 1000 births for the period of approximately 1977-1981, based on the proportion of dead children among all births. The 1981 Census reports an infant mortality rate of 71 per 1000 births for the same period. A rate for the comparable period, 1978-1982, derived from the birth histories collected in the 1988 BFHS-II, however, is much lower--42 per 1000. While the quality of the other mortality estimates remains to be evaluated, they obviously indicate much higher levels of mortality. A more detailed analysis of the infant and childhood mortality data from the census and earlier survey, as well as the BFHS-II, is necessary to explain the large differences in the estimated rates.

6.2 SOCIOECONOMIC DIFFERENTIALS IN INFANT AND CHILDHOOD MORTALITY

In Table 6.2, infant and childhood mortality rates are presented for urban-rural residence and level of education of the mother. In order to ensure a sufficient number of events (infant and childhood deaths) and thus more stable rates, the rates in Table 6.2 were computed for the 10-year period 1978-1988 and indicate an average for the period.

Table 6.2 shows that in Botswana there is no significant difference between rural and urban rates of infant and childhood mortality. This is not surprising as health facilities in Botswana are well distributed throughout the country and, as a result, rural residents have nearly as easy access

Table 6.2 Infant and Childhood Mortality by Selected Socioeconomic Characteristics of the Mother, for the Ten-Year Period Preceding the Survey, BFHS II-1988

Socioeconomic Characteristic	Infant Mortality Rate (1q0) 1978-1988*	Childhood Mortality Rate (4q1) 1978-1988	Under Age 5 Mortality Rate (5q0) 1978-1988
Residence			
Urban	39.4	18.0	56.7
Rural	39.5	16.7	55.6
Level of Education			
No Education	46.5	18.4	64.1
Incomplete Primary	34.2	16.1	49.7
Complete Primary	36.8	21.0	57.0
Secondary or Higher	37.4	10.1	47.1
Total	39.5	17.0	55.9

* Includes events in the calendar year of survey up to, but excluding, month of interview.

to health services as urban residents. Furthermore, during the drought, the nutritional status of children in the areas affected, predominantly rural areas, was closely monitored and supplementary foods were supplied for any children found to be nutritionally deficient. The monitoring and feeding programmes contributed to low mortality among rural infants during the drought years. Another factor contributing to the low infant mortality rates in both urban and rural areas is the widespread availability of clean drinking water. The proportion of respondents with access to clean water (indoor plumbing, standpipe, or borehole/well) is 85 and 91 percent for rural dwellers in the dry and rainy season, respectively, and 99 percent for urban area dwellers.

There is a clear difference in infant mortality by educational status, especially between the children of mothers who had no education and those whose mothers had at least some primary education. The mortality among infants of women with no education is 24 to 36 percent higher than among infants of women with some schooling. Differentials in childhood mortality show no pattern, however. As will seen in the next section, women with no education are also the least likely to avail themselves of maternity health services. While this is an area that needs further study, it appears that one consequence of this lower use of services among uneducated women is a higher mortality rate among their births.

6.3 INFANT AND CHILDHOOD MORTALITY BY DEMOGRAPHIC CHARACTERISTICS

The relationships between infant and childhood mortality and various demographic variables are examined in Table 6.3 for the ten-year period, 1978-1988. These variables are of special interest to managers of integrated programmes of maternal and child health and family planning, because they show the effect of many and closely spaced births, as well as the age of the mother, on the probability of survivorship of the child.

Table 6.3 Infant and Childhood Mortality by Selected Demographic Characteristics, for the Ten-Year Period Preceding the Survey, BFHS-II 1988

Demographic Characteristic	Infant Mortality Rate (1q0) 1978-1988*	Childhood Mortality Rate (4q1) 1978-1988	Under Age 5 Mortality Rate (5q0) 1978-1988
Sex of Child			
Male	47.7	18.3	65.1
Female	31.5	15.8	46.8
Mother's Age at Birth			
Less than 20	34.9	21.7	55.8
20-29	41.8	15.6	56.8
30-39	38.8	17.5	55.6
40-49	**	**	**
Birth Order			
First	32.4	14.6	46.5
2-3	44.6	18.1	61.9
4-6	37.5	20.2	56.9
7+	44.3	10.2	54.0
Interval Since Previous Birth			
<2 years	68.1	22.4	89.0
2-3 years	35.1	19.1	53.5
4 years or more	31.7	10.8	42.2

* Includes events in the calendar year of survey up to, but excluding, month of interview.
** Fewer than 500 births.

The results in Table 6.3 show a number of irregular findings relative to expected demographic patterns. Table 6.3 shows that there is a large difference in infant mortality rates between male and female children in Botswana. The infant mortality rate for males is 48 compared to a rate of 32 for females. While somewhat higher male than female infant mortality is to be expected, male infant mortality that is 50 percent higher than female mortality is very unusual. Childhood mortality rates for males and females are 18 and 16, respectively.

The relationship between infant mortality and mother's age at birth also is not as expected. Generally, infant mortality is higher for children born to teenage women and to women over age 35 or 40. However, results from the BFHS-II show slightly higher mortality among infants of mothers age 20-39 than among younger mothers. Childhood mortality, however, is lower for mothers over age 20 than among teenage mothers. Consequently, overall under five mortality is the same regardless of the age of the mother.

Yet another unexpected finding from the BFHS-II is that first births have less risk of dying than higher order births. The highest child mortality is found among second and third births and the risk of dying declines for higher order births. It appears that infants of young women--predominantly first births--have a significantly reduced risk of death.

Perhaps the most striking differentials in infant and childhood mortality are those associated with the length of the previous birth interval. In this case, the relationship is in the expected direction. Infants born less than two years after their preceding sibling are nearly twice as likely to die as infants born after an interval of 2 or more years. Children age 1-5 born within three years of their older sibling are twice as likely to die before age five as children whose next older sibling is four or more years older. These data strongly support the family planning programme's encouragement, as well as Batswana custom, to space births widely.

6.4 CHILDREN EVER BORN AND SURVIVING

Another way to assess the situation regarding infant and childhood mortality in Botswana is to look at the proportion of children who have died among all children ever born. Table 6.4 shows the mean number of children ever born, children surviving, and the proportion of children who have died among all live births. The proportion of children who died increases with each successive age cohort, from .034 for mothers age 15-19 to .097 for mothers age 40-49. The increase among older mothers reflects both the longer average exposure time (i.e., to the possible death of a child) for older women and the recent decline in infant and child mortality due to improving socioeconomic and health conditions.

Table 6.4 Mean Number of Children Ever Born, Surviving, and Dead, and Proportion of Children Dead Among Ever Born, by Age of Mother, BFHS-II 1988

Age of Woman	Mean Number of Children: Ever Born	Surviving	Dead	Proportion Dead	Number of Women
15-19	0.261	0.252	0.009	0.034	937
20-24	1.166	1.113	0.053	0.045	926
25-29	2.546	2.391	0.155	0.061	846
30-34	3.698	3.483	0.214	0.058	653
35-39	5.088	4.670	0.418	0.082	464
40-44	5.425	4.898	0.527	0.097	290
45-49	5.752	5.196	0.556	0.097	251
Total	2.580	2.394	0.186	0.072	4368

6.5 ANTENATAL CARE

The type of health care that a mother receives during her pregnancy and at the time of delivery can have an important effect on her health as well as on the health of her child. In the BFHS-II, women who had given birth in the five years prior to the survey were asked a series of questions concerning the type of health care they received prior to each birth occurring during the period. Women were also asked who assisted with the delivery of each birth and if they received postnatal health care after the birth. For antenatal care, assistance at delivery, and postnatal care, interviewers were instructed to record the most qualified person in cases in which more than one type of person provided care.

Table 6.5 Percent Distribution of Births in the Last 5 Years by Type of Antenatal Care for the Mother and Percentage of Births Whose Mother Received a Tetanus Toxoid Injection, According to Selected Background Characteristics, BFHS-II 1988

Background Characteristic	Type of Antenatal Care: None	Doctor	Nurse Midwife	Traditional Doctor/ Birth Attendant	Other	Missing	Total	Received Tetanus Toxoid	Number of Births
Age									
15-19	5.1	11.3	80.3	2.4	0.9	0.0	100.0	82.9	238
20-24	3.3	12.3	81.6	2.3	0.5	0.1	100.0	85.1	823
25-29	6.4	11.7	78.8	1.7	0.9	0.6	100.0	85.5	863
30-34	4.7	10.6	82.7	0.8	0.5	0.7	100.0	83.7	634
35-39	5.1	9.9	82.5	1.8	0.2	0.5	100.0	83.2	377
40-44	3.1	9.4	82.4	1.6	2.3	1.2	100.0	87.8	176
45-49	6.5	9.9	77.2	4.3	0.0	2.2	100.0	76.7	67
Residence									
Urban	1.7	19.9	76.7	0.6	0.8	0.3	100.0	85.0	838
Rural	5.9	8.1	82.6	2.2	0.6	0.6	100.0	84.3	2339
Level of Education									
No Education	11.3	7.1	75.1	3.7	1.5	1.3	100.0	76.3	961
Incomplete Primary	3.3	10.1	85.0	1.2	0.1	0.2	100.0	85.2	803
Complete Primary	1.8	13.1	83.8	0.8	0.4	0.1	100.0	88.8	804
Secondary or Higher	0.6	16.7	81.4	0.8	0.4	0.1	100.0	90.8	609
Total	4.8	11.2	81.0	1.8	0.7	0.5	100.0	84.5	3177

Table 6.5 shows the percent distribution of births in the last five years by the type of antenatal care received by the mother and the percentage of births for which the mother received a tetanus toxoid injection during pregnancy. The overall level of antenatal care received from trained health personnel is quite high. For more than 90 percent of the births, the mother received antenatal care from a doctor or nurse midwife. However, births to women with no education were much less likely to receive antenatal care than births to women with at least some primary schooling. As expected, women living in urban areas were more likely to consult a doctor than rural women (20 percent compared to 8 percent). Health facilities in the rural areas are staffed by a nurse midwife, whereas the urban women will have access to doctors in the urban-based health centres.

Neonatal tetanus, a major cause of infant death in many developing countries, can be prevented through tetanus toxoid injections. The Expanded Programme of Immunisation Unit recommends that pregnant women who have not been previously immunised receive two tetanus injections initially and a booster dose if a subsequent pregnancy occurs with three years. Respondents in the BFHS-II were asked for each birth whether they had received an injection during pregnancy to prevent the baby from getting tetanus after birth. No data was collected on the total number of immunisations received or the duration since the last immunisation, if any. The quality of the responses depends on the mother's ability to recall events during each pregnancy accurately and her ability to distinguish between tetanus toxoid and other injections.

The level of tetanus toxoid coverage appears to be high. Table 6.5 shows that for 84 percent of the births in the last five years, the mothers received a tetanus toxoid injection during pregnancy. Mothers in urban and rural areas were equally likely to receive the injection, however, women with no education received injections for a smaller proportion of their births (76 percent) than women with some education (85 percent). This differential is a consequence of the fact that women with no education are less likely to receive antenatal care, thus reducing the opportunity for receiving a tetanus toxoid injection.

Table 6.6 Percent Distribution of Births in the Last 5 Years by Type of Assistance During Delivery, According to Selected Background Characteristics, BFHS-II 1988

Background Characteristic	Type of Assistance at Delivery: None	Doctor	Nurse Midwife	Traditional Doctor/ Birth Attendant	Relative/ Friend	Other	Missing	Total	Number of Births
Age									
15-19	0.0	6.6	77.3	6.7	8.9	0.6	0.0	100.0	238
20-24	0.4	6.8	77.6	5.0	9.0	1.1	0.2	100.0	822
25-29	1.5	7.7	69.4	10.0	9.3	1.8	0.4	100.0	863
30-34	2.7	7.5	69.7	9.8	6.7	2.9	0.7	100.0	634
35-39	1.1	6.4	64.6	10.2	13.7	3.4	0.5	100.0	377
40-44	3.6	8.1	55.7	11.5	13.4	5.7	2.0	100.0	176
45-49	4.3	6.9	42.7	12.9	31.0	0.0	2.2	100.0	67
Residence									
Urban	0.3	13.6	80.0	1.6	3.6	0.6	0.3	100.0	838
Rural	1.9	4.9	66.8	11.1	12.1	2.7	0.6	100.0	2339
Level of Education									
No Education	4.2	3.4	50.1	18.3	19.1	3.4	1.4	100.0	961
Incomplete Primary	0.7	8.0	72.5	6.4	9.7	2.5	0.2	100.0	803
Complete Primary	0.0	6.9	81.6	4.6	5.6	1.1	0.1	100.0	804
Secondary or Higher	0.0	12.4	84.2	1.3	1.1	0.9	0.1	100.0	609
Total	1.5	7.2	70.3	8.6	9.9	2.1	0.5	100.0	3177

6.6 ASSISTANCE AT DELIVERY

The Ministry of Health has for some time been concerned about the low percentage of institutional deliveries. This was thought to be one of the contributing factors to high infant mortality. The recent improvement in health services have coincided with, or caused, an improvement in the utilization of health services at the time of delivery, as shown by the figures in Table 6.6. Overall, 77 percent of births in the five years prior to the BFHS-II were delivered by trained health personnel, predominantly a nurse midwife. In comparison, the 1984 BFHS showed that 66 percent of recent births were supervised by trained health personnel.

There is a strong association between the age of the mother and the extent to which births were delivered by trained health personnel. While more than 80 percent of births to mothers

younger than age 25 were supervised by trained health personnel, less than 60 percent of births to women over age 40 were overseen by a health professional. There are also large differentials by place of residence. Children of urban mothers were much more likely to be delivered by a trained health professional (94 percent) than children of rural mothers (72 percent), among whom 23 percent were delivered by a traditional birth attendant, friend, or relative.

Lastly, there is a clear relationship between education and the extent to which help was sought from trained medical personnel. The percentage of mothers who were assisted by a traditional birth attendant, friend, or relative decreases from 37 percent for women with no education to 2 percent for women with secondary or higher education. Similarly, the percentage of births attended by a doctor or nurse midwife rises from 54 percent to 97 percent between the lowest and highest educational categories.

6.7 POSTNATAL CARE

Postnatal care in Botswana falls into two categories: 1) immediate post-partum care at home within the first week after delivery and 2) examination in a health facility six to eight weeks after the birth. Table 6.7 shows the percent distribution of births in the last five years by the type of postnatal care received by the mother and the percentage of births for which the mother received a home visit from a field health worker. Overall, the percentage of births who received a postnatal check by a doctor or nurse midwife is 71 percent. This figure reflects a significant rise in postnatal care from 1984, when 54 percent of recent births received a postnatal check.

Table 6.7 Percent Distribution of Births in the Last 5 Years by Type of Postnatal Care for the Mother, According to Selected Background Characteristics, BFHS-II 1988

Background Characteristic	Type of Postnatal Care: None	Doctor	Nurse Midwife	Traditional Doctor/ Birth Attendant	Other	Missing	Total	Home Visit	Number of Births
Age									
15-19	30.5	7.1	61.0	0.2	0.6	0.6	100.0	30.0	238
20-24	22.8	8.5	65.8	1.6	0.5	0.7	100.0	34.1	822
25-29	25.3	7.1	64.7	1.2	1.2	0.4	100.0	34.7	863
30-34	24.1	6.8	65.8	1.2	1.1	1.1	100.0	38.3	634
35-39	33.1	6.2	58.3	1.5	0.4	0.5	100.0	34.0	377
40-44	21.0	5.6	69.8	2.5	0.0	1.2	100.0	43.3	176
45-49	44.0	0.0	51.7	0.0	0.0	4.3	100.0	25.4	67
Residence									
Urban	17.9	13.7	66.9	0.8	0.3	0.3	100.0	40.0	838
Rural	28.8	4.7	63.2	1.5	0.9	0.9	100.0	33.4	2339
Level of Education									
No Education	41.4	3.1	50.0	2.5	1.3	1.7	100.0	29.2	961
Incomplete Primary	27.8	7.6	63.7	0.4	0.3	0.4	100.0	33.4	803
Complete Primary	15.8	7.2	74.3	1.0	1.2	0.6	100.0	38.5	804
Secondary or Higher	12.4	12.5	73.9	1.1	0.0	0.1	100.0	42.3	609
Total	25.9	7.1	64.2	1.3	0.8	0.8	100.0	35.1	3177

More than one-third of the births were followed up by a home visit. The same patterns by age, residence, and education observed in the reports of type of antenatal care and assistance at delivery received prevail. Births to older women, women with no education, and women who live in rural areas have the lowest proportion of postnatal care and postnatal home visits.

6.8 IMMUNISATION

An important indicator of child health status in a country is the proportion of children immunised against potentially life threatening diseases. Botswana's Expanded Programme of Immunisation (EPI) Unit, established in 1979, seeks to immunise children against tuberculosis, diphtheria, pertussis, tetanus, polio, and measles. Targets have been set to increase immunisation coverage to all infants in the country and to immunise all of them by the year 1990. The schedule of immunisations recommended by the EPI Unit is as follows:

BCG	At birth
DPT 1 and Polio 1	2 months
DPT 2 and Polio 2	3 months
DPT 3 and Polio 3	4 months
Measles	9 months

The BFHS-II collected information on immunisation coverage for living children under age five. The data on the type of vaccinations received and the dates of the vaccinations were obtained by copying the information from the child's health card. Mothers with children under five years old were asked for each of their children if they had a health card. If the mother said yes and could show the interviewer the card, the dates of all immunisations received by the child were recorded. For mothers who did not have or could not show a health card, a question was asked about whether the child had any vaccinations.

To correctly interpret the following data, it is important to recognize that vaccination data were only collected for children whose mothers could show the health card to the interviewer. For children who resided with someone other than the mother, the health card for that child may be with the caretaker rather than the mother and not seen by the interviewer. Thus the data on the proportion of children with health cards seen is a minimum estimate of the proportion of children with health cards.

Tables 6.8 and 6.9 highlight the immunisation status of the children of women interviewed by the age and sex of the child, residence, and education of the mother. The first three columns of Table 6.8 show the percentage of children with health cards, the percentage with vaccinations recorded on the card and the percentage of children who did not have a card but their mother reported that they had received at least one vaccination.

Table 6.8 Among All Children Under 5 Years of Age, the Percentage with Health Cards, the Percentage Who Are Immunised as Recorded on a Health Card or as Reported by the Mother and Among Children With Health Cards, the Percentage for Whom BCG, DPT, Polio and Measles Immunisations Are Recorded on the Health Card, by Age, BFHS-II 1988

Age	Among All Children Under 5, Percentage With:			Among All Children Under 5 with Health Cards, Percentage Who Received:									
					DPT			Polio					
	Health Card	Immunisation Recorded on Card	Immunisation Reported by Mother	BCG	1	2	3+	1	2	3+	Measles	All Immunisations	Number of Children
Under 6 months	89.9	88.6	5.2	97.4	59.8	40.1	14.7	57.5	37.1	14.7	0.2	0.0	334
6-11 months	86.0	85.6	12.5	99.5	98.8	98.2	88.9	98.8	96.3	85.9	26.7	26.0	341
12-17 months	80.1	79.6	17.8	98.1	97.8	96.7	93.1	98.4	96.7	90.5	91.1	85.4	330
18-23 months	67.4	67.4	27.8	99.2	98.2	97.4	95.2	98.9	98.9	94.4	94.6	92.7	284
24-59 months	63.3	62.8	32.5	96.6	98.5	98.3	96.6	98.6	98.2	94.5	95.3	89.6	1742
Total	71.0	70.5	25.2	97.5	93.1	89.9	83.6	92.9	89.3	81.7	72.1	68.2	3031

Table 6.9 Among All Children 12-23 Months, the Percentage with Health Cards, the Percentage Who Are Immunised as Recorded on a Health Card or as Reported by the Mother and Among Children With Health Cards, the Percentage for Whom BCG, DPT, Polio and Measles Immunisations Are Recorded on the Health Card, According to Background Characteristics, BFHS-II 1988

Background Characteristic	Among All Children 12-23 Months, Percentage With:			Among All Children 12-23 Months with Health Cards, Percentage Who Received:									
					DPT			Polio					
	Health Card	Immunisation Recorded on Card	Immunisation Reported by Mother	BCG	1	2	3+	1	2	3+	Measles	All Immunisations	Number of Children
Sex of Child													
Male	73.6	73.6	23.0	98.5	96.9	96.2	94.7	98.1	96.9	92.0	93.3	88.4	313
Female	74.8	74.3	21.9	98.7	99.1	97.8	93.2	99.1	98.5	92.3	91.8	88.6	302
Residence													
Urban	69.2	69.2	29.8	99.5	99.5	99.5	97.5	99.5	99.5	96.6	94.6	91.2	172
Rural	76.1	75.8	19.6	98.3	97.4	96.1	92.7	98.3	97.0	90.6	91.8	87.6	443
Mother's Education													
No Education	77.6	76.8	15.9	97.0	96.6	94.6	89.2	97.6	96.6	87.2	87.4	83.2	187
Incomplete Primary	76.1	76.1	22.9	98.7	97.3	96.0	91.5	97.3	94.7	92.0	91.5	87.0	143
Complete Primary	74.5	74.5	21.2	99.5	100.0	100.0	99.5	100.0	100.0	95.4	98.1	93.5	162
Secondary or Higher	66.3	66.3	33.7	100.0	98.2	98.2	97.5	100.0	100.0	96.1	95.0	92.5	122
Total	74.2	74.0	22.5	98.6	98.0	97.0	94.0	98.6	97.7	92.1	92.6	88.5	614

Overall, health cards were presented for 71 percent of children under age five. The percentage of children with cards decreases with increasing age of the child. This in part reflects the increasing coverage of the programme but it also reflects the fact that as children get older, mothers are more likely to lose or discard the vaccination record. Virtually all children for whom a health card was seen had at least one vaccination recorded on the card. Of children for whom a health card was not seen, mothers reported that five out of six had received a vaccination. Assuming that mothers accurately reported the immunisation status of their children in the absence of a health card, we can sum the proportions ever immunised based on the health cards and mothers' reporting. Thus the total proportion of children ever receiving an immunisation is very high--over 95 percent. This proportion is nearly constant among all ages of children.

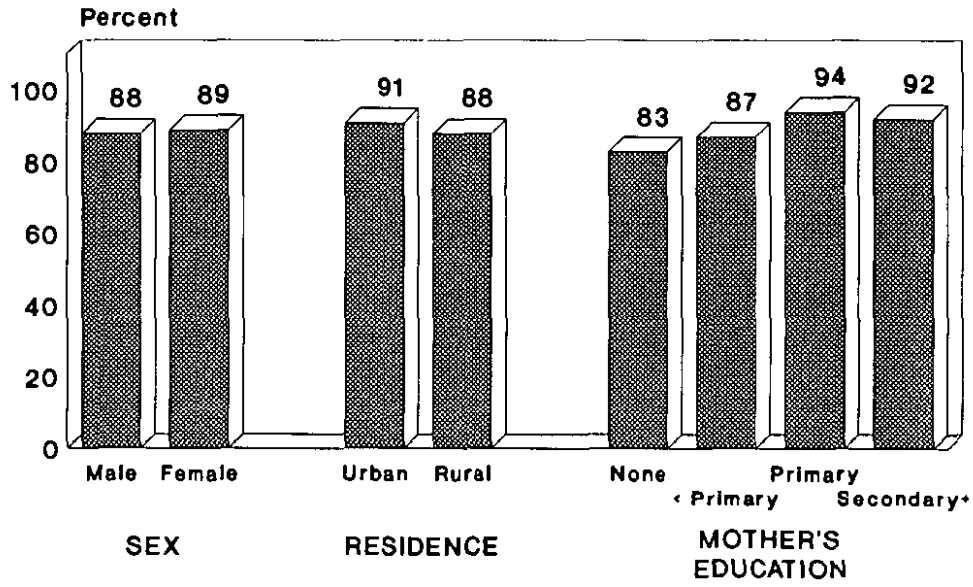
Table 6.8 also shows the percentage of children with specific vaccinations as well as the percentage with full immunisation coverage (BCG, DPT 3, polio 3, and measles) according to their age, among those children for whom a heath card was shown. BCG immunisation is nearly universal with almost 98 percent of children having received the vaccine. DPT 3 and polio 3 are also quite high with more than 93 percent of children over the age of 11 months having received those vaccinations. However, there is some evidence that the doses are being received later than the recommended age of four months. For example, a smaller proportion (89 percent) of children 6-11 months--who should be fully immunised against DPT and polio--have received their third doses of these vaccines than children 12 months or older. Measles vaccinations, on the other hand, are recommended to be given at 9 months of age and consequently the proportions having this vaccination up to age 11 months are quite low. For age one year and older, measles vaccinations are recorded for more than 90 percent of the children with health cards. Completion of all immunisations by older children is high, though still short of universal. Slightly less than 90 percent of all children age one and older are completely immunised.

