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**CHANGING COMMUNITY PERCEPTIONS OF
REPRODUCTIVE HEALTH SERVICES AND REDUCING
THE UNMET NEED FOR THEM IN PERU'S HIGHLANDS**

LIMA, PERU

**Changing Community Perceptions of
Reproductive Health Services and Reducing
the Unmet Need for Them in Peru's Highlands
I Baseline Study**

FINAL REPORT OF HOUSEHOLD SURVEY

by

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Consultant
Population Council

Lima, Peru
November 4, 1997

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Them in Peru's Highlands**

I. Baseline Study

Quantitative Component.

**Household Survey of 1401 Women of Reproductive Age
from Two Provinces in the Department of Huancavelica**

FINAL REPORT

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TABLE OF CONTENTS

	<u>Page</u>
Table of Contents	ii
List of Tables	iv
List of Figures	vi
I. INTRODUCTION	1
II. OBJECTIVE	2
III. MATERIAL AND METHODS	3
A. Study Population and Sample Selection	3
1. Selection of experimental and control villages	3
2. Sample size and selection of WF for household interviews	4
B. Survey Instrument	5
C. Field Personnel	6
D. Field Operations Logistics	7
E. Data Management	8
IV. RESULTS	9
A. Population Characteristics	9
1. Household characteristics	9
2. Age of study population	9
3. Education of study population	10
4. Women in union	10
5. Number of live births	11
6. Fertility rates	12
7. Migration status	12
8. Single mothers	13
B. Reproductive Risk	14
C. Pregnancy	15
1. Type of prenatal care	15
2. Prenatal care and reproductive risk	18
3. Reasons for non-use of prenatal care	19

	<u>Page</u>
4 Tetanus toxoid vaccine	20
D Childbirth	21
1 Childbirth attendance	21
2 Delivery attendant and reproductive risk	23
3 Reasons for non-use of health facility for delivery	24
4 Complications of delivery	26
E Interconceptional Health	29
1 General reported health status	29
2 Reporting of vaginal discharge	30
3 Visits to a health facility in the past year	31
4 Screening for cervical and breast cancer	33
F Dissemination of Information on Contraception	36
1 Knowledge of where to obtain a contraceptive method	36
2 Visits by a family planning worker in the past year	37
3 Visits to a health facility and receipt of family planning information	37
4 Sources of messages on family planning	38
G Reproductive Intentions	39
1 Desire for (more) children	39
2 Opinion of women and partners regarding contraceptive usage	40
H Contraceptive Knowledge and Use	41
1 Knowledge of contraceptive methods	41
2 Past use of contraceptive methods	43
3 Current use of contraceptive methods	44
4 Use of contraceptive methods by age of woman	46
5 Characteristics of contraceptive users versus non-users	47
6 Place where method was obtained	48
7 Correct use of the rhythm method	48
8 Reasons why modern contraceptive methods are not used	49
I Unmet Need for Contraception	51
V CONCLUSIONS AND RECOMMENDATIONS	56
VI BIBLIOGRAPHY	62

LIST OF TABLES

		<u>Page</u>
Table I	Distribution Of Study Sample of Women Ages 15-49 Years In Two Provinces Of Huancavelica	5
Table II	Characteristics of Study Households	9
Table III	Socio-Demographic Characteristics of Study Population	11
Table IV	Migration Status of Study Population	13
Table V	Proportion of Women With a Live Birth Since 1992 Who Have no Male Partner	13
Table VI	Proportional Distribution of Women in Union at Risk of Conceiving or Giving Birth to a Child With High Risk of Mortality	15
Table VII	Distribution of Women By Type of Prenatal Care for Last Live Birth	16
Table VIII	Number of Prenatal Visits for Last Live Birth, By Province	17
Table IX	Month of Gestation for First Prenatal Visit, By Province	18
Table X	Proportion of Women Who Received Prenatal Care, By Presence of Reproductive Risk Factors	18
Table XI	Reasons Given for Why Prenatal Care Was Not Obtained for Last Birth Since 1992, By Year of Birth and Province	19
Table XII	Proportional Distribution of Last Births Between 1992 and 1997 By Number of Doses of Tetanus Toxoid Vaccine Received During Pregnancy	20
Table XIII	Distribution of Women by Place of Delivery for Last Live Birth	22
Table XIV	Association of Health Provider Attendance at Birth With Presence of Reproductive Risk Factors in the Mother	23
Table XV	Reasons Why Birth Was Not Attended In a Health Facility, By Year of Birth and Province	25
Table XVI	Proportion of Women with Reported Complications of Labor and Delivery By Maternal Parity and Province	27

	<u>Page</u>	
Table XVII	Proportions of Women with Complications in Labor and Delivery, By Place of Delivery and Province	28
Table XVIII	Proportion of Women Reporting Vaginal Discharge In a Fifteen-Day Recall Period, By Age and if in Union	31
Table XIX	Proportion of Women Reporting Visit to a Health Facility In Past Year, and Reasons for Visit	32
Table XX	Proportion of Women Reporting Knowledge of Papanicolaou And Having Had a Pap-Test or Breast Exam in Past Five Years	34
Table XXI	Proportion of Women* Who Were Visited by a Family Planning Worker in the Past Year	36
Table XXII	Proportion of Women* Who Attended a Health Facility in Past Year And Were Spoken to About Contraceptive Methods	37
Table XXIII	Proportion of Women Who Heard a Message on Family Planning in the Previous Three Months, By Source of Message	38
Table XXIV	Reproductive Intentions Proportional Distribution of Women by Desire for (More) Children, By Age and Province	39
Table XXV	Perception of Non-Sterilized Women in Union Regarding Their Partner's Attitudes Toward Family Planning	41
Table XXVI	Proportion of Women of Fertile Age in Union with Knowledge, Any Past Use and Current Use of Each Contraceptive Method	43
Table XXVII	Distribution of Women in Union By Current Use of Contraception By Age	46
Table XXVIII	Socio-Demographic Characteristics of Ever-Users Versus Never-Users Of Any Type of Contraceptive Method	47
Table XXIX	Place Where Contraceptive Methods Were Obtained For Those Currently Using Methods	48
Table XXX	Proportion of Women Who Correctly Use the Rhythm Method Among Those Who Use or Have Ever Used the Method	49
Table XXXI	Reasons For Non-Use of Modern Contraceptive Methods Among Women in Union, By Province	50

LIST OF FIGURES

Figure 1	Proportion of Women with at Least One Prenatal Visit to a Health Provider for Last Live Birth, By Year of Birth	17
Figure 2	Proportion of Pregnant Women Receiving Tetanus Toxoid Vaccine During Pregnancy	21
Figure 3	Proportion of Births Delivered by Health Personnel, By Year of Birth	22
Figure 4	General Reported Health Status by Age	30
Figure 5	Knowledge and Use of Papanicolaou Test in Past Five Years by Age	35
Figure 6	Proportion of Women with Breast Exam in Past Five Years by Age	35
Figure 7	Proportion of Women in Union with Spontaneous Knowledge of Methods	45
Figure 8	Proportion of Women with Any Past Use of Methods	45
Figure 9	Proportion of Women in Union Who Currently Use a Contraceptive Method	46
Figure 10	Unmet Need for Contraception – Acobamba	53
Figure 11	Unmet Need for Contraception – Castrovirreyna	53
Figure 12	Unmet Need by Reproductive Risk – Acobamba	54
Figure 13	Unmet Need by Reproductive Risk – Castrovirreyna	55

FINAL REPORT OF THE HOUSEHOLD SURVEY

**CHANGING COMMUNITY PERCEPTIONS OF REPRODUCTIVE
HEALTH SERVICES AND REDUCING THE UNMET NEED FOR
THEM IN PERU'S HIGHLANDS**

I A BASELINE STUDY

I INTRODUCTION

The current study on maternal and reproductive health and health care use was undertaken as part of a greatly needed and long-delayed response to the dire health conditions in the Department of Huancavelica, where nearly all health indicators have been the worst in the country for many years, especially the infant and maternal mortality rates. The terrorist activity in the 1980's and early 1990's only exacerbated the problems of difficult access of the region which had always kept Huancavelica at the margin of public health programs.

On April 24, 1997, the Ministry of Health (MOH) Division of Social Programs declared the Department of Huancavelica in a state of emergency. National and sub-regional health authorities requested the cooperating agencies (CA's) working with USAID/Peru's Program for Support of Reproductive Health (PASARE) to prioritize actions to improve family planning and reproductive health services in Huancavelica. INOPAL III, as one of the PASARE CA's, is collaborating through operations research to help determine the impact of reproductive health interventions on community perceptions of family planning and other reproductive health services and on the unmet need for them.

Unmet need is used in this study to refer to the gap between women's reproductive intentions and their contraceptive behavior. The reduction of this gap is

one of the main challenges to Peru's Family Planning Program in 1997-2000. Unmet need for family planning was calculated in the most recent National Demographic and Family Health Survey (ENDES III, 1996) at 12.1 percent of women of fertile age in union at a national level, and 31.5 percent in the Department of Huancavelica.

The PASARE CA's include International Training for Health (INTRAH/PRIME), the Johns Hopkins University/Population Communication Services (JHU/PCS), Management Sciences for Health (MSH/FPMD). INTRAH provided training interventions focused on management of obstetric emergencies and family planning skills. JHU/PSC trained health personnel to strengthen the quality of community and interpersonal communications, and MSH provided workshops on quality improvement under the PASARE program.

II OBJECTIVE

This is a cross-sectional population-based household interview survey which is the quantitative component of a diagnostic study of the reproductive health status of women of fertile age in the Department of Huancavelica. This survey, in addition to a complementary qualitative component of key informant interviews, serves as a baseline for a later evaluation of the effectiveness of health service system interventions implemented under the PASARE Program. The objective of the study reported on here was to determine the level of utilization of health and family planning services by women of fertile age, identify the unmet need for these services, and determine some of the reasons for the presence of unmet need.

III. MATERIAL AND METHODS

A Study Population and Sample Selection

The study population is drawn from the universe of women of fertile age (15-49 years) (WFA) living in 24 rural population centers (villages) of two provinces, Acobamba and Castrovirreyena, in the Department of Huancavelica. We included in our sample only WFA living in villages which range in size from 50 to 400 households. Study villages were purposively selected by Dr. Oscar Zuñiga, Director of the Health Sub-Region of Huancavelica. In the Province of Acobamba, the study area includes 12 population centers which have health posts of the Ministry of Health, all of which pertain to a health center in the town of Paucara. These 12 villages are located among relatively open hills and valleys between 20 minutes and three hours by car from Paucara. Paucara is located three to four hours by car east of the departmental capital city of Huancavelica.

The second study area includes 12 population centers in the northern part of the Province of Castrovirreyena. These villages are distributed among three deep mountain ravines which join into a common valley opening onto the Pacific coast of Peru. They are reached by an unpaved road entering four hours by car from the city of Chíncha on the coast. The 12 villages include two with health centers, in Tantara and Huachos, which are found nestled into the upper reaches of the two outer ravines. The upper central ravine has three health posts, two of which (Aurahua and Chupamarca) pertain to Tantara, and one (Villa de Arma) which pertains to Huachos.

1 Selection of experimental and control villages

The study design for the larger operations research project, for which the current study serves as baseline, provides for experimental and control villages. The selection of these, in the case of the 12 villages in Acobamba, was carried out in the Population Council office in Lima in the presence of a consultant from INTRAH, using a random selection process. In the case of the 12 villages in Castrovirreyna, the presence of two health centers determined that one health center and its corresponding health posts would serve as cases and the other health center with health posts as the control. At the flip of a coin, Tantara and its posts were chosen as experimental villages. At the request of USAID, Huachos was also included in the experimental group, since it was considered unethical to not include a health center in the available interventions. Therefore, only the five villages with health posts pertaining to Huachos are in the control group for Castrovirreyna.

2 Sample size and selection of WFA for household interviews

The desired sample size was 800 WFA in each province, for a total of 1600. The sample size was based on the need to detect a significant change in the proportion of women using modern contraceptives. Given 24 population centers (villages), the desired sample size per village was set at 80 WFA to allow a margin of non-response. A sampling expert from the National Institute of Statistics and Informatics (INEI) drew for us a random sample of households from the 24 villages which would provide the desired sample size. The sampling frame was based on the 1993 national census conducted by INEI, which provided maps of most villages. For villages with maps available, a sample selection was made using conglomerates, blocks, and a systematic selection of

households within blocks to achieve the desired sample size per population center. For villages without a map available, the interviewers were instructed to sweep through every house in a zigzag pattern beginning at several points on the outskirts of the village until the desired sample size was reached. As it turned out, the sampling frame overestimated the number of inhabitants in most villages. The number of unoccupied dwellings was high due to abandonment of villages during the years of terrorism.

Our final sample of 1401 WFA represents a full sweep of all eligible women in the selected villages. Of these, 108 cases were omitted from the final analyses due to their affiliation with the Peruvian Institute of Social Security (IPSS) which allows them access to health facilities of higher quality than those available from the Ministry of Health. IPSS affiliates were likely to be teachers or other professionals contracted to work in the study villages, and had a significantly higher educational level than the other women interviewed. After deletion of IPSS affiliates, the remaining sample of 1293 cases is distributed as shown in Table I.

Table I
Distribution Of Study Sample of Women Ages 15-49 Years
In Two Provinces Of Huancavelica

PROVINCE	Women In Union	Not In Union	TOTAL
Acobamba	708	209	917
Castrovirreyna	225	151	376
TOTAL	933	360	1293

B Survey Instrument

A mostly closed-ended questionnaire was utilized for the household interview, adapting that used for the 1196 Peru National Demographic and Family Health Survey

(ENDES III) Questions were added that were of particular interest to the study, such as open-ended items on why formal health services were not utilized for prenatal or delivery care, and why modern contraceptives were not used. Care was taken to maintain the questionnaire at a minimum length due to the type of population that was expected to be interviewed. An early version of the questionnaire was pretested on both Spanish and Quechua-speaking women in the towns of Lircay and Acobamba in the Department of Huancavelica.

C Field Personnel

Two teams of field personnel worked simultaneously to complete the field work in each of two provinces. Each team consisted of one field supervisor, one assistant supervisor/'critica', six interviewers, and one or two drivers. The two field supervisors and two assistant supervisors were from Lima. All had previous experience as supervisors and/or 'criticas' for national Demographic and Health Surveys (locally called **Encuesta Nacional de Demografía y Salud Familiar {ENDES}**) in 1991 and 1996. Field supervisors were Ms. Luisa Kanashiro and Ms. Nadine Montoya. Assistant supervisors were Ms. Alicia Espinosa and Ms. Marina Reyes. Overall supervision in the two sites was conducted by the author.

Five of the six interviewers for Acobamba had previous experience as ENDES interviewers, for which they had received 40 days of training in Lima in 1996. The sixth Acobamba interviewer was a university student in linguistics, but turned out to be one of the best interviewers. All six were natives of the city of Huancavelica and spoke fluent Quechua. Seventy percent of the Acobamba interviews were conducted in Quechua. Various professions were represented by the interviewers: nurse, technician,

anthropologist, sociologist, economist, linguist

All six interviewers for Castrovirreyna had ENDES experience either as interviewers or supervisors. Nine interviewer candidates attended the three-day interviewer training session in Chíncha. Of these, the best six were selected to participate in the study: two from Ica and four from Lima. All interviews there were conducted in Spanish. Professions of the interviewers included professional nurse, nurse technician, economist, sociologist, legal specialist.

Supervisors were trained in Lima by the author, and interviewers received three days of training and practice in interviewing techniques, use of the survey instrument, and sample selection before initiation of field work.

D Field Operations Logistics

Local Ministry of Health counterparts were Dr. Oscar Zuñiga, Sub-Regional Health Director of Huancavelica, and Sra. Cristina Emperatriz Paredes, Coordinator of Family Planning for the Health Sub-Region of Huancavelica. Both played active roles in supporting the field work.

For security purposes, photo-identification cards were issued to all field personnel, and the teams carried copies of a letter sent by Population Council to the Minister of the Interior, and letters sent by Dr. O. Zuñiga to the chief physicians of health centers in the study areas.

Field work was conducted by one team in Acobamba from May 19 to June 27 (40 days) and in Castrovirreyna by a second team from May 22 to June 20 (30 days). For transportation of the survey team in Acobamba, a 25-passenger mini-bus and driver were contracted from a private concern in Huancavelica. For Castrovirreyna, we utilized

a company in Lima to rent two four-wheel drive vehicles. The Health Sub-Region of Huancavelica provided a vehicle for brief 3-4 day visits to Acobamba by the overall supervisor from Lima.

In the province of Acobamba, the town of Paucara was the base of operations where the field personnel was housed nightly. Daily excursions departing at 5 a.m. were made to all but two villages where the team spent nights in the vehicle. In Paucara, the two supervisors were provided with a room in the health center, while the six interviewers rented a room in a house nearby. The Castrovirreyna team spent most of their nights in either Tantara (rustic lodge of the municipality) or Huachos (in the health center), but spent four days each in two other remote villages. All members of the field teams were provided with a sleeping bag. Mattresses and extra blankets were usually provided by the health center or post.

E. Data Management

All questionnaires were individually reviewed and "Other" categories were carefully precoded prior to data entry. Double data entry was completed by two key punchers using an ISSA data entry program. The resulting data files were compared and errors were corrected from the original questionnaires. Data analysis was completed by the author utilizing the Statistical Analysis System (SAS).

IV. RESULTS

A Population Characteristics

1 Household characteristics

The socioeconomic status of study households is reflected in the type of housing and facilities, possession of certain items, and ownership of animals, as shown in Table

II

Table II
Characteristics of Study Households

Characteristic	Acobamba (%)	Castrovirreyna (%)
Dirt floor	97.2	85.6
Source of drinking water		
Piped to household	50.7	32.5
Public water spout	6.5	16.0
Hygienic facility		
Toilet	0.2	4.8
Open ground	89.8	71.0
Cooking fuel		
Wood	56.8	91.5
Dried manure	40.7	0.5
Possession of		
Radio	72.7	86.7
Television	19.1	27.7
Sewing machine	23.7	24.2
Ownership of animals	94.3	93.4
	Mean (s d)	Mean (s d)
Average number of		
Sheep/goats	8.2 (14.9)	21.1 (42.8)
Llamas	1.0 (3.9)	1.4 (7.0)
Cattle	2.0 (2.0)	5.9 (8.2)
Horses/mules/burros	1.2 (1.5)	1.0 (3.4)
N=	917	376

2 Age of study population

Women in the study sample had a mean age of 29.4 years in both provinces, as shown in Table III. Considering only women in union, those in Acobamba had a mean

age of 31.1 years, while those in Castrovirreyna had a mean of 32.9 years. The difference is due to an excess of single high-school girls in the 15-19 year age group who were interviewed in Castrovirreyna.

3 Education of study population

Mean number of years of education was 2.0 in Acobamba versus 6.5 in Castrovirreyna. The distribution by categories shows that over 90 percent of women interviewed in Acobamba had no more than a primary education, while over 60 percent of the Castrovirreyna sample had some secondary education or more. See Table III.

4 Women In union

As shown in Table III, 77.2 percent of the Acobamba sample were in union, while 59.8 percent of the Castrovirreyna women were in union. It is notable that Acobamba women under the age of 30, and especially under age 20, were much more likely to be in union than their counterparts in Castrovirreyna. This may be due in part to oversampling of high school girls ages 15-17 in Castrovirreyna. On the other hand, it was more the practice in that province for rural families to send their daughters to high school in the nearest village, to live with relatives in town. Acobamba girls were not provided by their families with so many possibilities for higher education.

5 Number of Live Births

Women in union in both study provinces had similar distributions in regards to number of live births (see Table III). There was a non-significantly higher proportion of women in Acobamba who had 6 or more children as compared to Castrovirreyna.

Table III
Socio-Demographic Characteristics of Study Population

CHARACTERISTIC	ACOBAMBA		CASTROVIRREYNA	
	(N=917)		(N=376)	
AGE	x (sd)		x (sd)	
Mean # of Years	29.42 (9.34)		29.36 (10.53)	
 WOMEN IN UNION				
	%	[n]	%	[n]
Proportion in Union by Age Group	30.3	[165]	7.5	[107]
15-19	82.6	[161]	73.3	[60]
20-24	89.3	[159]	79.6	[49]
25-29	92.2	[154]	93.5	[46]
30-34	93.8	[112]	75.7	[37]
35-39	83.2	[95]	89.3	[28]
40-44	80.3	[71]	77.1	[48]
45-49				
	77.2	[917]	59.8	[376]
15-49				
 EDUCATION				
Mean # of Years	x (sd)	[n]	x (sd)	[n]
All women in sample	2.02 (2.54)	[917]	6.47 (3.30)	[376]
Women in union	1.69 (2.29)	[708]	5.99 (3.45)	[225]
Proportional Distribution	%		%	
No education	39.4		5.1	
Primary Incomplete	43.2		18.6	
Primary Complete	9.3		17.6	
Secondary Incomplete	6.4		39.4	
Secondary Complete	0.9		13.6	
Superior Non-University	0.9		5.9	
TOTAL	100.0		100.0	
 N° of LIVE BIRTHS FOR WOMEN IN UNION				
Proportional Distribution	%		%	
0 live births	4.8		5.3	
1-3 births	31.1		38.7	
4-5 births	23.2		23.1	
6-8 births	24.4		19.1	
9-15 births	16.5		13.8	
TOTAL	100.0		100.0	

FERTILITY RATES		
Age Specific Fertility Rates	Entire Study Population	Rural Peru – DHS Survey
15-19	114	'96
20-24	330	139
25-29	313	280
30-34	305	229
35-39	275	195
40-44	179	170
45-49	42	85
		18
General Fertility Rate	231 per 1,000 women	
Global Fertility Rate (15-44)	7.6 births per woman	191 per 1,000 women

6 Fertility Rates

Fertility in the study population was considerably higher than that reported in the recent National Demographic and Health Survey (ENDES III, 1996), as shown in Table III, which reports in aggregate form the fertility rates from women in both Acobamba and Castrovirreyna, combined. The global fertility rate is the number of live births in the past year divided by the total number of women ages 15-49 at mid-year, multiplied by 1000. The total fertility rate is for women ages 15-44, representing the sum of age-specific mortality rates multiplied by 5.

