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Peru
Demographic and Health Survey
1986
Summary Report

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Dirección General de Demografía
Instituto Nacional de Estadística
Av. 28 de Julio No. 1056
Lima 1, Peru

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This report summarizes the findings of the 1986 Peru Demographic and Health Survey, conducted by the Dirección General de Demografía, Instituto Nacional de Estadística (INE). The Institute for Resource Development/Westinghouse provided funding and technical assistance. Editorial and production support for this report was provided by the IMPACT project of the Population Reference Bureau.

The Peru study 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 the Peru survey may be obtained from the Dirección General de Demografía, Instituto Nacional de Estadística, Av. 28 de Julio No. 1056, Lima 1, Peru. Information about the DHS program may be obtained by writing to: DHS, Institute for Resource Development/Westinghouse, 8850 Stanford Boulevard, Suite 4000, Columbia, MD 21045, U.S.A. (Telex 87775).

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EXECUTIVE SUMMARY

The 1986 Peru Demographic and Health Survey (ENDES) is a valuable resource for national planning and health and social programs. The survey results document some important trends since 1977:

- o Both fertility and child mortality rates have declined considerably;
- o Use of modern contraception has increased rapidly;
- o More children are being breastfed during their first year of life; and
- o More children under age 5 are being immunized.

Nevertheless, demographic and health indicators are far from optimal.

Major survey findings include:

- o Child Mortality Currently one in nine children dies before his or her fifth birthday. Among rural infants, one in 10 dies before reaching age 1.
- o Child Health Diarrhea is common among children, and few children with diarrhea are treated with oral rehydration salts, an effective and inexpensive remedy.
- o Family Size At current rates, women will have four children by the end of their reproductive years, although they consider three children to be ideal.
- o Fertility Desires Nearly two-thirds of the women in union (married or living in a consensual union) want no more children, and one in eight women would like to

delay her next birth for at least two years. Thus, three in four Peruvian women in union wish to limit or space births.

The ENDES shows that women are having fewer children than in previous years, but unwanted pregnancies are still common. Women reported that in the five-year period prior to the survey three in 10 births were unwanted; another three in 10 were wanted later.

Nearly half of the women in union are using contraception; more than one-third of contraceptive users are using rhythm. Use of modern methods is growing, and many women say they intend to use them in the future. The Ministry of Health is the leading provider of contraceptive information and services. Most women have heard radio and television broadcasts on family planning, and nearly all women interviewed said that such broadcasts were acceptable.

In regard to child survival, the ENDES reveals that child mortality levels are higher among children who:

- o Live in rural areas;
- o Live in the Sierra and Selva regions;
- o Have mothers who are under age 20 or over age 29;
- o Have mothers who have little or no education;
- o Are born less than two years after a previous birth; or
- o Are the fourth- or later-born child in their family.

Other factors which increase infant mortality include the lack of prenatal and maternity care and the small proportion of Peruvian

children who are protected against neonatal tetanus. Diarrhea also threatens children's health; mothers reported that one-third of the children under age 5 had had diarrhea in the previous two weeks. Among children under age 5 with verifiable health cards (only 36 percent of all children), about two-thirds have been immunized against at least one of the major childhood diseases, but many children have not been fully immunized. Most children

At current rates, women will have an average
of four children each, although they consider
three children to be ideal.

are breastfed; about three in four infants are breastfed during their first nine months of life. These findings underscore the need to educate the public on the importance of prenatal and maternity care, appropriate treatment for diarrhea, and full immunization against childhood diseases.

The ENDES documents steady progress in improving the lives of women and children during the past decade and points the way to further efforts needed to help couples achieve their desired family size and protect their children's health.

BACKGROUND

The 1986 Peru Demographic and Health Survey, or Encuesta Demográfica y de Salud Familiar (ENDES), provides planners and policymakers with essential information on fertility, infant and child mortality, maternal and child health care, and family planning and related factors. It was conducted by the Dirección General de Demografía of the Instituto Nacional de Estadística. A total of 4,999 women aged 15-49 were interviewed between September and December 1986 in a sample that covered 94 percent of the total population. Interviews with mothers provided health-related information for 2,861 children under age 5.

Peru's population of 20.2 million is estimated to be growing at 2.5 percent annually, a rate at which the population will double in 28 years. This rate has not changed significantly in the past 30 years because both fertility and mortality have been declining at a similar pace (see Figure 1). The birth rate has declined steadily and is estimated to be 34.3 births per 1,000 people during 1985-1990. The death rate has declined to 9.2 deaths per 1,000 people.

One of the most dramatic demographic changes in Peru has been the migration of rural residents to large urban areas. In 1940, the majority of people lived in rural areas. Today, almost seven in 10 Peruvians live in urban areas.

FERTILITY

Fertility has declined rapidly in Peru during the past decade. Fertility rates declined by 23 percent between the 1977 and 1986 surveys, from an average of 5.3 children per woman to 4.1 children (see Figure 2).

The greatest differences in fertility are among educational groups. At current fertility levels, women without any education will have twice as many children as those with secondary education (6.6 children per woman compared with 3.1), and three times as many children as women with higher education (1.9).

Fertility also varies greatly by region. Based on current fertility rates, rural women will have an average of 6.3 children, double the number that urban women will have (3.1). The lowest rate--three children per woman--is found in metropolitan Lima. Women living in the Coastal region will have an average of four or fewer children, while women living in the Sierra and Selva regions will have an average of about five and six children, respectively.