Table 6.9 and Figure 6.2 focus on children aged 12-23 months, as the objective of the Expanded Programme on Immunisation in Botswana is to vaccinate all children by their first birth day; hence, all the children in this age group are expected to have completed their immunisations. Children age 12-23 months were also the focus of the Botswana EPI evaluation conducted in 1987 and results from the two surveys can be compared. The percentage of children in the BFHS-II with health cards (74 percent) is lower than that found during the 1987 EPI evaluation (98 percent). The reason is that whereas in the EPI evaluation, children who were elsewhere with their cards were excluded from the study sample, in BFHS-II such children were included in the survey but classified as not having cards. Nonetheless, when the percentage of children with cards is added to those who were absent, but whose mothers said they had been immunised (hence they had cards), the total (96 percent) is comparable to the card retention rate of the 1987 EPI evaluation (98 percent).

The coverage with the various antigens is comparable to that of the 1987 EPI evaluation, with the exception of DPT 3 and polio 3. The 1987 evaluation percentages are lower because reports of doses given at the wrong interval were discarded, while the interval between doses has not been considered in the results presented for the BFHS-II. On the whole the BFHS-II confirmed the findings of the EPI evaluation, that immunisation in Botswana is almost universal; however, more attention should be paid to giving immunisations at the proper age and interval.

Figure 6.2

Percentage of Children 12-23 Months with Health Cards Who are Fully Immunised



The table also shows that the percentage which had received all immunisations was virtually the same among boys and girls (88 percent) and that the coverage in urban areas (91 percent) is only slightly higher than in rural areas (88 percent). Education of the mother appears to have an effect on immunisation acceptance. While 93 percent of children of mothers with complete primary or some higher education are completely vaccinated, 87 percent of children of women with some primary education and 83 percent of children of mothers with no education are completely vaccinated.

6.9 DIARRHOEA PREVALENCE AND TREATMENT

Diarrhoea has been singled out for investigation because, despite being amenable to simple, effective treatment by oral rehydration, it is one of the major causes of mortality among infants and children. This combination of high incidence, severity, and availability of effective treatment makes diarrhoea a high priority concern for health services.

In the BFHS-II, no attempt was made to estimate the incidence of diarrhoea, i.e., the number of new cases occurring in a specified time period, since no information was collected regarding the date on which a diarrhoeal episode started or its duration. Rather, Table 6.10 provides two different point prevalence estimates: 1) the percentage of children whose mothers reported that they had diarrhoea in the 24 hours prior to the interview and 2) the percentage of

children under five whose mothers reported that they had diarrhoea in the two week period before the BFHS-II. Both these measures are affected by the reliability of the mother's recall as to when the diarrhoea occurred and therefore should be accepted with caution.

Table 6.10 Among Children Under 5 Years of Age, the Percentage Reported by the Mother to Have Had Diarrhoea in the Past 24 Hours and the Past Two Weeks, According to Selected Background Characteristics, BFHS-II 1988

Background Characteristic	Percentage of All Children Under 5 Reported by the Mother as Having Diarrhoea in: Past 24 Hours	Past 2 Weeks	Number of Children
Age			
Under 6 months	8.3	16.8	334
6-11 months	9.9	19.3	341
12-17 months	7.5	17.8	330
18-23 months	4.3	11.1	284
24-59 months	1.6	5.0	1742
Sex			
Male	4.1	9.9	1481
Female	4.2	9.8	1550
Residence			
Urban	4.2	9.6	805
Rural	4.2	9.9	2226
Mother's Education			
No Education	3.2	10.5	910
Incomplete Primary	5.2	10.1	772
Complete Primary	5.4	10.2	758
Secondary or Higher	2.7	8.1	591
Total	4.2	9.9	3031

Table 6.10 shows the percentage of children under five years of age reported to have had diarrhoea in the 24 hours, and the two weeks prior to the survey by selected background characteristics. Overall, 4 percent of children under five are reported to have diarrhoea in the 24 hour period and 10 percent in the two week period. As can be seen in Table 6.10, prevalence is highest among children 6-11 months. It is at this age that weaning foods are introduced--which unlike breast milk are susceptible to contamination. The prevalence of diarrhoea declines with age for children over 11 months, most likely because children acquire some immunity to the disease as they grow older.

The proportion of children with diarrhoea is the same among boys and girls and there is no difference between urban and rural areas. Diarrhoea prevalence is also the same for children of mothers with no education, and those with incomplete or complete primary education, but is lower for children whose mothers have a secondary or higher education.

Table 6.11 Among Children Under 5 Years of Age Who Had Diarrhoea in the Past Two Weeks, the Percentage Consulting a Health Facility, the Percentage Receiving Different Treatments as Reported by the Mother, and the Percentage Not Consulting a Health Facility and Not Receiving Treatment, According to Selected Background Characteristics, BFHS-II 1988

Background Characteristic	Consulted Health Facility	Percentage of Children With Diarrhoea Treated by: ORS Packet	Home Solution	Tablets Injections Syrup	Increase Fluids	Increase Food	Decrease Fluids	Decrease Food	Other Treatment	No Treatment	Children with Diarrhoea
Age											
Under 6 months	38.4	28.5	22.8	12.9	1.0	0.0	33.1	18.7	1.0	25.4	56
6-11 months	27.8	40.5	32.6	14.1	15.0	0.9	35.2	45.8	2.2	12.8	66
12-17 months	55.2	45.8	21.2	5.9	22.7	4.4	40.4	60.6	3.4	7.9	59
18-23 months	71.5	71.5	14.7	10.1	23.0	14.7	45.8	46.8	1.8	6.4	32
24-59 months	48.8	53.5	28.1	6.4	29.8	11.7	23.4	47.5	4.7	13.7	87
Sex											
Male	44.9	47.3	28.7	10.9	19.6	5.0	32.3	42.6	3.2	12.7	146
Female	46.8	45.4	22.1	8.4	18.4	7.0	34.8	45.8	2.7	14.8	152
Residence											
Urban	51.9	51.9	24.8	16.5	24.8	12.0	28.6	43.6	3.8	8.3	78
Rural	43.8	44.4	25.5	7.2	17.0	3.9	35.3	44.4	2.6	15.7	221
Mother's Education											
No Education	52.9	43.8	14.9	5.2	20.1	5.5	33.4	41.6	0.6	19.8	95
Incomplete Primary	43.7	47.0	27.0	6.7	24.1	9.3	34.4	49.6	3.7	17.0	78
Complete Primary	43.5	47.6	28.5	12.4	11.6	2.3	33.7	41.6	1.9	8.2	77
Secondary or Higher	39.4	48.5	38.2	18.8	20.6	7.9	32.1	44.8	7.9	5.5	48
Total	45.9	46.4	25.3	9.6	19.0	6.0	33.5	44.2	2.9	13.8	290

Table 6.11 provides information on whether medical care was sought for diarrhoea episodes. It also shows the distribution of children who were reported as having received various treatments for diarrhoea. The categories of treatment given to children are not mutually exclusive, i.e., some children had more than one type of treatment.

For almost half of the cases of diarrhoea, the mother consulted a health professional. Children between 12 and 23 month, children who lived in urban areas, and children whose mothers had no education were more likely to have been taken to a medical facility than other children. Almost half of the children with diarrhoea received a solution made from oral rehydration salts (ORS) for their diarrhoea and one-quarter received a home solution containing sugar and salt. Ten percent of the children were treated with tablets, injections, and syrups. The percentages of children treated with ORS (46 percent), home solution (25 percent), and drugs (10 percent) are slightly higher than those reported in the Diarrhoea Morbidity, Mortality and Treatment Survey of 1986 (41 percent, 23 percent, and 8 percent, respectively).

An interesting result is that mothers with higher education tend to seek medical consultation for diarrhoea less frequently, while the use of ORS and, especially, homemade solution increases with the mother's education. This may be because women with more education have greater access to health education materials that provide information on how to treat diarrhoea without consulting a health professional.

A matter of concern is the percentage of children suffering from diarrhoea where fluid and food intake was cut down during their illness (34 percent and 44 percent, respectively). Mothers at all levels of education were equally likely to decrease the food and fluid intake of the sick child, although mothers of children in urban areas were less likely to decrease fluids than mothers in rural areas. It is clear that the health education messages which advise mothers to maintain or increase fluid and food intake during diarrhoea have yet to be assimilated. Fourteen percent of children with diarrhoea received no treatment at all. Those least likely to receive any treatment were children under the age of 6 months, children living in rural areas, and children whose mothers had no education or only incomplete primary schooling.

6.10 ORT KNOWLEDGE

Since the establishment of the Control of Diarrhoeal Diseases Programme in Botswana in 1981, oral rehydration therapy (ORT) has been promoted by various health facilities throughout the country as a matter of national policy. Table 6.12 shows the extent to which mothers of children under 5 years of age know ORT.

As can be seen, mothers' knowledge of ORT increases with education, from 80 percent for those with no education to 90 percent for those with secondary or higher education. This finding is supportive of an earlier finding which showed that the use of ORS packets increased with mothers' education.

Table 6.12 Among Mothers of Children Under 5 Years of Age, the Percentage Who Know About ORT by Level of Education and Residence, BFHS-II 1988

Residence	Level of Education: No Education	Incomplete Primary	Complete Primary	Secondary or Higher	Total
Urban	86.7	87.5	90.8	87.9	88.5
Rural	78.2	85.3	86.7	92.0	84.5
Total	79.5	85.9	88.0	90.4	85.6

Table 6.13 Among Children Under 5 Years of Age, the Percentage Who Were Reported by the Mother as Having Had Fever in the Past Four Weeks and, Among Children Who Had Fever, the Percentage Consulting a Health Facility, and the Percentage Receiving Various Treatments, According to Selected Background Characteristics, BFHS-II 1988

Background Characteristic	Percentage of Children With Fever	Percentage of Children With Fever Consulting a Health Facility	Among Children With Fever Percentage Treated With: Tablets, Injections, Syrups	Other Treatment	No Treatment	No. of Children Under 5
Age						
Under 6 months	3.4	76.9	23.1	0.0	12.8	334
6-11 months	4.5	100.0	0.0	3.8	0.0	341
12-17 months	8.1	89.2	7.6	5.4	10.8	330
18-23 months	2.8	100.0	0.0	7.4	0.0	284
24-59 months	3.3	89.4	15.2	2.5	2.5	1742
Sex						
Male	3.6	84.8	14.7	3.8	8.1	1481
Female	4.2	94.7	8.4	3.1	2.2	1550
Residence						
Urban	3.8	90.4	15.4	3.8	0.0	805
Rural	4.0	90.2	9.8	3.3	6.6	2226
Mother's Education						
No Education	4.7	89.8	6.8	1.4	6.8	910
Incomplete Primary	4.9	87.7	15.4	3.8	7.7	772
Complete Primary	2.6	97.0	10.3	0.0	0.0	758
Secondary or Higher	3.1	89.1	14.1	10.9	0.0	591
Total	3.9	90.2	11.3	3.4	4.9	3031

6.11 FEVER PREVALENCE AND TREATMENT

Mothers were also asked in the BFHS-II whether each child under the age of 5 years had a fever in the four weeks prior to the survey. The questions on fever were intended primarily to provide a gross indicator of malaria, although fever can be a symptom of various diseases. The

very low prevalence of fever, shown in Table 6.13, is to be expected since malaria is common only in the northern part of Botswana and the survey was conducted during the months when the prevalence of malaria would be low.

The importance of the information from this question is not the incidence of fever but the treatment. As can be seen, 90 percent of the children with fever were taken to a health facility, which shows great awareness among mothers about the need to seek medical attention in the event of fever. Only five percent of children received no treatment of all. These were most likely to be children of women with low education and children in rural areas.

Table 6.14 Among Children Under 5 Years of Age, the Percentage Who Were Reported by the Mother as Having Suffered from Severe Cough or Difficult or Rapid Breathing in the Past Four Weeks and, Among Children Who Suffered, the Percentage Consulting a Health Facility, and the Percentage Receiving Various Treatments, According to Selected Background Characteristics, BFHS-II 1988

Background Characteristic	Percentage of Children With Cough or Difficult Breathing	Percentage of Children With Cough or Difficult Breathing Consulting a Health Facility	Among Children With Cough or Difficult Breathing, Percentage Treated With:			No. of Children Under 5
			Tablets, Injection, Syrups	Other Treatment	No Treatment	
Age						
Under 6 months	34.7	76.0	31.6	3.0	14.8	334
6-11 months	46.9	82.6	38.5	3.3	9.1	341
12-17 months	35.9	89.7	29.8	1.2	5.6	330
18-23 months	29.8	79.6	22.2	4.1	8.5	284
24-59 months	22.4	82.4	25.3	2.6	7.6	1742
Sex						
Male	29.1	82.5	30.6	3.6	7.9	1481
Female	28.2	82.1	27.2	1.9	9.3	1550
Residence						
Urban	24.7	90.3	30.8	3.2	5.0	805
Rural	30.1	79.9	28.3	2.6	9.7	2226
Mother's Education						
No Education	27.8	78.3	22.8	2.5	15.0	910
Incomplete Primary	33.2	82.8	26.2	3.5	7.7	772
Complete Primary	25.4	80.8	36.4	1.5	6.0	758
Secondary or Higher	28.1	89.3	33.6	3.3	3.5	591
Total	28.7	82.3	28.9	2.7	8.6	3031

6.12 RESPIRATORY ILLNESS PREVALENCE AND TREATMENT

Acute respiratory infection is among the top causes of morbidity among children in Botswana. Table 6.14 provides a rough estimate of respiratory illness by looking at the percentage

of children under 5 years of age who were reported by mothers to have had a cough with rapid breathing in the four weeks prior to the BFHS-II. The survey was conducted during the peak season for acute respiratory infection.

The table shows that 29 percent of the children under 5 years were reported as having had a respiratory illness. Among children under the age of 18 months, more than one-third were reported to have suffered from a severe cough and rapid breathing in the preceding 4 months. There was very little difference by background characteristics in the proportion of children who were reported as having a respiratory illness.

The majority of children with a respiratory illness, 82 percent, were taken to a health facilities for treatment. No action was taken in 9 percent of the cases. Children under the age of 6 months and children of mothers with no education were the least likely to receive treatment.

7. KNOWLEDGE OF AIDS[1]

7.1 INTRODUCTION

Initial reports about Acquired Immune Deficiency Syndrome (AIDS) from Western countries identified homosexuals and intravenous drug abusers as the main risk groups. Many African countries, including Botswana, did not take action, because these practices were considered rare. Nevertheless, a National Health Status Evaluation Survey in 1984 did include an HIV antibody blood test on a sample of the population under study. Before the results were available, however, the first HIV positive carrier was identified in late 1985, through a small survey on sexually transmitted diseases conducted by a mining hospital. More carriers were identified through contact tracing, and one of the contacts, who developed AIDS in April 1986, died the same year.

AIDS statistics as of March 31, 1989:

Carriers	303
Cases	26
Deaths	23
Total Seropositive	352

The age range for persons who tested positive for HIV antibodies is mainly between 15 and 40 years and the sex ratio for AIDS cases is roughly 1:1, although for carriers it is 2:1 male. (This is partly because one-third of persons who are seropositive are blood donors, who are mostly male.) The main mode of transmission is heterosexual intercourse with only three cases of transmission by blood transfusion, which occurred before blood screening was instituted.

The Government of Botswana, recognizing the possibility of an epidemic, responded promptly and positively when the first carriers were identified in 1985. The short-term plan of the government included the following actions:

- A technical committee called the AIDS Core Group, made up of different types of health workers, was set up to formulate strategies to curb the spread of AIDS.
- Screening of all blood donors and patients suspected of having AIDS.
- Providing disposable needles, syringes, and gloves, as well as sterilisation equipment for surgical instruments.
- Production of manuals for health workers, which contained clear guidelines emphasizing the importance of safety techniques.

[1]This chapter was prepared with the assistance of Dr. Banu Khan of the Epidemiology Unit of Community Health Services, Ministry of Health.

- Epidemiological surveillance utilizing a streamlined reporting system for cases and carriers, contact tracing, and sero-prevalence surveys.

- Public information and education through newspaper articles, radio talks, and seminars for various audiences, including health workers (both professionally trained and traditional), community leaders, policymakers, teachers, etc. Health education materials including posters, pamphlets, T-shirts, and pens were also distributed throughout the country.

- Counselling of cases, carriers, their contacts and family.

The Medium Term Plan for Action for AIDS Control in Botswana was drawn up in July 1987 in collaboration with the World Health Organization. Activities outlined above are ongoing and being intensified. An attempt has been made to involve all sectors of the community at the first National Seminar on AIDS in February 1988. Emerging issues such as pre-employment screening, pre-insurance screening, breach of confidentiality, and compensation for transmission of HIV in the work place will be addressed by a policy level multi-sectoral National Committee on AIDS.

An evaluation of the AIDS Control Programme in Botswana, as well as discussions at the National AIDS seminar in 1987, indicate that AIDS is not perceived as a serious problem by the community. The Botswana Knowledge, Attitude, and Practice study on AIDS also indicated that while knowledge of AIDS is common, AIDS is not thought to be a serious problem, and that the attitude towards AIDS victims is discriminatory.

7.2 KNOWLEDGE OF AIDS TRANSMISSION

In the absence of either a vaccine or a cure for AIDS, education about prevention is the main strategy for combating the disease. Education involves instruction about the main ways AIDS can be transmitted and the promotion of behavioral changes that will remove people from high risk groups. Thus, the focus of the BFHS-II questions on AIDS was on knowledge of the disease, ways it is transmitted, who is at highest risk, and behaviors that will help someone avoid the disease. Questions were also asked to ascertain attitudes towards persons infected with AIDS. These data can be used to guide the development of appropriate materials to encourage support for people with AIDS.

As shown in Table 7.1 and Figure 7.1, the majority of women interviewed, 88 percent, had heard about AIDS. Those most likely to have heard of the disease are women under age 35, women living in urban areas, and women with some schooling. Although nearly all women interviewed had heard of AIDS, additional questions, about how AIDS is spread and which groups are at greatest risk of AIDS, reveals that many women lack correct information or have misconceptions about the disease.

Women who had heard of AIDS were asked to name all of the ways the virus could be transmitted. Eighty-seven percent of women who knew of AIDS named at least one correct route of AIDS transmission and 76 percent named only correct routes. The percentage of women who gave various responses is shown in columns two through eight of Table 7.1. The most frequently

Table 7.1 Percentage of Women Who Have Heard of AIDS, and Among Women Who Have Heard of AIDS, the Percentage Who Named Various Routes of Transmission, According to Selected Background Characteristics, BFHS-II 1988

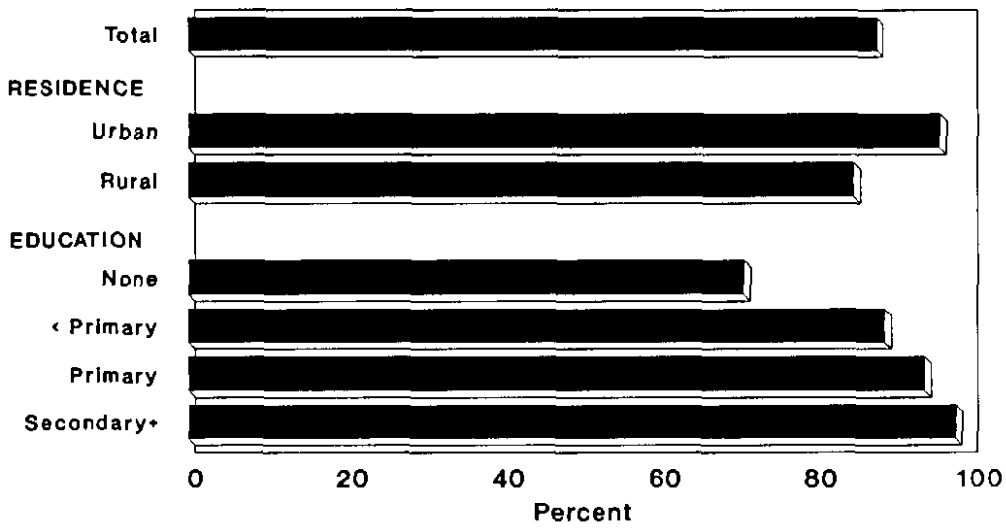
Background Characteristic	Heard of AIDS	Routes of Transmission: Sex with PWA	Multiple Partners	Sex with Prostitute	Homosexual Sex	Other Correct(1)	Casual Contact with PWA	Other Incorrect(2)	Don't Know	Number of Women
Age										
15-19	92.3	30.2	76.0	14.5	4.3	10.1	8.9	4.2	11.5	937
20-24	91.2	26.4	78.3	17.3	4.9	14.7	9.5	4.8	9.8	926
25-29	89.5	26.9	74.1	18.6	7.0	14.2	8.7	4.7	12.7	846
30-34	89.7	27.7	71.9	13.3	3.4	12.5	9.2	4.1	14.9	653
35-39	80.5	29.1	75.4	13.6	5.7	13.4	7.5	4.0	12.5	464
40-44	81.7	30.6	74.1	16.6	6.0	16.5	9.3	5.5	12.7	290
45-49	76.9	28.9	75.2	15.8	5.1	14.1	8.9	3.3	15.3	251
Union Status										
Never in Union	89.7	30.3	74.9	18.0	5.0	13.0	8.7	4.1	10.9	2312
Currently in Union	86.2	26.0	76.2	14.2	5.5	14.2	8.6	4.6	13.4	1708
Formerly in Union	89.3	24.5	73.2	9.7	4.0	10.0	11.8	6.1	15.5	349
Residence										
Urban	95.8	25.1	76.5	18.5	6.8	17.6	9.7	5.3	11.6	1316
Rural	85.1	29.7	74.7	14.5	4.3	11.1	8.6	4.0	12.6	3052
Level of Education										
No Education	70.9	19.2	63.6	9.9	2.2	4.4	3.7	1.8	24.9	1045
Incomplete Primary	88.9	25.1	77.3	15.7	3.7	7.9	7.4	3.0	13.3	1073
Complete Primary	93.8	25.1	80.7	15.3	4.4	8.8	8.3	3.4	9.4	1115
Secondary or Higher	98.3	39.6	76.3	20.4	9.0	27.7	14.4	8.4	5.7	1135
Total	88.3	28.2	75.3	15.8	5.1	13.2	8.9	4.4	12.3	4368

PWA = Person with AIDS
(1) Includes blood transfusions, injection with a dirty needle, and birth to a woman with AIDS.
(2) Includes donating blood and "other" responses.

mentioned responses were having many sexual partners, mentioned by three-quarters of the women who knew about AIDS, and sex with a person with AIDS, reported by 28 percent of the women.