7 Migration Status

The study population was largely native to the area. Over 95 percent of Acobamba interviewees and 91 percent of those from Castrovirreyna were born in the same district or another district near the village they were living at the time of the interview, as shown in Table IV. A fair amount of movement between districts close to the current place of residence can be noted, especially in Castrovirreyna where 13.6 percent of women were born in a nearby district. We have combined the first two categories since the referenced districts are so close together and are very homogeneous in nature. We refer to all these as native-born women. When the native-born group is analyzed more closely, we see that 19 percent of the 872 native-born Acobamba women

lived in another place for more than one year 11% in another rural area of the sierra and 7% in Lima The Castrovirreyna native-born group was much more mobile, probably due to terrorist activity in their region which caused much of the population to abandon their homes Forty-nine percent of 345 native-born women interviewed in Castrovirreyna lived in another place for more than one year 23% in Lima and 19% in another urban area of the coast So much exposure to the more modern coastal cities of Peru, and especially Lima, would likely influence a woman's educational opportunities and cultural development, which in turn would have an influence on health and health care behaviors

Table IV
Migration Status of Study Population

Place of Birth	Acobamba					Castrovirreyna				
	15-19	20-29	30-39	40-49	ALL	15-19	20-29	30-39	40-49	ALL
Same district	91	83	84	88	85.4	81	71	86	76	78.1
Nearby district	7	10	12	9	9.7	8	17	11	21	13.6
Other- Sierra	2	6	3	2	3.8	2	3	4	3	2.7
Other- Coast	0	1	0.4	0.6	0.6	9	10	0	0	5.6
Other - Jungle	0	0.6	1	0	0.6	0	0	0	0	0
Total	100	100	100	100	100.0	100	100	100	100	100.0
N=	165	320	266	166	917	107	109	83	76	375

8 Single mothers

As shown in Table V, 6.3 percent of Acobamba women and 12.5 percent of Castrovirreyna women with a live birth in the past five years are not in union with a male partner

Table V
Proportion of Women With a Live Birth Since 1992
Who Have no Male Partner

	Acobamba	Castrovirreyna
Proportion without partner	6.3	12.5
N=	655	184

B Reproductive Risk

The study population was classified into reproductive risk categories following the model of risk classification used in the National Survey of Demography and Family Health (ENDES III, 1996). The risk of infant mortality is considered to be elevated among births that occur with the following conditions:

- Mother is less than 18 years old at the time of birth (age at time of interview of less than 17 years 3 months),
- Mother is 35 or more years old at the time of birth (age at time of interview of 34 years 3 months),
- The birth interval is less than 24 months (previous birth occurred less than 15 months ago, or according to number of months of current gestation),
- The live birth order is greater than 3

As shown in Table VI, 82 percent of the Acobamba women in union and 72 percent of Castrovirreyna women are at risk of conceiving or giving birth to children with a high risk of mortality. This compares to 66 percent of women in all of Peru, as reported in ENDES III.

Thirty-six and 37 percent of Acobamba and Castrovirreyna women, respectively, are at risk for having 35 or more years of age and more than three live births. This compares to 28 percent nationally.

Another 43 and 29 percent are at high reproductive risk due to having a birth interval of less than 24 months and/or having more than three live births, although they are at low risk by age (18 and 34 years old). The comparable national figure is 27 percent.

Table VI
**Proportional Distribution of Women in Union at Risk of Conceiving
or Giving Birth to a Child With High Risk of Mortality**

Risk Category	Proportion of Women in Union		
	Acobamba	Castrovirreyna	PERU 1996*
Not in Any High Risk Category	<u>17 6</u>	<u>27 6</u>	<u>34 2</u>
Total in High Risk Categories	<u>82 4</u>	<u>72 4</u>	<u>65 7</u>
A In only one category	<u>32 4</u>	<u>26 2</u>	<u>30 1</u>
Mother younger than 18 (Age<18)	1 3	0 4	0 5
Mother older than 34 (Age>34)	1 6	4 9	8 7
Birth-to-birth interval <24 meses (IN<24)	14 4	9 3	8 6
Birth order >3 (OR>3)	15 1	11 6	12 3
	<u>50 0</u>	<u>46 2</u>	<u>35 6</u>
B In various categories of risk	1 0	0 9	0 3
Age<18 & IN<24	--	0 9	0 5
Age>34 & IN<24	25 1	31 6	25 5
Age>34 & OR>3	10 6	4 4	2 9
Age>34 & IN<24 & OR>3	13 3	8 4	6 4
IN<24 & OR>3			
TOTAL	100 0	100 0	100 0
N=	708	225	16,885

* Data from ENDES III, 1996

C Pregnancy

1 Type of prenatal care

For last live births between 1992 and 1997, prenatal care was provided by a professional to 36 5 percent of Acobamba mothers and 55 8 percent of those in Castrovirreyna. This is compared to 35 1 percent of pregnancies attended by a health professional in the Department of Huancavelica as reported in ENDES III. When prenatal care provided by a health technician (equivalent to an auxiliary nurse) is included, coverage is 60 1 percent in Acobamba and 58 2% in Castrovirreyna, as shown in Table VII.

Table VII
Distribution of Women By Type of Prenatal Care for Last Live Birth

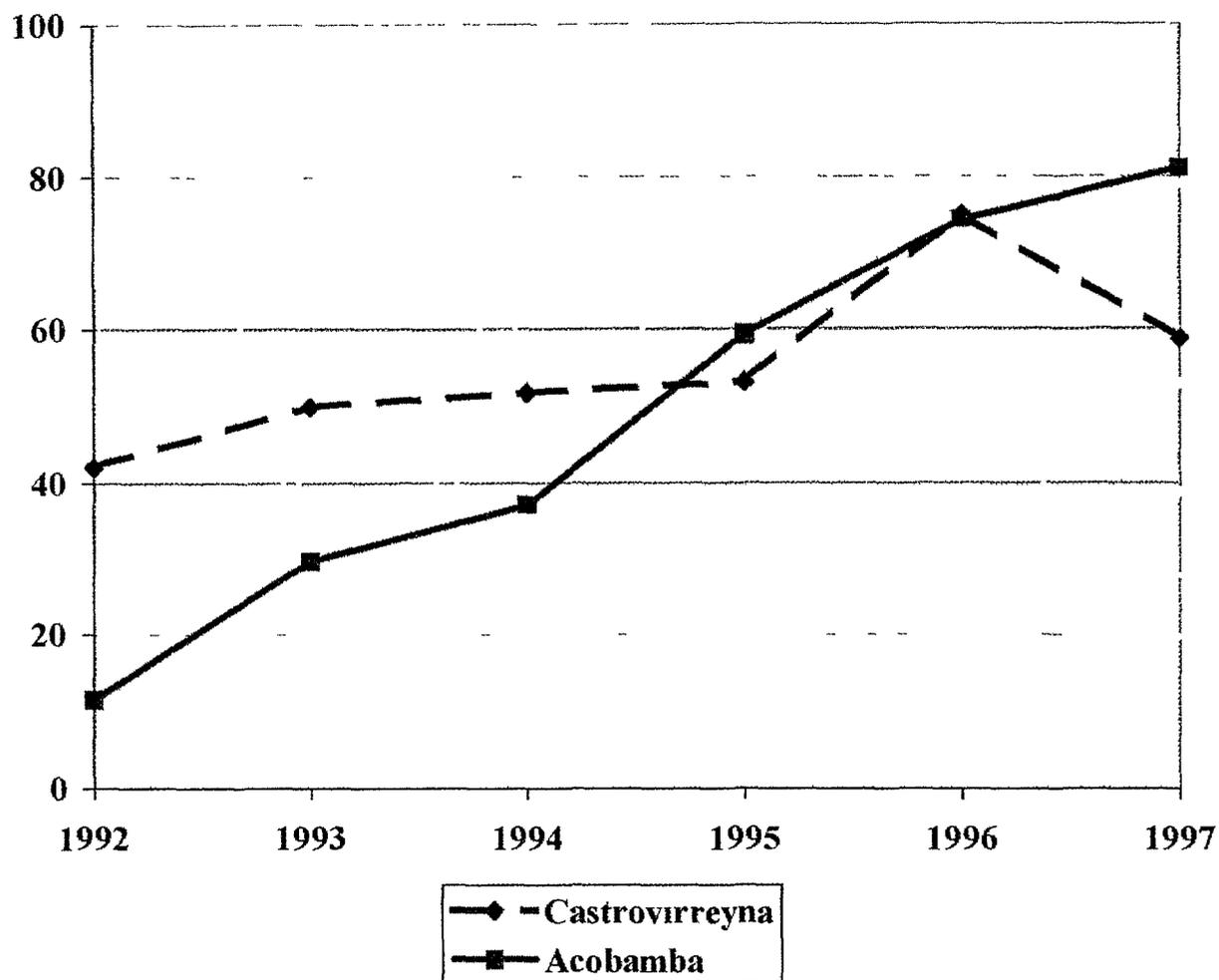
PROVINCE	MD/Midwife/Nurse	Health Technician	Traditional Midwife	None	Total	# cases
Acobamba	36 5	24 1	—	39 4	100 0	655
Castrovirreyña	54 4	3 8	8 6	33 3	100 0	184
Huancavelica ('91-'96)*	35 1	1 0	0 2	63 7	100 0	283

* Data from ENDES III, 1996

While the content of prenatal visits is not known, we presume that professionals provide better quality care while health technicians provide less complete care. Also, these figures represent only those who had at least one prenatal visit. Those who received “adequate prenatal care”, beginning visits in the first trimester of pregnancy with a total of at least four visits during the entire pregnancy, are less than a third that number. Figure 1 shows the increasing trend over the last five years in obtaining prenatal care. Information from the qualitative study revealed that in recent years pregnant women have been obliged to seek prenatal care in order to be able to register the child’s birth, receive a death certificate if necessary, or receive supplementary foods.

We cannot say for sure, but these factors were probably more important to the gains in prenatal care coverage than an increased awareness of the importance of prenatal care on the part of the population. Another important factor in the gains in coverage in Acobamba was the increased number of functioning health facilities which were put into operation in the past two to three years.

Figure 1 Proportion of Women with at Least One Prenatal Visit to a Health Provider for Last Live Birth, By Year of Birth



**Table VIII
Number of Prenatal Visits for Last Live Birth, By Province**

PROVINCE	0 Visits	1-3 Visits	4 + Visits	Total	# cases
Acobamba	39.4	31.9	28.6	100.0	655
Castrovirreyña	33.2	43.5	23.4	100.0	184
Huancavelica ('91- 96)*	63.7	25.1	11.3	100.0	283
PERU ('91- 96)*	34.0	11.0	54.0	100.0	15,639

* Data from ENDES III, 1996

Table VIII shows the number of prenatal care visits received in the two study areas, compared with results from the Department of Huancavelica and the national

average for Peru, from ENDES III. With the latter, the study areas do not compare favorably, with only one quarter of pregnancies having four or more visits, versus half in Peru as a whole. This reflects the lack of importance given to prenatal care for most women in Huancavelica, who in large measure do not see it as necessary (see Table XI below)

Another indicator of the adequacy of prenatal care is the month of first visit, which should occur in the first trimester, or first three months, of pregnancy. According to Table IX, only one-third or less of study mothers in our sample had a first visit in the first trimester of pregnancy.

Table IX
Month of Gestation for First Prenatal Visit, By Province

PROVINCE	No Visits	0-3 Mo	4-6 Mo	6-9 Mo	TOTAL	# cases
Acobamba	39.4	29.5	22.0	8.4	100.0	644
Castrovirreyna	33.2	32.1	24.5	10.3	100.0	184
Huancavelica ('91-'96)*	63.7	12.2	15.5	8.5	100.0	283

* Data from ENDES III 1996

2 Prenatal care and reproductive risk

Table X
Proportion of Women Who Received Prenatal Care,
By Presence of Reproductive Risk Factors

Type of Prenatal Care	Acobamba		Castrovirreyna	
	With risk*	Without risk	With risk	Without risk
MD/Midwife/Nurse	35.0	39.6	45.3	66.7
Auxiliary nurse	24.3	23.7	4.7	2.6
No prenatal care	40.6	36.7	50.0	30.8
TOTAL	100.0	100.0	100.0	100.0
N=	448	207	106	78
X²	Not significant		P < .01	

* Reproductive risk is defined as less than 18 or greater than 34 years old at the time of birth, or more than three previous live births.

Table X shows that women with reproductive risk factors of age (<18 or >34 years) or high parity (>3 births) were equally likely (or unlikely) to receive prenatal care.

in Acobamba. In Castrovirreyna, those without risk factors were significantly more likely to receive professional prenatal care than those who did have risk factors.

3 Reasons for non-use of prenatal care

Reasons for not obtaining prenatal care are listed in Table XI by year of birth. Differences can be seen between the two time periods, as the proportion of women who did not obtain prenatal care decreased, dramatically in the case of Acobamba. Those responding in the first category, "Did not consider it necessary", included those saying that they had no problems in their pregnancy, or that they never go and always have a good delivery. The proportion in this category dropped to less than half between the two time periods in Acobamba.

Table XI
Reasons Given for Why Prenatal Care Was Not Obtained for Last Birth Since 1992,
By Year of Birth and Province

Category of Reason	Acobamba		Castrovirreyna	
	Births during 1992-1994	Births during 1995-1997	Births during 1992-1994	Births during 1995-1997
Did not consider it necessary	19*	8	29	22
Health facility did not exist	27	7	6	0
Fear/distrust of health personnel	22	10	4	9
Health facility far away	12	3	9	6
Did not have time	2	3	3	3
Did not know it was necessary	2	2	0	1
Did not want to (unspecified reason)	1	0.6	3	1
Heard negative comments about facility	3	1	3	0
Personnel not present	1	1	0	2
Costs too much	2	0.4	0	0
Percent with prenatal care	30	70	49	64
N =	[161]	[494]	[68]	[116]

*Percent of all births. Columns add to more than 100% because interviewees were able to give more than one response.

The non-existence of a health facility was the major reason for not obtaining prenatal care in Acobamba in the 1992-94 period, but this nearly ceased to be a factor

since 1995, due to the implementation of more health facilities during that time in the study area. Availability was in fact a major factor in access. Fear or distrust of health personnel was the third most important reason for not seeking prenatal care. Women giving this response stated that they were afraid to be seen by a physician, or were ashamed to be seen by a person of the male gender. Between the two time periods, this reason was reduced by more than half in Acobamba, suggesting that other factors were more important in determining health care seeking behavior than women's fears.

4 Tetanus toxoid vaccine

The proportion of pregnant women who receive two doses of tetanus toxoid vaccine is an indirect indicator of the adequacy of prenatal care. As shown in Table XII, 33 to 40% of women reported having received two or more doses in their last pregnancy.

Table XII
Proportional Distribution of Last Births Between 1992 and 1997
By Number of Doses of Tetanus Toxoid Vaccine Received During Pregnancy

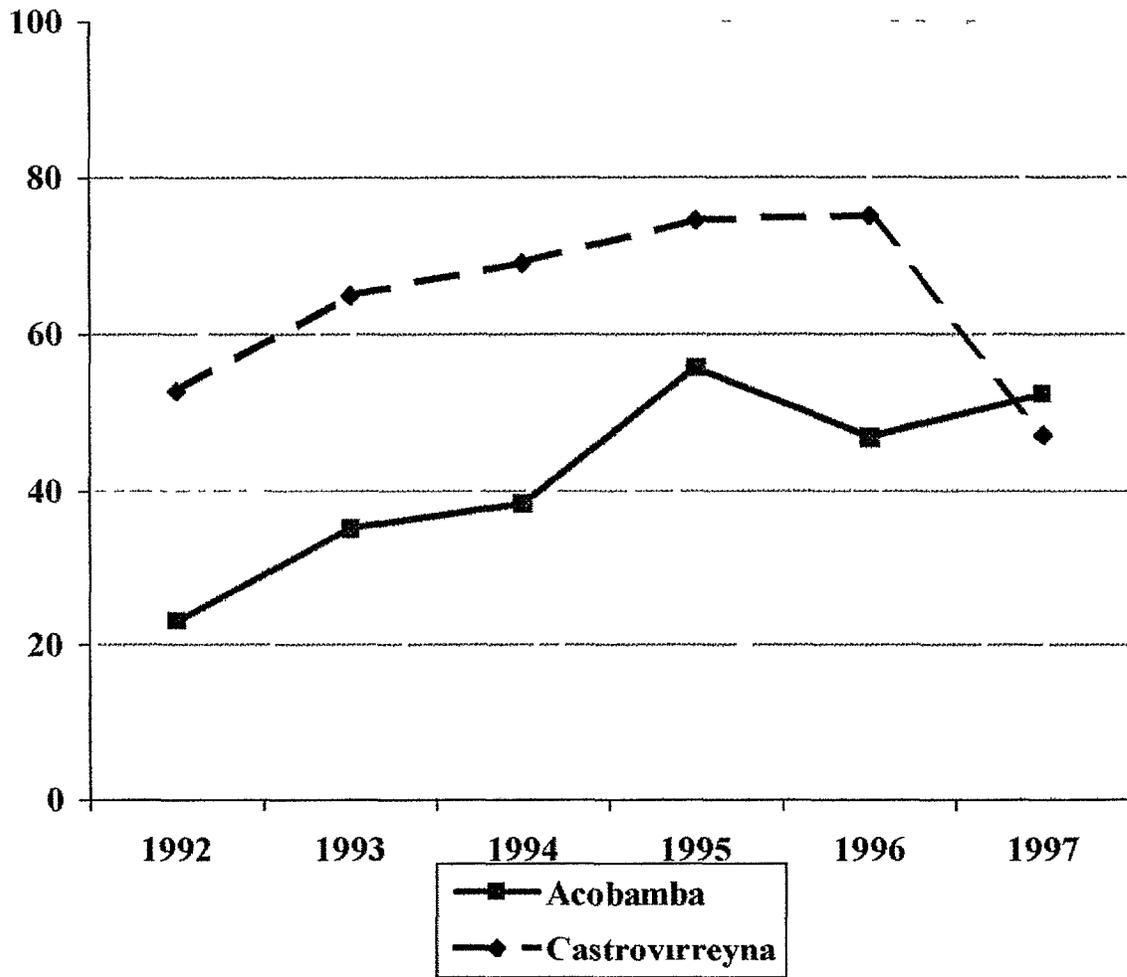
PROVINCE	No Doses	One Dose	Two Doses Or More	Don't Know	TOTAL	# cases
Acobamba	52.7	13.0	33.3	1.1	100.0	655
Castrovirreyna	30.4	27.7	39.7	2.2	100.0	184
Huancavelica*	58.0	15.7	26.3	--	100.0	283

* Data from ENDES III, 1996

Figure 2 shows that the coverage of at least one tetanus toxoid vaccine did not keep pace with the increase in proportion of women with at least one prenatal visit in Acobamba. The dimensions of missed opportunities in Acobamba can be seen by comparing Figures 1 and 2. This did not occur in Castrovirreyna, where more women received a tetanus toxoid vaccination than received prenatal care. This may have been due to community campaigns or home visiting for tetanus toxoid vaccinations, or

overreporting. As to the strategy of providing a series of five doses at specified intervals to non-pregnant women, we found only three such cases of women who had received doses of TT vaccine before their last pregnancy. These cases were included in the proportion of women with 2 or more doses.

Figure 2 Proportion of Women Receiving Tetanus Toxoid Vaccine in Pregnancy



D. Childbirth

1 Childbirth attendance

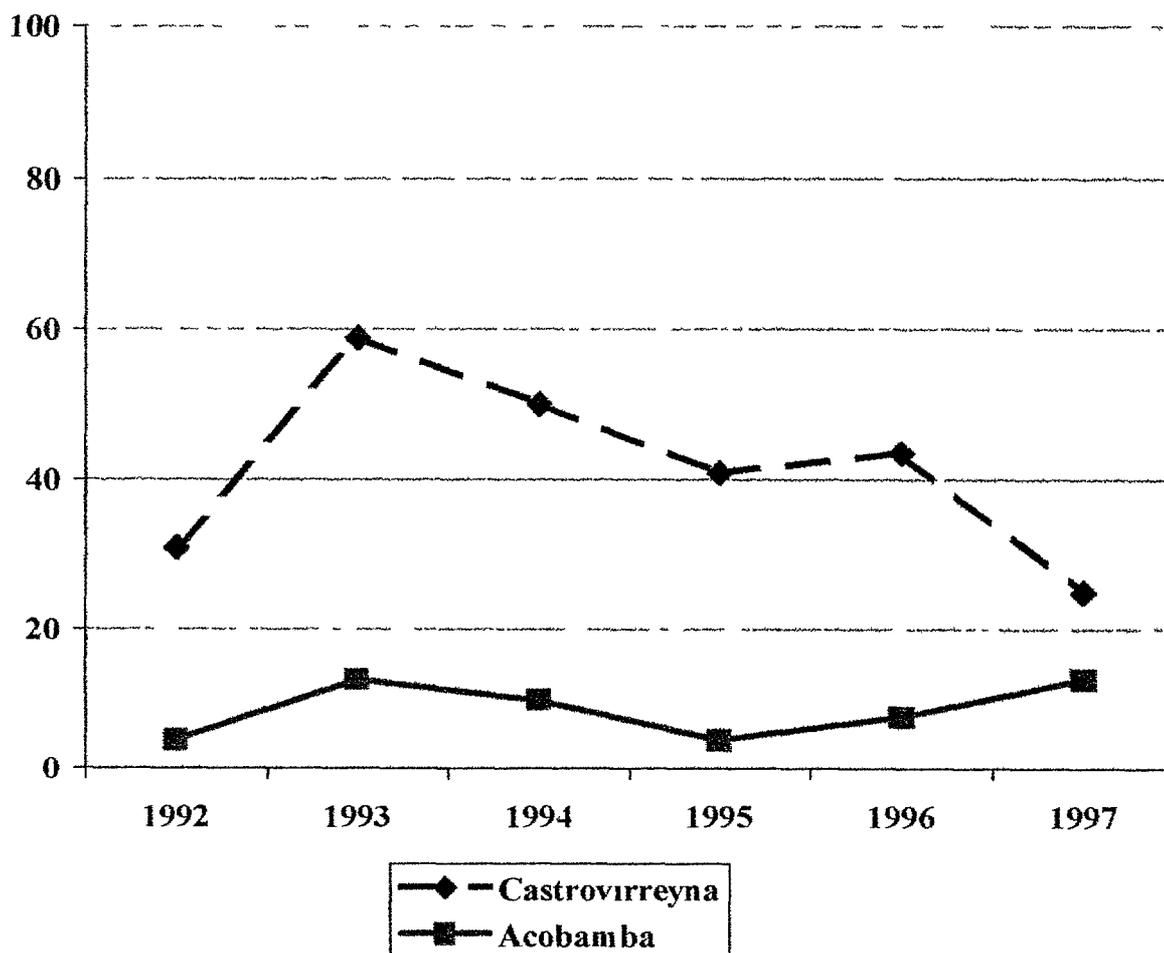
The great majority of the study population delivered their youngest child at home, as shown in Table XIII. On the other hand, a good number of Castrovirreyna

births had health personnel in attendance, even though many of these were attended at home. This reflects the better staffing patterns of Castrovirreyna health facilities, where 8 out of 12 establishments studied had more than a health technician on staff.