Factors Affecting Fertility

The survey findings highlight several factors that influence fertility levels and trends in Peru, including: 1) marriage patterns; 2) breastfeeding and natural infecundity following birth; 3) fertility desires; and 4) contraceptive use.

Marriage Patterns

Women who marry (or enter into a consensual union) at an early age tend to bear children sooner and give birth to more children than women who marry at a later age. One reason for the decline in fertility in Peru is that women are marrying later (see Figure 3). On average, women now aged 25-29 married and had their first birth about a year later than women now aged 40-44.

Breastfeeding and Postpartum Infecundity

Breastfeeding extends the period of natural infecundity following a birth during which a woman cannot conceive. Breastfeeding is widely practiced, and Peruvian women breastfeed for 16 months on average. Because of the long duration of breastfeeding, the period of amenorrhea (the absence of menses) following birth is long--nine months on average.

The length of time a woman breastfeeds varies according to her place of residence and education. Rural women breastfeed nearly seven months longer than urban women. Women with no education breastfeed more than seven months longer than women who have attended secondary school (see Figure 4).

Fertility Desires

While at current rates women will have more than four children on average, three children are considered the ideal family size. Fifty-four percent of the women interviewed

consider two or fewer children to be ideal; 24 percent favor three; and only 20 percent favor four or more.

The survey shows that most Peruvian women would like to limit or space births. Nearly two-thirds of all women in union want no more children; an additional 6 percent have already been

Nearly two-thirds of women in union do not
want any more children.

sterilized. Half of the women in union aged 20-24 do not want another child. About one in eight women in union would like to delay her next birth for at least two years.

Thus, three in four Peruvian women in union would like to limit or space their births. Enabling women to achieve their preferences through use of family planning would reduce the number of unwanted and mistimed births. For example, mothers report that in the five-year period prior to the survey three in 10 births were unwanted; another three in 10 were wanted later. Among women with four or more children, more than half of the births during this period were reported to be unwanted. Women with little or no education are more likely than better-educated women to have unwanted births (see Figure 5).

FAMILY PLANNING

Knowledge of Contraception

Most women in union know of at least one modern contraceptive method. Three in four women in union recognize the Pill and female sterilization. At least three in five recognize

rhythm, the IUD and injection. The least-known method is male sterilization, which only one-fourth of the women in union recognized.

Contraceptive Use

Nearly two-thirds of the women in union have used a contraceptive method at some time, and nearly half (46%) are currently using a method. Half of the women using contraception are relying on a traditional method, largely rhythm. Methods

Half of the women in union using
contraception are using traditional methods.

most used are: rhythm, IUD, Pill, and female sterilization (see Figure 6).

Contraceptive use varies considerably by region and educational level. More than twice as many urban women in union use contraception, compared with rural women (see Figure 7). More than three times as many women in union who have attended secondary school use contraception, compared with those with no education.

Since 1977, the proportion of women in union using contraception has increased nearly 50 percent, while use of modern methods has doubled. The increase in contraceptive use has been especially marked in the Sierra region, from 18 percent of women in union in 1977 to 31 percent in 1986.

Family Planning Services

Hospitals and health centers run by the Ministry of Health play a leading role in providing family planning services and information, serving two in five women using modern contraception. The MOH serves about half of the women relying on voluntary female sterilization or the Pill. Private physicians are also a major provider of the Pill, while private clinics are a second major source of female sterilization. Other sources, including other public hospitals, pharmacies, and private organizations, each serve less than 10 percent of current users. The proportion of women who may have received counseling from the public sector and then obtained the method itself from a private source such as a pharmacy is not known.

Barriers to Contraceptive Use

Concerns about Health Risks

Women who recognized a contraceptive method were asked if they had heard of any problems regarding its use. More than half of these women mentioned health problems in regard to the Pill,

**Concern about health risks, difficulty
 obtaining services, and method failure are
 the main barriers to wider contraceptive use.**

and about two in five cited such problems in regard to the IUD and injection, and one in four in regard to female sterilization.

Roughly half of the women in union who had discontinued use of the Pill, injection or IUD in the five years before the survey cited health concerns as their principal reason for discontinuation. Concern about health is also the most common reason for nonuse of contraceptives cited by women in union who do not wish to become pregnant but are not using any method of contraception (see Figure 8).

Accessibility of Services

Among non-contracepting women who do not wish to become pregnant, one in five said that they were not using contraception because they did not know a source of services, access was difficult, or the cost was prohibitive. Expanded public education and service delivery programs could increase public awareness of services and improve their accessibility.

Contraceptive Failure

More than one in three women who discontinued contraceptive use in the five years before the survey cited contraceptive failure as the main reason. The user failure rate was particularly high for the rhythm method, withdrawal and vaginal methods. More than half of the women who discontinued use of rhythm gave contraceptive failure as the reason. These findings suggest that women need information on the relative effectiveness of various methods and correct method usage. Nevertheless,

nearly three in four women relying on the rhythm method knew that the most fertile period occurs in the middle of the cycle.

Media Exposure

Nearly two-thirds of the women interviewed had heard family planning messages on either radio or television. Women with no education, rural residents, and those living in the Sierra and Selva regions were much less likely than other women to have heard the broadcasts. Nearly all (94%) of the women said that such broadcasts were acceptable.

Potential Demand for Family Planning Services

More than half of the women exposed to the risk of pregnancy but not using contraception said that they would be unhappy if

 Three in four Peruvian women in union wish to
 limit or space births.

they were to become pregnant soon. About half of them intend to use contraception in the future, mostly within the next year. Of these women, 23 percent plan to use the Pill, 29 percent plan to use other reversible modern methods, 14 percent plan to use rhythm, and 7 percent plan to obtain a sterilization.