Other routes of transmission were mentioned much less often. Sixteen percent said that AIDS could be transmitted by having sex with a prostitute (who is at high risk because she has many sexual partners); 13 percent said a person could be infected through contact with the blood of an infected person, e.g., through transfusion with contaminated blood, injection from a contaminated needle, or infection of a baby in the uterus; only five percent mentioned homosexual intercourse as a method of transmission. It should be noted that homosexuality is relatively uncommon and generally regarded as unacceptable in Botswana. While there were no differences by background characteristics in the proportion who named common routes of sexual transmission, women with higher education gave a wider range of correct answers such as transmission by sex with a prostitute or through contaminated blood.

Figure 7.1
Percentage Who Have Heard of AIDS
Women 15-49



BFHS-II 1988

Although most women named correct potential routes of transmission--suggesting that AIDS awareness campaigns have reached a widespread audience--one-quarter of women still reported incorrect information or had no knowledge about how AIDS is transmitted. Nine percent of women thought that AIDS could be spread through casual contact, or by sharing a toilet or utensils with an infected person; 4 percent named another incorrect route of transmission. Twelve percent of women who had heard of AIDS could not name any route of transmission. Knowledge of AIDS transmission is closely associated with education; among women with secondary or higher education, 94 percent could name a transmission route; among women with no education, only 75 percent knew a route of transmission.

7.3 KNOWLEDGE OF RISK GROUPS

Women were read a list of risk groups and asked which groups they thought were at high risk of contracting AIDS. As shown in Table 7.2, more than 90 percent of respondents thought women and men with many partners, and prostitutes, were at high risk of getting AIDS. Eighty-five percent of women also thought the baby of a woman with AIDS was at high risk. Since only a minority of women mentioned intrauterine transmission, it is likely that women perceive the child of a woman with AIDS to be at high risk because of the close contact between the child and the mother, rather than because they have any knowledge of the potential transmission of AIDS through the placenta to the unborn child.

Table 7.2 Among Women Who Have Heard of AIDS, the Percentage Who Reported that Various Categories of the Population are at High Risk of Getting AIDS, According to Selected Background Characteristics, BFHS-II 1988

Background Characteristic	Woman w/Many Partners	Man w/Many Partners	Prostitute	Baby of Woman w/AIDS	Homosexual	Classmate of PWA	Sharer of Food w/PWA	Blood Donor	Respondent	Number of Women
Age										
15-19	94.2	95.1	93.0	82.6	61.7	46.9	53.3	24.8	9.5	865
20-24	95.2	95.9	94.9	87.0	70.1	49.2	56.3	30.2	21.6	845
25-29	94.1	94.7	94.2	85.5	67.2	45.9	54.6	26.8	25.4	758
30-34	92.9	93.8	92.7	85.8	66.8	48.6	55.5	28.0	27.1	586
35-39	94.8	94.9	94.5	85.5	72.5	45.7	54.0	28.2	27.3	374
40-44	90.0	91.8	90.8	84.1	65.1	41.8	51.5	28.1	24.2	237
45-49	89.0	88.4	87.5	80.5	63.6	42.0	55.2	25.7	15.2	193
Union Status										
Never in Union	94.4	95.5	93.6	84.3	64.8	44.9	51.8	25.6	16.9	2073
Currently in Union	93.2	93.2	92.8	85.2	68.6	47.1	56.1	29.7	24.5	1472
Formerly in Union	92.1	93.8	94.1	87.3	70.9	57.6	66.3	29.1	29.4	312
Residence										
Urban	95.6	96.6	96.1	89.4	78.7	48.6	55.5	35.3	23.9	1261
Rural	92.9	93.4	92.0	82.7	60.9	45.9	54.2	23.6	19.4	2596
Level of Education										
No Education	83.8	84.4	83.0	72.9	52.1	45.9	56.3	21.8	26.7	740
Incomplete Primary	94.3	95.1	94.1	84.9	64.0	50.4	60.9	28.9	20.8	954
Complete Primary	95.7	97.0	96.2	87.0	67.1	55.1	62.2	29.1	20.1	1046
Secondary or Higher	98.1	98.2	96.9	90.9	78.5	36.5	41.0	28.3	17.7	1116
Total	93.8	94.5	93.4	84.9	66.7	46.8	54.6	27.4	20.8	3857

Two-thirds of respondents thought homosexuals a high risk group despite the general absence of homosexuality in Botswana. The fact that half of the respondents thought people are at risk who have casual contact persons with AIDS, e.g., classmates or persons with whom food is shared, and one-quarter said blood donors were at risk, demonstrates that there is a significant level of misunderstanding about the real risks of AIDS. Ironically, as long as women think that AIDS can be spread through casual contact, they will be reluctant to take the simple precautions that are necessary when they do engage in behaviors put them at risk. It is important to note that the greater the level of education of the woman, the less likely she is to think that AIDS can be spread through casual contact.

The final column of Table 7.2 indicates that 21 percent of the women responded positively to a question on whether the respondent thought she herself was at high risk of contracting AIDS. The proportion who perceived themselves to be at risk was highest among women 30-39 years of age, those formerly in union, women in urban areas, and women with no education. Women may report themselves to be at risk because of their sexual behavior, or simply because believing that AIDS can be spread through casual contact, they perceive themselves as having as much chance of contracting AIDS as any other serious disease spread through contact.

Table 7.3 Among Women Who Have Heard of AIDS, the Percentage Who Have Heard of AIDS From Various Media Sources, According to Selected Background Characteristics, BFHS-II 1988

Background Characteristic	Media Source					Number of Women
	Radio	Tele-vision	News-paper	Pamphlet/ Poster	Other	
Age						
15-19	79.3	7.2	59.0	65.6	15.7	865
20-24	86.1	9.0	51.2	61.5	14.5	845
25-29	86.0	9.4	46.1	54.0	13.8	758
30-34	82.5	10.3	35.9	48.4	19.9	586
35-39	87.8	9.4	37.9	48.8	18.2	374
40-44	79.1	11.9	37.7	44.9	18.8	237
45-49	87.5	7.7	22.9	36.6	17.6	193
Union Status						
Never in Union	82.3	7.5	52.9	61.2	15.8	2073
Currently in Union	86.4	11.3	39.0	49.3	16.1	1472
Formerly in Union	81.4	8.4	34.8	46.5	19.6	312
Residence						
Urban	87.9	17.6	59.7	65.6	14.6	1261
Rural	81.8	4.8	39.5	50.5	17.0	2596
Level of Education						
No Education	73.7	1.1	5.3	22.0	22.5	740
Incomplete Primary	85.7	3.9	33.2	46.4	15.0	954
Complete Primary	85.4	6.5	51.3	61.4	13.9	1046
Secondary or Higher	87.4	20.9	79.3	79.7	15.2	1116
Total	83.8	9.0	46.1	55.4	16.2	3857

7.4 SOURCE OF INFORMATION ABOUT AIDS

Table 7.3 indicates that among women who have heard of AIDS, most heard of it through the radio (84 percent). Pamphlets, posters and newspapers are also important sources of information, with 55 percent of women having heard of AIDS through pamphlets and posters, and 46 percent having heard through newspapers. Printed sources were reported to a much greater extent by women who have completed primary and secondary education. Overall, it was found that the likelihood of women having some correct information on AIDS was unrelated to their source of information.

7.5 KNOWLEDGE OF WAYS TO AVOID AIDS

Eighty percent of women who have heard of AIDS know at least one way to avoid the disease. Level of education is directly related to the knowledge of ways to avoid AIDS. Among women with no education who knew about AIDS, only 64 percent could name a way to avoid the disease, while among women with at least complete primary education who knew about AIDS, more than 80 percent also knew a way to avoid infection.

Table 7.4 Among women who have heard of AIDS, the Percentage Reporting Knowledge of Specific Ways to Avoid AIDS, According to Selected Background Characterisitcs, BFHS-II 1988

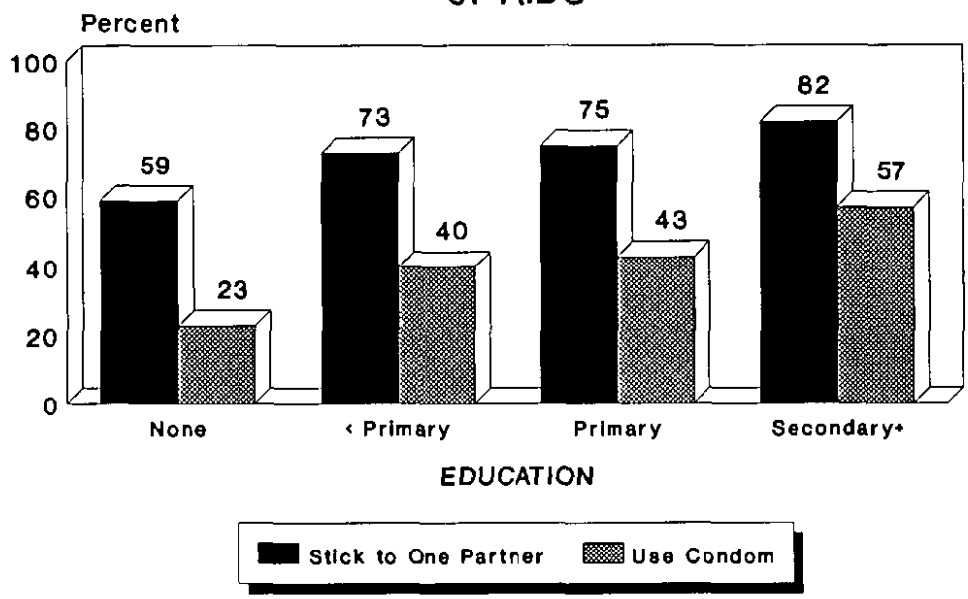
Background Characteristic	Ways to Avoid AIDS						Number of Women
	Limit Partners	Use Condoms	Avoid Dirty Needles	Avoid Blood Trans-fusions	Avoid Prosti-tutes	Other	
Age							
15-19	70.1	38.9	6.3	4.5	12.2	1.6	865
20-24	77.0	45.4	10.5	7.9	15.7	2.2	845
25-29	75.3	46.6	11.0	6.6	14.9	2.6	758
30-34	73.0	40.6	8.9	8.4	13.0	0.8	586
35-39	74.7	42.6	7.6	7.5	12.0	2.0	374
40-44	69.6	40.6	10.5	9.4	17.4	1.1	237
45-49	64.4	35.3	9.0	5.3	10.5	0.9	193
Union Status							
Never in Union	73.7	43.3	9.3	6.7	14.9	1.9	2073
Currently in Union	74.0	42.3	9.0	7.2	12.9	1.6	1472
Formerly in Union	66.1	36.2	7.8	6.0	11.3	2.1	312
Residence							
Urban	75.6	43.6	11.0	8.7	14.8	2.8	1261
Rural	72.0	41.8	8.1	6.0	13.4	1.3	2596
Level of Education							
No Education	58.7	22.8	3.5	2.7	6.9	0.6	740
Incomplete Primary	72.7	39.9	6.4	4.3	12.2	1.2	954
Complete Primary	74.6	42.7	7.3	4.8	13.4	1.5	1046
Secondary or Higher	81.9	57.2	16.7	13.7	20.2	3.3	1116
Total	73.2	42.4	9.1	6.9	13.8	1.8	3857

Table 7.4 presents the percentages of women knowing various ways to avoid AIDS. The most commonly reported way to avoid AIDS, mentioned by almost three-quarters of the women who knew about AIDS, was to limit sex partners or be monogamous. This is in conformity with the AIDS messages which had advocated sticking to one partner. The only other way mentioned by a significant proportion of the respondents (42 percent) was to use condoms. As seen in Figure 7.2, women with no education were less likely to know either of these ways than women with some schooling. Not surprisingly, behaviors such as avoidance of dirty needles, blood transfusions, and prostitutes were mentioned less frequently. The former behaviors are related to the respondent's health care and she may rely medical professionals to take the appropriate precautions, the latter behaviors are relevant primarily to men.

7.6 ATTITUDE OF PEOPLE TOWARDS AIDS

Women were asked whether they thought a person with AIDS should be allowed to continue in school, mix with the public, or donate blood, whether a person with AIDS should be quarantined, and whether there is a cure for AIDS. The results in Table 7.5 show that only a

Figure 7.2
Percentage Who Know a Specific Way to Avoid AIDS, Women 15-49 Who Have Heard of AIDS



BFHS-II 1988

minority of women think people with AIDS should continue schooling or mix with the public and more than three-quarters think a person with AIDS should be quarantined. These results support the findings of earlier small studies, which found that the attitude of the Batswana toward people with AIDS is discriminatory. Finally, most of the sampled women are aware that there is no cure for AIDS (93 percent) and that people with AIDS should not donate blood (97 percent).

The results from the questions on knowledge of AIDS in the BFHS-II demonstrate that overall awareness of AIDS is high. Nonetheless, many women are misinformed or lack information about how AIDS is spread, who is at risk, and how AIDS can be avoided. Furthermore, many women think a person with AIDS should be isolated from society. While the level of general awareness of AIDS has been raised through public information and education, effort is still required to dispel myths and misconceptions. Strengthening the education component is needed to bring about a modification in sexual behavior--specifically, to emphasize safe sex, promote the use of condoms, and develop more relevant messages (especially for high risk groups). Finally, support for people with AIDS should be encouraged through counselling and active participation by the community in AIDS education and prevention.

Table 7.5 Among women who have heard of AIDS, the Percentage Who Hold Various Beliefs about the Participation of a Person With AIDS in Society and the Percentage Who Think a Cure for AIDS Exists, According to Selected Background Characteristics, BFHS-II 1988

Background Characteristic	Percentage of Women Who Believe that a Person with AIDS should:				Percent Who Believe Cure Exists	Number of Women
	Continue to Go to School	Be Permitted in Public Places	Donate Blood	Be Quarantined		
Age						
15-19	14.5	12.2	2.5	81.6	7.8	865
20-24	16.4	12.7	3.6	81.3	8.2	845
25-29	18.7	16.1	2.9	78.3	6.7	758
30-34	16.7	15.8	2.8	79.5	6.5	586
35-39	18.5	16.9	2.1	79.4	4.6	374
40-44	18.4	16.7	2.4	75.3	8.2	237
45-49	26.2	23.5	6.2	69.2	8.9	193
Union Status						
Never in Union	17.5	14.8	3.5	78.8	7.2	2073
Currently in Union	17.2	15.6	2.1	79.7	7.5	1472
Formerly in Union	16.3	12.3	3.9	81.6	6.3	312
Residence						
Urban	20.5	19.0	2.5	77.2	7.4	1261
Rural	15.7	12.9	3.3	80.4	7.1	2596
Level of Education						
No Education	12.1	9.8	5.4	80.8	7.8	740
Incomplete Primary	11.5	9.7	1.8	84.4	7.6	954
Complete Primary	13.3	11.2	2.8	83.5	8.0	1046
Secondary or Higher	29.3	26.2	2.7	70.2	5.9	1116
Total	17.3	14.9	3.0	79.4	7.2	3857

APPENDIX A

SURVEY DESIGN

APPENDIX A

SURVEY DESIGN

A.1 SURVEY ORGANIZATION

The Botswana Family and Health Survey II (BFHS-II) was initiated by the Family Health Division of the Ministry of Health. Responsibility for all technical activities was delegated to the Central Statistics Office (CSO) of the Ministry of Finance and Development Planning. Financial and technical assistance for the survey was provided by the Demographic and Health Surveys (DHS) Programme at the Institute for Resource Development, a Macro Systems Company, under a contract with the United States Agency for International Development (USAID), Washington.

A.2 SAMPLE DESIGN

The main objectives of the BFHS-II sample were: a size of about 4,500 women age 15-49 with completed interviews, that the sample should allow analysis for urban and rural areas separately, and that the sample should be self-weighting in the urban and rural areas, if not at the national level.

The sample used in the BFHS-II provides a weighted, nationally representative sample of women in the 15-49 age group. The BFHS-II utilized a two-stage sample, which is self-weighting at the household level within the urban and rural sectors, but not at the national level. The sample is based on the 1987 Botswana Demographic Survey (BDS) sample design. First stage or primary sampling units in the BFHS-II were census enumeration areas (EAs), while the second stage unit was the household. The design involved over-sampling in urban areas, with 40 percent of the total sample allocated to the urban sector--nearly twice the proportion estimated to reside in urban areas in 1987.

The BFHS-II sample was selected in two stages. In the first stage, the EAs were systematically selected with probalility proportional to size in each of five strata (two urban and three rural[1]). All 156 EAs previously selected for the BDS were also selected for the BFHS-II. A new listing of dwellings was carried out shortly before the BFHS-II fieldwork and a sample of dwellings, independent of those included in the BDS, was selected. Individual households were selected with probability of selection inversely proportional to the EA's size.

To achieve the required sample size, about 5,600 households were needed, giving an overall sampling fraction (f) of one in twenty-five (1/25) in the urban area and one in sixty-four (1/64) in the rural area. In total, 156 EAs were selected throughout Botswana; 78 EAs in the urban area and 78 in the rural area.

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[1] Urban EAs were stratified by the criteria of whether they did or did not have a plot map and rural EAs were stratified by village size.

The first stage sampling was implemented with the following process

$$P_1 = (a_h \ M_{hi}) / M_h$$

where

P_1 is the first stage selection probability
a_h is the number of EAs selected in a particular strata
M_{hi} is the measure of size of the i-th selected EA
M_h is the measure of size of the strata under consideration.

The second stage was the final household selection in each selected EA according to the following sample probability

$$P_2 = f / (a_h \ M_{hi} / M_h).$$

The self-weighting characteristic in each urban and rural area was imposed by the following condition

$$P_1 * P_2 = f.$$

A total of 4368 women aged 15-49 years were succesfully interviewed in the BFHS-II. The weighting factors to provide national estimates were calculated according to the following procedure:

The raw sample weights are the product of the inverse of the sample weight, the household response rate, and the individual interview response rate:

Area	(1) Complete Cases	(2) Inverse Sampling Fraction	(3) Household Adjustment	(4) Women Adjustment	(5) = (2)*(3)*(4)
Urban	2258	25	2305/2218	2389/2258	27.488
Rural	2110	64	2315/2255	2190/2110	68.194
Total	4368				

Household Adjustment is calculated for each area as the number of cases having result codes 1, 2, 4, 5, or 8, divided by the number of cases having code 1 in the household questionnaire.

Women Adjustment is calculated for each area as the number of cases having interview result codes 1, 2, 3, 4, or 5, divided by the number of cases having 1 in the individual questionnaire.

The final individual weights are calculating by normalizing the weights for each are so that the total number of weighted cases equals the total number of unweighted cases:

1) Add values in column (1) across areas, i.e. Σ (1) = 4368.

2) For each area, multiply (1) and (5), i.e. (1)*(5).

3) Add each value (1)*(5) across areas, i.e. Σ (1)*(5) = 205956.998.

4) Final individual weight for each area is calculated as
$w_i = (5) * \Sigma (1) / \Sigma (1)*(5)$.

Therefore

w_1 = weight for urban = 0.582972
w_2 = weight for rural = 1.446279.

A.3 SURVEY INSTRUMENTS

Two questionnaires were used for the BFHS-II: a household and an individual questionnaire. The questionnaires were adapted from the DHS Model "B" Questionnaire, intended for use in countries with low contraceptive prevalence, with the addition of a modified version of the family planning section from the DHS Model "A" Questionnaire for high prevalence countries. The household and individual questionnaires were administered in either Setswana or English.

Information on the age and sex of all usual members and visitors in the selected households was recorded in the household questionnaire. This information was used to identify women eligible for the individual interview. Data on fostering for children age 0-14 were also collected in the household questionnaire.

The individual questionnaire was used to collect data for all eligible women, defined as those age 15-49 years who spent the night prior to the household interview in the selected household, irrespective of whether they were usual members of the household. The individual questionnaire was used to collect information on the following topics:

1. Respondent's Background
2. Reproductive Behavior
3. Teenage Pregnancy
4. Knowledge and Use of Family Planning
5. Maternal and Child Health and Breastfeeding
6. Marriage
7. Knowledge of AIDS
8. Fertility Preferences
9. Husband's Background, Women's Work, and Child Support

The household and individual questionnaires are reproduced in Appendix C.

A.4 FIELDWORK

The BFHS-II questionnaires were pretested in April and May, 1988. Eight female interviewers, two female supervisors and five male interviewers/supervisors, all of whom had participated in the 1987 Botswana Demographic Survey, were trained for 12 days and conducted 166 interviews during the pretest.

Immediately following the pretest, a listing of dwellings from the selected EAs was carried out by 12 male CHIPS interviewers (the five male interview/supervisors included). The exercise began in late May and was concluded mid-October, 1988. Due to the experience accumulated through previous surveys, the 12 listers were trained for a period of less than a week. For listing in towns, plot maps with plot numbers and street names were used; while in the rural areas, villages and district maps were used to locate households.

Training for the main fieldwork was held in July, 1988 and lasted three weeks. CSO and DHS staff were primarily responsible for training. In addition, staff from the Family Health Division, Ministry of Health, conducted several sessions on human reproduction, contraceptive methods, and maternal-child health. A separate training course was held for supervisors (9 of 10 who had participated in the pretest as supervisors or interviewers).

Fieldwork started on 4th August, 1988 and was completed on 13th December, 1988. In all, 25 female interviewers, 9 supervisors (6 female and 3 male), and 9 drivers participated in the fieldwork. Fieldwork was conducted by nine teams composed of 2 or 3 interviewers and a supervisor. Each team was assigned a vehicle and a driver. The supervisor was responsible for the overall management of the team, including work assignments, locating selected households, and enlisting the cooperation of the community in the selected areas, as well as control of the quality of data collection. The latter was done through field editing all questionnaires, observation of interviews and re-interviewing women when necessary. Supervisors were in frequent contact with CSO by telephone. Additionally, central survey staff from CSO and DHS participated in fieldwork observation. The objective of these visits was to monitor the progress of fieldwork, to help solve problems, and to enhance the morale of the fieldworkers.

Table A.1 shows the number of households and women selected and successfully interviewed by urban/rural residence. The table indicates that 4620 households, or 80 percent, of the 5776 selected households were eligible to be interviewed.[2] Thirteen percent of households were ineligible because no member of the household had slept in the house the night before the interview and another 4 percent of the selected households were vacant or not dwellings. Of the 4620 eligible households, 4473 households or 97 percent, were successfully interviewed. In the urban and rural areas, 90 and 72 percent, respectively, of the households were eligible for interview. The large difference in the proportion of eligible households between urban and rural areas is because many rural residents have more than one house, which they occupy at different times of the year. Households which were occupied for only part of the time were included in the

[2] Households eligible for interview include households successfully interviewed, households not interviewed because of the absence of a competent respondent, households where the interview was postponed or refused, and households which interviewers could not locate.

Table A.1 Results of Household and Individual Interview, By Residence, BFHS-II 1988

	Residence		
	Urban	Rural	Total
Result of Household Interview			
Completed	86.7	70.0	77.4
No Competent Respondent	2.9	1.5	2.2
HH Absent Night Before Interview	4.9	20.1	13.4
Postponed	0.0	0.0	0.0
Refused	0.4	0.0	0.2
Vacant, Not a Dwelling	2.5	5.8	4.3
Destroyed	1.4	0.4	0.8
HH Not Found	0.0	0.3	0.2
Other	1.1	1.8	1.5
Total	100.0	100.0	100.0
Number of Selected Households	2557	3219	5776
Household Response Rate	0.96	0.97	0.97
Result of Individual Interview			
Completed	93.3	94.7	94.0
Not at Home	4.8	3.3	4.1
Postponed	0.1	0.0	0.1
Refused	0.3	0.1	0.2
Partly Completed	0.2	0.1	0.2
Other	1.2	1.8	1.5
Total	100.0	100.0	100.0
Number of Eligible Women	2419	2229	4648
Individual Response Rate	0.95	0.96	0.95
Overall Response Rate	0.91	0.93	0.92
Average Number of Eligible Women Per Household	1.09	0.99	1.04

household listing used for selection, but some proportion of them would necessarily be empty at the time of the survey. Among eligible households, the same proportion of households were successfully interviewed in urban and rural areas.