Table XIII
Distribution of Women By Place of Delivery for Last Live Birth

PROVINCE	Health Facility	Home	Other	Total	# cases
Acobamba	2.1	95.9	2.0	100.0	655
Castrovirreyna	15.3	84.1	0.6	100.0	184
Huancavelica ('91-'96)*	9.2	89.6	1.2	100.0	283

Figure 3 **Proportion of Births Delivered by Health Personnel, By Year of Birth**



Multivariate analysis showed that higher maternal education had a highly significant association with health personnel attendance at birth in both Acobamba and Castrovirreyna, meaning that mothers with less education were more likely to deliver their baby at home without a health provider in attendance

2 Delivery attendant and reproductive risk

Another way to characterize women who sought health provider assistance for their delivery is presented in Table XIV, which shows the association of health provider attendance at birth with the presence of reproductive risk factors in the mother. Women with at least one reproductive risk factor were less likely to be attended by a health care provider (in particular a health professional) than were women with no risk factors. In other words, those who needed it the most were least likely to have a health provider in attendance at the time of their delivery. In Acobamba, women with and without risk factors were equally unlikely to be attended by a health provider. A short prior birth interval of less than 24 months was not included as a risk factor since this has not been proven to increase risk of maternal morbidity or mortality. It has been shown as a significant factor in infant health and survival, however.

Table XIV
Association of Health Provider Attendance at Birth
With Presence of Reproductive Risk Factors in the Mother*

Type of Birth Attendant	Acobamba		Castrovirreyna	
	With risk	Without risk	With risk	Without risk
MD/Midwife/Nurse	3 1	5 8	24 5	38 5
Auxiliary nurse	2 5	4 4	9 4	7 7
Family member/None	94 4	89 9	66 0	53 9
TOTAL	100 0	100 0	100 0	100 0
N=	448	207	106	78
X ²	Not significant		p= 05	

* Reproductive risk factors include less than 18 or greater than 34 years old at the time of birth, or more than three previous live births

3 Reasons for non-use of a health facility for delivery

Reasons for not seeking a health facility to give birth are listed in Table XV by year of birth. Women could provide multiple answers to the open-ended question, so that the columns add to more than 100%. Responses were categorized into the items listed in descending order of frequency. Interestingly, the categories and their ordering are similar to the reasons given for not obtaining prenatal care. Differences can be noted in reasons for not using a health facility for births during 1992-94 versus births during 1995-97. The proportions represent the entirety of all births.

The chief reason given by mothers in both provinces was that they did not consider it necessary to delivery in a health facility. Although most pregnancies appear on the surface to be uneventful, women recognize and fear the potential life-threatening complications that can occur during delivery. However, the lack of an acceptable alternative to home delivery and the existing barriers to delivering in a health facility, as shown in ethnographic studies (E. Carrasco, 1997, H. Gonzalez, 1997), create a situation where women do not value the benefits of institutional delivery, and therefore consider it unnecessary for their needs. Forty-two percent of Acobamba mothers in both time periods stated this a a reason for not using a health facility. Although at a lower percentage level, this was also the main reason given by Castrovirreyna mothers.

Table XV
Reasons Why Birth Was Not Attended In a Health Facility,
By Year of Birth and Province

Categories of Reasons	Acobamba		Castrovirreyna	
	%		%	
	Births during 1992-1994	Births during 1995-1997	Births during 1992-1994	Births during 1995-1997
Did not consider it necessary	42*	42	35	26
Fear/distrust of health personnel/services	35	38	19	17
Health personnel not available	16	14	12	18
Health facility far away or difficult to reach	18	10	16	16
Did not have time	14	17	9	17
Had more confidence in family members	10	10	16	10
Preferred to give birth at home	5	3	9	10
Family member did not want to use facility	2	2	6	11
Costs too much	6	7	2	1
Lack of equipment or food in health facility	0	0 4	6	6
Personnel came to house to assist delivery	1	0 8	3	7
Percent with delivery in health facility	3	2	15	14
N =	[161]	[494]	[68]	[116]

- Percent of all births Columns add to more than 100% because interviewees were able to give multiple reasons for not delivering in a health facility

The second, third and fourth most frequent reasons reflect the principal barriers to not seeking institutional delivery fear/distrust of health personnel, unavailability of personnel, and distance to or difficulty in reaching a health facility

“Fear or distrust of health personnel” was the second most frequent category of reasons for not delivering at a health facility for mothers in both provinces This category included shame of being seen by a male physician or an unknown person, having to assume embarrassing positions to give birth, fear of being chastised for whatever reason, fear of medical interventions such as Caesarian sections, and fear of harm knowing that other mothers and babies have died while being attended in a health facility

The category of “unavailability of health personnel” includes opinions that the health provider(s) present is/are not trained to attend deliveries, that the health post does

not attend deliveries, that health personnel were away or the health facility closed at the time of delivery, and in one case, that the health personnel were inebriated at the time of delivery and were incapable of attending the birth

“Difficulty in reaching a health facility” includes not only the distance to travel, but also factors such as there was no one (i.e. her partner) to take the mother to the health post, it was late and the mother was afraid to walk in the dark. An Acobamba mother would have gone to the health center in Paucara but it was too far away, and one mother in Castrovirreyna gave birth on her way to a hospital in Chuncha. There was a significant decrease from 18 to 10 percent of Acobamba mothers between the two time periods who claimed that the health facility was far away or hard to reach, reflecting the improvements in health service availability in the province

4 Complications of delivery

Study women with a live birth in the last five years were asked if they had had 1) strong and regular labor contractions lasting more than 12 hours (prolonged labor), 2) excessive bleeding after the birth, 3) high fever with foul-smelling vaginal bleeding, 4) convulsions, or 5) any other problem with the labor or delivery. The reporting of these problems mostly have a J-shaped association with parity, as shown in Table XVI, reflecting what was generally reported in the literature. First births usually had more problems than the second or third delivery. The fourth or more delivery usually showed increasing proportions of women with these reported complications. Excessive bleeding was the most frequently reported complication, followed by prolonged labor, fever, and convulsions. Acobamba reported many more complications than Castrovirreyna.

Complications of labor and delivery were positively associated with use of a

health facility for birthing in Acobamba, but were negatively associated in

Table XVI
Proportion of Women with Reported Complications of Labor and Delivery
By Maternal Parity and Province

	<u>Acobamba</u>					<u>Castrovirreyna</u>				
	Parity		N° of Live Births			Parity		N° of Live Births		
	1	2-3	4-8	9-15	All births	1	2-3	4-8	9-15	All births
Excessive bleeding	58	56	66	74	64	35	42	43	68	44
Labor > 12 hours	49	33	41	55	42	32	29	34	50	34
Fever	32	21	33	40	32	9	15	18	9	14
Convulsions	19	16	26	24	22	0	9	15	18	11
N=	81	154	321	99	655	34	55	73	22	184

Castrovirreyna, as shown in Table XVII. In the latter case, Castrovirreyna women who used a health facility for their birth reported significantly fewer birthing complications than those who stayed at home. This is consistent with the significant negative association of risk factors and use of health professionals (see Table XIII). At the same time, those who stayed at home with complications were more likely to report that they didn't use a health facility because they perceived a non-availability of health personnel or of trained health personnel. Those with complications were less likely than women without complications to say they didn't use a facility because it wasn't necessary. Those in Castrovirreyna who reported fear or distrust of health personnel as the reason for non-utilization were equally likely to have or not have complications.

On the other hand, the few study women in Acobamba who used a health facility for a delivery were more likely to have complications than those who delivered at home, even though many home deliveries did have complications.

Although the numbers may be too small to draw conclusions, Acobamba

women's use of a facility was likely to be motivated by experienced need at the moment of delivery, rather than by a general desire to have a safer delivery. In contrast, those in Castrovirreyna used a facility because they had higher education and desired a safe delivery, even though they had little risk. Facility user's complications were at a minimum because they were at lower risk and/or because complications were prevented or controlled in the health facility.

Table XVII
Proportions of Women with Complications in Labor and Delivery
By Place of Delivery and Province

	<u>Acobamba</u>			<u>Castrovirreyna</u>		
	<u>Place of Delivery</u>			<u>Place of Delivery</u>		
	<u>Health facility</u>	<u>Home or other</u>	<u>P value</u>	<u>Health facility</u>	<u>Home or other</u>	<u>P value</u>
Excessive bleeding	71	63	ns	27	47	082
Labor > 12 hours	64	41	085	19	37	058
Fever	57	31	041	8	16	ns
Convulsions	43	22	064	4	12	ns
N=	14	644		26	158	

Results from ethnographic research conducted by the ReproSalud Project in indigenous areas of Huancavelica (E Carrasco, 1997), similar to our Acobamba study population, suggested that women confront an impending delivery with a sense of doom, in fear of a life and death situation. All ends in relief if nothing extraordinary occurs and the delivery is normal. If something goes wrong, they take action, or no action, depending on the family, but this usually does not involve seeking a health care provider. These results may be consistent with our findings. The women who did not find it necessary to seek a health provider may have done so because they had normal deliveries, while those who had problems and perhaps knew that they needed to seek

formal health care did not do so because of the fear, distrust, and other cultural barriers that exist between them and health personnel. This hypothesis was tested by analyzing the association between reported complications of labor and delivery and reason why formal health care was not sought for the delivery. For the Acobamba study population, there was a significant association between reporting “non-availability of health personnel” as the reason for not using a formal health facility, and the self-report of prolonged labor for more than 12 hours ($p= .109$), fever ($p= .03$), and “other problems with the delivery” ($p= .018$). In Castrovirreyna, there was a positive association between prolonged labor and reporting “non-availability of health personnel” ($p= .022$). Also, there was no positive association between reported complications of labor and delivery and the two most frequent reasons given for not using a health facility: “it was not necessary” and “fear or distrust of health personnel”. These results suggest that more women with complications of labor and delivery would have utilized a formal health establishment if the health personnel or the facility itself had been more “available”.

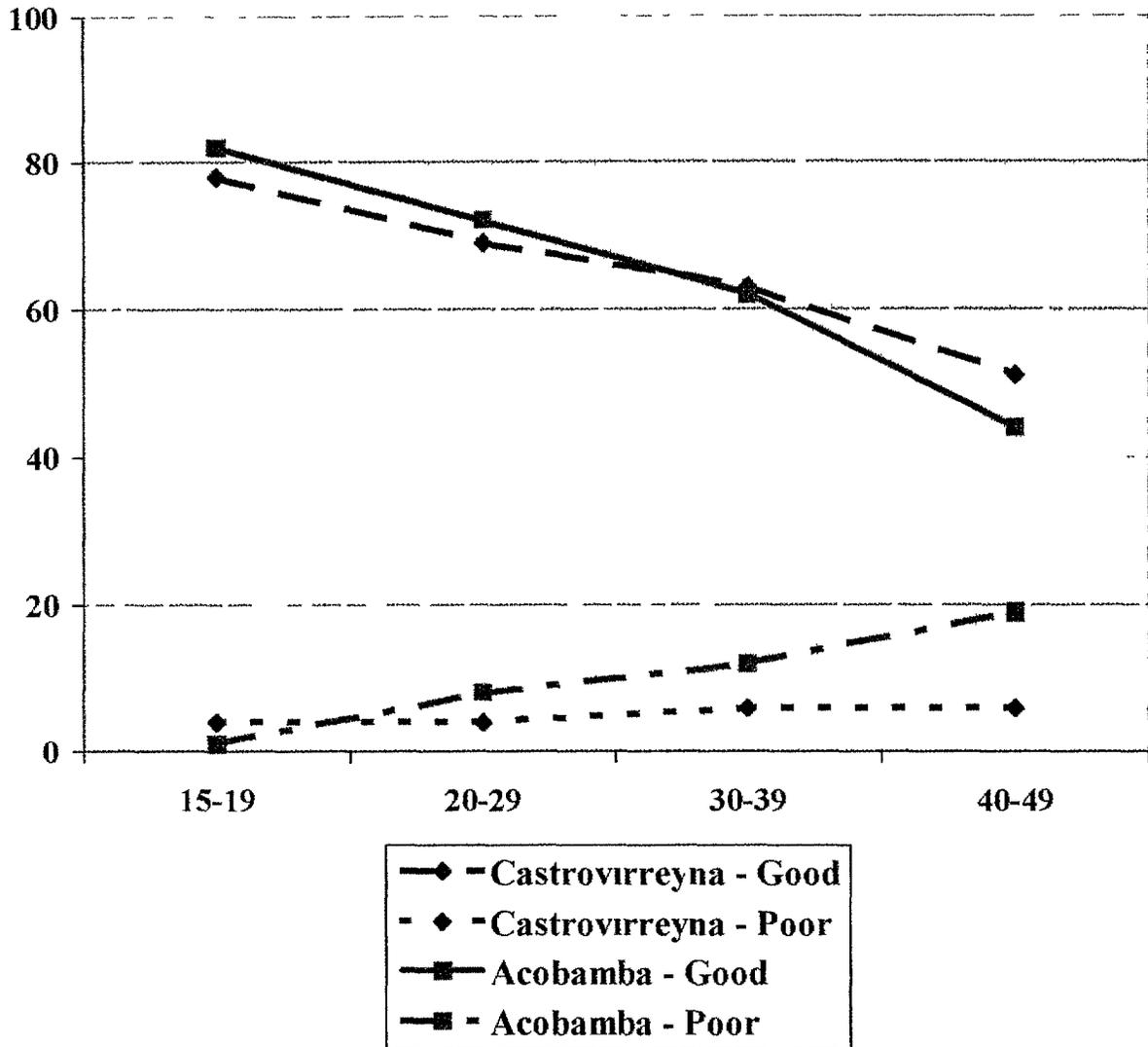
E. Interconceptional Health

1. General reported health status

We asked women to describe in general how their health has been in the past year. Classified into good/excellent, ‘regular’, and poor, results showed that similar proportions of women in the two provinces reported good health (65-66 percent). Twice as many Acobamba women as Castrovirreyna women reported bad health (9.7 versus 4.8 percent). Women who were not in union, were younger, with fewer children, and with more higher education were those who were more likely to report good health.

As many as 19 percent of Acobamba women ages 40-49 reported their health as bad (see Figure 3)

Figure 3 Reported General Health Status in the Last Year by Age



2 Reporting of vaginal discharge

Qualitative studies of women in similar populations of Huancavelica and other departments of the Peruvian Sierra by the ReproSalud Project (E Carrasco, 1997) suggest that many women identify vaginal discharge as one, if not the main, health

problem facing them. In order to get a quantitative measure of the prevalence of this problem, we included in the survey questionnaire a series of four questions regarding symptoms that the interviewee may have had in the past 15 days, asking specifically about the occurrence of headache, back-ache, stomach-ache, and vaginal discharge (referred to as '*descenso*' or '*regla blanca*') The first three questions were included as lead-in or warm-up questions to the fourth and main question, in order to reduce embarrassment and maximize valid reporting on a sensitive issue. Table XVIII shows that approximately 42 percent of women in both provinces who reported having had discharge in the previous 15 days. Significantly higher proportions of women in union reported discharge in comparison with women not in union. Differences by age reflect the differences in reporting by whether or not the women was in union, being higher for women in union.

Table XVIII
Proportion of Women Reporting Vaginal Discharge
In a Fifteen-Day Recall Period, By Age and if in Union

	Acobamba		Castrovirreyna	
	%	N=	%	N=
In Union				
Yes	44	707	51	225
No	30	208	30	151
χ^2	p< 001		P< 001	
Age				
15-19	30	163	24	107
20-29	43	320	45	109
30-39	44	266	58	83
40-49	40	166	49	76
χ^2	p< 05		P< 001	
All Women %	41	915	43	376

3 Visits to a health facility in past year

Women were asked if they had visited any type of health facility (whether public

or private) in the past year for any reason related to their own health, not including any visit to obtain a contraceptive method. If they had, they were asked specifically if the health provider that attended them had told them they had a 1) gynecologic problem related to a contraceptive method, 2) other gynecologic problem, 3) problem related to a pregnancy, 4) anemia, or 5) other problem. The fifth question was asked in an open-ended manner, which resulted in 89 categories of responses.

As shown in Table XIX, 25.6 percent of Acobamba women and 42.1 percent of Castrovirreyna women visited a health facility in the past year. There was no difference in either province by women's age, education, or parity between those who did or did not visit a health facility. Reasons given for health care visits are listed by the proportion of women with responses that were later categorized into general diagnostic categories. The most frequent reasons for seeking health care were gynecologic problems and pregnancy-related. Otherwise, respiratory illnesses, gastrointestinal problems, and the ill-defined symptoms of headache and general malaise were the most frequent motives for visiting a health facility. Twelve percent of Acobamba women and 22 percent of Castrovirreyna women were told during their reported visit that they had anemia.

Table XIX
Proportion of Women Reporting Visit to a Health Facility
In Past Year, and Reasons for Visit

	Acobamba	Castrovirreyna
Total proportion seeking care	25 6	42 1
Reason for seeking care *		
Problem with contraceptive method	3	4
Other gynecologic problem	14	22
Problem related to a pregnancy	25	8
Other reasons		
Postpartum care	1	2
Respiratory illness	18	20
Gastrointestinal problem	9	17
Dental	6	9
Urinary tract	3	4
Accident/trauma	3	3
Circulatory system	-	4
Eyes or ears	0 4	4
Skin	2	1
Preventive care (general exam, Pap)	1 3	2 -
Other infections		
Ill-defined symptoms (headache, malaise)	20	11
N=	235	158

* As a proportion of those reporting a visit to a health facility in the past year. Some respondents gave more than one response, therefore column percentages add to more than 100.

4 Screening for Cervical and Breast Cancer

Knowledge of the Papanicolaou test for cervical cancer was reported by 17 percent of Acobamba women and 69 percent of Castrovirreyna women who were interviewed on the subject. The entire study sample was not interviewed on these questions due to a late decision to include these questions. However, there was no difference in the distribution of those interviewed versus those not interviewed on the characteristics of age, education, and number of children, and proportion with a male partner. Therefore, they can be considered to be representative of the entire sample. Table XX shows that 17 percent of Acobamba women had heard of Papanicolaou, but three percent or less of had either a Pap-test or a breast exam. Consistent with their

significantly greater knowledge of Papanicolaou at 69 percent, Castrovirreyna women were much more likely to have had a Pap-test in the past five years (28 percent), with fewer having had a breast exam in that time period (10 percent) Women in union and older women in Castrovirreyna were much more likely than younger women or those not in union to have knowledge of and to have obtained a Pap-test and breast exam A higher educational level was associated with greater knowledge of Papanicolaou in Acobamba, but education made no difference in knowledge or use of gynecologic cancer screening in Castrovirreyna Figures 3 and 4 show the knowledge and use of Papanicolaou and use of breast exam by age of the women

Table XX
Proportion of Women Reporting Knowledge of Papanicolaou
And Having Had a Pap-Test or Breast Exam in Past Five Years

	Acobamba			N=	Castrovirreyna			N=
	Heard of Papanicolaou %	Had Pap-Test %	Had Breast Exam		Heard of Papanicolaou %	Had Pap-Test %	Had Breast Exam	
In Union								
Yes	19	3	4	143	83	41	12	132
No	10	0	0	42	48	7	7	82
Education								
None	7	2	2	68	100	43	29	7
Primary	21	2	5	93	68	30	7	76
Secondary	24	0	0	21	65	26	11	120
Superior	33	33	0	3	100	27	18	11
All Women	17	2	3	185	69	28	10	214

Figure 5 Proportion of Women with Knowledge and Use of Papanicolaou Test in the Past Five Years by Age

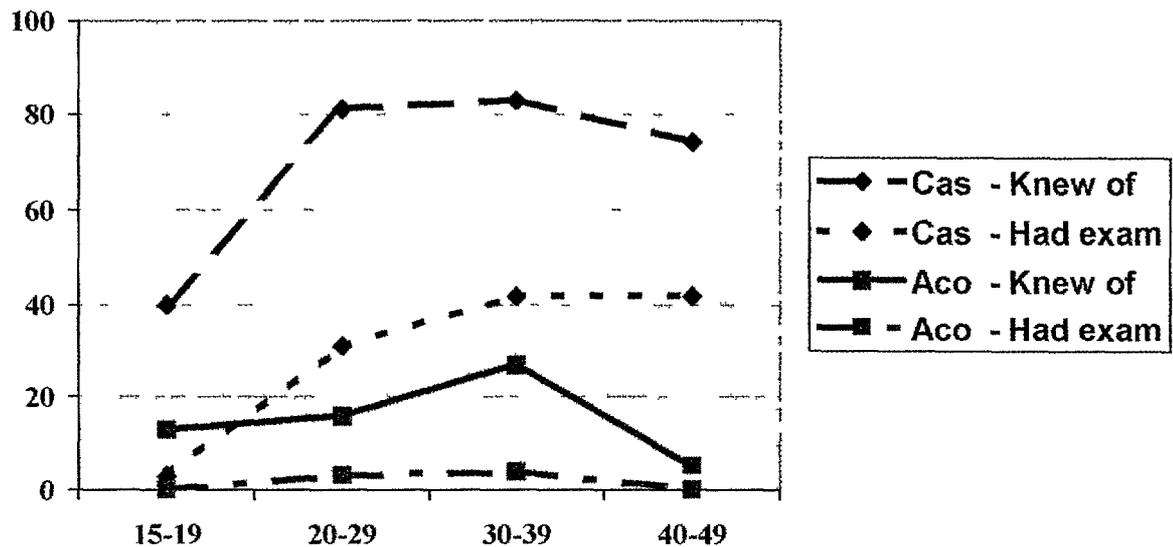
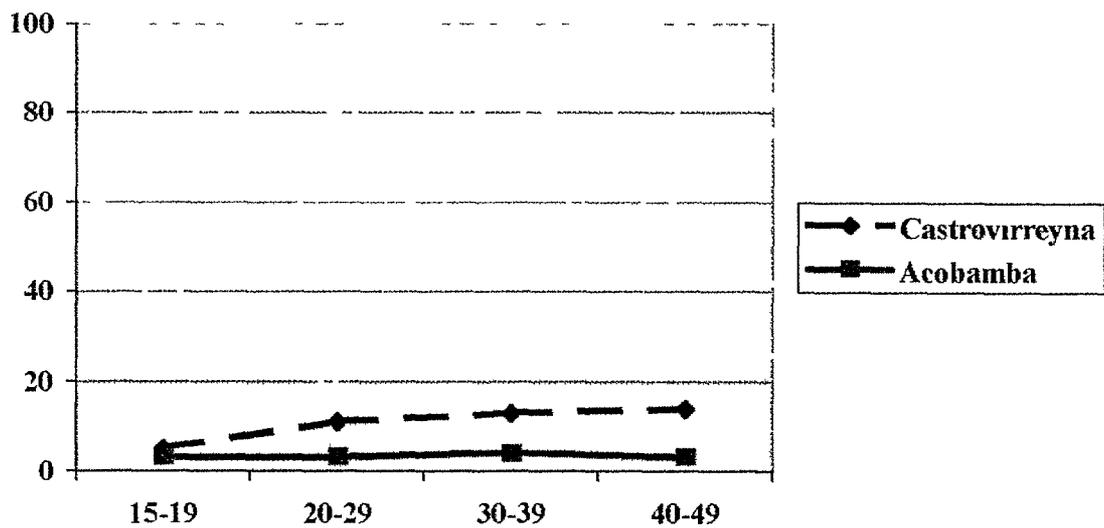


Figure 6 Proportion of Women with Breast Exam in Past Five Years by Age



F. Dissemination Of Information On Contraception

We wanted to know how well health personnel were reaching women in the community and in health facilities with family planning information. This would serve as baseline to help evaluate the effect of training of health providers in community education and interpersonal communications. Two strategies for disseminating family planning information could include 1) home visits, and 2) taking advantage of women's visits to a health facility for any purpose to provide family planning information at that moment so as not to miss the opportunity. Only women who had never used a modern contraception or were currently pregnant were asked questions on this subject, since women using contraception at the time would be assumed to have access to information. The results help to explain the patterns of community health promotion carried out by health services, and are consistent with findings on contraceptive knowledge and use presented later in the report.