MATERNAL AND CHILD HEALTH

Infant and child mortality rates in Peru are among the highest in Latin America. Currently one in nine children dies before his or her fifth birthday. The ENDES shows, however, that

death rates have declined significantly over the past decade, especially after the first year of life (see Figure 9).

Currently one in nine children dies before
his or her fifth birthday.

About half the deaths to children under age 1 occur in the first four weeks of life and are usually related to problems with the pregnancy or the birth. The reduction in deaths after four weeks of age is generally due to improvements in health, vaccination, and treatment of disease.

The ENDES findings highlight a number of factors that directly influence child survival:

- o Place of Residence Children living in rural areas are twice as likely to die before their fifth birthday as those living in urban areas. One in 10 rural infants dies before his or her first birthday. Infant (under age 1) and child (ages 0-5) mortality rates are particularly high in the Sierra and Selva regions.
- o Mother's Education Children born to mothers with no education are about three times as likely to die during their first year as those born to women who have attended secondary school.
- o Mother's Age Infant mortality rates among children born to mothers under age 20 or over age 29 are about 50 percent higher than those for children of mothers aged 20-29. Child mortality rates are also

considerably higher among children with mothers under age 20 and over age 29.

- o Birth Spacing For children born less than two years after a previous birth, the risk of dying before age 1 is double that of children born 2-3 years after a previous birth, and three times greater than those born four or more years later (see Figure 10).
- o Birth Order Fourth-born and higher-order children are more than twice as likely to die in their first year than first-, second- or third-born children.

Maternity Care

The care a woman receives during pregnancy can be critical to her child's chances of survival. Mothers of two in five children born in the five years prior to the survey had no prenatal care. Mothers of three in five children born in rural areas had no prenatal care, compared with mothers of one in five children in urban areas. Two-thirds of the births to women with no education had no prenatal care.

Most infants are still not protected from neonatal tetanus, a highly fatal--but preventable--disease that can strike newborns if the mother has not been immunized against tetanus and if the umbilical cord is not cut and treated in a sterile manner. Fewer than one in six mothers reported receiving at least one anti-tetanus injection during her pregnancy to protect the baby from

developing tetanus. Tetanus immunization rates are particularly low in the Sierra and Selva regions.

At the time of delivery, only half of the births in the five years prior to the survey were attended by medical personnel, including physicians and trained midwives. In rural areas, about two in five births were assisted by a traditional midwife or nurse's aide, and nearly two in five were attended by a relative or friend (see Figure 11). Women with a primary-level or no education were much less likely to be assisted by trained people than women with a secondary or higher education.

Breastfeeding and Infant Health

In addition to offering the mother some protection against another pregnancy, breastfeeding is important to child health and development. Breastmilk is the ideal source of nutrition during the first year of life and also contains antibodies that help protect the child against disease. Exclusive breastfeeding for the first 4-6 months contributes significantly to the infant's health.

Fortunately, breastfeeding is widely practiced in Peru. About three in four infants are breastfed through their first nine months of life; more than half are breastfed through their entire first year. Moreover, breastfeeding appears to be increasing. Between 1977 and 1986, the proportion of children born in the three years prior to the survey who were breastfed at

all rose slightly (from 91 to 94 percent) and the average duration rose from 13 to 16 months.

Immunization

Immunization against the six major childhood diseases--tuberculosis, diphtheria, whooping cough, tetanus, poliomyelitis and measles--is a key intervention to improve child survival rates. According to their mothers' reports, 92 percent of

Only 36 percent of the children under age 5 have verifiable health cards. According to their health cards, many children are not fully immunized.

children under age 5 have been immunized at least once. The proportion of children immunized has increased considerably during the past decade.

Unfortunately, immunization status for specific diseases could be verified only for about one-third of the children--those whose mothers could show a health card. The available data indicate that immunization status is far from optimal. Among the children with verifiable health cards, about two-thirds have been immunized against at least one disease (see Figure 12). Many children receive the first dose of a three-dose vaccine but do not complete all doses, hence are not protected. Education programs need to emphasize the importance of receiving all the necessary immunizations for all six major childhood diseases.

Childhood Diarrhea

Diarrhea is common among Peruvian children. Mothers reported that one-third of the children under age 5 had diarrhea during the two weeks preceding the interview. Of those children with diarrhea, almost 90 percent received some treatment, mainly pharmaceutical products such as antibiotics (see Figure 13).

A cause for particular concern among health professionals is the widespread use of antibiotics for treating diarrhea. Antibiotics are not only expensive but often ineffective against the majority of agents that cause diarrhea. In addition, overuse of these powerful drugs leads to the development of resistant strains of disease-causing bacteria.

Oral rehydration therapy, a highly effective and inexpensive treatment for dehydration resulting from diarrhea, is generally known, but seldom used. Although 60 percent of mothers have

 One-third of the children had diarrhea in the
 two weeks prior to the survey, yet few were
 treated with oral rehydration salts.

heard of oral rehydration salts (ORS), known as "Rescue Packets" ("Bolsitas Salvadoras"), only 4 percent of children having diarrhea in the previous two weeks were treated with ORS packets. In rural areas, knowledge of ORS is much lower than in urban areas, although usage levels are slightly higher.