The household questionnaire identified 4648 eligible women, of which 95 percent were successfully interviewed. This rate did not vary between urban and rural areas. The overall response rate, the product of the household response rate and the individual response rate, was 92 percent.

A.5 DATA PROCESSING AND REPORT WRITING

Completed questionnaires were delivered to CSO regularly. Coding, data entry and machine editing went on concurrently at the CSO as the fieldwork progressed. All data processing was

performed on microcomputers using the Integrated System for Survey Analysis (ISSA) software developed by IRD. Both coding and data entry, which were started in mid-September, were completed by mid-December, 1988. Subsequently, approximately 20 percent of the questionnaires were re-entered to verify the accuracy of the initial data entry. Before tabulation, the data were edited for consistency and inconsistencies were resolved, when possible, following the rules developed for the Demographic and Health Survey programme. Senior survey staff from CSO were responsible for supervising data entry and for resolving inconsistencies in questionnaires detected during secondary machine editing. The tabulations for the preliminary report were produced in Botswana in the week fieldwork was completed. Tabulations for this report were initially run at IRD and sent to CSO and FHD for review. An initial draft of this report was prepared by CSO, FHD, and DHS staff in Gaborone. Subsequently, one analyst from CSO and one from FHD spent two weeks in Columbia, Maryland to finalize the report.

APPENDIX B

SAMPLING ERRORS

APPENDIX B

SAMPLING ERRORS

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

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

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

If simple random sampling had been used to select women for the BFHS-II, it would have been possible to use straightforward formulas for calculating sampling errors. However, the BFHS-II sample design used two stages and clusters of households, and it was necessary to use more complex formulas. Therefore, the computer package CLUSTERS, developed for the World Fertility Survey, was used to compute sampling errors.

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

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

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

where h represents the stratum and varies from 1 to H,
m_h is the total number of PSUs selected in the h-th stratum,
y_{hi} is the sum of the values of variable y in PSU i in the h-th stratum,
x_{hi} is the sum of the number of cases (women) in PSU i in the h-th stratum,
f is the overall sampling fraction.

In addition to the standard errors, CLUSTERS computes the design effect (DEFT) for each estimate, which is defined as the ratio between the standard error using the given sample design and the standard error that would result if a simple random sample had been used. A DEFT value of 1 indicates that the sample design is as efficient as a simple random sample; a value greater than 1 indicates that the increase in the sampling error is due to the use of a more complex and less statistically efficient design.

Sampling errors are presented for selected variables and sub-populations of women in Tables B.1-B.7. In addition to the standard error and value of DEFT for each variable, the tables include the weighted number of cases on which the statistic is based, the relative error (the standard error divided by the value of the statistic) and the 95 percent confidence limits. The confidence limits may be interpreted by using the following example: the overall estimate of the mean number of children ever born (CEB) is 2.580 and its standard error is .050. To obtain the 95 confidence interval, twice the standard error is added to and subtracted from the estimate of CEB, $2.580 \pm 2 * 0.050$. Thus, there is a 95 percent probability that the true value of CEB lies between 2.480 and 2.681.

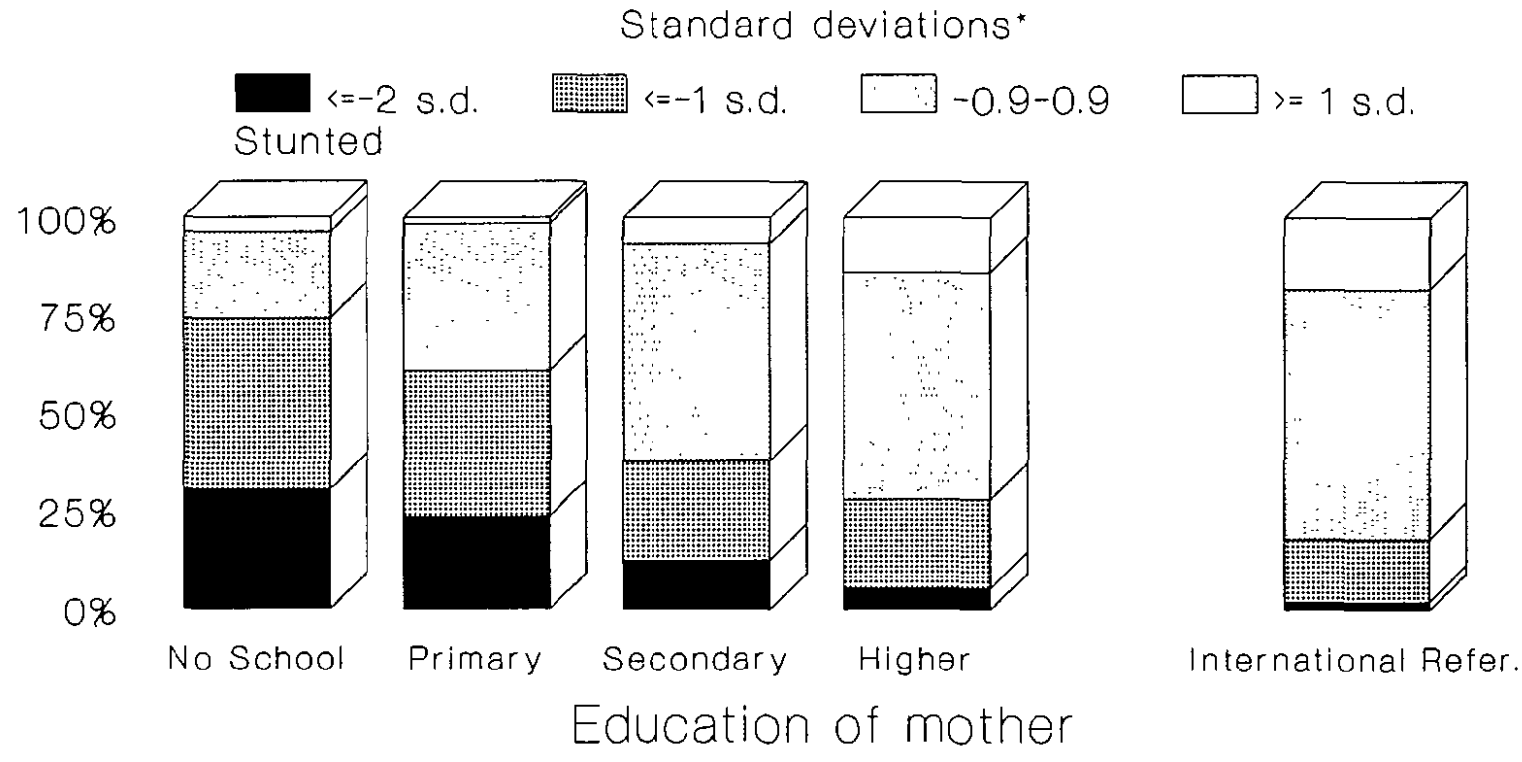
Table B.1 SAMPLING ERRORS FOR ENTIRE POPULATION, BFHS-II, 1988

Table	Variable	Value	Standard Error	Weighted Number of Cases	Design Effect	Relative Error	Confidence Limits R-2SE	R+2SE
All Women:								
1.1	Proportion Urban Areas	.301	.018	4368.0	2.566	.059	.266	.337
1.1	Proportion Attended School	.761	.011	4368.0	1.774	.015	.738	.784
2.1	Proportion Currently in Union	.391	.011	4368.0	1.530	.029	.368	.414
2.4	Proportion Sexual Intercourse By Age 20	.838	.008	3430.6	1.215	.009	.823	.853
Births in the Last Three Years:								
2.7	Mean Number Months Breastfeeding	18.815	.439	1990.5	1.115	.023	17.937	19.693
2.7	Mean Number Months Amenorrhea	11.578	.452	1990.5	1.235	.039	10.675	12.482
2.7	Mean Number Months Abstinence	12.705	.541	1990.5	1.411	.043	11.623	13.787
All Women:								
3.3	Proportion Pregnant	.071	.004	4368.0	1.092	.060	.062	.079
3.4	Mean Number Children Ever Born (CEB)	2.580	.050	4368.0	1.332	.020	2.480	2.681
3.5	Proportion First Child by Age 20	.560	.010	3430.6	1.158	.018	.541	.580
Women Age 45-49:								
3.4	Mean Number CEB to Women Age 45-49	5.752	.190	250.6	.956	.033	5.372	6.132
All Women:								
4.1	Proportion Know Method of Family Planning	.954	.008	4368.0	2.378	.008	.939	.969
4.1	Proportion Know Modern Method	.951	.008	4368.0	2.461	.008	.935	.967
4.5	Proportion Ever Used Method	.560	.011	4368.0	1.499	.020	.538	.583
4.8	Proportion Currently Use Method	.297	.009	4368.0	1.272	.030	.279	.315
4.8	Proportion Currently Use Modern Method	.289	.008	4368.0	1.217	.029	.273	.306
Women Currently in Union:								
5.1	Proportion Who Want No More Children	.327	.013	1707.6	1.141	.039	.301	.352
5.1	Proportion Who Want a Child w/in 2 Years	.292	.015	1707.6	1.345	.050	.263	.322
All Women:								
5.5	Mean Ideal Number of Children	4.723	.055	4242.3	1.547	.012	4.614	4.832
6.4	Mean Number of Children Surviving	2.394	.047	4368.0	1.343	.020	2.300	2.488
6.4	Proportion of CEB Who Died	.186	.010	4368.0	1.292	.056	.166	.207
Births in the Last Five Years:								
6.5	Proportion of Births Whose Mother Received Tetanus Vaccination During Pregnancy	.845	.013	3177.0	1.704	.015	.820	.870
6.6	Proportion of Births By Doctor/Nurse Midwife	.776	.016	3177.0	1.826	.020	.745	.808
Children 12-23 Months of Age:								
6.9	Proportion With Health Cards	.742	.021	1614.5	1.179	.028	.700	.784
6.9	Proportion With Health Cards Fully Immunised	.885	.022	1198.0	1.442	.024	.842	.928
Children 1-59 Months of Age:								
6.10	Proportion With Diarrhoea in Last 2 Weeks	.099	.009	3030.9	1.606	.091	.081	.117
6.11	Prop. w/Diarrhoea Consulted Health Facility	.459	.034	300.1	1.152	.073	.392	.526
6.13	Proportion with Fever in Last 2 Weeks	.039	.007	3030.9	1.794	.168	.026	.052
6.13	Prop. w/Fever Consulted Health Facility	.902	.034	118.2	1.183	.038	.834	.970
6.14	Proportion With Cough in Last 2 Weeks	.287	.015	3030.9	1.659	.052	.257	.316
6.14	Prop. w/Cough Consulted Health Facility	.823	.015	869.9	1.123	.018	.793	.853

Table B.2 SAMPLING ERRORS FOR THE URBAN POPULATION, BFHS-II, 1988

Table	Variable	Value	Standard Error	Weighted Number of Cases	Design Effect	Relative Error	Confidence Limits R-2SE	R+2SE
All Women:								
1.1	Proportion Urban Areas	1.000	.000	1316.4	.000	.000	1.000	1.000
1.1	Proportion Attended School	.869	.011	1316.4	1.534	.013	.847	.891
2.1	Proportion Currently in Union	.411	.016	1316.4	1.584	.040	.378	.443
2.4	Proportion Sexual Intercourse By Age 20	.825	.011	1025.5	1.185	.013	.803	.846
Births in the Last Three Years:								
2.7	Mean Number Months Breastfeeding	14.708	.611	503.7	1.029	.042	13.486	15.931
2.7	Mean Number Months Amenorrhea	8.542	.578	503.7	1.138	.068	7.385	9.698
2.7	Mean Number Months Abstinence	9.375	.575	503.7	1.097	.061	8.226	10.524
All Women:								
3.3	Proportion Pregnant	.074	.007	1316.4	1.242	.093	.060	.087
3.4	Mean Number Children Ever Born (CEB)	2.134	.059	1316.4	1.302	.028	2.016	2.252
3.5	Proportion First Child by Age 20	.542	.012	1025.5	1.015	.022	.518	.566
Women Age 45-49:								
3.4	Mean Number CEB to Women Age 45-49	5.288	.310	46.6	.917	.059	4.667	5.908
All Women:								
4.1	Proportion Know Method of Family Planning	.985	.003	1316.4	1.041	.003	.980	.990
4.1	Proportion Know Modern Method	.985	.003	1316.4	1.041	.003	.980	.990
4.5	Proportion Ever Used Method	.639	.013	1316.4	1.321	.021	.612	.666
4.8	Proportion Currently Use Method	.388	.015	1316.4	1.468	.039	.358	.418
4.8	Proportion Currently Use Modern Method	.382	.015	1316.4	1.474	.039	.352	.412
Women Currently in Union:								
5.1	Proportion Who Want No More Children	.315	.017	540.4	1.098	.053	.281	.349
5.1	Proportion Who Want a Child w/in 2 Years	.325	.016	540.4	1.026	.049	.293	.356
All Women:								
5.5	Mean Ideal Number of Children	4.403	.058	1286.1	1.292	.013	4.286	4.519
6.4	Mean Number of Children Surviving	1.989	.056	1316.4	1.344	.028	1.877	2.101
6.4	Proportion of CEB Who Died	.145	.010	1316.4	1.000	.066	.126	.165
Births in the Last Five Years:								
6.5	Proportion of Births Whose Mother Received Tetanus Vaccination During Pregnancy	.850	.017	838.3	1.572	.020	.816	.885
6.6	Proportion of Births By Doctor/Nurse Midwife	.940	.009	838.3	1.285	.010	.922	.959
Children 12-23 Months of Age:								
6.9	Proportion With Health Cards	.692	.027	172.0	1.002	.039	.638	.745
6.9	Proportion With Health Cards Fully Immunised	.912	.020	119.0	.993	.022	.872	.951
Children 1-59 Months of Age:								
6.10	Proportion With Diarrhoea in Last 2 Weeks	.096	.010	805.1	1.155	.101	.077	.116
6.11	Prop. w/Diarrhoea Consulted Health Facility	.519	.044	77.3	.960	.085	.431	.607
6.13	Proportion with Fever in Last 2 Weeks	.038	.006	805.1	1.156	.169	.025	.050
6.13	Prop. w/Fever Consulted Health Facility	.904	.042	30.6	.878	.047	.820	.988
6.14	Proportion With Cough in Last 2 Weeks	.247	.020	805.1	1.570	.082	.206	.287
6.14	Prop. w/Cough Consulted Health Facility	.903	.018	198.9	1.061	.020	.867	.939

Figure 6.4
Stunting Among Children by Education of Mother



Thailand DHS 1987

* Standard deviations from international reference for Height/Age

Table B.4 SAMPLING ERRORS FOR THE DIFFERENCE BETWEEN URBAN AND RURAL POPULATION, BFHS-II, 1988

Table	Variable	Value	Standard Error	Weighted Number of Cases	Design Effect	Relative Error	Confidence Limits R-2SE	R+2SE
All Women:								
1.1	Proportion Urban Areas	1.000	.000	1839.3	.000	.000	1.000	1.000
1.1	Proportion Attended School	.155	.019	1839.3	1.556	.122	.117	.192
2.1	Proportion Currently in Union	.028	.022	1839.3	1.472	.776	-.016	.072
2.4	Proportion Sexual Intercourse By Age 20	-.019	.015	1437.9	1.148	-.778	-.048	.010
Births in the Last Three Years:								
2.7	Mean Number Months Breastfeeding	-5.498	.805	752.5	1.000	-.146	-7.109	-3.887
2.7	Mean Number Months Amenorrhea	-4.065	.789	752.5	1.085	-.194	-5.643	-2.487
2.7	Mean Number Months Abstinence	-4.458	.874	752.5	1.154	-.196	-6.207	-2.709
All Women:								
3.3	Proportion Pregnant	.004	.009	1839.3	1.107	2.245	-.013	.021
3.4	Mean Number Children Ever Born (CEB)	-.639	.089	1839.3	1.227	-.140	-.817	-.460
3.5	Proportion First Child by Age 20	-.026	.018	1437.9	1.046	-.672	-.062	.009
Women Age 45-49:								
3.4	Mean Number CEB to Women Age 45-49	-.571	.381	75.9	.911	-.668	-1.333	.192
All Women:								
4.1	Proportion Know Method of Family Planning	.045	.011	1839.3	1.926	.249	.022	.067
4.1	Proportion Know Modern Method	.048	.012	1839.3	1.997	.245	.024	.071
4.5	Proportion Ever Used Method	.113	.020	1839.3	1.352	.178	.072	.153
4.8	Proportion Currently Use Method	.130	.018	1839.3	1.309	.141	.093	.167
4.8	Proportion Currently Use Modern Method	.133	.018	1839.3	1.299	.136	.097	.169
Women Currently in Union:								
5.1	Proportion Who Want No More Children	-.017	.024	738.8	1.064	-1.403	-.065	.031
5.1	Proportion Who Want a Child w/in 2 Years	.047	.026	738.8	1.171	.547	-.004	.099
All Women:								
5.5	Mean Ideal Number of Children	-.460	.093	1792.4	1.349	-.203	-.646	-.274
6.4	Mean Number of Children Surviving	-.580	.084	1839.3	1.244	-.144	-.747	-.413
6.4	Proportion of CEB Who Died	-.059	.017	1839.3	1.116	-.294	-.094	-.024
Births in the Last Five Years:								
6.5	Proportion of Births Whose Mother Received Tetanus Vaccination During Pregnancy	.008	.024	1234.2	1.557	3.110	-.040	.055
6.6	Proportion of Births By Doctor/Nurse Midwife	.223	.023	1234.2	1.546	.102	.177	.268
Children 12-23 Months of Age:								
6.9	Proportion With Health Cards	-.070	.038	247.7	1.047	-.544	-.146	.006
6.9	Proportion With Health Cards Fully Immunised	.036	.034	175.9	1.172	.951	-.033	.105
Children 1-59 Months of Age:								
6.10	Proportion With Diarrhoea in Last 2 Weeks	-.003	.015	1182.5	1.327	-4.901	-.034	.027
6.11	Prop. w/Diarrhoea Consulted Health Facility	.081	.061	114.5	1.012	.759	-.042	.204
6.13	Proportion with Fever in Last 2 Weeks	-.002	.011	1182.5	1.427	-5.401	-.023	.019
6.13	Prop. w/Fever Consulted Health Facility	.002	.060	45.6	.983	27.317	-.118	.123
6.14	Proportion With Cough in Last 2 Weeks	-.054	.028	1182.5	1.523	-.512	-.109	.001
6.14	Prop. w/Cough Consulted Health Facility	.104	.026	306.7	1.004	.249	.052	.156

Table B.5 SAMPLING ERRORS FOR WOMEN AGE 15-24, BFHS-II, 1988

Table	Variable	Value	Standard Error	Weighted Number of Cases	Design Effect	Relative Error	Confidence Limits R-2SE	R+2SE
All Women:								
1.1	Proportion Urban Areas	.318	.021	1863.6	2.004	.067	.275	.361
1.1	Proportion Attended School	.896	.011	1863.6	1.540	.012	.875	.918
2.1	Proportion Currently in Union	.157	.012	1863.6	1.467	.078	.132	.181
2.4	Proportion Sexual Intercourse By Age 20	.887	.014	926.2	1.322	.015	.860	.914
Births in the Last Three Years:								
2.7	Mean Number Months Breastfeeding	20.281	.733	769.9	1.178	.036	18.815	21.746
2.7	Mean Number Months Amenorrhea	12.313	.738	769.9	1.237	.060	10.837	13.789
2.7	Mean Number Months Abstinence	16.689	.726	769.9	1.145	.043	15.237	18.140
All Women:								
3.3	Proportion Pregnant	.067	.007	1863.6	1.145	.098	.054	.080
3.4	Mean Number Children Ever Born (CEB)	.711	.024	1863.6	1.183	.033	.663	.758
3.5	Proportion First Child by Age 20	.548	.018	926.2	1.100	.032	.512	.583
Women Age 45-49:								
3.4	Mean Number CEB to Women Age 45-49	.000	.000	.0	.000	.000	.000	.000
All Women:								
4.1	Proportion Know Method of Family Planning	.956	.009	1863.6	1.894	.009	.938	.973
4.1	Proportion Know Modern Method	.955	.009	1863.6	1.892	.009	.937	.973
4.5	Proportion Ever Used Method	.433	.015	1863.6	1.334	.035	.403	.463
4.8	Proportion Currently Use Method	.230	.012	1863.6	1.283	.054	.206	.255
4.8	Proportion Currently Use Modern Method	.227	.012	1863.6	1.254	.053	.202	.251
Women Currently in Union:								
5.1	Proportion Who Want No More Children	.104	.018	292.2	1.079	.177	.067	.141
5.1	Proportion Who Want a Child w/in 2 Years	.475	.030	292.2	1.059	.062	.416	.534
All Women:								
5.5	Mean Ideal Number of Children	3.941	.050	1828.0	1.152	.013	3.841	4.041
6.4	Mean Number of Children Surviving	.680	.022	1863.6	1.133	.032	.636	.724
6.4	Proportion of CEB Who Died	.031	.005	1863.6	1.136	.151	.021	.040
Births in the Last Five Years:								
6.5	Proportion of Births Whose Mother Received Tetanus Vaccination During Pregnancy	.846	.015	1060.2	1.228	.017	.816	.875
6.6	Proportion of Births By Doctor/Nurse Midwife	.843	.018	1060.2	1.462	.021	.807	.879
Children 12-23 Months of Age:								
6.9	Proportion With Health Cards	.693	.031	232.5	1.019	.044	.632	.754
6.9	Proportion With Health Cards Fully Immunised	.898	.030	161.1	1.251	.033	.838	.957
Children 1-59 Months of Age:								
6.10	Proportion With Diarrhoea in Last 2 Weeks	.119	.014	1015.9	1.318	.116	.092	.147
6.11	Prop. w/Diarrhoea Consulted Health Facility	.416	.054	120.9	1.203	.130	.308	.525
6.13	Proportion with Fever in Last 2 Weeks	.029	.008	1015.9	1.570	.294	.012	.046
6.13	Prop. w/Fever Consulted Health Facility	.960	.028	29.5	.772	.029	.905	1.016
6.14	Proportion With Cough in Last 2 Weeks	.300	.018	1015.9	1.188	.060	.264	.336
6.14	Prop. w/Cough Consulted Health Facility	.825	.031	304.8	1.405	.037	.764	.886