1 Knowledge of where to obtain a contraceptive method

In general, non-users of contraception were fairly well-informed about where to obtain a contraceptive method. Sixty-nine percent of 811 Acobamba women who were not using a method or who were pregnant knew where to obtain one. Most of these (56 percent of all women who were asked this question) identified the health post as the place where methods could be obtained, while another 11 percent named the health center as the place to obtain methods.

In Castrovirreyna, 90 percent of 291 women who were not using a method or were pregnant knew where to obtain a method. Sixty-six percent of all women mentioned a health post and 22 percent identified a health center as the place to obtain a

method Two percent in each province named other places, such as a hospital, clinic, or a PVO

2 Visits by a family planning worker in the past year

Women were asked in the interview if, in the last 12 months, they had been visited by a family planning worker As shown in Table XXI, 18 and 26 percent, respectively, of Acobamba and Castrovirreyna who were asked the question received a visit from a family planning worker in the past year When disaggregated by age, one notes that the Acobamba women in the lower reproductive risk age groups (20-39) were visited more frequently than women in the youngest and oldest age groups There were few differences by age group in Castrovirreyna, except for a slightly lower proportion of 15-19 years olds who were visited in the previous year

Table XXI
Proportion of Women* Who Were Visited by a Family Planning Worker in the Past Year

Visited by FP Worker	Acobamba %	Castrovirreyna %
All women asked*	18.3	25.8
Distribution by Age		
15-19	10.9	21.0
20-29	21.4	29.4
30-39	22.2	29.1
40-49	14.5	27.0
N=	811	291

* Includes only women who had never used modern contraception or were pregnant

3 Visits to a health facility and receipt of family planning information

We asked these same women (non-users of contraception or pregnant) if they

had visited a health facility in the past 12 months, without specifying for what reason they had made the visit. Fifty-five percent of those in Acobamba and 70 percent of Castrovirreyna women responded affirmatively, as shown in Table XXII. There was a significantly higher proportion of Acobamba women ages 20-39 who had visited a health facility than those aged under 20 or over 39.

Also in Table XXII are the proportions of women in each age group who were spoken to about contraceptive methods in the health facility, among those who had attended a facility in the past year. It is clear that women in the lower risk age groups of 20-29 and 30-39 were more frequently spoken to about family planning than those very young or older.

Table XXII
Proportion of Women* Who Attended a Health Facility in Past Year
And Were Spoken to About Contraceptive Methods

	Acobamba %	Castrovirreyna %
Total proportion visiting health facility in past year	54.8 (N=811)	69.8 (N=291)
Proportion spoken to about contraception among those visiting health facility in past year	69.1	54.7
Distribution by Age		
15-19	45.6	36.1
20-29	74.2	76.0
30-39	74.2	77.5
40-49	66.2	39.0
N=	[444]	[203]

* Includes only women who had never used modern contraception or were pregnant

4 Source of messages on family planning

Study women were asked if they had heard any message related to family planning during the three month period prior to the survey interview. Fifty-five percent of Acobamba women and 64 percent of Castrovirreyna women answered affirmatively.

These women were then asked where they had heard the message. Table XXIII shows that radio and posters were the most frequent sources of family planning messages in Castrovirreyna. In Acobamba, health personnel were the most frequent source of information on family planning, followed by radio and posters.

Table XXIII
Proportion of Women Who Heard a Message on Family Planning in the
Previous Three Months, By Source of Message

Source of Information	Acobamba %	Castrovirreyna %
Radio	22	37
Posters	20	35
Health personnel	26	17
Flyers	7	20
Family/Neighbors	10	6
Television	1	8
Newspapers/Magazines/Books	0.5	1
At school	1	0.5
Megaphone	0.4	--
Market	0.2	--
Mothers' club	--	0.3
ANY MESSAGE	55	64
N =	[917]	[376]

G Reproductive Intentions

1 Desire for (more) children

Important differences between Acobamba and Castrovirreyna women in union emerged in relation to their stated desire for more children, as shown in Table XXIV.

Only 6 percent of Acobamba women stated a desire for more children, while 23 percent of those from Castrovirreyna desired more. The differences were notable among all age groups of women except those over age 40. Anecdotal comments from younger women in Acobamba were that they didn't want children because they cause one to "suffer too much". At all levels of parity, also, Castrovirreyna women are more likely to desire

more children than Acobamba women. The latter group, on the other hand, were more likely at all levels of age and parity to be “Undecided” about whether they want more children. These facts suggest that Acobamba are more fatalistic in regards to their reproduction. They don’t want (more) children, but neither do they take action to avoid them, as is seen in the data on contraceptive usage.

Table XXIV
Reproductive Intentions
Proportional Distribution of Women by Desire for (More) Children,
By Age and Province

	<u>Acobamba</u>					<u>Castrovirreyña</u>				
	<u>Current Age</u>					<u>Current Age</u>				
	15-19	20-29	30-39	40-49	15-49	15-19	20-29	30-39	40-49	15-49
Desire more children										
Now/soon	6	3	2	1	2	--	6	6	6	6
Later	24	2	--	1	3	86	25	13	--	16
Not sure when	2	--	--	--	1	--	--	1	--	1
Undecided	10	7	9	2	7	--	1	--	--	1
Do not want more	58	85	87	80	83	14	67	79	77	72
Sterilized	--	3	2	--	2	--	--	--	--	--
Infertile	--	--	--	16	3	--	--	1	16	5
TOTAL	100	100	100	100	100	100	100	100	100	100
N=	50	275	245	136	706	7	83	71	62	223

2 Opinion of women and partners regarding contraception usage

Table XXV presents the results on opinions of women and their partners regarding contraceptive usage. Nearly all women and 77 percent of men in Castrovirreyña are in agreement that couples use contraceptives. More women (23 vs 5 percent) and more men (38 vs 23 percent) in Acobamba versus Castrovirreyña are in disagreement with use of family planning by other couples. Acobamba women are also more likely to not know the opinion of their partner regarding family planning, suggesting less communication between spouses about the issue. Eighteen percent

stated they did not know their partner's opinion or to be unsure about their own opinion, as compared to less than 3 percent of women from Castrovirreyna. There is a strong positive relationship between educational level of the woman and the opinion held by her and her partner regarding use of contraceptive methods.

Table XXV
Perception of Non-Sterilized Women in Union Regarding Their Partner's Attitudes Toward Family Planning

	<u>Woman approves</u>			<u>Woman disapproves</u>			Woman is not sure	Total	Woman approves	Partner approves	N=
	Partner Approves	Partner disap approves	Doesn t know opinion of partner	Partner approves	Partner disapproves	Doesn t know opinion of partner					
Acobamba	56	11	9	4	11	4	5	100	77	62	695
Castrovirreyn	76	18	0 4	0 4	2	1	1	100	95	77	225
a Huancavelica*	64	6	9	2	8	3	7	100	79	68**	290

*Data from ENDES III, 1996

** Includes women in the category 'woman is not sure' but who know the opinion of partner

H. Contraceptive Knowledge And Use

Understanding of the levels of knowledge and use of contraceptive methods is important for measurement of family planning program effects as well as to identify populations which have not had access to these programs. This section includes data on knowledge, past use, and current use of contraceptives, sources of methods, reasons for non-use of modern methods, and attitudes towards the use of contraceptives.

1 Knowledge of contraceptive methods

In order to measure contraceptive knowledge, women were first told that there are various methods or manners that a couple can use to delay or avoid a pregnancy.

They were then asked to mention the methods that she knew of or had heard of. For each method not mentioned spontaneously, she was asked specifically if she knew of or had heard of that method. "Knowledge" of a method does not necessarily mean that a woman has a good understanding of how it works. She may only have heard the name of the method and was able to recognize it when asked.

Ninety-five percent of Acobamba women and 100 percent of Castrovirreyna women knew (non-spontaneously) of at least one contraceptive method, as shown in Table XXVI. The IUD, DepoProvera (known as the 'injection'), and the pill were the most well known modern methods. Castrovirreyna women had greater knowledge of both modern and traditional methods than did Acobamba women. Ninety percent or more of Castrovirreyna women knew of the IUD, pill, condom, and injection, and less of other modern methods. On the other hand, 81 and 79 percent of Acobamba women recognized the IUD and injection, respectively, and less of other modern methods.

The least well-known modern methods were Norplant, vaginal methods, and vasectomy. Surprisingly, in Acobamba the condom was not as well-known as would be generally assumed, being identified by only 61 percent of women.

Spontaneous knowledge of contraceptive methods was of course at lower levels than when women were asked specifically if they had heard about each method by name.

Proportions of women with spontaneous knowledge of the methods is shown in Figure 7, showing that the IUD, oral contraceptives, and DepoProvera were the most well known.

2 Past use of contraceptive methods

As many as 81 percent of Castrovirreyna women and over half of Acobamba women had at any time in the past used a contraceptive method, either modern or traditional, as seen in Table XXVI and Figure 8. In both places, traditional methods have been utilized in the past by a higher proportion of women than have used a modern method. Rhythm was the most frequently ever-used method, used at some time by over half (55.6 percent) of all Castrovirreyna women in union, and over one-third (35.5 percent) of all Acobamba women. More than twice as many Castrovirreyna women have

Table XXVI
Proportion of Women of Fertile Age in Union with
Knowledge, Any Past Use and Current Use of Each Contraceptive Method

	Acobamba			Castrovirreyna		
	Knowledge	Past Use	Current Use	Knowledge	Past Use	Current Use
<u>ANY METHOD</u>	<u>95.5</u>	<u>52.7</u>	<u>32.5</u>	<u>100.0</u>	<u>80.9</u>	<u>55.1</u>
<u>Modern Methods</u>	<u>93.8</u>	<u>24.3</u>	<u>14.5</u>	<u>99.6</u>	<u>53.3</u>	<u>33.3</u>
Pill	76.0	7.6	2.1	91.1	12.0	0.9
IUD	81.4	4.9	3.0	93.3	22.7	13.8
DepoProvera	79.0	10.0	5.9	90.2	25.8	13.8
Norplant	18.1	0.1	0.1	41.3	-	-
Ligation	73.0	1.8	1.8	82.2	-	-
Vasectomy	53.7	0.1	-	52.4	-	-
Vaginal methods	35.2	0.9	0.3	63.6	7.6	0.4
Condom	61.3	5.9	1.4	91.1	20.9	5.3
<u>Traditional</u>						
<u>Methods</u>	<u>77.7</u>	<u>38.3</u>	<u>17.8</u>	<u>88.9</u>	<u>63.1</u>	<u>21.9</u>
Rhythm	74.9	35.5	14.4	87.1	55.6	16.1
Withdrawal	25.9	5.9	2.1	46.7	24.0	4.9
Lact Amenorrhea			0.9			0.9
Folkloric	11.2	3.5	0.4	21.8	5.8	-
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
N=	708	708	708	225	225	225

• Not known

used modern methods at any time in the past as compared to Acobamba women (53.3 versus 24.3 percent). This difference is accounted for by greater proportion of

Castrovirreyna women who have used an IUD, DepoProvera, the condom, and to a lesser extent the pill

3 Current use of contraceptive methods

Significantly fewer women currently use contraception than have used at any time in the past, as shown in Table XXVI and Figure 9. Castrovirreyna had 55.1 percent rate of use of contraceptive methods, compared to a national rate of 64 percent for women in union. Acobamba women had a current use rate of 32.5 percent. This compares to the figure of 35.1 percent for the Department of Huancavelica as reported in ENDES III (1996). Modern methods predominated in Castrovirreyna, while traditional methods were dominant in Acobamba.

The most frequently used method of contraception at the time of the study was the traditional method of periodic abstinence (rhythm), used by 14.4 percent of Acobamba and 16.1 percent of Castrovirreyna women. Among modern methods, DepoProvera and the IUD predominated in each of the provinces, although these were at 5.9 and 3.0 percent, respectively, in Acobamba, and 13.8 percent for both methods in Castrovirreyna.

Figure 7 Proportion of Women in Union with Spontaneous Knowledge of Methods

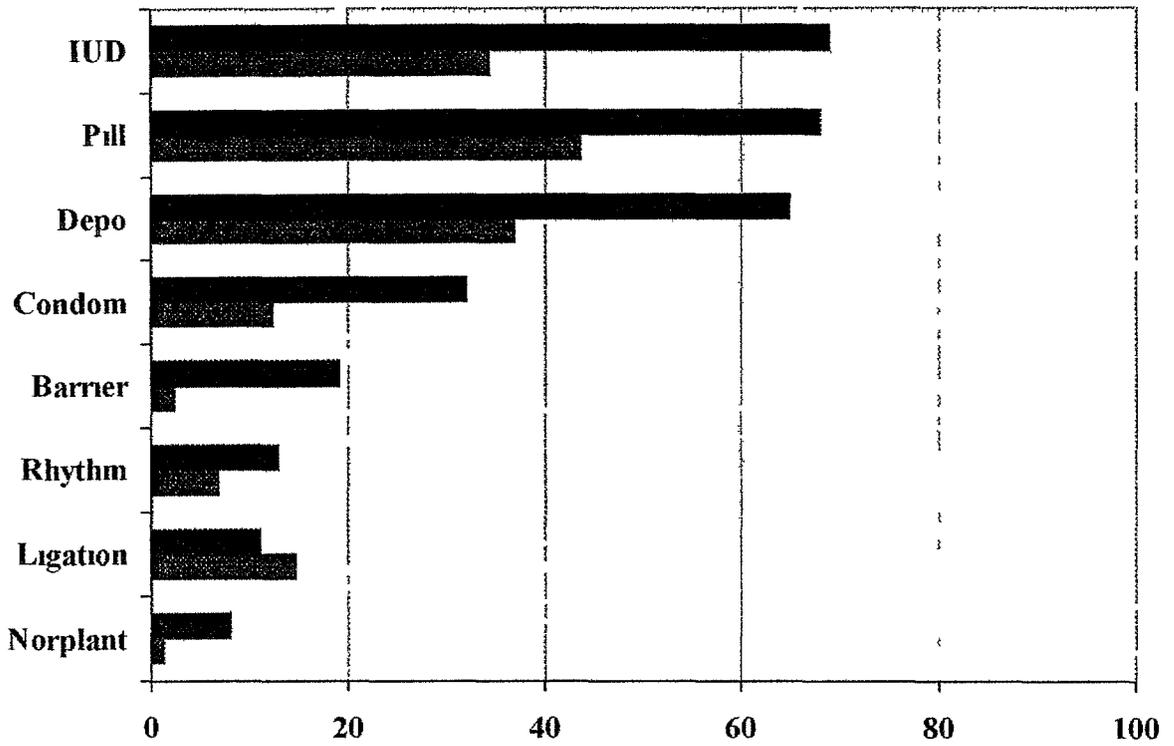


Figure 8 Proportion of Women with Any Past Use of Methods

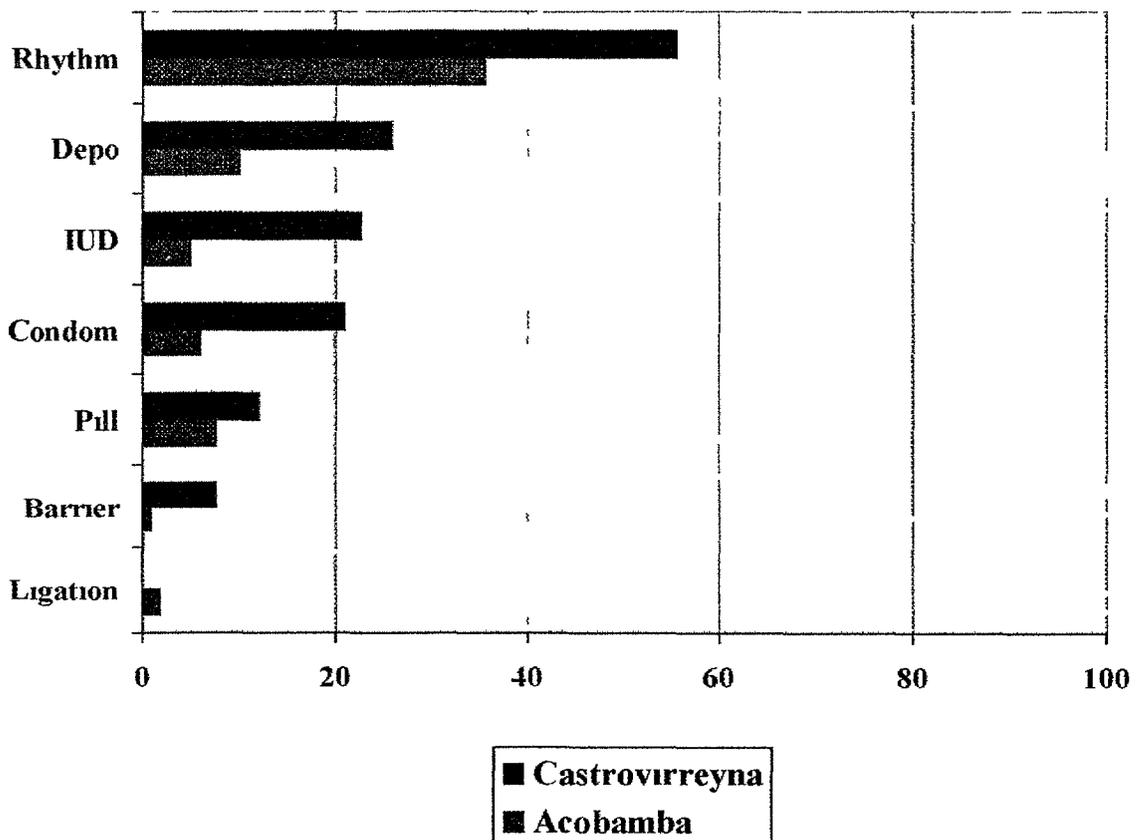
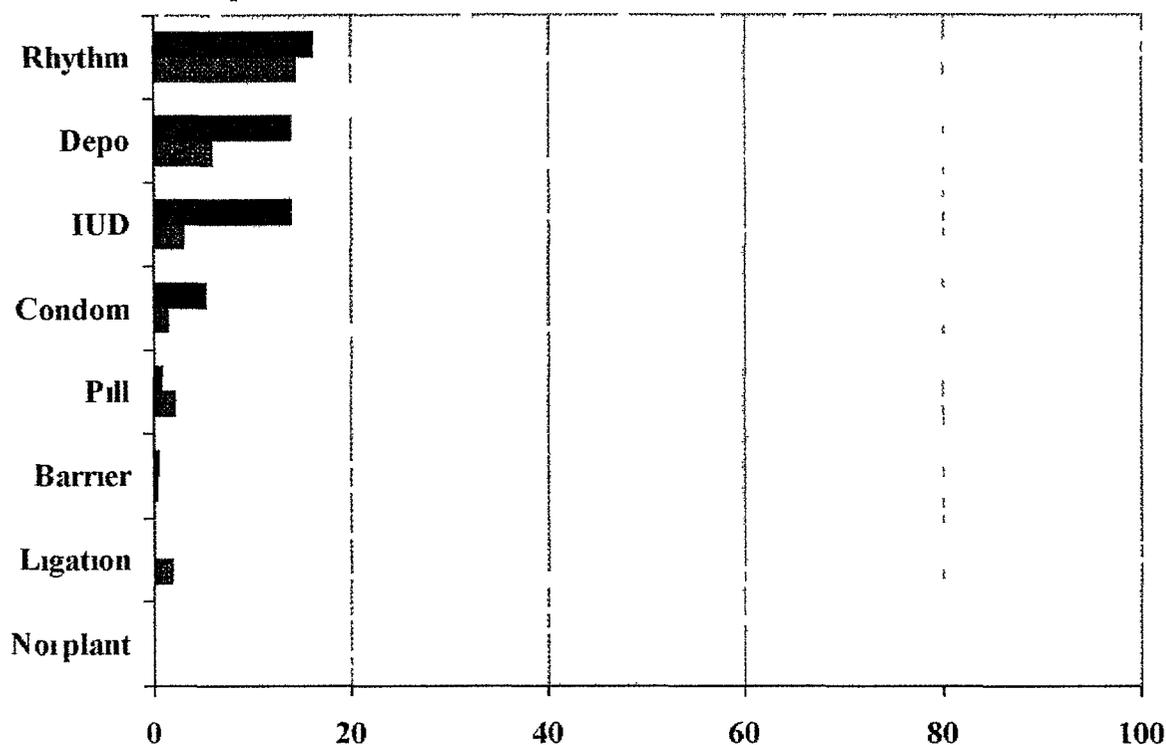