The low level of ORS use may be attributed in part to withdrawal of ORS packets from the market due to the discovery of defective packets. Nearly half of the women who had heard of ORS

had also heard of problems associated with ORS packets; about half of these women had heard of several children dying because of defective packets. These findings indicate that publicity is urgently needed to restore public confidence in ORS packets.

CONCLUSIONS

The Peru Demographic and Health Survey findings document a need for expanded health and family planning services and for greater public education on these topics. Rural women and children as well as women with little or no education are particularly disadvantaged in terms of health indicators and use of health services.

Use of modern contraceptive methods is relatively low, and many women experience unwanted or unplanned pregnancy. Rhythm is the most popular contraceptive method, even though many women are concerned about its effectiveness in preventing pregnancy and many had become pregnant while using it. Many women express interest in using the Pill and other modern methods, and use is likely to increase if women's concerns about health risks are adequately addressed. In particular, the demand for permanent methods is likely to grow due to the high proportion of women in their early 20s who want no more children.

Service providers could use the survey data on contraceptive use trends to ensure that trained staff and supplies are available to meet the current and future demand for modern and traditional methods. In addition, program planners need to

develop strategies to address the barriers to wider contraceptive use: concern about health risks, contraceptive failure, lack of information about methods and services, difficult access to services, and high cost.

Such strategies could include: 1) communication programs to publicize service locations and provide accurate information on contraceptive side effects, correct use, and the relative effectiveness of various methods; 2) improvement and expansion of family planning services to increase access and reduce costs; and 3) a greater emphasis on counseling to ensure correct use and appropriate follow-up care.

In regard to maternal and child health, the ENDES documents the need for health services and public education in the following areas:

- o Prenatal care, including anti-tetanus immunization;
- o Assistance during childbirth by trained professionals, especially for high-risk births identified through prenatal screening;
- o Continued promotion of breastfeeding, particularly the importance of exclusive breastfeeding during the child's first 4-6 months of life;
- o Complete immunization of children against the six major childhood diseases; and
- o Treatment of diarrhea with oral rehydration salts.

These measures are urgently needed--especially in rural areas--in order to improve child survival rates.

The progress made during the past decade bodes well for continued improvements in maternal and child health care and family planning.

FACT SHEET

"Peru: Compendio Estadístico 1986," Instituto Nacional de Estadística, July 1987.

Population Size (millions)	20.2
Population Growth Rate (percent) ^y	2.6
Population Doubling Time (years)	28
Birth Rate (per 1000 population)	34.3
Death Rate (per 1000 population)	9.2

Peru, Demographic and Family Health Survey 1986

Sample Population

Women 15-49	4,999
Children under 5 (based on mothers' reports)	2,861

Background Characteristics

Percent urban	68.1
Percent with more than primary education ¹	51.0

Marriage and Other Fertility Determinants

Percent currently married	58.0
Percent ever-married	64.8
Median age at first marriage for women 25-49	20.5
Mean length of breastfeeding (in months) ²	16.3
Mean length of postpartum amenorrhea (in months) ²	9.1
Mean length of postpartum abstinence (in months) ²	5.9

Fertility

Total fertility rate (projected completed family size) ³	4.1
Mean number of children ever born to women 45-49	6.3
Percent of women currently in union who are pregnant	10.3

Desire for Children

Percent of women currently in union:	
Wanting no more children (excluding sterilized women)	63.9
Wanting to delay next birth at least 2 years	12.8
Mean ideal number of children for women 15-49	2.7
Percent of unwanted births ⁴	31.2
Percent of mistimed births ⁵	27.7

Knowledge and Use of Family Planning

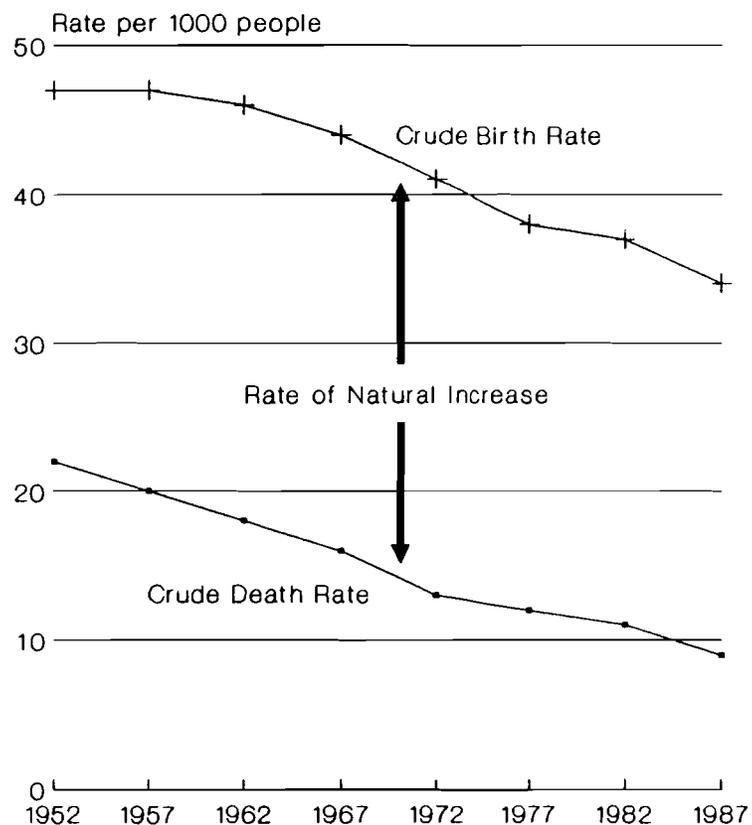
Percent of women currently in union:	
Recognizing any modern method	86.6
Of those recognizing any method, knowing a source	92.9
Ever using any method	65.1
Currently using any method	45.8
Pill	6.5
IUD	7.4
Injection	1.3
Vaginal methods	1.0
Condom	0.7
Female sterilization	6.1
Male sterilization	0.0
Rhythm	17.7
Withdrawal	3.6
Other methods	1.5
Percent of contraceptors obtaining method or advice from:	
Ministry of Health hospital/clinic	40.5
Other public hospital	6.0
Private doctor/clinic	32.0
Pharmacy/shop	4.5
Private voluntary agencies	2.5
Other	11.5