Table B.6 SAMPLING ERRORS FOR WOMEN AGE 25-34, BFHS-II, 1988

Table	Variable	Value	Standard Error	Weighted Number of Cases	Design Effect	Relative Error	Confidence Limits R-2SE	R+2SE
All Women:								
1.1	Proportion Urban Areas	.317	.018	1499.7	1.531	.058	.281	.354
1.1	Proportion Attended School	.683	.018	1499.7	1.522	.027	.647	.719
2.1	Proportion Currently in Union	.535	.014	1499.7	1.108	.026	.507	.563
2.4	Proportion Sexual Intercourse By Age 20	.831	.010	1499.7	1.031	.012	.812	.851
Births in the Last Three Years:								
2.7	Mean Number Months Breastfeeding	17.493	.653	888.3	1.136	.037	16.187	18.798
2.7	Mean Number Months Amenorrhea	10.625	.662	888.3	1.267	.062	9.301	11.950
2.7	Mean Number Months Abstinence	9.392	.727	888.3	1.408	.077	7.937	10.846
All Women:								
3.3	Proportion Pregnant	.092	.008	1499.7	1.048	.084	.077	.108
3.4	Mean Number Children Ever Born (CEB)	3.048	.049	1499.7	1.126	.016	2.949	3.146
3.5	Proportion First Child by Age 20	.608	.014	1499.7	1.094	.023	.581	.635
Women Age 45-49:								
3.4	Mean Number CEB to Women Age 45-49	.000	.000	.0	.000	.000	.000	.000
All Women:								
4.1	Proportion Know Method of Family Planning	.972	.005	1499.7	1.288	.006	.962	.983
4.1	Proportion Know Modern Method	.970	.006	1499.7	1.397	.006	.957	.982
4.5	Proportion Ever Used Method	.719	.017	1499.7	1.454	.023	.685	.752
4.8	Proportion Currently Use Method	.387	.013	1499.7	1.044	.034	.361	.414
4.8	Proportion Currently Use Modern Method	.377	.013	1499.7	1.011	.033	.352	.402
Women Currently in Union:								
5.1	Proportion Who Want No More Children	.292	.017	802.4	1.104	.060	.257	.327
5.1	Proportion Who Want a Child w/in 2 Years	.362	.023	802.4	1.349	.062	.317	.407
All Women:								
5.5	Mean Ideal Number of Children	4.943	.074	1466.6	1.297	.015	4.796	5.091
6.4	Mean Number of Children Surviving	2.867	.048	1499.7	1.148	.017	2.770	2.963
6.4	Proportion of CEB Who Died	.181	.015	1499.7	1.215	.083	.151	.211
Births in the Last Five Years:								
6.5	Proportion of Births Whose Mother Received Tetanus Vaccination During Pregnancy	.847	.015	1496.5	1.392	.018	.816	.878
6.6	Proportion of Births By Doctor/Nurse Midwife	.773	.021	1496.5	1.637	.027	.731	.814
Children 12-23 Months of Age:								
6.9	Proportion With Health Cards	.742	.029	288.1	1.139	.039	.684	.801
6.9	Proportion With Health Cards Fully Immunised	.884	.028	213.8	1.264	.031	.828	.939
Children 1-59 Months of Age:								
6.10	Proportion With Diarrhoea in Last 2 Weeks	.097	.012	1426.4	1.568	.128	.072	.122
6.11	Prop. w/Diarrhoea Consulted Health Facility	.472	.044	138.4	1.041	.092	.385	.559
6.13	Proportion with Fever in Last 2 Weeks	.040	.007	1426.4	1.202	.162	.027	.053
6.13	Prop. w/Fever Consulted Health Facility	.864	.053	57.1	1.166	.061	.758	.970
6.14	Proportion With Cough in Last 2 Weeks	.278	.018	1426.4	1.386	.066	.242	.315
6.14	Prop. w/Cough Consulted Health Facility	.810	.024	396.5	1.157	.030	.761	.858

Table B.7 SAMPLING ERRORS FOR WOMEN AGE 35-49, BFHS-II, 1988

Table	Variable	Value	Standard Error	Weighted Number of Cases	Design Effect	Relative Error	Confidence Limits R-2SE	R+2SE
All Women:								
1.1	Proportion Urban Areas	.247	.020	1004.8	1.431	.081	.207	.287
1.1	Proportion Attended School	.626	.023	1004.8	1.444	.036	.580	.671
2.1	Proportion Currently in Union	.610	.022	1004.8	1.391	.036	.566	.654
2.4	Proportion Sexual Intercourse By Age 20	.803	.015	1004.8	1.159	.019	.773	.833
Births in the Last Three Years:								
2.7	Mean Number Months Breastfeeding	18.954	1.233	332.3	1.181	.065	16.487	21.421
2.7	Mean Number Months Amenorrhea	12.424	.983	332.3	1.021	.079	10.459	14.389
2.7	Mean Number Months Abstinence	12.330	1.052	332.3	1.055	.085	10.225	14.435
All Women:								
3.3	Proportion Pregnant	.045	.010	1004.8	1.458	.217	.026	.065
3.4	Mean Number Children Ever Born (CEB)	5.351	.093	1004.8	1.092	.017	5.164	5.538
3.5	Proportion First Child by Age 20	.501	.021	1004.8	1.312	.043	.458	.544
Women Age 45-49:								
3.4	Mean Number CEB to Women Age 45-49	5.752	.190	250.6	.956	.033	5.372	6.132
All Women:								
4.1	Proportion Know Method of Family Planning	.923	.016	1004.8	1.850	.017	.890	.955
4.1	Proportion Know Modern Method	.918	.017	1004.8	1.877	.018	.885	.952
4.5	Proportion Ever Used Method	.561	.019	1004.8	1.188	.034	.522	.599
4.8	Proportion Currently Use Method	.286	.016	1004.8	1.122	.058	.253	.319
4.8	Proportion Currently Use Modern Method	.275	.017	1004.8	1.144	.060	.242	.309
Women Currently in Union:								
5.1	Proportion Who Want No More Children	.478	.022	613.0	1.068	.046	.434	.522
5.1	Proportion Who Want a Child w/in 2 Years	.115	.018	613.0	1.356	.155	.079	.151
All Women:								
5.5	Mean Ideal Number of Children	5.890	.118	947.7	1.338	.020	5.655	6.126
6.4	Mean Number of Children Surviving	4.867	.095	1004.8	1.194	.019	4.677	5.057
6.4	Proportion of CEB Who Died	.484	.030	1004.8	1.128	.063	.423	.545
Births in the Last Five Years:								
6.5	Proportion of Births Whose Mother Received Tetanus Vaccination During Pregnancy	.838	.023	620.3	1.305	.027	.793	.883
6.6	Proportion of Births By Doctor/Nurse Midwife	.671	.022	620.3	.959	.032	.627	.714
Children 12-23 Months of Age:								
6.9	Proportion With Health Cards	.861	.046	93.9	1.241	.053	.770	.952
6.9	Proportion With Health Cards Fully Immunised	.864	.043	80.8	1.093	.050	.778	.950
Children 1-59 Months of Age:								
6.10	Proportion With Diarrhoea in Last 2 Weeks	.066	.012	588.7	1.136	.187	.041	.091
6.11	Prop. w/Diarrhoea Consulted Health Facility	.545	.089	38.9	1.040	.164	.367	.723
6.13	Proportion with Fever in Last 2 Weeks	.054	.012	588.7	1.278	.230	.029	.079
6.13	Prop. w/Fever Consulted Health Facility	.918	.058	31.8	.974	.063	.802	1.034
6.14	Proportion With Cough in Last 2 Weeks	.283	.026	588.7	1.217	.090	.232	.335
6.14	Prop. w/Cough Consulted Health Facility	.851	.029	166.6	1.013	.035	.792	.910

APPENDIX C

QUESTIONNAIRES

REPUBLIC OF BOTSWANA

CONFIDENTIAL

Min. of Fin. & Dev. Plan.
Central Statistics Office
P/Bag 0024, Gaborone
Tel. 3503 10

REPUBLIC OF BOTSWANA

FAMILY HEALTH SURVEY II (1988)

CONTINUOUS HOUSEHOLD INTEGRATED PROGRAMME OF SURVEYS (CHIPS)

HOUSEHOLD QUESTIONNAIRE

IDENTIFICATION	
LOCALITY NAME/CODE _____	☐☐
DISTRICT NAME _____	
STRATUM.....	☐
PSU NUMBER.....	☐☐
DWELLING NO.....	☐☐☐
HOUSEHOLD NUMBER.....	☐☐

INTERVIEWER VISITS				
	1	2	3	FINAL VISIT
DATE	_____	_____	_____	MONTH ☐☐ YEAR ☐☐
INTERVIEWER'S NAME	_____	_____	_____	INT. CODE ☐☐
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 NIGHT BEFORE INTERVIEW
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	_____	_____	_____	

0.1

HOUSEHOLD QUESTIONNAIRE

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	RESIDENCE		SEX	AGE	FOSTERING	ELIGIBILITY
(1)	Please give me the names of the persons who usually live in your household or are staying with you now, starting with the head of the household. (2)	1 Head 2 Spouse 3 Son/daughter 4 Brother/sister 5 Grandchild 6 Parent 7 Other relative 8 Unrelated 9 Don't know (3)	Does (NAME) usually live here? (4)	Did (NAME) sleep here last night? (5)	Is (NAME) male or female? (6)	How old is he/she? (7)	ONLY FOR CHILDREN UNDER 15 YEARS OLD: Do either of his/her natural parents usually live in this household? (8)	CIRCLE LINE NUMBER OF WOMEN ELIGIBLE FOR INDIVIDUAL INTERVIEW (Slept here last night; female 15-49 years old) (9)
			YES NO	YES NO	M F	IN YEARS	YES NO	
01			1 2	1 2	1 2		1 2	01
02			1 2	1 2	1 2		1 2	02
03			1 2	1 2	1 2		1 2	03
04			1 2	1 2	1 2		1 2	04
05			1 2	1 2	1 2		1 2	05
06			1 2	1 2	1 2		1 2	06
07			1 2	1 2	1 2		1 2	07
08			1 2	1 2	1 2		1 2	08
09			1 2	1 2	1 2		1 2	09
10			1 2	1 2	1 2		1 2	10
11			1 2	1 2	1 2		1 2	11
12			1 2	1 2	1 2		1 2	12

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 ☐

0.2

HOUSEHOLD QUESTIONNAIRE

NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP	RESIDENCE		SEX	AGE	FOSTERING	ELIGIBILITY
(1)	Please give me the names of the persons who usually live in your household or are staying with you now, starting with the head of the household. (2)	1 Head 2 Spouse 3 Son/daughter 4 Brother/sister 5 Grandchild 6 Parent 7 Other relative 8 Unrelated 9 Don't know (3)	Does (NAME) usually live here? (4)	Did (NAME) sleep here last night? (5)	Is (NAME) male or female? (6)	How old is he/she? (7)	ONLY FOR CHILDREN UNDER 15 YEARS OLD: Do either of his/her natural parents usually live in this household? (8)	CIRCLE LINE NUMBER OF WOMEN ELIGIBLE FOR INDIVIDUAL INTERVIEW (Slept here last night; female 15-49 years old) (9)
			YES NO	YES NO	M F	IN YEARS	YES NO	
13			1 2	1 2	1 2		1 2	13
14			1 2	1 2	1 2		1 2	14
15			1 2	1 2	1 2		1 2	15
16			1 2	1 2	1 2		1 2	16
17			1 2	1 2	1 2		1 2	17
18			1 2	1 2	1 2		1 2	18
19			1 2	1 2	1 2		1 2	19
20			1 2	1 2	1 2		1 2	20
21			1 2	1 2	1 2		1 2	21
22			1 2	1 2	1 2		1 2	22
23			1 2	1 2	1 2		1 2	23
24			1 2	1 2	1 2		1 2	24

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 ☐

0.3

REPUBLIC OF BOTSWANA

REPUBLIC OF BOTSWANA
FAMILY HEALTH SURVEY II (1988)
CONTINUOUS HOUSEHOLD INTEGRATED PROGRAMME OF SURVEYS (CHIPS)

FEMALE QUESTIONNAIRE

IDENTIFICATION	
LOCALITY NAME/CODE _____	☐☐
DISTRICT NAME _____	
STRATUM.....	☐
PSU NUMBER.....	☐☐
DWELLING NO.....	☐☐☐
HOUSEHOLD NUMBER.....	☐☐
LINE NUMBER OF WOMAN.....	☐☐

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

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

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

1.1

SECTION 1. RESPONDENT'S BACKGROUND

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
103	RECORD THE TIME.	HOUR..... ☐☐ MINUTES..... ☐☐	
104	In what month and year were you born? (IF NECESSARY, REFER TO EVENTS CALENDAR.)	MONTH..... ☐☐ DK MONTH.....98 YEAR..... ☐☐ DK YEAR.....98	
105	How old were you at your last birthday? COMPARE AND CORRECT 104 AND/OR 105 IF INCONSISTENT.	AGE IN COMPLETED YEARS..... ☐☐	
106	Have you ever attended school?	YES.....1 NO.....2	→109
107	What was the highest grade at school you have completed?	CURRENTLY IN STANDARD 1.....10 GRADE STANDARD.....1 ☐ FORM.....2 ☐ UNIVERSITY OR OTHER POST-SECONDARY INST.....3 ☐	
108	LOOK AT 107: GRADES 10 - 17 ☐ ↓ GRADES 21 - 39 ☐		→110
109	Can you read a letter or newspaper?	YES.....1 NO.....2	→111
109A	Can you read the letter or newspaper easily or with difficulty?	EASILY.....1 WITH DIFFICULTY.....2	
110	Which languages can you read? CIRCLE ALL MENTIONED.	ENGLISH.....1 SETSWANA.....1 OTHER._____ (Specify) ...1	
111	What is your religious affiliation?	SPIRITUAL/AFRICAN.....1 PROTESTANT.....2 CATHOLIC.....3 OTHER CHURCH/RELIGION _____ (SPECIFY) ..4 NONE.....5	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
112	Do you usually listen to a radio at least once a week?	YES.....1 NO.....2	——>114
113	Do you usually listen to RADIO BOTSWANA at least once a week?	YES.....1 NO.....2	
114	What is the major source of drinking water for members of your household during the dry season?	PIPE INDOORS.....1 STANDPIPE WITHIN PLOT/LOLWAPA...2 STANDPIPE OUTSIDE PLOT/LOLWAPA..3 BOREHOLE/WELL.....4 FLOWING RIVER.....5 SAND RIVER (RIVERBED).....6 DAM/LAKE/PAN.....7 OTHER _____ (SPECIFY)..8	
115	What is the major source of drinking water for members of your household during the rainy season?	PIPE INDOORS.....1 STANDPIPE WITHIN PLOT/LOLWAPA...2 STANDPIPE OUTSIDE PLOT/LOLWAPA..3 BOREHOLE/WELL.....4 FLOWING RIVER.....5 SAND RIVER (RIVERBED).....6 DAM/LAKE/PAN.....7 OTHER _____ (SPECIFY)..8	
116	What kind of toilet facility does your household use?	OWN FLUSH TOILET.....01 OWN PIT LATERINE.....02 NEIGHBOR'S FLUSH TOILET.....03 NEIGHBOR'S PIT LATRINE.....04 COMMUNAL FLUSH TOILET.....05 COMMUNAL PIT LATRINE.....06 PAIL/BUCKET.....07 BUSH.....08 OTHER _____ (SPECIFY).09	——>118
117	At what age do children in your household use the same toilet facility as adults?	YEARS..... [ ][ ] NO CHILDREN.....96	
118	Do you usually use soap when washing your hands?	YES.....1 NO.....2	
119	Does your house have: Electricity? A radio? A television? A refrigerator?	YES NO ELECTRICITY.....1 2 RADIO.....1 2 TELEVISION.....1 2 REFRIGERATOR.....1 2	
120	Does any member of your household own: A bicycle? A motorcycle? A car? A tractor? Cattle?	YES NO BICYCLE.....1 2 MOTORCYCLE.....1 2 CAR.....1 2 TRACTOR.....1 2 CATTLE.....1 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
121	MAIN MATERIAL OF THE FLOOR. FOR USUAL RESIDENTS, RECORD OBSERVATION. FOR VISITORS, ASK: What is the main material of the floor in your house?	STONE/TILES/CEMENT MATERIAL.....1 WOOD.....2 MUD.....3 OTHER _____ (SPECIFY) ..4 NONE.....5	
122	What fuel is mainly used for cooking by your household?	ELECTRICITY.....1 GAS.....2 PARAFFIN.....3 WOOD/CHARCOAL.....4 COAL.....5 OTHER _____ (SPECIFY) ..6	
123	Are you a Botswana citizen?	YES.....1 OTHER _____ (SPECIFY) .2	

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 to a live child?	YES.....1 NO.....2	>206
202	Do you have any sons or daughters you have given birth to who are now living with you?	YES.....1 NO.....2	>204
203	How many sons of your own live with you now? And how many daughters of your own live with you now? IF NONE ENTER '00'.	SONS AT HOME..... DAUGHTERS AT HOME.....	
204	Do you have any sons or daughters you have given birth to who are alive but do not live with you now?	YES.....1 NO.....2	>206
205	How many sons are alive but do not live with you now? And how many daughters are alive but do not live with you now? IF NONE ENTER '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 (other) boy or girl who cried or showed any sign of life but only survived a few hours or days?	YES.....1 NO.....2	>208
207	How many boys that you have given birth to have died? And how many girls that you have given birth to have died? IF NONE ENTER '00'.	BOYS DEAD..... GIRLS DEAD.....	
208	SUM ANSWERS TO 203, 205, AND 207, AND ENTER TOTAL. IF NONE ENTER '00'.	TOTAL.....	
209	LOOK AT 208: Just to make sure that I have this right: During your life, how many live births in total have you had? NUMBERS ARE THE SAME YES ☐ NO ☐ > PROBE AND CORRECT 201-209 AS NECESSARY	TOTAL_____	
210	LOOK AT 208: ONE OR MORE BIRTHS ☐ NO BIRTHS ☐		>220

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 ON SEPARATE LINES AND MARK WITH A BRACKET. BEFORE ASKING QUESTIONS 213-218, CHECK THAT THE TOTAL NUMBER OF CHILDREN FOR WHOM NAMES ARE RECORDED ARE EQUAL TO THE TOTAL IN Q208).

212 What name was given to your (first, next) baby?	213 Is (NAME) a boy or a girl?	214 In what month and year was (NAME) born? PROBE: What is his/her birthday? OR: In what season?	215 Is (NAME) still alive?	216 IF DEAD: How old was (NAME) when he/she died? RECORD DAYS IF LESS THAN ONE MONTH, MONTHS IF LESS THAN TWO YEARS, OR YEARS.	217 IF ALIVE: How old was (NAME) at his/her last birthday? RECORD AGE IN COMPLETED YEARS.	218 IF ALIVE: Is he/she living with you?
01 (NAME)	BOY 1 GIRL 2	MONTH... YEAR....	YES 1 NO 2 → (GO TO 217)	DAYS.....1 MONTHS...2 YEARS....3 (GO TO NEXT BIRTH)	AGE IN YEARS..	YES 1 NO 2
02 (NAME)	BOY 1 GIRL 2	MONTH... YEAR....	YES 1 NO 2 → (GO TO 217)	DAYS.....1 MONTHS...2 YEARS....3 (GO TO NEXT BIRTH)	AGE IN YEARS..	YES 1 NO 2
03 (NAME)	BOY 1 GIRL 2	MONTH... YEAR....	YES 1 NO 2 → (GO TO 217)	DAYS.....1 MONTHS...2 YEARS....3 (GO TO NEXT BIRTH)	AGE IN YEARS..	YES 1 NO 2
04 (NAME)	BOY 1 GIRL 2	MONTH... YEAR....	YES 1 NO 2 → (GO TO 217)	DAYS.....1 MONTHS...2 YEARS....3 (GO TO NEXT BIRTH)	AGE IN YEARS..	YES 1 NO 2
05 (NAME)	BOY 1 GIRL 2	MONTH... YEAR....	YES 1 NO 2 → (GO TO 217)	DAYS.....1 MONTHS...2 YEARS....3 (GO TO NEXT BIRTH)	AGE IN YEARS..	YES 1 NO 2
06 (NAME)	BOY 1 GIRL 2	MONTH... YEAR....	YES 1 NO 2 → (GO TO 217)	DAYS.....1 MONTHS...2 YEARS....3 (GO TO NEXT BIRTH)	AGE IN YEARS..	YES 1 NO 2
07 (NAME)	BOY 1 GIRL 2	MONTH... YEAR....	YES 1 NO 2 → (GO TO 217)	DAYS.....1 MONTHS...2 YEARS....3 (GO TO NEXT BIRTH)	AGE IN YEARS..	YES 1 NO 2

2.2

212 What name was given to your next baby?	213 Is (NAME) a boy or a girl?	214 In what month and year was (NAME) born? PROBE: What is his/her birthday? OR: In what season?	215 Is (NAME) still alive?	216 IF DEAD: How old was (NAME) when he/she died? RECORD DAYS IF LESS THAN ONE MONTH, MONTHS IF LESS THAN TWO YEARS, OR YEARS.	217 IF ALIVE: How old was (NAME) at his/her last birthday? RECORD AGE IN COMPLETED YEARS.	218 IF ALIVE: Is he/she living with you?
08 (NAME)	BOY 1 GIRL 2	MONTH... YEAR....	YES 1 → (GO TO 217) NO 2 →	DAYS.....1 MONTHS...2 YEARS....3 (GO TO NEXT BIRTH)	AGE IN YEARS..	YES 1 NO 2
09 (NAME)	BOY 1 GIRL 2	MONTH... YEAR....	YES 1 → (GO TO 217) NO 2 →	DAYS.....1 MONTHS...2 YEARS....3 (GO TO NEXT BIRTH)	AGE IN YEARS..	YES 1 NO 2
10 (NAME)	BOY 1 GIRL 2	MONTH... YEAR....	YES 1 → (GO TO 217) NO 2 →	DAYS.....1 MONTHS...2 YEARS....3 (GO TO NEXT BIRTH)	AGE IN YEARS..	YES 1 NO 2
11 (NAME)	BOY 1 GIRL 2	MONTH... YEAR....	YES 1 → (GO TO 217) NO 2 →	DAYS.....1 MONTHS...2 YEARS....3 (GO TO NEXT BIRTH)	AGE IN YEARS..	YES 1 NO 2
12 (NAME)	BOY 1 GIRL 2	MONTH... YEAR....	YES 1 → (GO TO 217) NO 2 →	DAYS.....1 MONTHS...2 YEARS....3 (GO TO NEXT BIRTH)	AGE IN YEARS..	YES 1 NO 2
13 (NAME)	BOY 1 GIRL 2	MONTH... YEAR....	YES 1 → (GO TO 217) NO 2 →	DAYS.....1 MONTHS...2 YEARS....3 (GO TO 219)	AGE IN YEARS..	YES 1 NO 2
14 (NAME)	BOY 1 GIRL 2	MONTH... YEAR....	YES 1 → (GO TO 217) NO 2 →	DAYS.....1 MONTHS...2 YEARS....3 (GO TO 219)	AGE IN YEARS..	YES 1 NO 2

219 COMPARE 208 WITH NUMBER OF BIRTHS IN HISTORY ABOVE AND MARK:

NUMBERS ARE SAME → ↓

NUMBERS ARE DIFFERENT → (PROBE AND RECONCILE)

NUMBERS RECONCILED → ←

INTERVIEWER: FOR EACH LIVE BIRTH: YEAR OF BIRTH IS RECORDED
FOR EACH LIVE CHILD: CURRENT AGE IS RECORDED
FOR EACH DEAD CHILD: AGE AT DEATH IS RECORDED