Figure 9 Proportion of Women in Union Who Currently Use a Contraceptive Method



4 Use of contraceptive methods by age of woman

**Table XXVII
Distribution of Women in Union By Current Use of Contraception By Age**

	Acobamba				Castrovirreyña			
	15-19	20-29	30-39	40-49	15-19	20-29	30-39	40-49
ANY METHOD	<u>30.0</u>	<u>36.0</u>	<u>35.6</u>	<u>20.6</u>	<u>37.5</u>	<u>60.2</u>	<u>69.0</u>	<u>35.5</u>
Modern Methods	<u>18.0</u>	<u>20.5</u>	<u>12.9</u>	<u>5.2</u>	<u>25.0</u>	<u>44.6</u>	<u>36.6</u>	<u>19.4</u>
Pill	2.0	3.3	1.2	1.5	-	-	2.8	-
IUD	4.0	4.4	2.0	1.5	-	18.1	15.5	8.1
DepoProvera	10.0	8.0	5.3	1.5	25.0	19.3	12.7	6.5
Norplant	-	0.4	-	-	-	-	-	-
Ligation	-	2.9	2.0	-	-	-	-	-
Vasectomy	-	-	-	-	-	-	-	-
Vaginal methods	-	-	0.8	-	-	-	-	1.6
Condom	2.0	1.5	1.6	0.7	-	7.2	5.6	3.2
Traditional	<u>12.0</u>	<u>15.6</u>	<u>22.6</u>	<u>15.4</u>	<u>12.5</u>	<u>15.6</u>	<u>32.3</u>	<u>16.1</u>
Rhythm	10.0	13.8	17.8	11.0	12.5	9.6	22.5	11.3
Withdrawal	-	0.7	3.6	2.9	-	3.6	7.0	4.8
Lact Amenorrea	2.0	0.4	0.8	1.5	-	1.2	1.4	-
Folkloric	0	0.7	0.4	-	-	1.2	1.4	-
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N=	50	275	247	136	8	83	71	62

* Not known

Table XXVII shows that women under age 20 and over age 39, those at high reproductive risk by their age, were least likely to use contraceptive methods. In both provinces, women ages 20-29 were most likely to use modern contraceptives, and those 30-39 were most likely to use traditional contraception. Within the 15-19 age group of women in union, DepoProvera was the most frequently used modern method.

5 Characteristics of contraceptive users versus non-users

As compared to women who have never used contraceptive, those who ever used contraception are significantly younger and are better educated. Table XXVIII shows that the average number of live births to ever users is lower than that of never-users in Acobamba, but only at a .05 level of significance. There is no significant difference in Castrovirreyna in the number of live births to ever-users versus never-users.

This finding suggests that contraceptive methods have not been utilized with sufficient consistency to cause much of a decline in the fertility rate. Whatever difference exists in number of live births may be explained by the younger ages of ever-users. Similar differences exist for current users versus not-current users.

Table XXVIII
Socio-Demographic Characteristics of Ever-Users Versus Never-Users
Of Any Type of Contraceptive Method

	Acobamba		Castrovirreyna	
	Ever Users	Never Users	Ever Users	Never Users
AGE				
Mean (s.d.)	29.0 (7.1)***	31.8 (8.7)	30.7 (7.8)***	35.4 (10.0)
EDUCATION				
Mean (s.d.)	2.2 (2.7)**	1.6 (2.1)	6.6 (3.3)**	5.3 (3.5)
No. of LIVE BIRTHS				
Mean (s.d.)	4.7 (2.9)*	5.3 (3.5)	4.3 (2.9)	4.9 (3.6)
N=	172	536	120	105

* p < .05
 ** p < .01
 *** p < .001

6 Place where contraceptive methods were obtained

Health posts are the most frequently cited place where contraceptives currently in use were obtained, with the exception of tubal ligation, as shown in Table XXIX. Greater use of health centers was reported in Castrovirreyña where more women have direct access to such a facility. In both provinces, there was preference for health centers and hospitals for IUD insertion, but a large proportion were also inserted in health posts, probably during visits by health professionals from nearby health centers. Pills and IUDs obtained from "Other" sources referred mainly to private voluntary organizations in cities outside the study area. Barrier methods refer to both condoms and vaginal barrier methods.

Table XXIX
Place Where Contraceptive Methods Were Obtained
For Those Currently Using Methods

	Acobamba					Castrovirreyña			
	Pill	IUD	Injectio n	Barrier	Tubal Ligation	Pill	IUD	Injectio n	Barrier
Hospital	--	3 9	3 6	--	15 4	--	8 1	5 4	--
Health Center	--	50 0	7 1	--	84 5	33 3	46 0	35 1	27 8
Health Post	100 0	42 3	87 5	90 0	--	50 0	40 5	59 5	72 2
Pharmacy	--	--	1 8	10 0	--	--	--	--	--
Other	--	3 9	--	--	--	16 7	5 4	--	--
Total	100 0	100 0	100 0	100 0	100 0	100 0	100 0	100 0	100 0
N=	27	26	56	20	13	6	37	37	18

7 Correct use of the rhythm method

Women who were current users of the rhythm method, or who had used it in the past, were asked to describe in detail the days in which it is not safe to have sexual relations in order to avoid pregnancy. Use was considered to be correct when the women specified that the unsafe days began eight (or up to 10) days from the first day of the menstrual period, and continued during the next 10 days. Each answer was written

verbatim by the interviewers. Later, the author assessed and coded each answer as correct or incorrect. Table XXX shows the results of correct use among women who use or have ever used the method. Castrovirreyna women were much more likely to use the rhythm method correctly, with 42 percent of correct use as compared to 28 percent correct use in Acobamba. In general, the higher the level of education, the more likely that the woman knew correct use. Despite the importance of the rhythm method as a means of contraception in the two provinces studied, these findings show that most rhythm users are not protected from pregnancy.

Table XXX
Proportion of Women Who Correctly Use the Rhythm Method
Among Those Who Use or Have Ever Used the Method,
By Educational Level

	Acobamba		Castrovirreyna	
	%	N=	%	N=
Education				
None	27.8	36	--	0
Primary	25.0	60	45.0	20
Secondary/Superior	50.0	6	38.5	13
All Women %	27.5	102	42.6	33

8 Reasons why modern contraceptive methods are not used

Study women who were not using any type of modern contraceptive or were using a traditional method, were asked why they did not use a modern method. Results are presented in Table XXXI in descending order of frequency. Percentages add to more than 100 since women were encouraged to give more than one response. Responses were marked by the interviewers next to the precoded categories provided in the questionnaire, or else written in the 'Other' category. Office coders recoded the 'Other' responses into over 100 categories, which were then reclassified into the

categories shown. The category of response mentioned with greatest frequency was “fear of health effects”. This includes simple fear of use, that women who use modern contraceptives are always sick, that the IUD can cause cancer, injections cause hemorrhage, injections cause menses to stop, injections hurt and one can’t walk due to the pain of the injections, that one has headaches with the pill, tablets cause itching, that children will be born with defects, that modern methods interfere with the ability of a woman to do heavy work and walk a lot, that one can die from a tubal ligation, that an interviewee’s daughter had died due to the IUD, that instead of curing the doctors “ruin you by giving you contraceptive methods”. The implication here is that women are poorly informed of the collateral effects of modern contraceptives, and live in an environment where rumors and misinformation are rife.

Table XXXI
Reasons For Non-Use of Modern Contraceptive Methods
Among All Women in Union, By Province

Categories of Reasons	Acobamba %	Castrovirreyña %
Fear of effects on health	54*	36
Currently pregnant or lactating	45	18
Menopause/claimed subfertility	8	14
Don't know how to use methods	14	4
Interviewee or partner oppose methods	13	8
Sporadic sexual relations	5	9
Prohibited by religion	8	1
Poor opinion of health facility/personnel	1	4
Desire more children	2	3
Intend to use in the (near) future	0 6	3
Service does not exist/too far away	0 6	2
Costs too much	0 4	2
Do not know where to obtain methods	2	0
Experienced a method failure	1	1
Opinion that methods are not effective	1	1
Prefer natural methods	0 3	1
Other persons in community oppose use	1	0
No interest in family planning	1	0 4
Percent using modern contraceptives	15	34
N =	[708]	[225]

* Percent of all women in union. Columns add to more than 100% since interviewees could give multiple reasons for non-use of modern contraceptives.

I Unmet Need for Contraception

Unmet need for family planning is a measure of the number of women who are most likely to be interested in contraception but not already using contraception. We know they may be interested since they do not desire a pregnancy in the near future or have decided they do not want more children. This is the definition most widely used for unmet need, which was developed principally by Charles Westoff (Westoff, 1978) and is reviewed in a recent issue of Population Reports (Robey et al, 1996). This measure of contraceptive use was developed and is widely used through national demographic and health (DHS) surveys, which include standard questions for women of reproductive age to determine the level of unmet need. Using the standard definition of unmet need, the National Demographic and Health Survey of 1996 in Peru found that 12.1% nationally and 40.7% of the Huancavelica population of women of reproductive age in union had unmet need (ENDES III, 1997).

The definition of unmet need for contraception was modified in 1982 to include pregnant, breastfeeding, and amenorrheic women who had previously been left out. This group is determined to have unmet need according to a survey question about whether the current or recent pregnancy was intended at the time, was desired but the women would have preferred to wait longer, or was not desired. We pretested this question on a number of Quechua-speaking women in the Province of Acobamba (70 percent of the Acobamba sample was interviewed in the Quechua language) and we found that most of them were unable to understand the question. The implication was that the pregnancy was not something they could have chosen to want or not want. We concluded that the question did not provide valid information for the assessment of unmet need among pregnant and amenorrheic women. Therefore, our estimation of unmet need is based on

the population of women in union who are currently exposed to pregnancy, not including pregnant, amenorrheic, or infertile women. Another point that has been recently raised in relation to the definition of unmet need for contraception is the issue of the *adequacy* of the contraceptive method (Foreit et al, 1992). It is questioned as to whether the definition of *contraceptive usage* should include the use of non-modern contraceptive methods: rhythm method, withdrawal, and folkloric methods. Although these methods may have a high efficacy if used correctly, we cannot be sure of correct use.

In our definition of unmet need, we included women who were using the rhythm method incorrectly (see Table XXX). We also included other traditional methods (withdrawal and folkloric) as a possible component of unmet need, since we are unsure of how effectively those methods were being practiced. Unmet need for contraception was found to be 58-63 percent in Acobamba (see Figure 10) and 40-47 percent in Castrovirreyna (see Figure 11).

Figures 12 and 13 show the same information disaggregated into women with any reproductive risk factors (age <17 or >34, parity > 3, and/or birth interval < 24 months). In both provinces, women with unmet need for contraception are more likely to have one or more reproductive risk factors. This information is only illustrative to show the relationship between risk and unmet need. We do not suggest that high risk women be convinced to change their reproductive intentions. We do show, however, that women who do not desire more children and are not currently using contraception are in large part at high reproductive risk.

Figure 10 Unmet need for contraception in Acobamba

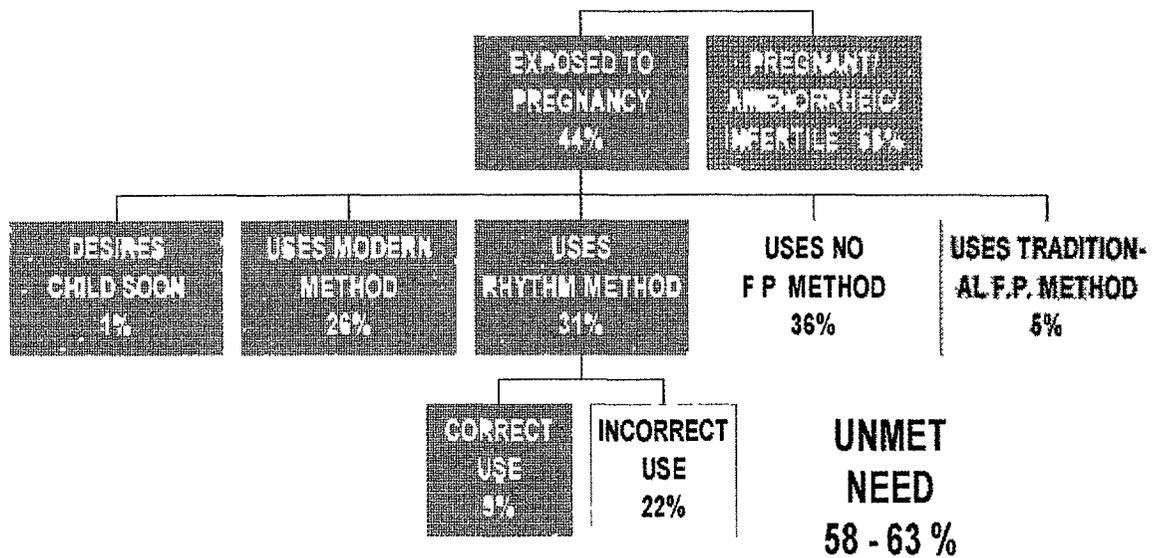


Figure 11 Unmet need for contraception in Castrovirreyna

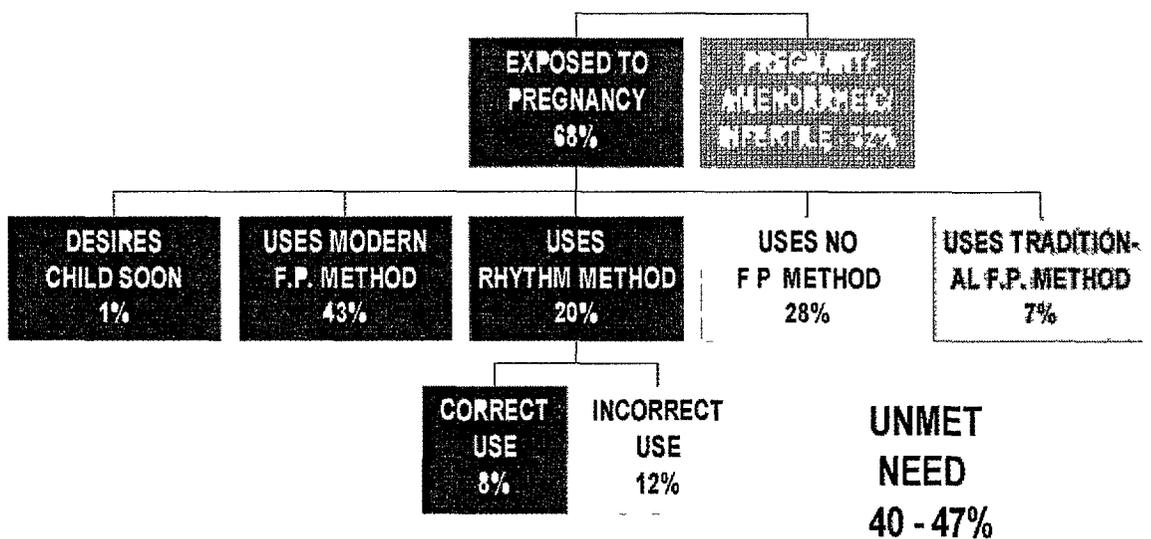


Figure 12. Unmet need by reproductive risk in Acobamba

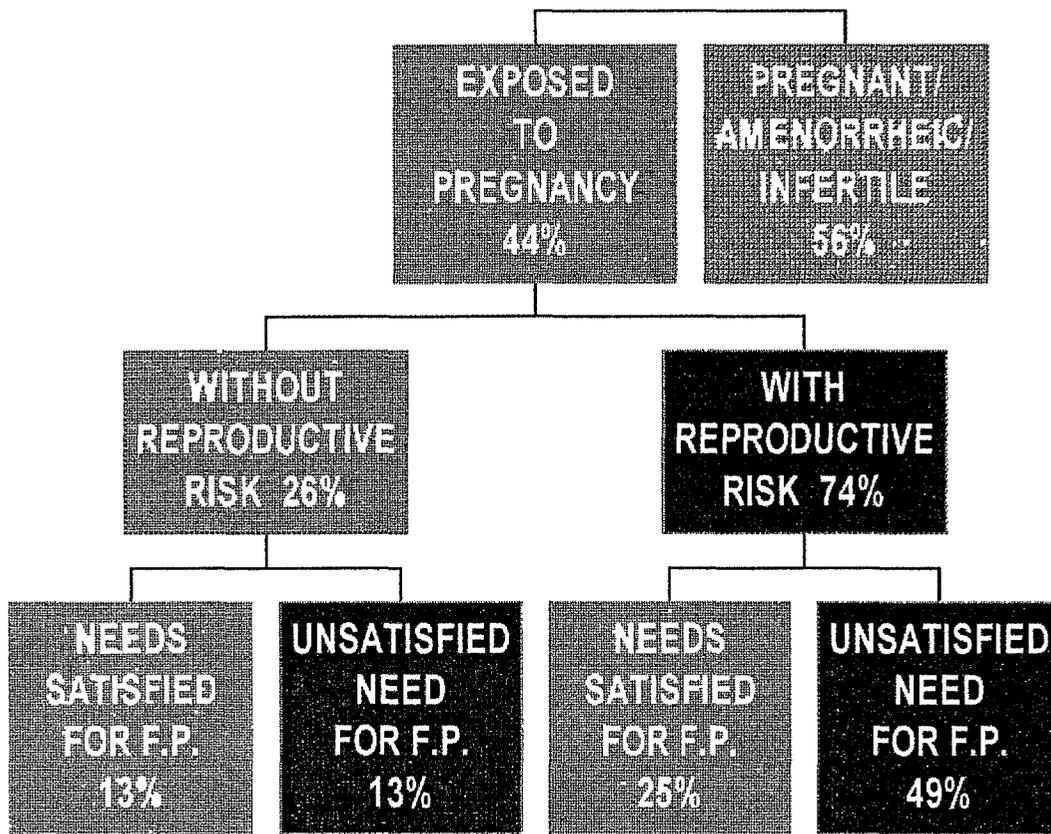
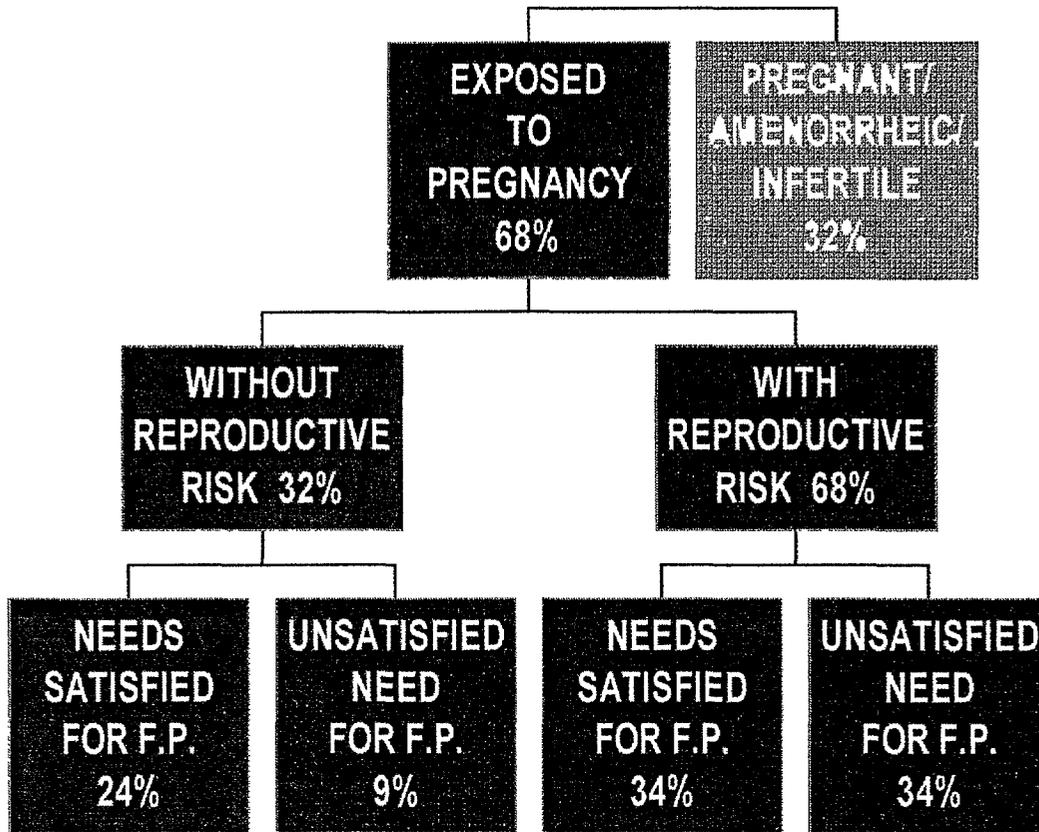


Figure 13 Unmet need by reproductive risk in Castrovirreyña



V. CONCLUSIONS AND RECOMMENDATIONS

What are the reasons for unmet need for contraception? The DHS survey questionnaire used from 1985 to 1990 asked women with an unmet need their main reason for not currently using contraception. Most women cited their husband's disapproval and health concerns (Bongaarts and Bruce, 1995). These two reasons were also found to be the most frequently given by women in a series of qualitative studies in the Philippines, Nepal, Guatemala, India, and Kenya that sought to reveal attitudes, interests, and values that help to explain unmet need (Robey et al, 1996).