Mortality and Health

Infant mortality rate ⁶	76
Under five mortality rate ⁶	112
Percent of mothers of recent births: ⁷	
Received prenatal care during pregnancy	61.5
Immunized against tetanus during pregnancy	15.6
Assisted at delivery by doctor or trained nurse/midwife	49.1
Percent of children aged 0-1 month breastfed	83.5
Percent of children aged 4-5 months breastfed	85.1
Percent of children aged 10-11 months breastfed	67.2
Percent of children under age 5 with a health card	96.6
Percent of children under age 5 with a health card verified by interviewer	35.8
Percent of children under age 5 with verifiable health cards immunized against:	
BCG	58.9
DPT (3 doses)	65.5
Polio (3 doses)	64.7
Measles	70.9
Percent of children under age 5 with diarrhea ⁸	31.9
Percent of children with diarrhea treated with:	
Any treatment	88.5
Packets of oral rehydration salts (ORS)	3.6
Percent of mothers who have heard of ORS	61.5

- 1 6 or more years of education
- 2 Current status estimate based on births within 36 months of the survey
- 3 Based on births to women 15-49 years during the two years before the survey
- 4 Percent of births in the 12-month period before the survey which were unwanted
- 5 Percent of births in the 12-month period before the survey which were wanted later
- 6 Rates are for the five-year period preceding the survey (approximately 1982-1986)
- 7 Based on births occurring during the five years before the survey
- 8 Based on children reported by the mothers as having diarrhea during the two weeks before the survey

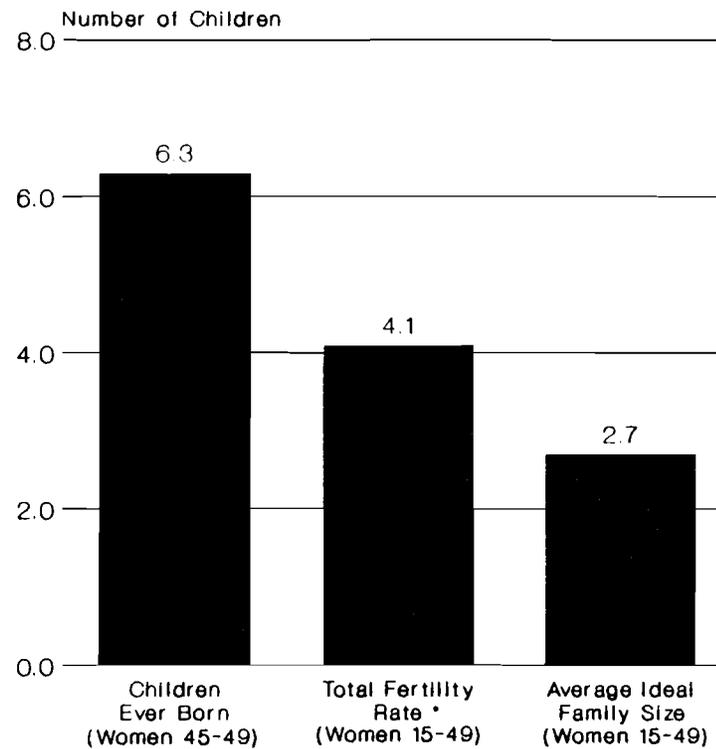
Figure 1
Demographic Trends 1950-1990*



* Years are midpoints for five-year periods

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Figure 2
Past and Current Fertility and Ideal Family Size



*Projected Completed Family Size

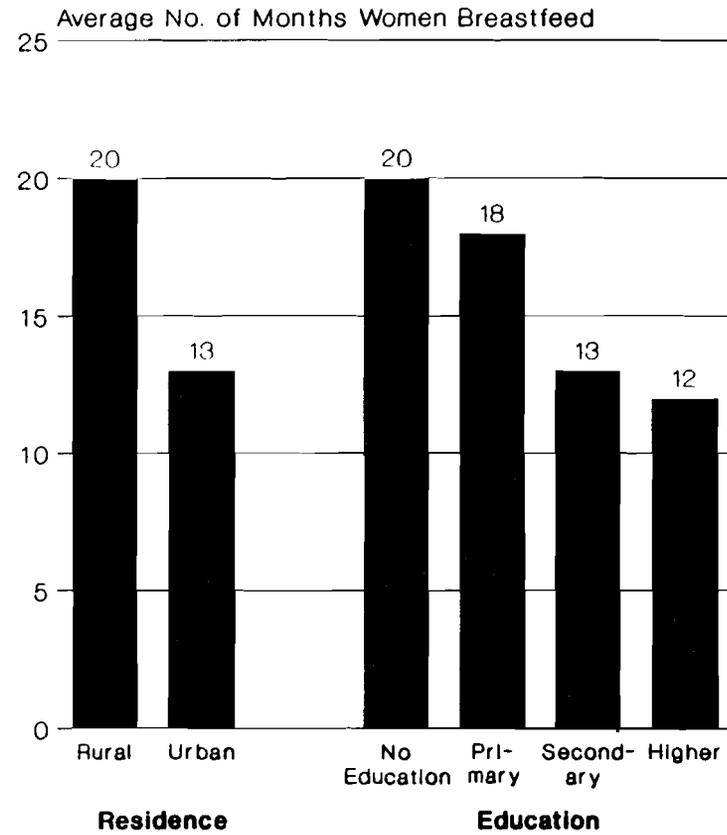
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Figure 3
Age at First Marriage