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
220	Are you pregnant now?	YES.....1 NO.....2 UNSURE.....8	>227
221	For how many months have you been pregnant?	MONTHS.....	
222	Since you have been pregnant, have you been given any injection to prevent the baby from getting tetanus, that is, convulsions after birth?	YES.....1 NO.....2 DK.....8	>225
223	How many injections did you receive?	NUMBER..... DK.....8	
224	Where did you go to get the (last) injection?	GOVERNMENT HEALTH POST.....1 GOVERNMENT CLINIC.....2 GOVERNMENT HOSPITAL/ HEALTH CENTRE.....3 PRIVATE DOCTOR/CLINIC.....4 OTHER _____ (SPECIFY) 5	
225	Did you consult anyone for a prenatal checkup?	YES.....1 NO.....2	>228
226	Whom did you consult the first time? PROBE FOR TYPE OF PERSON AND RECORD MOST QUALIFIED.	DOCTOR.....1 TRAINED NURSE/MIDWIFE.....2 TRADITIONAL DOCTOR.....2 TRADITIONAL BIRTH ATTENDANT.....3 OTHER _____ (SPECIFY) 4	>228
227	How long ago did your last menstrual period start?	DAYS AGO.....1 WEEKS AGO.....2 MONTHS AGO.....3 YEARS AGO.....4 BEFORE LAST BIRTH.....995 NEVER MENSTRUATED.....996	>229
228	How old were you when you had your first menstrual period?	AGE ..... DK 98	
229	When during her menstrual cycle do you think a woman has the greatest chance of becoming pregnant? PROBE: What are the days during the month when a woman has to be careful to avoid becoming pregnant?	DURING HER PERIOD.....1 RIGHT AFTER HER PERIOD HAS ENDED.....2 IN THE MIDDLE OF THE CYCLE.....3 JUST BEFORE HER PERIOD BEGINS...4 AT ANY TIME.....5 OTHER _____ (SPECIFY) .....6 DK.....8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
230	LOOK AT 106: EVER ATTENDED SCHOOL? YES ☐ NO ☐		→234
231	Have you ever left formal school because you became pregnant?	YES.....1 NO.....2	→234
232	What grade were you in when you left school because of the pregnancy?	GRADE STANDARD.....1 ☐ FORM.....2 ☐ UNIVERSITY OR OTHER POST-SECONDARY INST.....3 ☐	
233	Did you return to school after the birth?	YES.....1 NO.....2	
234	LOOK AT 208: ONE OR MORE BIRTHS ☐ NO BIRTHS ☐		→249
235	Were you married at the time you gave birth to your first child?	YES.....1 NO.....2	→247
236	At the time you first started to sleep with your boyfriend, were you using a method to avoid pregnancy?	YES.....1 NO.....2	→239
237	What was the main reason that you were not using a method to avoid pregnancy?	LACK OF KNOWLEDGE.....01 OPPOSED TO FAMILY PLANNING.....02 BOYFRIEND DISAPPROVED.....03 OTHERS DISAPPROVED.....04 HEALTH CONCERNS.....05 DIFFICULT TO GET.....06 COSTS TOO MUCH.....07 INCONVENIENT TO USE.....08 NOT EFFECTIVE.....09 INFREQUENT SEX.....10 FATALISTIC.....11 RELIGION.....12 MENOPAUSAL/SUBFECUND.....13 OTHER _____ (SPECIFY).....14 DK.....98	
239	Were you living with either of your parents or guardians in the same yard when you became pregnant with your first child?	YES.....1 NO.....2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
240	What was their reaction to your pregnancy?	PLEASED.....1 ANGRY.....2 INDIFFERENT.....3 OTHER_____.4 (SPECIFY) DK.....8	
241	Did they claim compensation from the father's parents?	YES.....1 NO.....2	
242	Before you became pregnant, did your parents or guardians ever discuss pregnancy or family planning with you?	YES.....1 NO.....2	
243	Before you became pregnant, did you think your boyfriend would marry you if you had a child?	YES.....1 NO.....2	
244	After the first birth, did you discuss marriage with the child's father?	YES.....1 NO.....2	
245	After the first birth, for how long did you continue the relationship with the child's father?	DURATION MONTHS..... [ ][ ] YEARS..... [ ][ ] STILL CONTINUING.....91 GOT MARRIED.....92—>247	
246	Does the father ever visit the child or ask to visit him?	YES.....1 NO.....2 CHILD LIVES WITH FATHER.....3	
247	I now have a few questions about your last birth. Where did you deliver your last birth?	HOME.....1 HOSPITAL.....2 HEALTH CLINIC.....3 OTHER _____.4 (SPECIFY)	
248	Why did you choose to deliver your baby there?	BETTER HELP AVAILABLE.....1 MORE HYGIENIC.....2 HEALTH CONCERNS.....3 NO HELP AVAILABLE.....4 NO TRANSPORTATION AVAILABLE.....5 TRADITION/CUSTOM.....6 SUPERSTITIOUS.....7 OTHER _____8 (SPECIFY)	
249	PRESENCE OF OTHERS AT THIS POINT.	YES NO CHILDREN UNDER 10.....1 2 HUSBAND.....1 2 OTHER MALES.....1 2 OTHER FEMALES.....1 2	

2.6

301 Now I would like to talk about a different topic. There are various ways or methods that a woman or man can use to delay or avoid a pregnancy. Which of these 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 303-305 BEFORE PROCEEDING TO THE NEXT METHOD.

	302 Have you ever heard of (METHOD)? READ DESCRIPTION.	303 Have you ever used (METHOD)?	304 Where would you go to obtain (METHOD) if you wanted to use it? (CODES BELOW)	305 In your opinion, what is the main problem, if any, with using (METHOD)? (CODES BELOW)
01 PILL Women can take a pill every day.	YES/SPONT.....1 YES/PROBED.....2 NO.....3 →	YES.....1 NO.....2	☐ OTHER _____	☐☐ OTHER _____
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	☐ OTHER _____	☐☐ OTHER _____
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	☐ OTHER _____	☐☐ OTHER _____
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	☐ OTHER _____	☐☐ OTHER _____
05 CONDOM Men can use a rubber sheath during sexual intercourse.	YES/SPONT.....1 YES/PROBED.....2 NO.....3 →	YES.....1 NO.....2	☐ OTHER _____	☐☐ OTHER _____
06 FEMALE STERILIZATION Women can have an operation to avoid having any more children.	YES/SPONT.....1 YES/PROBED.....2 NO.....3 →	YES.....1 NO.....2	☐ OTHER _____	☐☐ OTHER _____
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	☐ OTHER _____	☐☐ OTHER _____
08 PERIODIC ABSTINENCE A women or man can deliberately 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	Where would you go to obtain advice on periodic abstinence? ☐ OTHER _____	☐☐ OTHER _____
09 WITHDRAWAL Men can be careful and pull out before climax.	YES/SPONT.....1 YES/PROBED.....2 NO.....3 →	YES.....1 → NO.....2		☐☐ OTHER _____
10 PROLONGED ABSTINENCE A woman and a man can deliberately abstain from sexual intercourse for several months or more in order to avoid having a child.	YES/SPONT.....1 YES/PROBED.....2 NO.....3 →	YES.....1 → NO.....2		☐☐ OTHER _____
11 ANY OTHER METHODS? Have you heard of any other ways or methods that women or men can use to avoid pregnancy? _____ (SPECIFY)	YES/SPONT.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	CODES FOR 304 1 GOVERNMENT HEALTH POST 2 GOVERNMENT CLINIC 3 GOVERNMENT HOSPITAL/ HEALTH CENTRE 4 PRIVATE DOCTOR/CLINIC 5 PHARMACY 6 OTHER (SPECIFY) 7 NOWHERE 8 DK	CODES FOR 305 02 NOT EFFECTIVE 03 HUSBAND DISAPPROVES 04 HEALTH CONCERNS 05 DIFFICULT TO OBTAIN 06 COSTS TOO MUCH 07 INCONVENIENT TO USE 09 METHOD PERMANENT 11 OTHER (SPECIFY) 12 NONE 98 DK

306 LOOK AT 303: NOT A SINGLE "YES" (NEVER USED) ☐ → AT LEAST ONE "YES" (EVER USED) ☐ → SKIP TO 309

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
307	Have you ever used/done anything to delay or avoid getting pregnant? MARK THE APPROPRIATE RESPONSE.	YES..... ☐ NO..... ☐	→333
308	What have you used or done? CORRECT 302-303 AND OBTAIN INFORMATION FOR 304 TO 306 AS NECESSARY.		
309	How many living children, if any, did you have when you first did something or used a method to avoid getting pregnant? IF NONE ENTER '00'.	NUMBER OF CHILDREN..... ☐☐	
310	LOOK AT 220: NOT PREGNANT OR NOT SURE ☐ →	CURRENTLY PREGNANT ☐	→327
311	Are you currently doing something or using any method to avoid getting pregnant?	YES.....1 NO.....2	→327
312	Which method are you using?	PILL.....01 IUD.....02 INJECTIONS.....03 DIAPHRAGM/FOAM/JELLY.....04 →316 CONDOM.....05 →314 FEMALE STERILIZATION.....06 MALE STERILIZATION.....07 →315 PERIODIC ABSTINENCE.....08 WITHDRAWAL.....09 PROLONGED ABSTINENCE.....10 →319 OTHER _____ .11 (SPECIFY)	
313	Please show me the package of pills you are now using. (RECORD NAME OF BRAND.)	BRAND NAME ☐☐ _____ NOT ABLE TO SHOW.....96	
313A	At any time in the past month, have you interrupted use of the pill for any of the following: Experienced side effects or illness? Had spotting or bleeding more than once? Period did not come when expected? Ran out of pills? Forgot to take pill or misplace package? Not having sexual relations or husband away? Any other reason? _____ (SPECIFY)	YES NO SIDE EFFECTS/ILLNESS.....1 2 SPOTTING/BLEEDING.....1 2 PERIOD DID NOT COME.....1 2 RAN OUT OF PILLS.....1 2 FORGOT TO TAKE/MISPLACED...1 2 NOT SEXUALLY ACTIVE.....1 2 OTHER.....1 2	
313B	Just about everyone misses taking the pill sometime. What did you do the last time that you forgot to take one pill?	NEVER FORGOT.....1 TOOK ONE PILL THE NEXT DAY.....2 TOOK TWO PILLS THE NEXT DAY.....3 OTHER _____ .4 (SPECIFY) NOT SURE.....8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
314	How many (CYCLES OF THE PILL or CONDOMS) did you get the last time that you obtained the method?	NUMBER OF CYCLES OR CONDOMS ☐☐ DK.....98	>316
315	In what month and year did you (he) have the operation?	DATE MONTH..... ☐☐ YEAR..... ☐☐ DK.....98	>316A
316	Where did you visit to obtain (CURRENT METHOD)?	GOVERNMENT HEALTH POST.....1 GOVERNMENT CLINIC.....2 GOVERNMENT HOSPITAL/ HEALTH CENTRE.....3 PRIVATE DOCTOR/CLINIC.....4 PHARMACY.....5 OTHER _____ (SPECIFY) .....6 DK.....8	>318
316A	Where did the sterilization take place? ASK Q316A ONLY IF Q312 IS STERILIZATION.		
317	Was there anything you particularly disliked about the services you received there? IF YES: What?	WAIT TOO LONG.....1 STAFF DISCOURTEOUS.....1 SERVICES EXPENSIVE.....1 DESIRED METHOD UNAVAILABLE.....1 HUSBAND/PARTNER OBTAINED METHOD.1 OTHER _____ (SPECIFY) .....1 NO COMPLAINTS.....1	
318	LOOK AT 312: HE/SHE STERILIZED ☐ >322 CURRENTLY USING ANOTHER METHOD ☐ v		
319	For how long have you been using (CURRENT METHOD) continuously?	DURATION MONTHS..... ☐☐ YEARS..... ☐☐	
320	Have you experienced any problems from using (CURRENT METHOD)?	YES.....1 NO.....2	>321
320A	What is the main problem you experienced?	METHOD FAILED.....02 HUSBAND DISAPPROVED.....03 HEALTH CONCERNS.....04 ACCESS/AVAILABILITY.....05 COST TOO MUCH.....06 INCONVENIENT TO USE.....07 OTHER _____ (SPECIFY) .....11 DK.....98	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
321	At any time during the same month, do you regularly use any method other than (CURRENT METHOD)?	YES.....1 NO.....2	>322
321A	Which method is that?	PILL.....01 IUD.....02 INJECTIONS.....03 DIAPHRAGM/FOAM/JELLY.....04 CONDOM.....05 MALE STERILIZATION.....07 PERIODIC ABSTINENCE.....08 WITHDRAWAL.....09 PROLONGED ABSTINENCE.....10 OTHER _____ (SPECIFY).....11	
322	Have you ever used any other method or done anything else (since your last birth) before (CURRENT METHOD) to avoid getting pregnant?	YES.....1 NO.....2	>336
323	Which method did you use before (CURRENT METHOD)?	PILL.....01 IUD.....02 INJECTIONS.....03 DIAPHRAGM/FOAM/JELLY.....04 CONDOM.....05 MALE STERILIZATION.....07 PERIODIC ABSTINENCE.....08 WITHDRAWAL.....09 PROLONGED ABSTINENCE.....10 OTHER _____ (SPECIFY).....11	
324	In what month and year did you start using (METHOD BEFORE CURRENT) (the last time)?	DATE MONTH..... ☐☐ YEAR..... ☐☐	
325	For how long had you been using (METHOD BEFORE CURRENT) before you stopped using it (last time)?	DURATION MONTHS..... ☐☐ YEARS..... ☐☐	
326	What was the main reason you stopped using (METHOD BEFORE CURRENT) then?	METHOD FAILED.....02 HUSBAND DISAPPROVED.....03 HEALTH CONCERNS.....04 ACCESS/AVAILABILITY.....05 COST TOO MUCH.....06 INCONVENIENT TO USE.....07 INFREQUENT SEX.....08 TO USE PERMANENT METHOD.....09 FATALISTIC.....10 OTHER _____ (SPECIFY).....11 DK.....98	>336

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
327	LOOK AT 208: ANY BIRTHS? YES ☐ ↓ NO ☐		→333
328	Since your last birth have you done anything or used any method to avoid getting pregnant?	YES.....1 NO.....2	→333
329	Which was the last method you used?	PILL.....01 IUD.....02 INJECTIONS.....03 DIAPHRAGM/FOAM/JELLY.....04 CONDOM.....05 MALE STERILIZATION.....07 PERIODIC ABSTINENCE.....08 WITHDRAWAL.....09 PROLONGED ABSTINENCE.....10 OTHER _____ (SPECIFY).....11	
330	In what month and year did you start using that method (last time)?	DATE MONTH..... ☐☐ YEAR..... ☐☐	
331	For how long had you been using (LAST METHOD) before you stopped using it (last time)?	DURATION MONTHS..... ☐☐ YEARS..... ☐☐	
332	What was the main reason you stopped using (LAST METHOD) then?	TO BECOME PREGNANT.....01 METHOD FAILED.....02 HUSBAND DISAPPROVED.....03 HEALTH CONCERNS.....04 ACCESS/AVAILABILITY.....05 COST TOO MUCH.....06 INCONVENIENT TO USE.....07 INFREQUENT SEX.....08 FATALISTIC.....10 OTHER _____ (SPECIFY).....11 DK.....98	
333	Do you intend to use a method at any time in the future to avoid pregnancy?	YES.....1 NO.....2 DK.....8	→336

3.5

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
334	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 PROLONGED ABSTINENCE.....10 OTHER_____.11 (SPECIFY) UNSURE.....98	
335	Do you intend to use (PREFERRED METHOD) in the next 12 months?	YES.....1 NO.....2 DK.....8	
336	Is it acceptable or not acceptable to you for family planning information to be provided on: radio/television? at kgotla? at school?	YES NO RADIO/TELEVISION..... 1 2 AT KGOTLA..... 1 2 AT SCHOOL..... 1 2	
337	LOOK AT 220: NOT PREGNANT OR UNSURE ☐ CURRENTLY PREGNANT ☐		>339
338	LOOK AT 214: HAD BIRTH SINCE JAN. 1983 ☐ NO BIRTH SINCE JAN. 1983 ☐		>442

339 Now I would like to get some more information about (your pregnancy and) the children you had in the last 5 years.

LOOK AT Q.220 AND CHECK WHETHER PREGNANT. THEN RECORD NAMES AND LINE NUMBERS FOR BIRTHS SINCE JANUARY 1983 (IF ANY).
LOOK AT Q.306 AND ENTER EVER USE OF CONTRACEPTION IN Q.340. ASK QUESTIONS AS APPROPRIATE FOR CURRENT PREGNANCY AND BIRTHS.

		LINE NO. Q.212 ☐☐	☐☐	☐☐	☐☐
	CURRENTLY PREGNANT YES ☐ NO ☐ →	LAST BIRTH NAME ____ ALIVE ☐ DEAD ☐	NEXT-TO-LAST BIRTH NAME ____ ALIVE ☐ DEAD ☐	SECOND-FROM-LAST NAME ____ ALIVE ☐ DEAD ☐	THIRD-FROM-LAST NAME ____ ALIVE ☐ DEAD ☐

340 LOOK AT 306: EVER USED A METHOD ☐ (ASK 341-347 FOR EACH COLUMN)

NEVER USED A METHOD ☐ (ASK 346 FOR EACH COLUMN)

	CURRENTLY PREGNANT	LAST BIRTH	NEXT-TO-LAST BIRTH	SECOND-FROM-LAST	THIRD-FROM-LAST
341 Before you became pregnant (with NAME) (but after PRECEDING BIRTH) (IF ANY), had you done anything or used any method, even for a short time, to avoid getting pregnant?	YES................1 NO.................2 (SKIP TO 346)	YES............1 NO.............2 (SKIP TO 346)	YES............1 NO.............2 (SKIP TO 346)	YES............1 NO.............2 (SKIP TO 346)	YES............1 NO.............2 (SKIP TO 346)
342 What was the last method you used then?	PILL..............01 IUD...............02 INJECTIONS........03 DIAPH/FOAM/JELLY..04 CONDOM............05 MALE STER.........07 PERIODIC ABST.....08 WITHDRAWAL........09 PROLONGED ABST....10 OTHER ________.11 (SPECIFY)	PILL..........01 IUD...........02 INJECTIONS....03 DPHM/FOAM/JLY.04 CONDOM........05 MALE STER.....07 PERIODIC ABST.08 WITHDRAWAL....09 PROLONGD ABST.10 OTHER ______11 (SPECIFY)	PILL..........01 IUD...........02 INJECTIONS....03 DPHM/FOAM/JLY.04 CONDOM........05 MALE STER.....07 PERIODIC ABST.08 WITHDRAWAL....09 PROLONGD ABST.10 OTHER ______11 (SPECIFY)	PILL..........01 IUD...........02 INJECTIONS....03 DPHM/FOAM/JLY.04 CONDOM........05 MALE STER.....07 PERIODIC ABST.08 WITHDRAWAL....09 PROLONGD ABST.10 OTHER ______11 (SPECIFY)	PILL..........01 IUD...........02 INJECTIONS....03 DPHM/FOAM/JLY.04 CONDOM........05 MALE STER.....07 PERIODIC ABST.08 WITHDRAWAL....09 PROLONGD ABST.10 OTHER ______11 (SPECIFY)
343 For how long had you used (LAST METHOD) then?	DURATION MONTHS........☐☐ YEARS.........☐☐	DURATION MONTHS....☐☐ YEARS.....☐☐	DURATION MONTHS....☐☐ YEARS.....☐☐	DURATION MONTHS....☐☐ YEARS.....☐☐	DURATION MONTHS....☐☐ YEARS.....☐☐
344 Did you become pregnant while you were using (LAST METHOD)?	YES................1 (SKIP TO 347) NO.................2	YES............1 (SKIP TO 347) NO.............2	YES............1 (SKIP TO 347) NO.............2	YES............1 (SKIP TO 347) NO.............2	YES............1 (SKIP TO 347) NO.............2
345 What was the main reason you stopped using (LAST METHOD)?	TO GET PREGNANT...01 (GO TO NEXT COLUMN) METHOD FAILED.....02 HUSB DISAPPROVED..03 HEALTH CONCERNS...04 ACCESS/AVAIL......05 COST TOO MUCH.....06 INCONVEN TO USE...07 INFREQUENT SEX....08 FATALISTIC........10 OTHER ________.11 (SPECIFY) DK................98	TO GET PREG...01 (GO TO NEXT COL) METH FAILED...02 HUSB DISAPRVD.03 HLTH CONCERNS.04 ACCESS/AVAIL..05 COST TOO MUCH.06 INCONVENIENT..07 INFREQ SEX....08 FATALISTIC....10 OTHER ______.11 (SPECIFY) DK............98	TO GET PREG...01 (GO TO NEXT COL) METH FAILED...02 HUSB DISAPRVD.03 HLTH CONCERNS.04 ACCESS/AVAIL..05 COST TOO MUCH.06 INCONVENIENT..07 INFREQ SEX....08 FATALISTIC....10 OTHER ______.11 (SPECIFY) DK............98	TO GET PREG...01 (GO TO NEXT COL) METH FAILED...02 HUSB DISAPRVD.03 HLTH CONCERNS.04 ACCESS/AVAIL..05 COST TOO MUCH.06 INCONVENIENT..07 INFREQ SEX....08 FATALISTIC....10 OTHER ______.11 (SPECIFY) DK............98	TO GET PREG...01 (GO TO 401) METH FAILED...02 HUSB DISAPRVD.03 HLTH CONCERNS.04 ACCESS/AVAIL..05 COST TOO MUCH.06 INCONVENIENT..07 INFREQ SEX....08 FATALISTIC....10 OTHER ______.11 (SPECIFY) DK............98
346 At the time you became pregnant (with NAME), did you want to have that child then, did you want to wait until later, or did you want no (more) children at all?	THEN...............1 LATER..............2 NO MORE............3 (ALL GO TO NEXT COL)	THEN...........1 LATER..........2 NO MORE........3 (ALL TO NEXT COL)	THEN...........1 LATER..........2 NO MORE........3 (ALL TO NEXT COL)	THEN...........1 LATER..........2 NO MORE........3 (ALL TO NEXT COL)	THEN...........1 LATER..........2 NO MORE........3 (ALL GO TO 401)
347 Did you want to have that child but at a later time, or not have another child at all?	HAVE CHILD LATER...1 NOT HAVE CHILD.....2 (ALL GO TO NEXT COL)	HAVE LATER.....1 NOT HAVE CHILD.2 (ALL TO NEXT COL)	HAVE LATER.....1 NOT HAVE CHILD.2 (ALL TO NEXT COL)	HAVE LATER.....1 NOT HAVE CHILD.2 (ALL TO NEXT COL)	HAVE LATER.....1 NOT HAVE CHILD.2 (ALL GO TO 401)

3.7

401 LOOK AT 214:
ONE OR MORE LIVE BIRTHS SINCE JAN. 1983 [ ] | NO LIVE BIRTHS SINCE JAN. 1983 [ ] → (SKIP TO 442)

402 ENTER THE NAME, LINE NUMBER, AND SURVIVAL STATUS OF EACH BIRTH SINCE JAN. 1983 IN THE TABLE. BEGIN WITH THE LAST BIRTH. ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS.