As we have shown in the reasons given by women for not using modern contraception (see Table XXXI), unmet need in our Huancavelica study population is principally related to their fear of negative health effects. Concerns about health effects came from women's own experiences with contraceptives, experiences of other women they know, and from rumors which circulate within communities originating from experiences of women or from groups (such as religious organizations or others) that seek to dissuade women from using contraception. Qualitative studies in Mexico (Pick et al, 1996) and Bangladesh (Simmons, 1995) showed that women accepted the side effects of contraception as the price to avoid unwanted pregnancy. These women were informed of the risks and made their decision. On the other hand, when women were not well-informed of the possible effects on health, they had more fears and usually opted for facing the known risks of pregnancy and child-bearing than the unknown risks of contraception, as shown in India (Ravindran, 1993) and Kenya (Rutenberg et al, 1996).

We do not know how women in our population compare the health risks of contraception with the health risks of delivering a child, but we can surmise from our

data that women are greatly concerned about both. Further operations research is needed to determine if communication campaigns on the health risks of contraception would be effective in changing women's attitudes toward viewing the side effects of contraception (contraceptive morbidity) as preferable to the risks of continued childbearing (maternal morbidity) in our study population. Since the majority of our population so clearly does not desire more children, educational strategies orienting women and their partners to the relative health effects of contraception and childbearing would seem to be warranted, and should be field tested and evaluated.

An educational focus on real and imagined health effects of contraception could be an effective entree to disseminating the concept of reproductive risk for childbearing. A large majority of our study population had one or more reproductive risk factors (see Table VI). Our study results indicate that, especially among the Castrovirreyna women, there was no positive behavioral association of reproductive risk with use of maternal health services. Women at risk were *less* likely to obtain prenatal care or have their delivery attended by a professional health provider than women who had at least one factor (age <18 or >34 years or parity > 3) (see Tables X and XIV). They were also less likely to use a health facility for their delivery if they had complications of labor and delivery than if they had no complications (see Table XVII). In the case of Acobamba, in contrast, although women did display a difference in formal health care seeking behavior for birthing when there were complications of labor and delivery, there was no evidence that the presence of reproductive risk factors played a role in other health care decisions (see Tables X and XIV). There was a highly significant association, however, between higher education and presence of a health worker at delivery in both Castrovirreyna and Acobamba, as shown in a regression analysis.

The issue of using reproductive risk screening to focus scarce resources on those who need them the most is still a question that is unanswered for our population. Experiences with community-based high risk pregnancy screening programs have not always provided encouraging results, due to the low sensitivity, specificity, and predictive value of the screening tools used (Kwast, 1995). This may be due to not having an adequate scoring system available, or to the improper use in the field of the risk scoring systems that exist. Other screening programs have been effective, however. In many parts of the world, prenatal screening is simply standard. WHO and PAHO are long-time proponents of the risk approach in maternal and child health care (Gonzalez and Schwarcz, 1990). The potential benefits of being able to focus educational efforts and health care resources on the women who need them the most to prevent severe maternal morbidities and deaths would justify a pilot effort to develop and field test/validate a high risk screening system for this population in the context of an integrated maternal health care program with interventions at the community, primary, secondary and tertiary levels.

In that respect, a major concern is whether communities should be sensitized to the utilization of health services when these are poorly functioning. The interventions through the PASARE Project were designed to improve the capability of health post personnel to identify and manage obstetrical emergencies at a primary level, and improve skills in family planning service delivery and the ability to communicate effectively with patients individually and on a community level. These interventions no doubt will improve the functioning of the health care system, recognizing the limitations of those interventions of brief training time, little supervised clinical practice on real patients, and focus on communication processes rather than specific health messages and content that

need to be promoted in the community We need to determine whether the differences in health care coverage, knowledge levels, and contraceptive prevalence between the two study provinces were more due to the large difference in educational attainment of the women, or to the fact that eight out of the 12 study villages in Castrovirreyna had a doctor and/or professional nurses and midwives as compared to one of 12 in Acobamba

Will health care utilization increase in Acobamba as staffing patterns improve?

The evolution of prenatal care use in Acobamba over the past five years (see Figure 1) suggests that the greater availability of health facilities was an important factor in improving coverage, in addition to other “incentives” provided to seek prenatal care However, if prenatal care had been *effective* in identifying women with high risk profiles and/or with developing signs and symptoms of pregnancy complications, would there not have been greater incentive on the part of women to seek formal health care for the delivery? Here enter the issues of perceived quality of care

The fact that such a high proportion of women are now receiving at least one prenatal visit presents the grand opportunity to provide *preventive* interventions by reaching them with micronutrients that are proving to protect women against maternal morbidity and mortality especially ferrous sulfate and vitamin A These would preferably be given, along with other vitamins and minerals, in a multivitamin supplement

On the other side of the issue, would use of community health promoters specially trained to identify high risk women and danger signs of pregnancy and delivery be an effective strategy in these populations to initiate and foment health care seeking behaviors when needed? Further development of a community-oriented referral system must include participation of men as partners of parturient women who assist in home-

based decision-making about the seeking of health care. Our study showed the critical role of the husband in attending deliveries, and in accompanying his partner to a health facility when needed. A community-oriented referral system must also include community leaders who would develop an emergency response and transport system to evacuate women with complications to the nearest facility with resolute capacity. In addition, the health sector could and should provide a simple radio-based communication system linking health posts and health centers so that health post technicians can call for emergency assistance and receive emergency relief instructions.

An effective maternity referral system that will save women's lives must have a secondary level back-up facility that can provide "essential obstetric functions" (EOF), defined by the World Health Organization as including 1) surgical obstetrics, 2) anesthesia, 3) medical treatment, 4) blood replacement, 5) manual procedures and monitoring of labor, 6) management of women at high risk, 7) family planning support, and 8) neonatal special care (WHO, 1991). Our inventory of personnel, supplies, and equipment of health facilities, another component of the baseline study in Huancavelica, showed a severe lack of these requirements in the three health centers in the study areas Tantara and Huachos in Castrovirreyna, and Paucara in Acobamba (Noble, 1997). Castrovirreyna study villages are eight or more hours by public transport every other day from the nearest obstetrical emergency referral center in Chíncha. The Paucara area population is one to five hours from the district capital of Acobamba, which has a mini-hospital not completely equipped for basic EOF, and longer to the regional referral hospital in the departmental capital of Huancavelica. Public transportation is infrequent to and from all of these population centers. The cost of acceding to referral facilities is another barrier that in most cases for the rural population is insuperable. In this largely

rural department with a non-cash economy, only 10 percent of patients are exonerated from fees at the Huancavelica Regional Hospital

The myriad health system improvements that would fortify the community back-up system for maternity care (more training, equipment, continual supplies, subsidies for fee-exoneration, improved financing, logistic, supervisory and monitoring/evaluation systems, and others) depend on the prioritization of these rural regions by the central level and redistribution of resources on a national basis. These actions would be only complying with the current health sector policy of equity in health care (Ministry of Health, 1996), and should not be further postponed

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Appendix 2

Changing Community Perceptions of Reproductive Health Services and
Reducing the Unmet Need for them in Peru's Highlands

I A Baseline Study

Qualitative Study

FINAL REPORT
(preliminary version)

Lima, October 28, 1997

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Hilda Gonzales Miranda*

I. INTRODUCTION

The following report is part of the baseline study for the project, "Changing community perceptions of reproductive health services and reducing the unmet need for them in Peru's highlands - I A Baseline study", which lasted five months (May-September 1997) and was carried out in the framework of the INOPAL III project

The study was directed by Dr Federico Leon, and headed by psychologist Hilda Gonzales and sociologist Rocio Valverde from the instruments design stage through to the drafting of the final report. We were able to count on the invaluable and permanent advice of anthropologist Maria Rosa Garate and the always-timely contributions of anthropologist Maria Elena Planas

The specific objectives of this component were to find out how women at reproductive age viewed the reproductive health processes and the health services, the perceptions of the service providers and local opinions on reproductive health

To do so we interviewed 116 women at reproductive age, 24 service providers and 9 key interviewees to supplement the information we collated. The interviews were digested and analyzed and the preliminary results presented in the city of Huancavelica to the zone's service providers led by Dr John Nagahata, Director of the Ministry of Health Social Programs. This exchange was very important for concluding the study

II. OBJECTIVES

The qualitative study is part of the overall baseline study of the project. Accordingly, the study is aimed at achieving some of project's general objectives. Its specific objectives are

- 1 To find out local views on reproductive health and contraception, especially among women at reproductive age (WRA)
- 2 To determine the reproductive health service needs of WRA and their views on the services that are currently on offer in the zone
- 3 To learn the opinions of the zone's health service providers about the services on offer and about local perceptions

1. Study design

1.1 Study and sample populations

Geographically the study population consisted of the inhabitants of two provinces in Huancavelica Castrovirreyna and Acobamba In Castrovirreyna, we selected twelve villages adjoining the Health Centers of Huachos and Tantara, while in Acobamba we settled on twelve villages adjoining the Paucara Health Center

Below is a list of the names of the twenty-four villages targeted in the study

Castrovirreyna Province

- Aurahua
- Capillas
- Cajamarca
- Chupamarca
- Huajintay
- Huamatambo
- Huachos
- Marcas
- Muyuhuasi
- San Juan
- Tantara
- Villa de Arma

Acobamba Province

- Andabamba
- Anta
- Chanquil
- Chuñunapampa
- Huachhua
- Huancapite
- Huayanay
- Mayunmarca
- Pucacruz
- Pumararra
- Rosario
- Tinquercasa

Although the study was located in the department of Huancavelica, the provinces were chosen for their very different characteristics. The access route to the province of Acobamba runs through the center of the department. Reaching it involves a four-hour drive from the city of Huancavelica along the Central Highway. The province of Castrovirreyna is more accessible and can be reached by driving along one of the roads that run inland from the coastal department of Ica. Despite their apparent proximity and political ties, an almost impassable barrier separates the two provinces: the western chain of the central Andes, which imposes not only physical, but also cultural differences. For instance, almost 70% of the rural population are Quechua speakers, while hardly any speak the language in Castrovirreyna province. These differences, later confirmed in the quantitative study of the same project, influenced the decision to analyze the two populations individually. For that reason the results for either province are laid out separately.

Although it would seem self-evident to do so, another distinguishing element used in the way we approached the study population was to differentiate between women at reproductive age and health service providers. As a result the study focused on four sub-populations.

We decided to hold 5 interviews per village and one interview with the person in charge of the reproductive health and family planning program in each village. In all we planned to conduct 120 interviews with women and 24 with health staff.

Study Populations	Women at Reproductive Age	Health Service Providers
Castrovirreyna	60 WRA Castrovirreyna	12 HSP Castrovirreyna
Acobamba	60 WRA Acobamba	12 HSP Acobamba

2. Topic areas and information needs

The questions and general information needs were grouped in three topic areas: maternal health, reproductive intentions and contraception, and gynecological health. Within maternal health we considered the processes of pregnancy, childbirth and postnatal, focusing on them as a single process in order not to impose distinctions on our interviewees that stem more from the way biomedical analysis is structured than from day-to-day experiences.

As regards the information from the point of view of the WRA, each topic area related to processes in life, like bearing children, taking steps to avoid bearing children, suffering from some genitalia-related complaint. Therefore, we proposed to reconstruct the women's replies according to these life processes: how they experienced them, in what time-spaces they occurred, who the other participants interacting in the process were and what roles they fulfilled.

We also attempted to find out what problems arose and how they evolved, that is, from the moment the problems were diagnosed by the persons involved, to the measures taken to treat and resolve them, In these cases we also focused on attitudes toward the local and regional health services

Regarding service providers, we were interested in determining, in respect of the topic areas, their own knowledge and views of local attitudes and opinions of the services currently on offer

3. Material and methods

3.1. Information gathering techniques

In order to obtain the information we needed, we decided to conduct in-depth interviews with women at reproductive age and with the health service providers Our initial idea was, in view of the relatively short time scheduled for the study, to use semi-structured interviews Two interview guides were designed to that end (see appendix 1) This approach was discarded for the interviews with women at reproductive age after trying it out in the province of Acobamba

It would seem appropriate at this stage to mention the two developments that led us to modify the interview guide for women The first had to do with not structuring the questions and the second with "talking about others" rather than "talking about oneself" Past experiences in urban surveys had taught us that questions put in the third person tended to yield more open and detailed replies, while interviewees were less at ease with questions that elicited a direct account of their own experiences We found the situation to be quite different when we used this approach in Acobamba, where people were more willing to speak about themselves

Based on this experience we agreed to interview the women with guidelines that were much less structured and focused more on personal experiences, in the hope that the interviewed women would speak about their reproductive, gynecological and contraception experiences

These modifications made processing the information a lengthier process But the fact that the interviewers were also in charge of processing and analyzing the information went a long way toward reducing the time needed for that

III RESULTS

For the reasons of methodology described, the results obtained from both provinces (Castrovirreyna and Acobamba) were analyzed simultaneously using the same structure, in order to facilitate comparison of the results, as was mentioned when drafting the conclusions

RESULTS FROM CASTROVIRREYNA

A Views of women at reproductive age on pregnancy, childbirth and postnatal

PREGNANCY

Process

With regard to this topic, the interviewees were asked to give an account of their pregnancies focusing primarily on those that had occurred in the past five years

Pregnancy is viewed as a common process or situation that is "natural" in the sense of "inevitable", especially among the older women, who claimed to have had between 5 and 13 pregnancies, most of which did not end happily. Complications while giving birth, miscarriages and stillbirths were described as commonplace among the women in the area

In villages that lay closer to urban centers we noted a different attitude among younger women with more education, whereby pregnancy changed from being a common or "natural" event to one that was planned and stemmed from a desire to have children. Although this change was clearly noticeable in the replies of female students and very young women, we did not conclude that this is carried out in practice

Being pregnant makes no difference to a woman's life in the countryside they perform the same social and productive roles. The working day changes neither in terms of length nor of chores to be done. The women continue to drive their animals, climb hills, and help with the planting and harvesting, having first done all the housework. In the zones we visited, the women tend to go out into the fields at 9 or 10 in the morning. Although this is later than the men, it is not a privilege, it is basically because the women are responsible for feeding the family and seeing them off to work. By the time they go out into the fields they have already prepared the midday meal. This distribution of the domestic labor does not vary during pregnancy

During the early part of the pregnancy, according to the interviewees, there are no specific activities or steps taken to protect or improve the conditions of the pregnancy. Diets do not vary, neither do they go to the medical post or center. *"Go to the post to be looked at? No No We don't go"*

It is only between the fifth and ninth month, when the belly's size becomes more noticeable, that they engage in practices aimed at preventing complications, like

- Satisfying cravings
- Evaluating the position of the fetus in the womb

Satisfying one's cravings is important, since failure to do so could lead to miscarriage or premature birth along with the subsequent difficulties for mother and child

When women refer to unsatisfied cravings, it is to explain a miscarriage or a difficult birth. In these cases they tell how they felt the urge to eat food that is uncommon or was not to hand at the time. Usually, the husband was asked to satisfy the cravings.

E It died

R What from?

E At 8 months I miscarried

R Oh, when you were 8 months pregnant?

E Yes I wanted milk and my husband had brought figs. And figs are always bad. I wanted milk but there wasn't any, so I ate the figs. So at about 10 it started. The next day the same and it on into the night. The baby arrived on the third day.

R It arrived?

E Yes It arrived

R And who helped you?

E My husband, miss

R And why was that, do you think?

E Because of the milk I wanted to drink some but I ate figs. Because there wasn't any milk. That's why I think. That must be the reason.

(Villager from Villa de Arma, aged 41)

Controlling the position of the fetus in the womb is a practice that is very widespread, according to the interviewees. Owing to the strain of work in the fields the baby often "*gets crossed in the belly*", which causes the mother intense pain, especially in her back. If this is not dealt with in time it could lead to a difficult birth, the death of the child and even that of the mother.

The women permanently monitor the position of the fetus in the womb. If they notice anything unusual or feel any discomfort associated with this, they immediately go and see the *curiosa* (local midwife). She is invariably an old woman, very often a relative, like a mother-in-law or aunt, who returns the fetus to its "normal" position using a blanket and rough movements.

When talking about preventive practices, the women wouldn't ordinarily discuss pregnancy control by health service staff. When we asked them specifically, the older women would reply that the health post was new in the area and they were embarrassed to go because it meant exposing their bodies to a man, and that to many was unthinkable. However, the basic reason the vast majority gave for not going was that they saw no reason to. There was a failure to understand the preventive aspect of the pregnancy control. Where was the sense if the woman felt alright?

R Did you go to the post for your controls?
E No I didn't go for any controls, with any of my children
R Why not??
E I didn't feel unwell, miss I felt fine
(Villager from Cajamarca, aged 29)

Disruptions or complications during pregnancy

Two fundamental problems can arise during pregnancy that can endanger the baby's and even the mother's life. One is an unprovoked miscarriage, locally termed as *loss* or *badly borne*, and the other is the movement of the fetus, which gets *crossed*, causing very strong back pains and complications later during childbirth.

The symptoms associated with these ills are hemorrhages or bleeding, sharp pains and movement of the fetus.

The women attributed these problems to a variety of causes. In some said they were caused by strain of working in the fields or a fall. Others talked about the *Chacho*, which is supposed to be an evil spirit that inhabits the highlands and inexplicably (that is without having a rational motive), causes *harm* in women, children and men at any moment.

No reference was made to abortions. This is apparently a very sensitive subject and not one easily discussed openly.

Solution of Problems

In broad terms, the women's replies contained both common and distinguishing elements. Common elements we could mention include the efficiency criteria they apply and the awareness that there are a series of recourses available to them. These are almost always learnt from their own experience or that of associates, like knowledge of traditional and modern medicine within the domestic or non-immediate family (mothers, mothers-in-law, etc.), the knowledge of *curiosas*, midwives and healers, the knowledge and resources of the local, district and regional health services. The distinctions arose in the validity attached to each of these recourses, which vary greatly in terms of relevance and recurrence, depending on the problem in hand.

Obviously, the first step is to try to solve problems within the confines of the home, which is where it occurs to begin with. This will involve the use of traditional medicines, like herbs, massages, etc., as well as elements of modern medicine like pills for treating basic complaints "for headaches", "for back pains", "for belly ache" etc.

When bleeding occurs women living in the larger urban centers tend to go to the health center. This is not the case for those that live in more distant villages, to whom it does not occur to go to the local health posts. This difference seems to us to be associated with the easier access of the former to health centers, as well as a better formal education. However, it is also important to note that people are highly dubious of the capacity of medical posts to solve their problems, mainly due to the lack of health professionals and

shortage of medicines so much so, that they know beforehand that they will be transferred to the nearest health center or the hospital in Chinchá, alternatives that very often are not even an option owing to lack of financial resources

Among the women from the more isolated villages it is common to put *losses* (miscarriages) down to the failure to satisfy cravings

In the case of movement of the fetus, all the women affirmed that first option they choose is to go to a *curiosa* or a midwife, who return the fetus to its *normal* position using a blanket, and by pushing and massaging. It should be mentioned that there are very few midwives in the zone, *curiosas* being more common. The difference between the two has to do with the spheres in which they operate. *Curiosas* are relatives whose knowledge stems from personal experience. They are not paid, either in money or in kind, for their services. Midwives are generally acknowledged to have a greater knowledge. In some cases they are paid in kind (chickens, food). They offer attention to the village community at large.

CHILDBIRTH

The process of childbirth takes place in the home. It is unusual for the woman to go to a medical facility. The woman in labor turns for assistance to her family, most often the husband, who helps her during the birth. The mother and mother-in-law also figure prominently in this process. They are recognized for the knowledge they have gained through personal experience.

Right up until the moment of birth, the pregnant woman has continued to perform her chores in the home and in the fields as normal. That is why many women, especially the poorer ones, said they had given birth while working out in the fields far away from the village.

A significant proportion of the women said that during the labor pains they needed to walk a lot and maintain a certain amount of privacy. This was because they were worried by the presence of people that were not members of their family since it might give them a "fright" or so embarrass them as to interrupt the birth.

E Yes I walk around. If I sit down the pain's worse. I give birth more easily if I walk, miss. I did it with my first child. I suffered with my first daughter because I was lying down. I'd fall this way then that way and couldn't stand having people around. I hated having people near.

R Why is that?

E I don't know, miss. I hate it. Even my husband. He came in and I grabbed his hair. I wanted to kill him. 'I don't want you in here! Get out!' He ran out. Everybody was listening at the door. The baby cried and everyone came running in and that's how it was. With my second it was easier. I didn't have to walk much. Back and forth. I was heading back when my waters broke. My shoe filled up and I shook my foot. I walked around a bit more and that's how it went, miss. But my custom is to give birth alone. They only come in to

cut the umbilical cord, bathe the baby and all that But I give birth alone I don't want anybody to hold me or touch me I just walk around at night Even if the pain comes I still walk

R Don't you get scared?