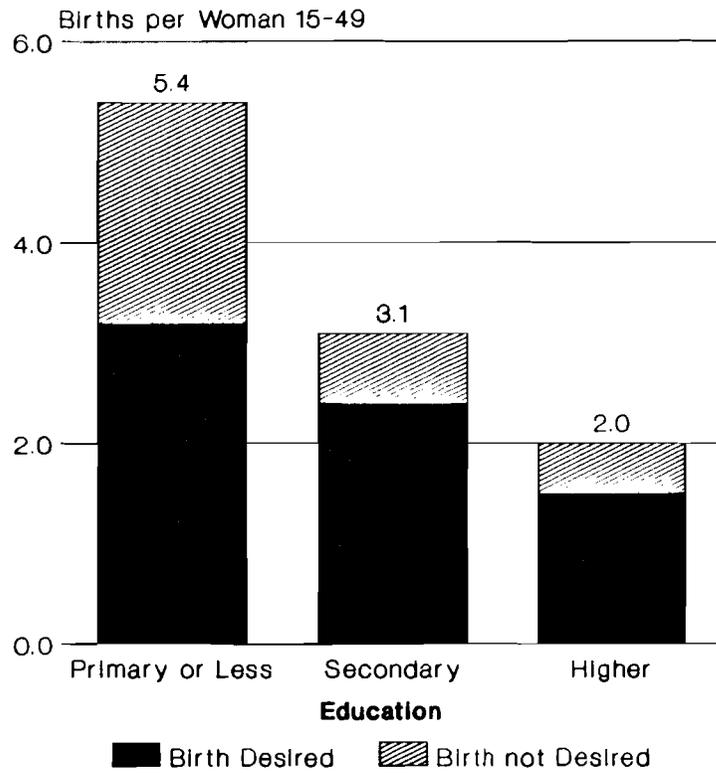
Peru ENDES 1986

Figure 4
Breastfeeding Duration



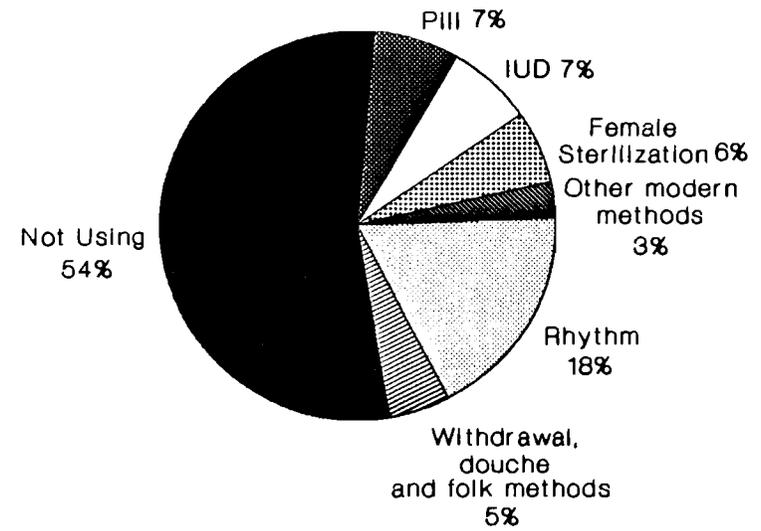
Peru ENDES 1986

Figure 5
Fertility Desires by Education



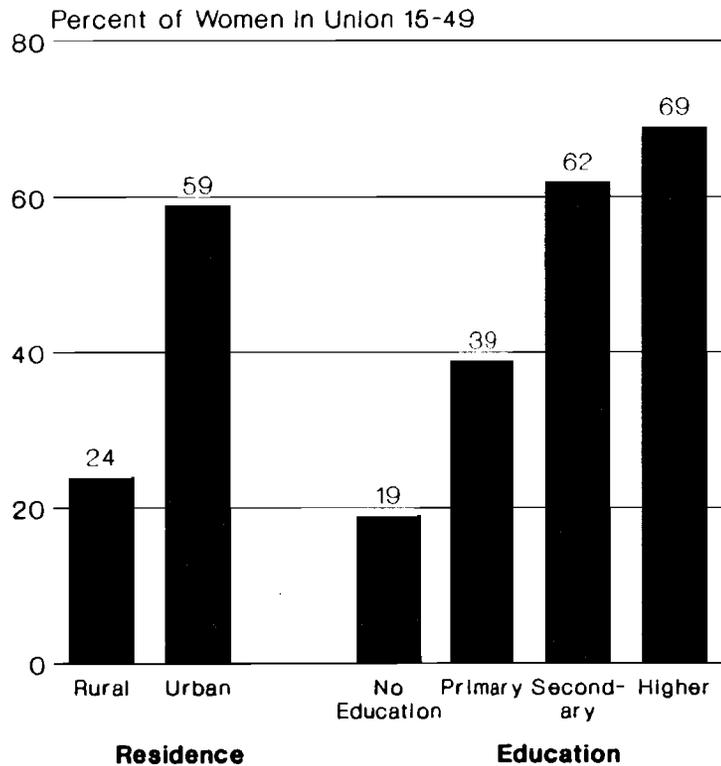
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Figure 6
Current Use of Contraception
(Percent of Women in Union 15-49)