LINE NUMBER FROM Q. 212	[ ][ ]	[ ][ ]	[ ][ ]	[ ][ ]
	LAST BIRTH NAME ______ ALIVE [ ] DEAD [ ]	NEXT-TO-LAST BIRTH NAME ______ ALIVE [ ] DEAD [ ]	SECOND-FROM-LAST NAME ______ ALIVE [ ] DEAD [ ]	THIRD-FROM-LAST NAME ______ ALIVE [ ] DEAD [ ]
403 When you were pregnant with (NAME) were you given any injection to prevent the baby from getting tetanus, that is, convulsions after birth?	YES...............1 NO................2 DK................8	YES...............1 NO................2 DK................8	YES...............1 NO................2 DK................8	YES...............1 NO................2 DK................8
404 When you were pregnant with (NAME), did you see anyone for a check on this pregnancy? IF YES: Whom did you see? PROBE FOR THE TYPE OF PERSON AND RECORD THE MOST QUALIFIED.	MEDICAL DOCTOR....1 TRAINED NURSE/ MIDWIFE..........2 TRADITIONAL DOCTOR...........3 TRADITIONAL BIRTH ATTENDANT........4 OTHER ________.5 (SPECIFY) NO ONE 6	MEDICAL DOCTOR....1 TRAINED NURSE/ MIDWIFE..........2 TRADITIONAL DOCTOR...........3 TRADITIONAL BIRTH ATTENDANT........4 OTHER ________.5 (SPECIFY) NO ONE 6	MEDICAL DOCTOR....1 TRAINED NURSE/ MIDWIFE..........2 TRADITIONAL DOCTOR...........3 TRADITIONAL BIRTH ATTENDANT........4 OTHER ________.5 (SPECIFY) NO ONE 6	MEDICAL DOCTOR....1 TRAINED NURSE/ MIDWIFE..........2 TRADITIONAL DOCTOR...........3 TRADITIONAL BIRTH ATTENDANT........4 OTHER ________.5 (SPECIFY) NO ONE 6
405 Who assisted with the delivery of (NAME)? PROBE FOR THE TYPE OF PERSON AND RECORD THE MOST QUALIFIED.	MEDICAL DOCTOR....1 TRAINED NURSE/ MIDWIFE..........2 TRADITIONAL DOCTOR...........3 TRADITIONAL BIRTH ATTENDANT........4 RELATIVE/FRIEND...5 OTHER ________.6 (SPECIFY) NO ONE............7	MEDICAL DOCTOR....1 TRAINED NURSE/ MIDWIFE..........2 TRADITIONAL DOCTOR...........3 TRADITIONAL BIRTH ATTENDANT........4 RELATIVE/FRIEND...5 OTHER ________.6 (SPECIFY) NO ONE............7	MEDICAL DOCTOR....1 TRAINED NURSE/ MIDWIFE..........2 TRADITIONAL DOCTOR...........3 TRADITIONAL BIRTH ATTENDANT........4 RELATIVE/FRIEND...5 OTHER ________.6 (SPECIFY) NO ONE............7	MEDICAL DOCTOR....1 TRAINED NURSE/ MIDWIFE..........2 TRADITIONAL DOCTOR...........3 TRADITIONAL BIRTH ATTENDANT........4 RELATIVE/FRIEND...5 OTHER ________.6 (SPECIFY) NO ONE............7
406 After the birth of (NAME), did you see anyone for a checkup? IF YES: Whom did you see? PROBE FOR THE TYPE OF PERSON AND RECORD THE MOST QUALIFIED.	MEDICAL DOCTOR....1 TRAINED NURSE/ MIDWIFE..........2 TRADITIONAL DOCTOR...........3 TRADITIONAL BIRTH ATTENDANT........4 OTHER ________.5 (SPECIFY) NO ONE 6	MEDICAL DOCTOR....1 TRAINED NURSE/ MIDWIFE..........2 TRADITIONAL DOCTOR...........3 TRADITIONAL BIRTH ATTENDANT........4 OTHER ________.5 (SPECIFY) NO ONE 6	MEDICAL DOCTOR....1 TRAINED NURSE/ MIDWIFE..........2 NO ONE............6 TRADITIONAL BIRTH ATTENDANT........3 OTHER ________.4 (SPECIFY) NO ONE............5	MEDICAL DOCTOR....1 TRAINED NURSE/ MIDWIFE..........2 TRADITIONAL DOCTOR...........3 TRADITIONAL BIRTH ATTENDANT........4 OTHER ________.5 (SPECIFY) NO ONE 6
407 In the first week after the birth, were you visited, in your home, by a health worker?	YES...............1 NO................2 DK................8	YES...............1 NO................2 DK................8	YES...............1 NO................2 DK................8	YES...............1 NO................2 DK................8
408 Did you ever feed (NAME) at the breast?	YES...............1 (SKIP TO 410) NO................2	YES...............1 (SKIP TO 411) NO................2	YES...............1 (SKIP TO 411) NO................2	YES...............1 (SKIP TO 411) NO................2
409 Why did you never feed (NAME) at the breast?	INCONVENIENT.....01 HAD TO WORK......02 INSUFFICNT MILK..03 BABY REFUSED.....04 CHILD DIED.......05 CHILD SICK.......06 MOTHER SICK......07 OTHER ________.08 (SPECIFY) (ALL SKIP TO 413)	INCONVENIENT.....01 HAD TO WORK......02 INSUFFICNT MILK..03 BABY REFUSED.....04 CHILD DIED.......05 CHILD SICK.......06 MOTHER SICK......07 OTHER ________.08 (SPECIFY) (ALL SKIP TO 413)	INCONVENIENT.....01 HAD TO WORK......02 INSUFFICNT MILK..03 BABY REFUSED.....04 CHILD DIED.......05 CHILD SICK.......06 MOTHER SICK......07 OTHER ________.08 (SPECIFY) (ALL SKIP TO 413)	INCONVENIENT.....01 HAD TO WORK......02 INSUFFICNT MILK..03 BABY REFUSED.....04 CHILD DIED.......05 CHILD SICK.......06 MOTHER SICK......07 OTHER ________.08 (SPECIFY) (ALL SKIP TO 413)
410 Are you still breast-feeding (NAME)? (IF DEAD, CIRCLE '2')	YES...............1 (SKIP TO 413) NO (OR DEAD)......2			

LINE NUMBER FROM Q. 212	[ ][ ]	[ ][ ]	[ ][ ]	[ ][ ]
	LAST BIRTH NAME ______ ALIVE [ ] DEAD [ ]	NEXT-TO-LAST BIRTH NAME ______ ALIVE [ ] DEAD [ ]	SECOND-FROM-LAST NAME ______ ALIVE [ ] DEAD [ ]	THIRD-FROM-LAST NAME ______ ALIVE [ ] DEAD [ ]
411 How many months did you breastfeed (NAME)?	MONTHS....... [ ][ ] UNTIL DEATH......96 (SKIP TO 413)	MONTHS....... [ ][ ] UNTIL DEATH......96 (SKIP TO 413)	MONTHS....... [ ][ ] UNTIL DEATH......96 (SKIP TO 413)	MONTHS....... [ ][ ] UNTIL DEATH......96 (SKIP TO 413)
412 Why did you stop breastfeeding (NAME)?	INCONVENIENT.....01 HAD TO WORK......02 INSUFFICNT MILK..03 BABY REFUSED.....04 CHILD DIED.......05 CHILD SICK.......06 CH HAD DIARRHEA..07 CH WEANING AGE...08 BECAME PREGNANT..09 MOTHER SICK......10 OTHER________.11 (SPECIFY)	INCONVENIENT.....01 HAD TO WORK......02 INSUFFICNT MILK..03 BABY REFUSED.....04 CHILD DIED.......05 CHILD SICK.......06 CH HAD DIARRHEA..07 CH WEANING AGE...08 BECAME PREGNANT..09 MOTHER SICK......10 OTHER________.11 (SPECIFY)	INCONVENIENT.....01 HAD TO WORK......02 INSUFFICNT MILK..03 BABY REFUSED.....04 CHILD DIED.......05 CHILD SICK.......06 CH HAD DIARRHEA..07 CH WEANING AGE...08 BECAME PREGNANT..09 MOTHER SICK......10 OTHER________.11 (SPECIFY)	INCONVENIENT.....01 HAD TO WORK......02 INSUFFICNT MILK..03 BABY REFUSED.....04 CHILD DIED.......05 CHILD SICK.......06 CH HAD DIARRHEA..07 CH WEANING AGE...08 BECAME PREGNANT..09 MOTHER SICK......10 OTHER________.11 (SPECIFY)
413 How many months after the birth of (NAME) did your period return?	MONTHS....... [ ][ ] NOT RETURNED.....96	MONTHS....... [ ][ ] NEVER RETURNED...96	MONTHS....... [ ][ ] NEVER RETURNED...96	MONTHS....... [ ][ ] NEVER RETURNED...96
414 Have you resumed sexual relations since the birth of (NAME)?	YES (OR PREGN.)...1 NO................2 (GO TO NEXT COL)			
415 How many months after the birth of (NAME) did you resume sexual relations?	MONTHS....... [ ][ ] (GO TO NEXT COLUMN)	MONTHS....... [ ][ ] (GO TO NEXT COLUMN)	MONTHS....... [ ][ ] (GO TO NEXT COLUMN)	MONTHS....... [ ][ ] (GO TO 416)

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
416	LOOK AT 410 FOR LAST BIRTH: LAST CHILD STILL BREASTFED [ ] ↓ ALL OTHERS [ ]		>422
417	How many times did you breastfeed last night between sundown and sunrise?	NUMBER OF TIMES............ [ ][ ] CHILD SLEEPS AT BREAST.........96	
418	How many times did you breastfeed yesterday during the daylight hours?	NUMBER OF TIMES............ [ ][ ]	
419	At any time yesterday or last night, was (NAME OF LAST CHILD) given any of the following: Plain water? Juice? Powdered milk? Cow's or goat's milk? Any other liquid? Any solid or mushy food?	YES NO PLAIN WATER................1 2 JUICE......................1 2 POWDERED MILK..............1 2 COW'S OR GOAT'S MILK.......1 2 ANY OTHER LIQUID (SPECIFY)______________.1 2 ANY SOLID OR MUSHY FOOD....1 2	
420	LOOK AT 419: WAS GIVEN FOOD OR LIQUID [ ] ↓ NO FOOD OR LIQUID GIVEN [ ]		>422
421	Were any of these given in a bottle with a nipple?	YES............................1 NO.............................2	

422 ENTER THE NAME, LINE NUMBER, AND SURVIVAL STATUS OF EACH BIRTH SINCE JAN. 1983 BELOW. BEGIN WITH THE LAST BIRTH. THE HEADINGS IN THE TABLE SHOULD BE EXACTLY THE SAME AS THOSE AFTER Q. 402. ASK THE QUESTIONS ONLY FOR LIVING CHILDREN.

LINE NUMBER FROM Q. 212	☐☐	☐☐	☐☐	☐☐
	LAST BIRTH NAME ____________ ALIVE ☐ DEAD ☐ →	NEXT-TO-LAST BIRTH NAME ____________ ALIVE ☐ DEAD ☐ →	SECOND-FROM-LAST NAME ____________ ALIVE ☐ DEAD ☐ →	THIRD-FROM-LAST NAME ____________ ALIVE ☐ DEAD ☐ (GO TO 440)
423 LOOK AT Q218	LIVING WITH MOTHER ☐ (SKIP TO 425) LIVING ELSEWHERE ☐	LIVING WITH MOTHER ☐ (SKIP TO 425) LIVING ELSEWHERE ☐	LIVING WITH MOTHER ☐ (SKIP TO 425) LIVING ELSEWHERE ☐	LIVING WITH MOTHER ☐ (SKIP TO 425) LIVING ELSEWHERE ☐
424 With whom is your child currently living?	FATHER..............1 MOTHER'S PARENTS....2 FATHER'S PARENTS....3 OTHER RELATIVES.....4 OTHER__________.5 (SPECIFY) DK..................8	FATHER..............1 MOTHER'S PARENTS....2 FATHER'S PARENTS....3 OTHER RELATIVES.....4 OTHER__________.5 (SPECIFY) DK..................8	FATHER..............1 MOTHER'S PARENTS....2 FATHER'S PARENTS....3 OTHER RELATIVES.....4 OTHER__________.5 (SPECIFY) DK..................8	FATHER..............1 MOTHER'S PARENTS....2 FATHER'S PARENTS....3 OTHER RELATIVES.....4 OTHER__________.5 (SPECIFY) DK..................8
425 Do you have a health card for (NAME)? IF YES: May I see it, please?	YES, SEEN...........1 YES, NOT SEEN.......2 (SKIP TO 427) NO CARD.............3	YES, SEEN...........1 YES, NOT SEEN.......2 (SKIP TO 427) NO CARD.............3	YES, SEEN...........1 YES, NOT SEEN.......2 (SKIP TO 427) NO CARD.............3	YES, SEEN...........1 YES, NOT SEEN.......2 (SKIP TO 427) NO CARD.............3
426 RECORD DATES OF IMMUNIZATIONS FROM HEALTH CARD.	NOT RECORDED / DA MO YR (SKIP TO 428)	NOT RECORDED / DA MO YR (SKIP TO 428)	NOT RECORDED / DA MO YR (SKIP TO 428)	NOT RECORDED / DA MO YR (SKIP TO 428)
427 Has (NAME) ever had a vaccination to prevent him/her from getting diseases?	YES.................1 NO..................2 DK..................8	YES.................1 NO..................2 DK..................8	YES.................1 NO..................2 DK..................8	YES.................1 NO..................2 DK..................8
428 Has (NAME) had diarrhea in the last 24 hours?	YES.................1 (SKIP TO 430) NO..................2 DK..................8	YES.................1 (SKIP TO 430) NO..................2 DK..................8	YES.................1 (SKIP TO 430) NO..................2 DK..................8	YES.................1 (SKIP TO 430) NO..................2 DK..................8
429 Has (NAME) had diarrhea in the last two weeks?	YES.................1 (SKIP TO 430) NO..................2 DK..................8 (GO TO NEXT COL)	YES.................1 (SKIP TO 430) NO..................2 DK..................8 (GO TO NEXT COL)	YES.................1 (SKIP TO 430) NO..................2 DK..................8 (GO TO NEXT COL)	YES.................1 (SKIP TO 430) NO..................2 DK..................8 (SKIP TO 440)

426 immunization dates (each column: NOT RECORDED code, then DA / MO / YR boxes):

	LAST BIRTH	NEXT-TO-LAST BIRTH	SECOND-FROM-LAST	THIRD-FROM-LAST
BCG 1	1	1	1	1
BCG 2	1	1	1	1
DPT 1	1	1	1	1
DPT 2	1	1	1	1
DPT 3	1	1	1	1
DPT BSTR	1	1	1	1
DPT BSTR	1	1	1	1
POLIO 1	1	1	1	1
POLIO 2	1	1	1	1
POLIO 3	1	1	1	1
POLIO BSTR	1	1	1	1
POLIO BSTR	1	1	1	1
MEASLES	1	1	1	1

LINE NUMBER FROM Q. 212	[ ][ ]	[ ][ ]	[ ][ ]	[ ][ ]
	LAST BIRTH NAME______ ALIVE [ ] DEAD [ ]	NEXT-TO-LAST BIRTH NAME______ >ALIVE [ ] DEAD [ ]	SECOND-FROM-LAST NAME______ >ALIVE [ ] DEAD [ ]	THIRD-FROM-LAST NAME______ >ALIVE [ ] DEAD [ ]
430 Now I have some questions about (NAME's) last episode of diarrhea. How many days ago did the diarrhea start?	DAYS..........[ ][ ] DK................98	DAYS..........[ ][ ] DK................98 (SKIP TO 433)	DAYS..........[ ][ ] DK................98 (SKIP TO 433)	DAYS..........[ ][ ] DK................98 (SKIP TO 433)
431 LOOK AT 410: LAST CHILD STILL BREASTFED?	YES [ ] NO [ ] (SKIP TO 433)			
432 Did you breastfeed (NAME) when he/she had diarrhea then?	YES................1 NO.................2			
433 When (NAME) had diarrhea then, was he/she given more, less, or the same amount to drink as before the diarrhea?	MORE...............1 LESS...............2 SAME...............3 DK.................8	MORE...............1 LESS...............2 SAME...............3 DK.................8	MORE...............1 LESS...............2 SAME...............3 DK.................8	MORE...............1 LESS...............2 SAME...............3 DK.................8
434 Was (NAME) given more, less, or the same amount of solid food as was given before he/she had diarrhea?	MORE...............1 LESS...............2 SAME...............3 SOLID FOODS NOT YET GIVEN............4 DK.................8	MORE...............1 LESS...............2 SAME...............3 DK.................8	MORE...............1 LESS...............2 SAME...............3 DK.................8	MORE...............1 LESS...............2 SAME...............3 DK.................8
435 Was (NAME) given either a home solution of sugar, salt, and water to drink, or a solution made from a special packet? IF YES: Which?	HOME SOLUTION OF SALT, SUGAR, WATER.1 ORS PACKET SOLUTION.2 BOTH GIVEN..........3 NEITHER GIVEN.......4 (SKIP TO 438)	HOME SOLUTION OF SALT, SUGAR, WATER.1 ORS PACKET SOLUTION.2 BOTH GIVEN..........3 NEITHER GIVEN.......4 (SKIP TO 438)	HOME SOLUTION OF SALT, SUGAR, WATER.1 ORS PACKET SOLUTION.2 BOTH GIVEN..........3 NEITHER GIVEN.......4 (SKIP TO 438)	HOME SOLUTION OF SALT, SUGAR, WATER.1 ORS PACKET SOLUTION.2 BOTH GIVEN..........3 NEITHER GIVEN.......4 (SKIP TO 438)
436 How much of the (home solution/special packet) was (NAME) given every 24 hours?	1\2 LITER..........1 1 LITER............2 1 1\2 LITERS.......3 2 LITERS...........4 OTHER__________.5 (SPECIFY) DK.................8	1\2 LITER..........1 1 LITER............2 1 1\2 LITERS.......3 2 LITERS...........4 OTHER__________.5 (SPECIFY) DK.................8	1\2 LITER..........1 1 LITER............2 1 1\2 LITERS.......3 2 LITERS...........4 OTHER__________.5 (SPECIFY) DK.................8	1\2 LITER..........1 1 LITER............2 1 1\2 LITERS.......3 2 LITERS...........4 OTHER__________.5 (SPECIFY) DK.................8
437 For how many days was (NAME) given (home solution/ special packet)?	DAYS..........[ ][ ] DK................98	DAYS..........[ ][ ] DK................98	DAYS..........[ ][ ] DK................98	DAYS..........[ ][ ] DK................98
438 Was (NAME) treated anywhere during the last episode of diarrhea? IF YES: Where was he/she taken (the last time)?	GOV'T HEALTH POST...1 GOV'T CLINIC........2 GOV'T HOSPITAL/ HEALTH CENTRE..3 PRIVATE DOCTOR/ CLINIC...4 TRADITIONAL DOCTOR..5 OTHER__________.6 (SPECIFY) CHILD NOT TAKEN.....7 DK.................8	GOV'T HEALTH POST...1 GOV'T CLINIC........2 GOV'T HOSPITAL/ HEALTH CENTRE..3 PRIVATE DOCTOR/ CLINIC...4 TRADITIONAL DOCTOR..5 OTHER__________.6 (SPECIFY) CHILD NOT TAKEN.....7 DK.................8	GOV'T HEALTH POST...1 GOV'T CLINIC........2 GOV'T HOSPITAL/ HEALTH CENTRE..3 PRIVATE DOCTOR/ CLINIC...4 TRADITIONAL DOCTOR..5 OTHER__________.6 (SPECIFY) CHILD NOT TAKEN.....7 DK.................8	GOV'T HEALTH POST...1 GOV'T CLINIC........2 GOV'T HOSPITAL/ HEALTH CENTRE..3 PRIVATE DOCTOR/ CLINIC...4 TRADITIONAL DOCTOR..5 OTHER__________.6 (SPECIFY) CHILD NOT TAKEN.....7 DK.................8
439 Was there anything (else) you or someone did to treat the diarrhea (the last time) CIRCLE ALL TREATMENTS MENTIONED.	INJECTION..........1 IV (INTRAVENOUS)....1 TABLETS OR PILLS....1 SYRUPS.............1 ORS................1 OTHER__________.1 (SPECIFY) NOTHING GIVEN.......1 (ALL GO TO NEXT COL)	INJECTION..........1 IV (INTRAVENOUS)....1 TABLETS OR PILLS....1 SYRUPS.............1 ORS................1 OTHER__________.1 (SPECIFY) NOTHING GIVEN.......1 (ALL GO TO NEXT COL)	INJECTION..........1 IV (INTRAVENOUS)....1 TABLETS OR PILLS....1 SYRUPS.............1 ORS................1 OTHER__________.1 (SPECIFY) NOTHING GIVEN.......1 (ALL GO TO NEXT COL)	INJECTION..........1 IV (INTRAVENOUS)....1 TABLETS OR PILLS....1 SYRUPS.............1 ORS................1 OTHER__________.1 (SPECIFY) NOTHING GIVEN.......1 (ALL GO TO 440)

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
440	LOOK AT 435: IF ANY 1 OR 3 IS CIRCLED ☐ ALL OTHERS ☐		→441A
441	Where did you learn how to prepare the sugar, salt and water solution given to (NAME)?	GOVERNMENT HEALTH POST.....1 GOVERNMENT CLINIC.....2 GOV'T HOSPITAL/HEALTH CENTRE....3 PRIVATE DOCTOR/CLINIC.....4 OTHER_____.5 (SPECIFY) DK.....8	
441A	LOOK AT 435: ALL OTHERS ☐ IF ANY 2 OR 3 IS CIRCLED ☐		→444
442	Have you ever heard of a special product called (LOCAL NAME) you can get for the treatment of diarrhea?	YES.....1 NO.....2	→452
443	Have you ever prepared one of these (LOCAL NAME) packets for yourself or someone else?	YES.....1 NO.....2	→452
444	Did you use one whole packet when you prepared the solution the last time? IF NO: How much did you use?	LESS THAN ONE PACKET.....1 MORE THAN ONE PACKET.....2 ONE PACKET.....3 OTHER_____.4 (SPECIFY) DK.....8	
445	How much water did you use to prepare the solution (the last time)?	1\2 LITER.....1 1 LITER.....2 1 1\2 LITERS.....3 2 LITERS.....4 OTHER_____.5 (SPECIFY) DK.....8	
446	Did you use boiled water or other water to prepare the packet (the last time)?	BOILED WATER.....1 OTHER_____.2 (SPECIFY) DK.....8	
447	In what kind of container did you prepare the mixture of the packet and the water?	COOKING POT.....1 EARTHEN JAR.....2 EMPTY BOTTLE.....3 BASIN.....4 OTHER_____.5 (SPECIFY)	
448	Did you prepare a new mixture every day or did you use the same mixture for more than one day?	NEW MIXTURE EACH DAY.....1 USE SAME FOR MORE THAN 1 DAY....2 OTHER_____.3 (SPECIFY)	
449	Where can you get these packets? PROBE: Anywhere else? CIRCLE ALL PLACES MENTIONED.	GOVERNMENT HEALTH POST.....1 GOVERNMENT CLINIC.....1 GOV'T HOSPITAL/HEALTH CENTRE....1 PRIVATE DOCTOR/CLINIC.....1 PHARMACY.....1 OTHER_____.1 (SPECIFY) DK..... 1	
450	Do you have one of these packets in your house now?	YES.....1 NO.....2	→452
451	May I see the packet?	SHOWS PACKET.....1 DOES NOT SHOW PACKET.....2	

452 ENTER THE NAME, LINE NUMBER, AND SURVIVAL STATUS OF EACH BIRTH SINCE JAN. 1983 BELOW. BEGIN WITH THE LAST BIRTH. THE HEADINGS IN THE TABLE SHOULD BE EXACTLY THE SAME AS THOSE AFTER Q. 423.
ASK THE QUESTIONS ONLY FOR LIVING CHILDREN. IF NO CHILDREN SINCE JAN. 1983, SKIP TO 501.