E No, miss No Well, not now that I'm well When it hurts, I don't know, it gives me strength I don't feel scared, I walk around back and forth But when the pain comes I throw everybody out even my husband and children All I alone Its my custom, miss

(Villager from Aurahua, aged 35)

Other elements to take into consideration are ambient and body temperatures It is important to keep warm by drinking hot soup and water and to make sure the woman in labor does not "get a chill" Sensations of cold and fear are two reasons for a woman to suffer complications during childbirth

As regards the presence of midwives, *curiosas*, health workers or nurses at the birth, this is apparently more common when complications develop However, even if the birth proceeds normally they often attend on their own initiative or in case of complications

Some women spoke of labor pains lasting one to three days The position assumed for giving birth was squatting over a sheepskin on to which the newborn would be deposited, with the husband embracing the woman from behind and pressing on her upper midriff to help expel the baby Sometimes the woman holds on to a strip of hide hanging from a rafter so that she can push harder without losing balance

Disruptions during childbirth problems

Two causes for alarm can arise during childbirth The first is when the baby is unable to be expelled ("*the baby won't come*"), according to the women, this is due to fetus being in the wrong position or failure to satisfy some craving This conclusion is reached after several hours of labor The second is when the "*placenta delays in coming out*" after the baby is born the woman in labor and her attendants wait for the placenta to be expelled, which can take time The first thing to do is simply wait When other symptoms arise, like high temperature or more intense pains, it is said that there is a complication in the birth and certain measures are called for

E Sometimes it takes days, sometimes hours, sometimes more

R With first you didn't suffer as much?

E Not much The pains came during the day and by midnight I had the baby With this one I suffered for two or three days I think

R Three days? That's a lot!

E Yes It took a long time I nearly died

R And what did they tell you was happening?

E That maybe it would take another day Not just that but that probably I'd been craving for something and I needed to eat that first

R I see You needed to eat that so it would come out?

E Yes So he gave me some

R And what was it?

E A soft drink Then it came That's all he brought me and I waited till it came, miss

(Villager from Chupamarca, aged 28)

Solution of Problems

Only when they are absolutely certain that there is a complication does the family mobilize to make use of the other attention-treatment resources available to them They might turn to midwives or medical post staff, although the latter are nor generally acknowledged to be able to solve the problem

One interviewee claimed to have witnessed a situation where the medical post technician said he was unable to solve the complication, while the midwife inserted *her hand in the vagina and brought out the baby in time* On one hand, this leads us to focus on the too-basic level of training that medical post staff receive for dealing with obstetric emergencies and, on the other hand, on the recognition won by alternative agents to formal health system staff based on concrete personal experience

Very often the lack of resources denies the possibility of going to a health center or hospital, given that the family has no means of transport, of paying for medicines, etc In some communities we were told about the village's intention of buying a community vehicle, which would be standing by in case of emergencies Such initiatives are not always supported by the authorities at different levels

POSTNATAL

Process

The postnatal stage is recuperative The postnatal mother feels very weak and needs to rest and regain her strength This disrupts the normal working and household routine Women who have recently given birth are excused from their productive and domestic chores for a few days This respite lasts five to fifteen days The length of the period depends in each case on the size of the network of family support

The strength of the family network also depends on the presence of the man and the support he provides Usually the care of the children is entrusted to the man or female relatives like the mother-in-law, mother or older nieces

Ambient and body temperatures are carefully controlled during this period The woman should avoid sudden temperature changes and to do this she should not leave her bed Nor should she drink or touch cold liquids

Disruptions in the process Problems

In Castrovirreyña, the complications most often mentioned by the women we interviewed were *chills*, which occur from carelessness because the woman neglected to take the right precautions, wore too few clothes, went out into the fields before she should have, washed with cold water or drank something cold

Other complications described by the women were "*frights*" and the *chacho*. A *fright* is associated with a sensation of negative surprise that the mother felt at a given moment and resulted in the non-expulsion of the placenta, which rose to her head causing a whole series of disorders that have been known to result in death

E Yes I had a fright

R After giving birth?

E Yes

R What happened? Tell me

E After giving birth, or ?

R Yes After giving birth

E You see I get I frightened when one of the babies has a fall or people fight I get scared

R And what happens to you?

E I get the shivers

R Like a fever?

E Not a fever My blood pressure drops and I start trembling, Shivering

R What do you do then?

E I drink something and wait for it to pass

(Villager from de Aurahua, aged 39)

The *chacho* is an evil spirit with supernatural powers and can make people unwell. The effects vary greatly and be anything from a headache to death

The symptoms described to us were stomach ache, headache, weakness and bleeding

Solution of problems

Most of the women told us that, for a variety of reasons, they did not turn to the health services when complications arose during this process. The most common excuse was that there was no service or the staff were absent at the moment they were needed. The second, equally powerful, explanation was the perception that health service providers are not familiar with ills like the *fright* or *chacho* and are, therefore, unable to treat them

The treatment used in such cases is usually some homespun technique based on herbs and putting pressure on the abdomen to prevent the placenta from rising to the head. These steps are usually taken in the family circle. The help of healers is sought if the situation is more serious

B. Reproductive intentions and contraception

All the women interviewed said they did not want any more children. The younger ones said they wanted a small number of children.

We noticed a differentiation as regards these attitudes between older women living in peripheral communities inland with less access to education and health service resources, and women who, in contrast, were young, lived in communities nearer the coast and had better access to educational resources and health services.

In the first, we noted a cyclical perception of reproduction, of pregnancy after every certain amount of time. *That's the way it is. You get pregnant, then again and again.* It is seen as natural and even normal. It happens to nearly all women, except those who are sterile. *They're barren. Aren't they?* There is a certain conformist trend. Many of them described having several consecutive pregnancies (as many as thirteen in some cases) while betraying a profound ignorance about their bodies.

E I'm 32. I sometimes wonder, how it works. Other women tell me that you stop menstruating. In my case, I've got three kids. It's stopped. With my three kids twice it came again, twice not. So I wonder, why is it like that?

R I'm not sure I understand.

E What I mean is I've got three kids. After three children I've stopped menstruating.

R Since your last child you haven't menstruated again?

E No, I didn't with her either. I after that I've lost count when, what month it's supposed to come.

R Each time you got pregnant it didn't come?

E No. It wouldn't come.

R And it doesn't now either? So you might be pregnant.

E Yes. I've just realized that I'm expecting. Yes just now. Because before I didn't understand why I didn't get my period.

R And who told you were pregnant?

E I knew from here in my body. By myself.

R And how's the pregnancy going?

E Everything's normal. Fine.

(Villager from Villa de Arma, aged 32)

We noted that the better off women knew more about their bodies and controlling them. They had a proactive attitude toward contraception, which implies to some extent that they use methods, be it the rhythm method, injections or the copper T. At the same time the younger women that had yet to have children said they wanted to but at periodic intervals, showing they had assimilated the idea of a plan or planning.

One of the most commonly mentioned methods often was the *rhythm, natural* or *normal* method. Given the little that the women know about their bodies, as the excerpt above shows, there is doubt as to the usefulness of the method. Furthermore, its efficacy depends on the couple agreeing to exercise abstinence.

R And did you know there are things you do not to have children?

E Yes. To tell the truth, miss, I wanted to protect myself. So I said to my man, You know, agreement between the couple. But my man, he doesn't understand. He wants the problem sorted out, by me of course. I'd really like to. I wanted to protect myself. But my man, no. He says, yes. But then he breaks his word. For instance, I waited and waited for my period. All that time. I want to know more about my body, I said. At the time he says, fine. But later he doesn't. He wants to do it normally.

R You mean he doesn't want to use protection?

E That's right, miss, I wouldn't want to () Anyway we're a poor family. Nowadays, I think girls need to look after themselves. They need to eat more, eating above all, and keep warm. Me, I'd really like to use protection. My man says no. He says okay, but then says no.

R An don't you know any other form of protection?

E Yes. Yes, I did know. To be honest, miss, I wanted to look after myself normally.

R Don't you like the other methods?

E They're not for me. I wanted to look after myself normally, and I told him I still wanted to do it normally, if you know your body, then why () We're able to talk about things like that. We understand each other. But he says no. One moment he says yes. The next, no.

(Villager from de Huachos,)

However, the most powerful reason for using the rhythm method seems to be a deep distrust of modern methods, basically because of side-effects. Very often the interviewees were unable to say for certain what it was they were afraid of. It seems to be a fear born of ignorance, misinformation, specifically about collateral effects, and a number of experiences related by past users.

R And why don't you want to protect yourself in a different way?

E I don't know, miss. Habit. I suppose I don't trust them. I'm afraid. I don't know. I haven't really thought about it.

Two of the most commonly mentioned modern methods were injections and the copper T. The first was very strongly associated with that of children's vaccinations. It was even referred to as the *vaccine to prevent children*. The method's acceptance might have to do with ease of use (not having to be taken daily) and the fact that it can be kept secret from the partner.

We only addressed the decision-making process in couples and the complications these entail superficially. We believe that satisfying the information needs on this area is a matter of urgency and could be addressed by means of gender relations survey in the zone.

Each method seems to be accompanied by a series of fears and horror stories associated with their effects or efficacy. For example the contraceptive injection is said to sap a woman's strength, rendering her weak and too feeble to work in the fields, while the copper T is no good because a woman's work in the fields involves so much movement and jumping that it easily falls out leaving the woman exposed to a fresh pregnancy.

Contraception and health services

The health services are the main providers of contraception methods. In their replies, the women built up a profile of the ideal provider: *It should be a woman to discuss it more easily, so that she can take a look at us, walk with us, go to the sections where the women are, that she nor be boring (that she be patient and good-humored) and that she be nice to the children*

It is immediately evident from the above comments that the relationship established or looked for with the provider is a highly personal one. One might even go so far as to say that in many communities the perception of the locals is that of "health servers" rather than a "health service".

The privacy of consultations depends on the trust in the provider, since the notion of anonymity found in cities is impossible in such small areas with tiny populations.

C Gynecological health: that hasn't reached here yet.

This topic was only addressed very superficially. Basically because it was outweighed by the importance given to other aspects. This topic needs to be gone over with women with greater care, especially because they did not admit to having any complaint. They professed to be very healthy.

When we dug a little further into a number of symptoms associated with vaginal infections, we came across discharges occurring with some frequency, smarting sensation while urinating and a stinging in the genitals. These symptoms seem to be frequent but do not lead to any major complication. The women are quick to prepare douches with herbs picked locally that provide relief for a time.

Very few women admitted to going to the health center and treating themselves with ovules. The two that did lived in a community with a health center and were good friends with the nurse there.

D. Views of the providers

On the local health services

Providers described having to cope with many lacks in the course of their activities. There was a certain amount of self-criticism, but always associated with being under-equipped.

The main limitations mentioned were

Lack of office supplies like writing material, and of basic medical equipment like blood pressure gauges, scales, etc.

There is apparently an excessive administrative and patient workload caused, on the one hand, by one or two individuals having to handle as many as 15 programs by themselves, with the attendant operational and administrative commitments that entails, and, on the other hand, by the shortage of expert and non-expert staff working in this area, exacerbated by the wide dispersion of populations in remote districts, which limits outpatient activity.

Medical post technicians are often changed every four months (when their contracts expire), which prevents any medium- or long-term work and, more seriously, means that the staff are unable to integrate or become accepted in the community.

The geopolitical position of Castrovirreyna brings many difficulties because it is closer to Ica and even Lima than it is to the department capital, Huancavelica. This means that it is not included in training programs, which might be too costly. In general, it has little contact with the authorities.

On local opinions, beliefs and knowledge

For the analysis of this section we sketched out three types of standpoint.

Type I Vacuum standpoint

This type is not familiar with local beliefs or considers them to be not worth knowing. They only follow medical dictates and assume that the local community in general is ignorant and uninformed.

Type II Evangelist or enlightenment standpoint

This type sees the local culture as having mistaken criteria caused by misinformation, and erroneous beliefs, which need to be replaced with the wisdom of modern medical knowledge.

Type III Democratic standpoint

This type adopts a position of dialogue between the medical and local culture, recognizing the knowledge and validity of both, as well as their limitations.

On this basis, after analyzing the interviews with the providers, we reached the conclusion that their perceptions of the local cultures were more in line with the second type of standpoint. However, there was a leaning toward the third among providers who were born or had lived for a long time in the zone. These were inclined to recognize a certain validity in the local knowledge and to value the local culture. However, a feature common to all those interviewed was the emphasis on teaching modern approaches that would make their work more fruitful and their goals easier to achieve.

RESULTS FROM ACOBAMBA

A. Views of women at reproductive age on pregnancy, childbirth and postnatal

PREGNANCY

Process

Some said they suffered from nausea, morning sickness and rejection of certain foods. Others said they suffered no discomfort at all. They continued to perform routine activities up until the end of their pregnancies. They could not afford the luxury of prenatal rest because there was nobody else to take on the many tasks that women in this zone have to carry out, like housework, grazing herds, farming and processing produce for family consumption or sale.

Disruptions in the process Problems during pregnancy

Position of the fetus. The baby is said to be *awry, twisted, slipped or moved*. Causes can be lifting heavy objects, hard work, slipping and falls. The symptoms include pain in the thigh, waist and difficulty walking. The condition can cause difficulties at birth and/or death. Women go to the *curiosa* or healer to put things right. The position of the fetus is very important during the last third of the pregnancy, which is why they go to see people who know about such things to check and correct the position, shaking them in a blanket if necessary.

The main reason for going for a control at the health facility is to avoid paying the statutory fine for failure to do so when later requesting a birth or death certificate. A control certificate also gives the holder the right to food benefits at the health facility and to enter the municipal "glass-of-milk" program.

Reasons for not going for controls are that the women feel healthy, insufficient time, embarrassment, fear, and that it is held to be a pointless exercise because "they only

measure you” and cannot predict whether one will have twins, the sex of the baby or the date of birth

As regards anti-tetanus inoculation, they cannot remember the exact name, only that they were administered a “vaccine”, they could not remember what it was for and think it protects them from a lot of diseases, including cholera and backache

When they are vaccinated they feel pain, hot flushes and sometimes an abscess that prevents them carrying their children and doing their work

Reasons for not getting themselves inoculated are the pain of the injection and fear of inflammation, while some confuse the injection with contraception, which their religion forbids

On one occasion we accompanied a health worker on a vaccination visit to a community. The worker issued the “call” at the appointed time and place. However, during the vaccination there were a number of precautions he failed to observe like ignoring a mother’s request not undress her baby, who was asleep and perspiring, in a drafty place, not putting the top back on the cold box to keep the vaccines chilled, not properly disinfecting the area skin before injecting the vaccine (the alcohol was used up, so he used soap and water), and, finally, not bothering to ask one mother to remove her sweater, instead of which he merely pulled down the neck of the sweater to expose her shoulder and injected the vaccine

Miscarriage

This is locally termed “badly borne” and can be caused by not satisfying cravings for unusual food seen when away from the home, heavy work, moments of anger, family violence and the *chacho*. It is accompanied by bleeding and labor pains resulting in the loss of the fetus. The interviewees stated that the recovery process takes longer than after a normal birth. Symptoms include apathy and weakness. Generally it is treated at home. Going to the health post is rare.

Abortion occurs very rarely. It is achieved by drinking a warm herbal infusion, taking pills for “normalizing the period” and going to see persons known to perform abortions in the city.

Other complaints

There is a complaint called “japipo”, which means possession by magical forces. The new evangelical sects simply refer to it as “Satan”. They describe different types of occult forces like *cerro*, *puquio* and *chacho*. There follows an attempted description of how the latter two relate to miscarriage, although the women interviewees said they did not necessarily cause miscarriage but other conditions.

THE PUQUIO comes out of springs and it possesses those who stand or pass near it (while resting, washing or drinking, for instance). It can “grab” anyone, and makes no

distinction regarding age or sex. When a person has *puquio* they feel unwell, get headaches, stomach aches, loss of appetite, insomnia, swellings, bleeding from the vagina and feel that something is moving or "walking" inside their body. It causes newborn babies to cry constantly and can make a woman have false pregnancies. After treatment she discharges blood clots in the form of fish or tadpoles that may have hands and eyes from her vagina. In newborns that acquired *puquio* while "in their mother's belly" it may lead to an infection of the navel and/or death.

Curing *puquio* requires the help of a soothsayer or a medium, who can identify which spring it came from using coca leaves or cards. After that they must prepare offerings or "tributes" with water from another spring or holy water, which they must mix in a bottle with white corn flour and white sugar. The mixture must then be sprinkled at night at the spring in question in order to release the sick person.

THE CHACHO emerges from *mesas* or offerings buried in the past to protect the herds. You get it by standing close to these places and it can cause sickness, headaches, stomach aches, diarrhea, loss of appetite, swellings, hot flushes, dehydration and vaginal bleeding. In newborn babies it can cause, wounds, pustules and bruises. If the *chacho* is moderate it may only affect one part of the body. If it is severe, it can cause the death of the mother and/or newborn. To cure it people go to the healer, who prepares offerings or tributes for the earth so that it will release the sick person. These payments consist of coca leaves, cigarettes, and *llampu* (a white rock dust). If the *chacho* is strong it may require more than one payment. The *chaco* cannot be cured by modern medical methods, which are in fact warned against because they "clash" and can kill the patient. Once the traditional treatment is concluded, other treatments can be used.

CHILDBIRTH

Process

Childbirth takes place at home with the help of the husband and the mother or mother-in-law if they live nearby. In order to facilitate the birth the woman must walk around, be warmly dressed and keep away from drafts. She is also given hot aromatic herbal infusions and soups to drink, some make soups from mackerel bones bought at market and kept for just such an occasion or give the woman in labor tuna fish to eat so that the birth is easy and the baby "slips out like a fish". To give birth the woman crouches down over a blanket or hide, with the husband (sitting or crouched behind her) helping by embracing her around the waist to give her strength at the moment of expelling the baby. Some prefer to be alone at the moment of giving birth to avoid a "fright" which interrupts the birth process prolonging the labor and pain.

"The women give birth in their homes. Where else?"

"At home, with my husband helping because I'm afraid to have other people around. When I feel afraid my body gets awfully fearful and then I feel that people are coming in and stepping on me. That wakes me up. That's why only my husband helps me. I also get embarrassed. Maybe they criticize me."

*for the way I am, for crying and shouting That's why I don't tell my sister,
nor even my mother I only let my husband be with me'*

Once the baby is born, the husband cuts the umbilical cord with a shard of clay pot or tile, or sometimes a piece of glass, a razor blade or a knife. Then they bathe the child with warm water and let it sleep until it wakes up of its own accord. Usually after a day, although some spoke of two or even three days. Once it wakes up it receives mother's milk. Nothing else.

The placenta receives special treatment. They wait for it to be come out like a second birth. Then they might bury in the kitchen behind the oven where it will be warm. Others bury it out in the yard, some give it to the dog or pigs to eat, but it must not be left in the open because it could transmit the chill to the mother.

There are other customs after the birth like tying a "fresh" white tablecloth around the mother's forehead, in order to prevent headaches or to prevent the head from splitting open with the strain of the birth. It also prevents "fright" which would send her mad (here they are probably referring to postnatal depression). They also tie a girdle or *chumpi* (a multi-colored girdle made on a loom) around her waist. As a secret charm to ensure all goes well they place a small ball of soft wool (about the size of a lime) on her stomach just below the ribs to help all the placenta to come out and to stop the womb from rising to her head (they claim that after containing the baby for several months, it tries "to find it" after the birth). The girdle is also to prevent the woman from becoming potbellied.

If the house is near the Health post, they will go there the next day to report the birth. The staff member in charge usually visits the house, generally to check the newborn baby. Some also check to see how the mother is, while for others the visit is merely a social call. There is no sense that the visit is routine or recommended by the guidelines.

As regards how the women perceive giving birth in a hospital, they were concerned about the position in which they would have to give birth and the standard of care to ensure they do not catch a chill.

"I heard that in the hospital they tie your feet and hands so you give birth in a crucified position. I'd be afraid, how can you bear down like that. It'd be difficult. When my husband holds me he presses down harder and it's easy. I wouldn't be able to stand the pain lying down."