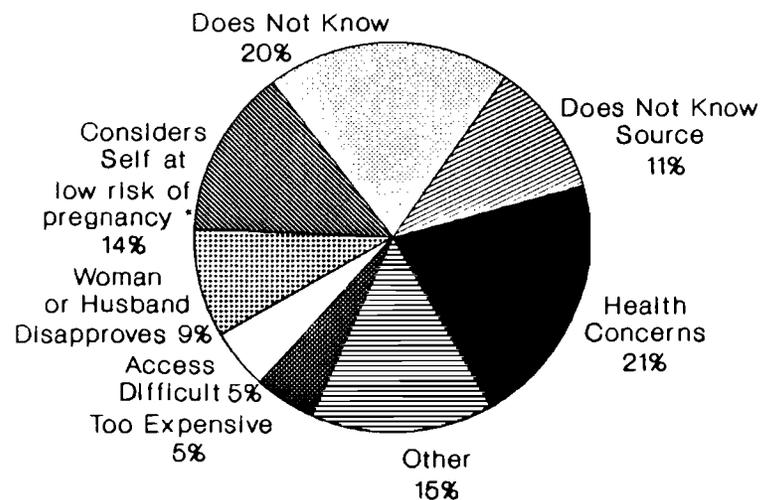
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Figure 7
Current Contraceptive Use by Residence and Education



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Figure 8
Reasons for Not Using Contraception
(Percent of Women in Union 15-49 at Risk of Pregnancy)



* Due to infrequent intercourse, post-partum abstinence or menopause

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Figure 9
Trends in Infant and Child Mortality

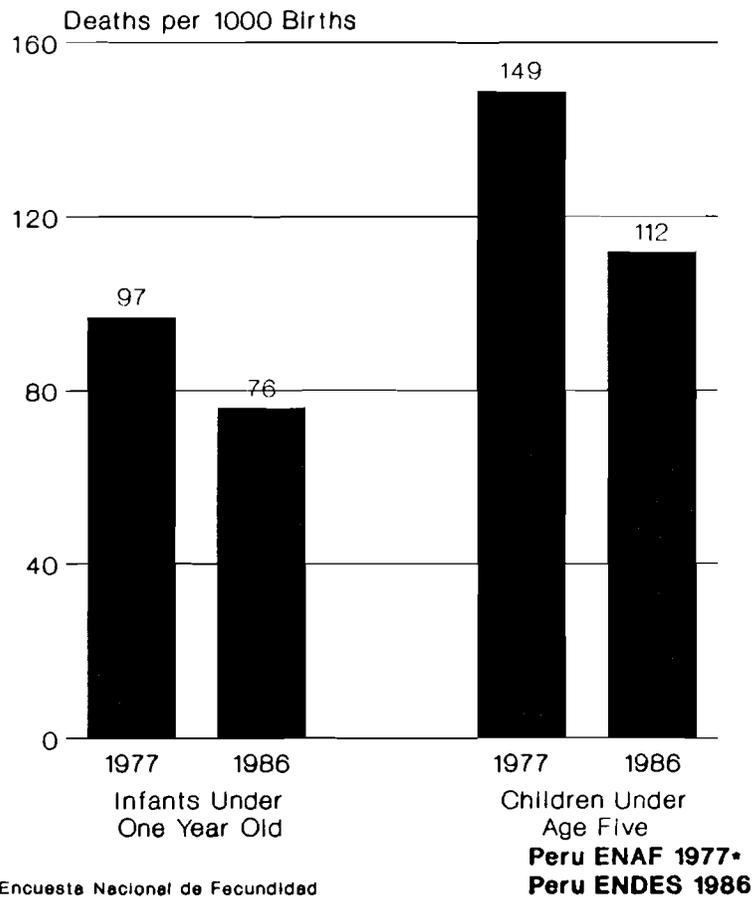
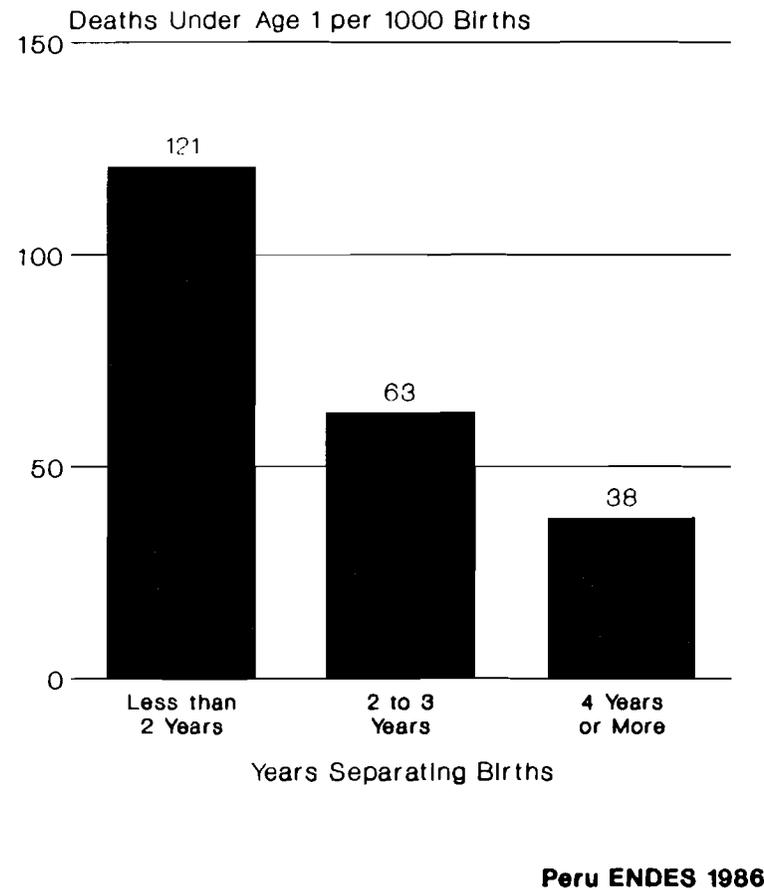
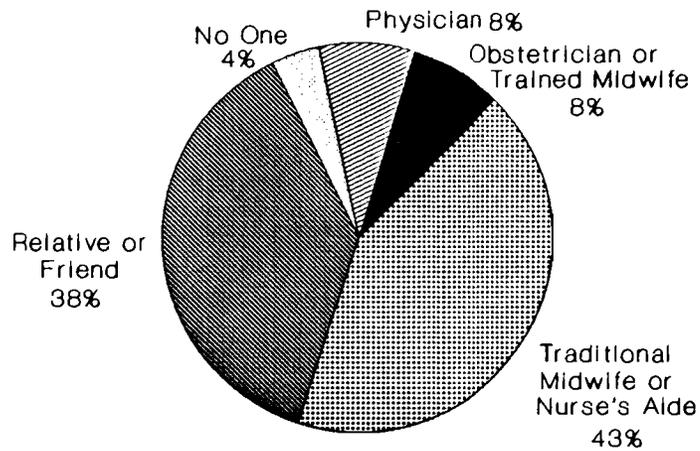