LINE NUMBER FROM Q. 212	☐☐	☐☐	☐☐	☐☐
	LAST BIRTH NAME____ ALIVE ☐ DEAD ☐ →	NEXT-TO-LAST BIRTH NAME____ ALIVE ☐ DEAD ☐ →	SECOND-FROM-LAST NAME____ ALIVE ☐ DEAD ☐ →	THIRD-FROM-LAST NAME____ ALIVE ☐ DEAD ☐ (GO TO 501)
453 Has (NAME) suffered from severe cough or difficult or rapid breathing in the last four weeks?	YES....1 NO....2 (GO TO 456) ← DK....8	YES....1 NO....2 (GO TO 456) ← DK....8	YES....1 NO....2 (GO TO 456) ← DK....8	YES....1 NO....2 (GO TO 456) ← DK....8
454 Was (NAME) taken anywhere to treat the problem? IF YES: Where was he/she taken?	GOV'T HEALTH POST...1 GOV'T CLINIC........2 GOV'T HOSPITAL/ HEALTH CLINIC..3 PRIVATE DOCTOR/ CLINIC....4 TRADITIONAL DOCTOR..5 CHILD NOT TAKEN.....6 OTHER____7 (SPECIFY) DK....8	GOV'T HEALTH POST...1 GOV'T CLINIC........2 GOV'T HOSPITAL/ HEALTH CLINIC..3 PRIVATE DOCTOR/ CLINIC....4 TRADITIONAL DOCTOR..5 CHILD NOT TAKEN.....6 OTHER____7 (SPECIFY) DK....8	GOV'T HEALTH POST...1 GOV'T CLINIC........2 GOV'T HOSPITAL/ HEALTH CLINIC..3 PRIVATE DOCTOR/ CLINIC....4 TRADITIONAL DOCTOR..5 CHILD NOT TAKEN.....6 OTHER____7 (SPECIFY) DK....8	GOV'T HEALTH POST...1 GOV'T CLINIC........2 GOV'T HOSPITAL/ HEALTH CLINIC..3 PRIVATE DOCTOR/ CLINIC....4 TRADITIONAL DOCTOR..5 CHILD NOT TAKEN.....6 OTHER____7 (SPECIFY) DK....8
455 Was there anything (else) you or somebody did to treat the problem? IF YES: What was done? CIRCLE CODE 1 FOR ALL MENTIONED.	ANTIBIOTICS.........1 LIQUID OR SYRUP.....1 ASPIRIN.............1 INJECTION...........1 OTHER ____.1 (SPECIFY) NOTHING.............1	ANTIBIOTICS.........1 LIQUID OR SYRUP.....1 ASPIRIN.............1 INJECTION...........1 OTHER ____.1 (SPECIFY) NOTHING.............1	ANTIBIOTICS.........1 LIQUID OR SYRUP.....1 ASPIRIN.............1 INJECTION...........1 OTHER ____.1 (SPECIFY) NOTHING.............1	ANTIBIOTICS.........1 LIQUID OR SYRUP.....1 ASPIRIN.............1 INJECTION...........1 OTHER ____.1 (SPECIFY) NOTHING.............1
456 Has (NAME) had fever in the last four weeks?	YES....1 NO....2 (GO TO NEXT COL) ← DK....8	YES....1 NO....2 (GO TO NEXT COL) ← DK....8	YES....1 NO....2 (GO TO NEXT COL) ← DK....8	YES....1 NO....2 (SKIP TO 501) ← DK....8
457 Was (NAME) taken anywhere to treat the fever? IF YES: Where was he/she taken?	GOV'T HEALTH POST...1 GOV'T CLINIC........2 GOV'T HOSPITAL/ HEALTH CLINIC..3 PRIVATE DOCTOR/ CLINIC....4 TRADITIONAL DOCTOR..5 CHILD NOT TAKEN.....6 OTHER____7 (SPECIFY) DK....8	GOV'T HEALTH POST...1 GOV'T CLINIC........2 GOV'T HOSPITAL/ HEALTH CLINIC..3 PRIVATE DOCTOR/ CLINIC....4 TRADITIONAL DOCTOR..5 CHILD NOT TAKEN.....6 OTHER____7 (SPECIFY) DK....8	GOV'T HEALTH POST...1 GOV'T CLINIC........2 GOV'T HOSPITAL/ HEALTH CLINIC..3 PRIVATE DOCTOR/ CLINIC....4 TRADITIONAL DOCTOR..5 CHILD NOT TAKEN.....6 OTHER____7 (SPECIFY) DK....8	GOV'T HEALTH POST...1 GOV'T CLINIC........2 GOV'T HOSPITAL/ HEALTH CLINIC..3 PRIVATE DOCTOR/ CLINIC....4 TRADITIONAL DOCTOR..5 CHILD NOT TAKEN.....6 OTHER____7 (SPECIFY) DK....8
458 Was there anything (else) you or somebody did to treat the problem? IF YES: What was done? CIRCLE CODE 1 FOR ALL MENTIONED.	ANTIBIOTICS.........1 LIQUID OR SYRUP.....1 ASPIRIN.............1 INJECTION...........1 OTHER ____.1 (SPECIFY) NOTHING.............1 (ALL GO TO NEXT COL)	ANTIBIOTICS.........1 LIQUID OR SYRUP.....1 ASPIRIN.............1 INJECTION...........1 OTHER ____.1 (SPECIFY) NOTHING.............1 (ALL GO TO NEXT COL)	ANTIBIOTICS.........1 LIQUID OR SYRUP.....1 ASPIRIN.............1 INJECTION...........1 OTHER ____.1 (SPECIFY) NOTHING.............1 (ALL GO TO NEXT COL)	ANTIBIOTICS.........1 LIQUID OR SYRUP.....1 ASPIRIN.............1 INJECTION...........1 OTHER ____.1 (SPECIFY) NOTHING.............1 (ALL GO 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	→508
502	Are you now married or living with a man, or are you widowed, divorced or not now living together?	MARRIED.....1 LIVING TOGETHER.....2 WIDOWED.....3 DIVORCED.....4 NOT NOW LIVING TOGETHER.....5	→505
503	Does your husband/partner live with you or is he now living elsewhere?	LIVING WITH HER.....1 LIVING ELSEWHERE.....2	→505
504	How long has he been away? ENTER BOTH MONTHS AND YEARS.	DURATION MONTHS..... YEARS.....	
505	Have you been married or lived with a man only once, or more than once?	ONCE.....1 MORE THAN ONCE.....2	
506	In what month and year did you start living with your (first) husband or partner?	DATE MONTH..... DK.....98 YEAR..... DK YEAR.....98	→509
507	How old were you when you started living with him?	AGE.....	→509
508	Now we need some details about your sexual activity in order to get a better understanding of contraception and fertility. Have you ever had sexual intercourse?	YES.....1 NO.....2	→515
509	How old were you when you first had sexual intercourse?	AGE.....	
510	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	→515

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
511	LOOK AT 220: NOT PREGNANT OR NOT SURE ☐ ↓ CURRENTLY PREGNANT ☐		>515
512	LOOK AT 311 AND 312: NOT USING CONTRACEPTION ☐ ↓ USING CONTRACEPTION ☐		>515
513	If you were to become pregnant in the next few weeks, would you feel happy, unhappy, or would it not matter at all?	HAPPY.....1 UNHAPPY.....2 NOT MATTER AT ALL.....3	>515
514	What is the main reason that you are not using a method to avoid pregnancy?	LACK OF KNOWLEDGE.....01 OPPOSED TO FAMILY PLANNING.....02 HUSBAND DISAPPROVES.....03 OTHERS DISAPPROVE.....04 HEALTH CONCERNS.....05 DIFFICULT TO GET.....06 COSTS TOO MUCH.....07 INCONVENIENT TO USE.....08 NOT EFFECTIVE.....09 INFREQUENT SEX.....10 FATALISTIC.....11 RELIGION.....12 POSTPARTUM/BREASTFEEDING.....13 MENOPAUSAL/SUBFECUND.....14 OTHER _____ (SPECIFY) .15 DK.....98	
515	Now I have a few questions about a very different topic. Have you ever heard of an illness called AIDS?	YES.....1 NO.....2	>527
516	Please tell me all the ways that a person can get AIDS. PROBE: Any other ways? CIRCLE ALL WAYS MENTIONED.	(UNPROTECTED) SEX WITH PWA.....1 HAVING SEX WITH A PROSTITUTE....1 HAVING MANY SEX PARTNERS.....1 HOMOSEXUAL INTERCOURSE.....1 TOUCHING/CLOSE CONTACT WITH PWA.1 SHARING UTENSILS WITH PWA.....1 BLOOD TRANSFUSION.....1 DONATING BLOOD.....1 BEING BORN TO WOMAN WITH AIDS...1 INJECTION FROM DIRTY NEEDLE.....1 SHARE TOILET WITH PWA.....1 OTHER _____ (SPECIFY) .1 DK.....1	
517	How can you tell that someone has AIDS? PROBE: Any other ways? CIRCLE ALL SYMPTOMS MENTIONED.	CHILLS AND FEVER.....1 DIARRHEA.....1 SUDDEN WEIGHT LOSS.....1 SWOLLEN LYMPH GLANDS.....1 SKIN RASH.....1 LINGERING COUGH.....1 BLOOD TEST.....1 OTHER _____ (SPECIFY) .1 DK.....1	
518	Do you personally know someone who has AIDS or who has died of AIDS?	YES.....1 NO.....2	

5.2

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
519	Have you heard of any ways to avoid AIDS?	YES.....1 NO.....2 ⟶	>521
520	What are all the ways that you have heard of? CIRCLE `1` FOR SPONTANEOUS RESPONSES. READ OUT ALL THE WAYS NOT MENTIONED, AND CIRCLE `2` IF YES AND `8` IF NO. Limit sex partners, or be monogamous. Use condoms. Avoid shared or dirty needles. Avoid receiving blood transfusions. Avoid prostitutes. Any other ways?	YES SPONT / YES PRBD / NO LIMIT NO. OF PARTNERS..1 2 8 USE CONDOMS.....1 2 8 AVOID NEEDLES.....1 2 8 AVOID BLOOD TRANS.....1 2 8 AVOID PROSTITUTES.....1 2 8 OTHER_____.1 2 8 (SPECIFY)	
521	Have you heard, seen, or read about AIDS on the Radio? Television? In the newspaper? On a pamphlet or poster? Any other ways?	YES / NO RADIO.....1 2 TELEVISION.....1 2 NEWSPAPER.....1 2 PAMPHLET/POSTER.....1 2 OTHER_____.1 2 (SPECIFY)	
522	Which persons are at high risk of getting AIDS? Woman with many sexual partners? Someone who gives blood? Classmates of a child with AIDS? Man with many sexual partners? Baby whose mother has AIDS? Person who shares food with a person with AIDS? Prostitutes? Homosexuals? You, yourself?	YES / NO / DK WOMAN.....1 2 8 BLOOD DONOR.....1 2 8 CLASSMATE.....1 2 8 MAN.....1 2 8 BABY.....1 2 8 SHARES FOOD.....1 2 8 PROSTITUTES.....1 2 8 HOMOSEXUALS.....1 2 8 RESPONDENT.....1 2 8	
524	What should a person with AIDS do for treatment? CIRCLE ALL THINGS MENTIONED PROBE: Anything else?	GO TO HOSPITAL.....1 DO NOTHING.....1 OTHER_____.1 DK.....1	
525	Is there a cure for AIDS?	YES.....1 NO.....2 DK.....8	
526	If a person has AIDS should they: Continue to go to school? Be permitted in public places? Donate blood? Be quaranteened (isolated)?	YES / NO GO TO SCHOOL.....1 2 BE IN PUBLIC.....1 2 DONATE BLOOD.....1 2 BE QUARANTEENED.....1 2	
527	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	LOOK AT 502: CURRENTLY MARRIED OR LIVING TOGETHER ALL OTHERS		>610
602	LOOK AT 220: NOT PREGNANT OR NOT SURE CURRENTLY PREGNANT		>604
603	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?	HAVE ANOTHER.....1 NO MORE.....2 SAYS SHE CAN'T GET PREGNANT.....3 UNDECIDED OR DK.....8	>605 >606
604	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 ANOTHER.....1 NO MORE.....2 SAYS SHE CAN'T GET PREGNANT.....3 UNDECIDED OR DK.....8	>606
605	How long would you like to wait from now before the birth of a (another) child? INSTRUCTION: FOR THOSE CURRENTLY PREGNANT ASK: After the birth of the child you are now expecting, how long would you like to wait before the birth of another child?	DURATION MONTHS.....1 YEARS.....2 DK.....998	
606	For how long should a couple wait before starting sexual intercourse after the birth of a baby?	DURATION MONTHS.....1 YEARS.....2 OTHER_____.996 (SPECIFY)	
607	Should a mother wait until she has completely stopped breastfeeding before starting to have sexual relations again, or doesn't it matter?	WAIT.....1 DOESN'T MATTER.....2	
608	Does your husband/partner approve or disapprove of couples using a method to avoid pregnancy?	APPROVES.....1 DISAPPROVES.....2 NOT SURE.....8	
609	How often have you talked to your husband/partner about this subject in the past year?	NEVER.....1 ONCE OR TWICE.....2 MORE OFTEN.....3	
610	Do you approve or disapprove of couples using a method to avoid pregnancy?	APPROVES.....1 DISAPPROVES.....2 NOT SURE.....8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
611	Do you approve or disapprove of premarital sexual involvement?	APPROVES.....1 DISAPPROVES.....2 NOT SURE.....8	
612	Do you approve or disapprove of the idea of providing unmarried, sexually active teenagers with contraceptive methods if they want them?	APPROVES.....1 DISAPPROVES.....2 NOT SURE.....8	
613	LOOK AT 202 AND 204: NO LIVING CHILDREN ☐ ↓ HAS LIVING CHILDREN ☐		→615
614	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)	→701
615	If you could go back to the time before you had any children and 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)	

6.2

SECTION 7. HUSBAND'S BACKGROUND

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
701	LOOK AT 501: EVER MARRIED OR LIVED WITH A MAN ☐ → ASK QUESTIONS ABOUT CURRENT OR MOST RECENT HUSBAND/PARTNER. ALL OTHERS ☐		→714
702	Now I have some questions about your (most recent) husband/partner. Did your husband/partner ever attend school?	YES.....1 NO.....2	→705
703	What was the highest grade at school he completed?	CURRENTLY IN STANDARD 1.....10 GRADE STANDARD.....1 ☐☐ FORM.....2 ☐☐ UNIVERSITY OR OTHER POST-SECONDARY INST.....3 ☐☐ DK.....98	→705
704	LOOK AT 703: GRADES 10 - 17 ☐ → GRADES 21 - 39 ☐		→706
705	Can (could) he read a letter or newspaper?	YES.....1 NO.....2	→706
705A	Can (could) he read a letter or newspaper easily or with difficulty?	EASILY.....1 WITH DIFFICULTY.....2	
706	What kind of work does (did) your husband/partner mainly do?	_____ ☐☐ _____ _____	
707	LOOK AT 706: DOES (DID) NOT WORK IN AGRICULTURE ☐ → WORKS (WORKED) IN AGRICULTURE ☐		→709
708	Does (did) he earn a regular wage or salary?	YES.....1 NO.....2 DK.....8	→711
709	Does (did) your husband/partner work mainly on his or family land, or on someone else's land?	HIS/FAMILY LAND.....1 SOMEONE ELSE'S LAND.....2	→711
710	Does (did) he work mainly for money or does (did) he work for a share of the crops?	MONEY.....1 A SHARE OF CROPS.....2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
711	Before you married /lived with your (first) husband /partner, did you yourself ever have a business of your own or did you ever work for someone else for a regular wage or payment in kind?	YES.....1 NO.....2	→713
712	When you were earning money then, did you turn most of it over to your family or did you keep most of it yourself?	FAMILY.....1 SELF.....2	
713	Since you were first married /lived with your partner, have you ever owned a business or worked for someone else for a regular wage or payment in kind?	YES.....1 NO.....2	→715 →720
714	Have you ever owned a business or worked for someone else for a regular wage or payment in kind?	YES.....1 NO.....2	→720
715	During the time when you have earned money or payment in kind, did you turn most of it over to your family or did you keep most of it yourself?	FAMILY.....1 SELF.....2	
716	Do you now own a business or work for someone else for a regular wage or payment in kind?	YES.....1 NO.....2	→720
717	What kind of work do you mainly do?	_____ _____ _____	
718	LOOK AT 217: HAS LIVING CHILDREN UNDER 15 YEARS NO LIVING CHILDREN UNDER 15 YEARS		→720
719	Who usually cares for your child(ren) while you are working?	HUSBAND.....01 WOMAN'S PARENTS.....02 HUSBAND'S PARENTS.....03 OLDER CHILDREN.....04 OTHER RELATIVES.....05 FRIENDS.....06 SERVANTS.....07 NO ONE.....08 OTHER_____...09 (SPECIFY) CHILD(REN) LIVE ELSEWHERE.....10	
720	Do you approve or disapprove of mothers with young children working outside the home?	APPROVES.....1 DISAPPROVES.....2 NOT SURE.....8	

7.2

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
721	LOOK AT 502: NOT CURRENTLY MARRIED OR LIVING TOGETHER ☐ → CURRENTLY MARRIED OR LIVING TOGETHER ☐		→725
722	LOOK AT 217: HAS LIVING CHILDREN UNDER 15 YEARS ☐ → NO LIVING CHILDREN UNDER 15 YEARS ☐		→725
723	Do you receive any support for your child(ren) from: the father of the child(ren)? your father? your mother? other of your relatives? parents of your child(ren)'s father? other relatives of your child(ren)'s father? other _____ ? (Specify)	YES NO FATHER.....1 2 RESPONDENT'S FATHER.....1 2 RESPONDENT'S MOTHER.....1 2 OTH RELATIVE OF RESPONDENT.1 2 PATERNAL GRANDPARENTS.....1 2 OTHER PATERNAL RELATIVES...1 2 OTHER.....1 2	
724	Do you presently receive child support through the Affiliation Act?	YES.....1 NO.....2	
725	PRESENCE OF OTHERS AT THIS POINT.	YES NO CHILDREN UNDER 10.....1 2 HUSBAND.....1 2 OTHER MALES.....1 2 OTHER FEMALES.....1 2	
726	RECORD THE TIME.	HOUR..... ☐☐ MINUTES..... ☐☐	

7.3

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

Person Interviewed: _____

_____

_____

Specific Questions: _____

_____

_____

Other Aspects: _____

_____

Name of Interviewer: _____ Date: _____

SUPERVISOR'S OBSERVATIONS

_____

_____

_____

_____

Name of Supervisor: _____ Date: _____

EDITOR'S OBSERVATIONS

_____

_____

_____

_____

Name of Field Editor: _____ Date: _____

Name of Keyer: _____ Date: _____

8.1

APPENDIX D

DEFINITIONS AND CONCEPTS

APPENDIX D

DEFINITIONS AND CONCEPTS

One of the objectives of CHIPS, of which the BFHS-II was a part, is to standardize concepts and definitions in household surveys carried out by the Government and ultimately those carried out by other organisations within Botswana. This appendix presents some of the key definitions and concepts used in the BFHS-II. All of the definitions are taken from the interviewer's manual. It is hoped that the inclusion of these definitions will facilitate interpretation of the BFHS-II results as well as indicate the limitations of the data for purposes of comparison.

1. Dwelling

There are two types of dwellings or plots, namely private dwellings and institutional dwellings. For purposes of the BFHS-II, institutional dwellings are outside the scope of the survey. ONLY private dwellings are selected for the BFHS-II.

A private dwelling is defined as a compound or lolwapa or a group of one or more separate structures usually surrounded by a fence, a wall or something similar, with an entrance and having eating and sleeping facilities. There shall, however, be situations which deviate slightly from this definition--the most likely being a structure or a group of structures with eating and sleeping facilities but without a fence or a wall. If such places are being used for residential purposes by private households they are considered as private dwellings. If a shop, a factory, a garage, etc. or part of such a facility is being used for residential purposes by households then such a place is considered a PRIVATE DWELLING.

Institutional dwellings/plots are those in which no households reside. Hospitals, hotels, motels, boarding schools etc.--THESE, AS MENTIONED EARLIER, ARE OUT OF THE SCOPE OF THE SURVEY.

2. Household

A household is defined as a group of one or more persons living together under the same roof or several roofs within the same dwelling--plot or lolwapa--eating from the same pot or making common provision for food and other living arrangements. There are two types of households:

(a) **One-person household** - a person who makes his/her own provision for food and other essentials for living, without living together with another person;

(b) **Multi-person household** - a group of two or more persons, related or unrelated, living together under the same roof or several roofs within the same compound or lolwapa, eating from the same pot or making common provision for food and other living arrangements. Such persons may pool their incomes and have a common budget.

3. Usual Member

This is a very difficult concept to define but it is also very important because it refines the definition of the household. According to our definition of a household, any person who shares a roof (or several roofs) in the same dwelling or lolwapa and shares a common budget with another person, is a MEMBER of that household. We are however interested in a special member of this household and this is what is referred to as a USUAL MEMBER. A usual member is a member of the household (see definition of Household) who SPENDS MOST OF HIS TIME WITH THE HOUSEHOLD. This is a very important distinction to make. The determination of most of time is for practical reasons left to the interviewer and the household. It is a concept which is being used to 'screen out' those members of the household who may be members of the household by virtue of their relationship (e.g., wife, husband, son) to the head of the household.

For example, if a man and his wife live separately from each other due to work situations and each has their own residence, each residence would be treated as a separate household.

There are also some special cases which need to be mentioned.

(a) A man who has more than one wife, and the wives living in separate dwellings or households. The question is "to which household does the man belong as a usual member?". For the reason of avoiding double counting the man belongs to only one of the two households.

(b) The school children who are living in boarding schools are to be included as members of the household even though they spent most of the time away from the household. However, children attending school away from their parents households but living with other households SHOULD NOT be included in their parents' household list of usual members. They belong to those households where they are now living.

4. Domestic Servant

Is a domestic servant or helper part of the household? The question has no simple answer. Usually a domestic helper has a separate household by him/herself. They do not contribute to the common budget of the main household and usually have their own living arrangements. Therefore, they should usually be considered as a separate household from the main household, even if they happen to live under the same roof and share all or some of the meals with the main household.

5. Head of Household

After having identified households within the selected dwelling and having established their number, the next step is to identify the head of each of the households. It is each household which defines who the head of the household is. It could be a man or a woman. Under normal circumstances children under 15 years should not be accepted as heads of

households. If a situation like that seems apparent, CONSULT WITH YOUR SUPERVISOR FIRST to help you establish circumstances about the situation. If it is finally decided that such a child is in fact the head please make notes to that effect.

6. **Visitor**

A visitor is any person who is not A USUAL MEMBER of the household and HAS SPENT THE PREVIOUS NIGHT(S) WITH THE HOUSEHOLD. It does not matter how they are related to the head or other usual members of the household.

7. **Probing for Age and Use of an Events Calendar**

If she doesn't know her age, and you couldn't get a date of birth, you will have to probe to try to estimate her age. Probing for age is time-consuming and sometimes tedious, however, it is important that you take the time to try to get the best possible information. There are several ways to probe for age:

1. Ask if she has any identification card or birth or baptismal certificate that might give her age or date of birth.

2. Ask the respondent how old she was when she got married or had her first child, and then try to estimate how long ago she got married or had her first child. For example, if she says she was 19 years old when she had her first child, and that the child is now 12 years old, she is probably 31 years old.

3. You might be able to relate her age to that of someone else in the household whose age is more reliably known.

4. Use the events calendar to try to estimate the year when she was born and subtract as outlined above.

If probing does not help in determining the respondent's age and you could not estimate a date of birth in Question 104, you will have to estimate her age. Remember, this is a last resort to be used only when all your efforts at probing have failed. Remember, you MUST fill in an answer to Question 105 (age of respondent).

8. **Married or Living Together**

"Lived with a man" means that they stayed together for some time, intending to have a lasting relationship, regardless of the formal status of the union. Casual sexual encounters should be ignored. In the questionnaire and this manual, "marriage" always refers to both formal unions and living together arrangements. For example, if a woman went to live with her boyfriend and his family, and stayed for several years, she would be considered as "living together", whether or not the couple had any children. On the other hand, if a woman had a boyfriend for a year but never lived with him, she would not be considered as ever having married or lived with him.

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