Difficulties during birth

- a The position of the fetus when it is "awry" or "twisted", the fetus suffers, to correct its position the woman in labor asks for the *curiosa* or midwife. If they have no success she goes to the health post for help, where the person in charge has her admitted to hospital where she can be treated by professionals.
- b Problems with the placenta Sometimes the placenta is low. On other occasions the placenta is retained causing infection and death. The reason is unknown. To get the

placenta out the woman sees a midwife who helps tries to encourage its expulsion with hot drinks and massages

- c Hemorrhage They have difficulty distinguishing this from normal bleeding It causes weakness and a long postnatal recovery

There are no reports of recent cases of maternal mortality The women say that, "since the health post was installed this has stopped "

POSTNATAL

Process

This stage consists of rest and recuperation, the husband's support is important in this stage He shoulders the domestic chores while the recovering woman stays in bed The mother or mother-in-law also help if the live near

The diet to aid recuperation consists of lamb broth with *chuño* (frost-dried potato) or noodles and starch Other foods can cause digestive problems, like indigestion, cramps or flatulence When they have had a hemorrhage and feel weak, they usually stay on broth for longer, which might require slaughtering another lamb, although, depending on their financial possibilities, they might use a chicken or guinea pig instead We should remember that meat is not eaten frequently owing to the cost

The rest period usually consists of five days in bed but they will be back doing strenuous work after anything between a fortnight and a month, depending on whether the bleeding has stopped and she feels strong enough to work

Postnatal difficulties

- a Hemorrhages The main cause is interrupted rest owing to lack of family support, young children to care for, busy stage of the crop cycle (planting or harvest) and too much work to do They feel dizzy, weak and lack strength When they get a chance to recuperate, they eat better and rest Sometimes there is nothing they can do
- b Mother fright Fright caused by seeing or hearing an unexpected event, like the appearance of strange people, animals or a loud noise Its symptoms are a headache, stomach ache, vaginal hemorrhage, dehydration, loss of appetite, insomnia, chills and jumpiness The fright causes the spirit to leave the body, the womb to "rise to the head", prolonging postnatal recovery If not cured in time it can lead to madness and/or death For the spirit to return it must be "called back" by a healer or *curiosa*, who, with the help of prayers and saltwater, "sucks out the evil", starting at the head, then the hands and lastly the feet The cure also calls for drinking water mixed with carnations and other flowers, horse blood and fastening a horse placenta to the sick woman's forehead and stomach

- c Mastitis They do not have a specific term for this There is no definite cause Its symptoms are inflammation of one of the breasts and an abscess It is cured with herbs for reducing the swelling If there is an abscess, suppuration is induced by applying a poultice, after which an incision is made with a piece of glass and the wound flushed with hydrogen peroxide

B Reproductive intentions and contraception

Reproductive Intentions of the women

The younger women said they wanted to have two or three children spaced out at intervals The women of intermediate age said they wanted no more than those they had The older women were anxious for menopause to arrive The women belonging to evangelical groups pray to God and fast in order to have no more children Ultimately they resign themselves to having the children that He wishes

The **reasons** for having few children are basically financial because of how much it costs to feed, clothe and educate them It should be pointed out that education was mentioned as a basic need, which was not the case a few years back We did not note a desire to have a lot of children to provide cheap labor for farming or herding The locals were also concerned about climatic problems like lack of rain and frosts, or pests that damage the crops causing poor harvests and insufficient food to feed a large family of the kind normal in the past Nowadays husbands are forced to travel to the city to satisfy the family's needs

"The upkeep would cost too much with a lot of children It costs us enough just to send them to school It's not a good idea to have a lot of children"

Knowledge of methods

They have heard of most methods through talks given by the health worker at community work initiatives, associations, soupkitchens and food distribution events Some found out about them in when they traveled to cities to find work They prefer the rhythm method because it is "natural" although they are not sure which are the days they would be likely to become pregnant They can repeat the rules from memory but have not absorbed how the method is used Their next choice would be the injection and third the use of condoms This last method requires further explanation as to why the sheath is disposable, given that some of the younger women asked if it could be washed and reused

There are myths and rumors associated with each method, according to which users place their health at risk This probably has to do with the fact that they are foreign bodies They also said they were afraid of the side effects of methods they had used at some point in the past or which they an acquaintance had used

The injection can "cause a chill" (the injected liquid is kept at a temperature below that of the body), it causes them to "contract" because the needle might hit a nerve and prevent them from walking, they become sickly, it makes their bodies go numb, they wouldn't be able to do any heavy work, it cannot be used if one has *chacho* or *puquio* or not been eating well because it clashes with one's organism, It can cause children to be born with deformities Secondary effects include headaches, interruption of the period, heavy bleeding, fatigue and trembling

The copper T can interfere on long hikes and heavy work, it "comes out" with the effort of lifting heavy objects, it probably "causes discomfort when urinating", its made of "metal and will rust inside you", someone they knew who used one told them it gave her headaches, caused pains in her waist and thighs, and hemorrhages Finally the method is not secure and "they'd get pregnant"

As regards pills, its annoying to have to take them every day They can't be always remember to take it because they have a lot other things to think about and they forget, it makes them "sickly", they swell up, they "go mad", "they have more children", and even give birth to twins or triplets, the pills "rot inside" them, leading to cancer and death Secondary effects include dark blotches on the face, headaches and bleeding from the vagina

With respect to having their tubes tied, they say they are afraid of the operation and possible complications, like infection It might also leave them weak and unable to do work that requires strength They also think that it would give them and cause them to die Some would like to undergo the operation but don't have the time or money to go to a city like, Huancavelica, Huancayo or Lima, where the services offer greater guarantees of safety and better attention

As regards vasectomy they think it is tantamount to castration and would enfeeble the men preventing them from working

They say that the contraceptive methods were designed for city-dwellers who lead a much more sedentary life and only do light office work They were not designed with rural people in mind people, where all the tasks they perform are heavy, tilling their fields at different altitudes, protecting and transporting their produce, and herding their animals all at the same time

C. Gynecological health

GYNECOLOGICAL PROBLEMS

Inflammation of the womb

Simply termed "inflammation", it is caused by heavy work, walking for long distances while herding animals or on trips to the city to go shopping, failure to rest after giving birth and *chacho* Symptoms are pains in the waist, in the belly, swelling and high

temperature (fever) It is cured by taking a mixture of herbs to reduce the swelling, steam or heat baths, and applying poultices made from herbs and salt soaked in alcohol or liquor to the area where it hurts They also use creams and arnica dressings, in the case of *chacho* they go to the healer If the family is evangelist they pray and fast so that God will cure the woman

Discharge

Termed "white period or white flower", it is a private topic not easily discussed if the interviewer does not inspire trust "I haven't heard about such things around here It hasn't reached here yet," some say when asked It is caused by heavy work on the farm, by "bad air" and for long hikes while herding Symptoms include aches, stabbing pains and smarting sensation To ease the condition they take herbs, with which they douche and wash They do not know that discharge can be treated at the Health Center

D. Perception of the providers on the services and local opinions, beliefs and knowledge

PERCEPTION OF PROBLEMS WITH THE SERVICE

a Most Health Posts were recently created They are short of materials and equipment for treatment, childbirth, and prenatal controls They borrow blood-pressure gauges and scales from the Health Center, which they have to return soon after Some posts don't have their own locale or are unfurnished

b At most posts the providers claim there is a lack of professionally trained staff One interviewee said they lose patients when they transfer them to a hospital where they can be treated by an expert

"As technicians we try to solve problems as best we can I'm a technician and they think I ought to know everything I transfer someone [to a hospital] and they say, 'this guy knows nothing' "

c Providers also say that community members demand free treatment and medicines

"Some people say, We have no money We should get it free ' Here they've got the idea that they should get things free "

d The providers say that the fact that they have to handle fifteen or more programs and submit monthly reports in triplicate or quadruplicate, using forms and paper that they themselves must pay for, overburdens them with work, which they, despite the limitations, are obliged to carry out It is precisely these limitations that affect the standard of service they are able to provide and the efficacy of activities and campaigns

- e Most Health Posts only have one technician working there They are not sufficiently well supplied to offer their services at the locales and to visit the communities that pertain to their area Although the technicians "rounds" to outlying communities are what the zone's population value most highly, these occur on a very sporadic basis
- f Health staff are hired for three to six months Just when they are getting to know the patients and establishing a relationship with them they are changed and the process starts again

PERCEPTION OF WOMEN'S HEALTH PROBLEMS

- a Rejection of contraceptive methods

"For a time they say, 'I'm going to protect myself I don't want anymore children' Then they seem to lose interest We try to insist but al we can do is hope "

- b Male chauvinism

"There is a group of women who want to cure themselves [use contraceptives] but their husbands won't let them, saying, 'What do you want to cure yourself for? You'll get cancer You'll dry up [become sterile] You must be interested in another man ' no They get jealous and the the problems start "

- c Beliefs

'She's got puquio, or japipo' That's basically what they fall back on they think that it's a powerful force, something magic that appears and invades their bodies infecting them They prefer to treat it with herbs '

- d Lack of personal hygiene leading to vaginal infections

"Usually they don't use underwear They walk about like that, just wearing a skart They're always in the fields, harvesting, in contact with the dirt but even then they don t clean themselves So they end up with all the symptoms caused by infection So I tell them, a teach them that they must wash all over And I ve realized that just by being more hygienic, the cases of discharge have lessened "

- e Malnutrition and anemia (donations of iron sulfate have been given to combat anemia in expecting mothers)

f Lack of prenatal control

"Usually they'll come for their first control just to get a perinatal certificate from me With that they can get free food. That's the only reason they come They don't come to keep tabs on the baby but to get the certificate With the certificate they qualify for the glass-of-milk program and food handouts They never come back for a second visit Although I tell them they must return, they never do "

THE PROVIDERS' VIEWS ON THE WOMEN

They take a negative view of the women's attitudes they say they are mistrustful, unreliable, indecisive, fearful and easily embarrassed, they do not recognize the knowledge (lore) they have, they say the women do not understand because they have never received a formal education, they are forgetful and cling to their beliefs

"I tell them about the methods but they forget I ell them but they are simpleminded and you can't force them It's not our place to demand. We try to explain in a way they will understand They don't understand. I speak to them in Quechua But if they don't understand what more can I do We repeat everything but they seem to forget after a while I don't know if it's because of fear or desperation but they forget "

"Well, I think that their beliefs are all organized according to a fixed pattern What's more they are poorly educated and read and, quite frankly it's a bit difficult to change all that That's the problem we have with these people Their parents educate them and most of them are illiterate They're simply poorly informed.

IV DISCUSSION AND CONCLUSIONS

Reproductive health problems stem from a host of factors To begin with, patients' perception of health and sickness do not necessarily agree with those of the provider, as long as the women can continue to work in the home, fields and with the herds they consider themselves healthy Moreover, the service is attributed a remedial rather than a preventive function, which tends to limit the provider's capacity to provide a service of a good remedial standard The complexities of the patient - provider relationship makes it difficult to arrive at an overall judgement and incline us to believe that patients recognize different services and thereby reach a different perception of the service

The inhabitants of the rural zone we studied, have lived or survived for generations with their own material resources and health knowledge Until relatively recently there were no health facilities in many villages At the moment they recognize the health worker rather than the health service as an institution

The purpose of the prenatal control services has been defeated. They have become another statistical item for the providers to report. From the point of view of the expecting mother, and based on practical criteria, they see little point in going to all their controls, thus squandering the opportunity to detect and prevent potential problems along with other services on offer.

Even if the motive is only to avoid paying a fine, the women do at least go to one control. This opens up the possibility that, once the expecting mother has been identified and located, an undertaking could be secured from the promoter or local authorities to follow up and monitor the pregnancy and predict a probable birth date.

Given that the mother have already absorbed the importance of inoculation as a result of the experience with their children, who have been vaccinated against polio and measles, they should be better informed about the benefits of the anti-tetanus injection. For their part, providers should be encouraged to take certain precautions when administering injections, like ensuring that the vaccine is kept chilled, that the woman is relaxed and comfortable, that the area of skin where needle is inserted is properly disinfected, in order to avoid complications that provoke a negative reaction.

As long as the conditions are not right (proper environment, transport, trustworthiness) for a institutionalized childbirth, we think that insisting on its practice would be a pointless waste of resources. It could be encouraged, where possible, for a provider to be present at births in the home, in an attempt to strike a balance between family customs and modern technical criteria in a way that benefits mother and baby.

Myths and folkloric beliefs are used to explain inexplicable causes. Everything has its reason. There would probably be a drop in the incidence of prenatal *chacho* and *puquio* if the attention at prenatal controls were improved. Likewise, the number of cases postnatal "fright" would probably lessen if one or more house calls were made following pre-established guidelines to check on the mother and child.

More work is required in terms of information on the causes, prevention and treatment of gynecological problems. Many women are not aware that their complaints can be treated at the Health Center.

The reproductive and non-reproductive intentions of the women are clear: they do not want a lot of children but the contraceptive methods on offer don't satisfy their expectations. Rumors of possible side effects dissuade them from "risking" their health. Their fears should be allayed in order to confidence and trust in the methods (which will also help to establish firmer relationships with patients). These fears are logical to them because these methods are alien to their culture and involve foreign bodies. The rhythm method, which is the favored method (even by evangelical groups), could be worked on more and supplemented with other methods. We should not try to inspire confidence by saying that the methods will not cause any side effect. We should offer more information about their effects and handling in order to generate the necessary confidence.

As regards health staff, It must be discouraging to have to work without the minimum basic equipment This is not exactly the best letter of introduction for someone trying to promote the service

In order to do their work properly the health workers demand training from qualified experts, they do not merely want replicas of the courses that the Health Center staff attended

The high turnover rate of staff (every four months) creates uncertainty, which prevents them from getting to know the community, "win their trust" or identify with local issues, enabling them to work on a medium- and long-term basis

To carry out so many health programs and the above suggestions, we think it is essential to work with the community and the political and community authorities in order to exploit the collective resources to the maximum

Appendix 3

Inventory of Reproductive Health Resources in 25 Health Centers and Posts
in the Department of Huancavelica

June – July, 1997

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I BACKGROUND

During the months of June and July, 1997, an inventory of the reproductive health resources and services available in public health establishments serving the study area was completed, thus providing important contextual information than could held explain women's service-seeking behavior. An instrument of approximately 70 questions was used to gather information on the availability and training of staff, services provided, stocks of contraceptive methods and other consumable supplies, durable equipment, and the facility's physical infrastructure. Each inventory was completed in approximately 45 minutes.

In total, 25 establishments run by the Ministry of Health (MOH) were surveyed, 13 in the province of Acobamba and 12 in Castrovirreyña. In Acobamba, one facility was a health center and the remaining 12 were health posts, in Castrovirreyña 2 centers and 10 posts were surveyed. These 25 establishments represent all MOH services available to the population under study.

II RESULTS

Offered Services and Provider Availability

In response to the question "What reproductive health services are provided at this facility?", informants at all 25 sites indicated that family planning services were available, although only 9 SDPs offered the IUD and only 5 had performed any IUD insertions during the previous six months. Spermicides, condoms, oral contraceptives, and injectables were offered at all facilities. Pre-natal care was offered at all SDPs and at all but one site, delivery services were offered at the clinic and/or in women's homes. Management of high risk pregnancies was also reportedly offered at 12 of 13 facilities in Acobamba and 9 (75%) in Castrovirreyña. Although about 70% of service delivery points (SDPs) reported offering some type of gynecological services (9 in each region), only 3 of the 13 facilities surveyed in Acobamba and 7 of 12 in Castrovirreyña performed pap smears, for analysis at a regional hospital.

The following table displays the availability of providers by type and region. While the situation is clearly more favorable in Castrovirreyna than Acobamba, both regions have a considerable proportion of SDPs without a doctor or nurse.

Table 1 *Availability of Health Care Providers by Type and Region*

% (N)	Acobamba	Castrovirreyna	Total
Doctor	15 (2)	42 (5)	28 (7)
Nurse midwife	15 (2)	50 (6)	32 (8)
Nurse	15 (2)	58 (7)	36 (9)
Any of the above	15 (2)	67 (8)	40 (10)
Health technician	100 (13)	92 (11)	96 (24)

Stocks of Contraceptives and other Consumable Supplies

The adequacy of contraceptive stocks was evaluated in accordance with demand during the six months prior to the survey, calculated from regularly maintained service statistics. A given method was considered to be adequately stocked if there was at least one month's worth of supplies on hand. Just under 90% of SDPs surveyed had adequate supplies of spermicides, probably related to the fact that spermicide users account for only 11% of all users served each month (approximately 29 women in both areas combined). Condom stocks were *inadequate* in one-third of SDPs, largely due to insufficient stocks in Acobamba. This finding is significant given the fact that nearly 30% of users served rely on this method. Stocks of oral contraceptives were inadequate in five of the 25 SDPs surveyed (20%), a method used by just under one-fourth of contraceptive clients attended in the six months prior to the survey. Finally, stocks of injectables were insufficient in 14 SDPs (56%), the most widely used modern method in both areas and accounting for a third of all contraceptive visits. Furthermore, nearly half of all SDPs reported stockouts of injectables during the three months prior to the survey. The only method adequately stocked at all

94

relevant sites was the IUD, with quantities sufficient to meet demand at the nine SDPs offering the method (2 in Acobamba and 7 in Castrovirreyna) ¹

According to Ministry of Health norms, health centers and posts should have a maximum of three months worth of supplies on hand to reduce the possibility of stocks expiring prior to distribution. To avoid stockouts, they should never have less than one month's worth of supplies. The percentage of SDPs maintaining ideal levels of contraceptive stocks (between one and three months) ranges from a low of 8% with respect to spermicides to a high of 32% with respect to injectables. Over half of all SDPs had more than three months worth of oral contraceptives on hand and 80% of all SDPs had more than three months worth of spermicides.

Other consumable materials considered were antiseptic solution and gauze for IUD insertions and birth attendance, fixative solution, slides, and wooden spatulas or tongue depressors for pap smears, and gloves to be used during any type of gynecological exam. The following table displays the distribution of SDPs with these basic items on hand at the time of the survey. Only 5 SDPs (1 in Acobamba and 4 in Castrovirreyna) had all items in stock.

Table 2 *Percent Distribution of SDPs with Consumable Supplies in Stock*

% (N)	Antiseptic Solution	Gauze	Fixative Solution	Slides	Wooden Spatula	Gloves	All Items
Acobamba	92 (12)	100 (13)	15 (2)	23 (3)	31 (4)	62 (8)	8 (1)
Castrovirreyna	75 (9)	83 (10)	50 (6)	42 (5)	58 (7)	67 (8)	33 (4)
Total	84 (21)	92 (23)	32 (8)	32 (8)	44 (11)	64 (16)	20 (5)

Durable Equipment

¹ Among the 5 SDPs with any recent IUD insertions, the quantity of IUD stocks on hand ranged from five months to 6.3 years.

95

In addition to stocks of consumable supplies, an inventory was taken of the equipment necessary to provide follow-up for oral contraceptive users, perform pap smears and IUD insertions, and provide pre-natal care and delivery assistance² For oral contraceptive users and pre-natal visits, the required equipment consists of an adult scale, a stethoscope, and a blood pressure gauge For pap smears, a gynecological exam table and speculum are needed, the additional items required for an IUD insertion are ringed forceps, a tenaculum, scissors, and a lamp or hand-held light The minimum equipment needed to provide delivery assistance include ringed forceps, scissors, and an exam table Table 3 displays the distribution of SDPs with these items available at the time of the survey

Table 3 *Distribution of SDPs with Equipment Needed to Provide RH Services*

% (N)	Scale	BP Gauge	Stetho-scope	Exam table	Speculum	Tenaculum	Ringed Forceps	Scissors	Lamp
Acobamba	69 (9)	85 (11)	92 (12)	69 (9)	39 (5)	15 (2)	15 (2)	92 (12)	31 (4)
CV	83 (10)	92 (11)	92 (11)	100 (12)	67 (8)	50 (6)	42 (5)	83 (10)	25 (3)
Total	76 (19)	88 (22)	92 (23)	84 (21)	52 (13)	32 (8)	28 (7)	88 (22)	28 (7)

Infrastructure

Health facilities were evaluated on their basic physical infrastructure including the availability of running water and electricity (for at least a few hours per day), a telephone or transistor radio, a bathroom available for waiting clients, a sink or wash basin for the provider in the exam room, and visual and auditory privacy during consults While the majority of SDPs had exam areas offering privacy, less than half had running water, and only the three health centers had transistor radios

Table 4 *Distribution of SDPs by Basic Infrastructure*

% (N)	Private exam rm	Electricity	Running water	Sink with water in exam rm	Bathroom for clients	Telephone/ Transistor radio
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² The inventory instrument used was originally designed to evaluate SDP preparation to provide family planning and gynecological services Consequently, the necessary items included under pre-natal and delivery care do not represent an exhaustive list, meaning that the availability of all items cannot be equated with SDP readiness to perform these services The additional items needed will be included in future modules of the inventory instrument

Acobamba	69 (9)	54 (7)	39 (5)	8 (1)	23 (3)	8 (1)
CV	75 (9)	50 (6)	42 (5)	17 (2)	25 (3)	17 (2)
Total	72 (18)	52 (13)	40 (10)	12 (3)	24 (6)	12 (3)

Preparation to Deliver Reproductive Health Services

Basic indicators of SDP program readiness can be constructed from inventory data by bringing together the human and material resources needed to deliver various reproductive health services. Table 5 displays the minimum items required for each service. The list of requirements given for pre-natal care and birth attendance are particularly limited, given that the inventory instrument was originally designed to measure family planning program preparation.

9/7

Table 5 *Indicators of SDP Readiness to Deliver Reproductive Health Services*

RH Services	Required Items by Category			
	Personnel	Equipment	Supplies	Infrastructure
Pap smear	MD, nurse midwife, nurse, or technician	Speculum, gyn exam table	Slides, wooden spatula/tongue depressor, fixative solution, gloves	Water for sterilization, visual and auditory privacy
Pre-natal care	MD, nurse midwife, nurse, or technician	Stethoscope, BP gauge, scale	-----	Visual and auditory privacy
Birth Attendance	MD, nurse midwife, or nurse	Exam table, scissors, ringed forceps	Gloves, antiseptic solution, gauze	Water, visual and auditory privacy
Barrier Methods	MD, nurse midwife, nurse, or technician	-----	1 month stock of condoms, spermicides	Auditory privacy for counseling
Oral contraceptives	MD, nurse midwife, nurse, or technician	Stethoscope, BP gauge, scale	1 month stock of OCs	Auditory privacy for counseling
IUD	MD, nurse midwife, or nurse	Gyn exam table, speculum, tenaculum, ringed forceps, scissors, lamp/ hand light	1 month stock of IUDs, gloves, antiseptic solution, gauze	Water for sterilization, visual and auditory privacy

Only 12% of all SDPs were prepared to perform pap smears (none in Acobamba and three in Castrovirreyna), 64% were prepared to provide pre-natal care (8 SDPs in each province), and only 8% had the minimum items needed to attend deliveries (none in Acobamba and two SDPs in Castrovirreyna) The following table displays program preparation with respect to contraceptive methods

Table 6 *Distribution of SDPs by Readiness to Deliver Contraceptive Methods*

% (N)	Spermicides	Condoms	OCs	Injectables	IUDs
Acobamba	54 (7)	31 (4)	46 (6)	15 (2)	0
CV	67 (8)	58 (7)	50 (6)	8 (1)	14 (1)
Total	60 (15)	44 (11)	48 (12)	12 (3)	11 (1)

The only method that a majority of establishments were prepared to deliver was spermicides. Injectables, the most widely used method, was available in only three SDPs, the limiting factor being insufficient stocks of the method itself. The least available method was the IUD: only 1 of the 9 SDPs claiming to offer the IUD was adequately prepared to perform insertions.

III. CONCLUSIONS

An inventory of the reproductive health resources available in public health centers and posts in Acobamba and Castrovirreyna demonstrates important deficits in many areas, with human and material scarcities most acute in Acobamba. Given high levels of maternal and infant mortality in the department of Huancavelica, the availability of adequate birth attendance is a priority of the Ministry of Health. In Acobamba, only two establishments had a doctor or nurse available to attend deliveries, neither of which had the other required elements to provide safe delivery assistance. In Castrovirreyna, where most SDPs had a doctor or nurse on staff, only two (one health center and a health post) had the other items needed to provide birth attendance.

Another way to improve maternal and child health is by making family planning services accessible to all women wishing to postpone or limit future births. Although all SDPs reportedly offered family planning services, over one-third were not adequately prepared to deliver *any* contraceptive method and only two SDPs (one in each province) were prepared to offer all methods excluding the IUD.

In sum, many challenges must be overcome, from improvements in logistic systems and the physical infrastructure of SDPs, to a better distribution of health care providers and equipment, before basic reproductive health services can be judged accessible in Huancavelica.