Figure 10
Birthspacing and Infant Mortality



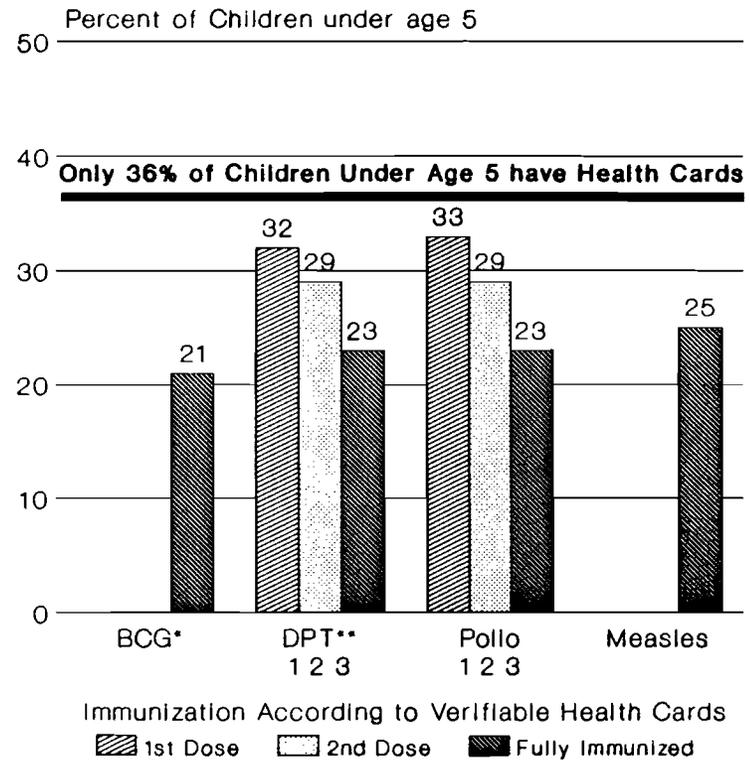
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Figure 11
Assistance During Childbirth -
Rural Women
 (Births during the 5 years before the survey)



Peru ENDES 1986

Figure 12
Immunization Coverage

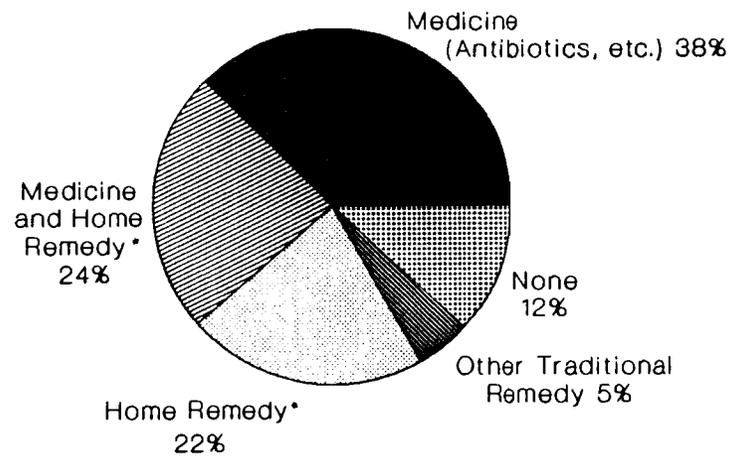


* tuberculosis
 ** diphtheria, pertussis (whooping cough), and tetanus

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Figure 13
Treatment of Childhood Diarrhea
*(Children under age 5 having diarrhea
in the 15 days before the survey)*



* Includes the 4% treated with packets of Oral Rehydration Salts

Peru ENDES 1986