

DISCUSSION PAPER SERIES

IZA DP No. 13859

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ISSN: 2365-9793

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ABSTRACT

Sterilization Policy with Incomplete Information: Peru 1995-2000*

In this research I investigate what percentage of female sterilizations performed in Peru from 1993 to 2000 were done providing adequate information to their users for a free decision about their adoption. I use data from ENDES/DHS 2000, which contains detailed information about contraceptive methods adopted in those years, with especial emphasis on sterilizations. I make a descriptive analysis, a projection of total sterilizations, and an estimation of the probability that a woman be sterilized. I find a large use of sterilizations as a contraceptive method between 1995 and 1997: more than 36% of women that used a contraceptive method were sterilized. I also find that a large percentage of women were not adequately informed about sterilizations: only 35% of sterilized women was given complete information, that is, that they will have no more children, about side effects, what to do about them, and that there were alternative contraceptive methods. With additional data from MINSA I calculate that 211,000 sterilized women did not receive complete information from 1993 to 2000, of which 25,000 sterilized women did not receive information that the sterilization implied not being able to have more children. I also estimated that not receiving complete information increased the probability that a woman is sterilized in 10 percentage points.

JEL Classification: J13, I15, J16

Keywords: health policy, fertility, sterilization, family planning, development

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* I thank Dina Cedano, Maria Ysabel Cedano, Camila Gianella and Bruno Jiménez for useful comments and suggestions. Errors and omissions are only mine. The points of view expressed here are exclusively mine and do not involve any organization of any type. This research has received no financial support of any kind.

1 Introduction

The Peruvian government applied from 1996 to 2000 an aggressive policy of promotion of contraceptive methods, giving priority to sterilizations. In the present paper, I quantify the number of women who were sterilized without receiving full information, that is, information that the sterilization implied not being able to bear more children, information about side effects or what to do about, or information about other contraceptive methods. I find that, between the years 1993 and 2000, 211 thousand women were sterilized without being fully informed, of which 25 thousand women were not informed that they could not bear any more children.

This policy was carried out extensively in the whole country in the period 1996-2000 as part of the *Programa Nacional de Salud Reproductiva y Planificación Familiar* (National Program of Reproductive Health and Family Planning). In June of 1997 it was denounced that this program consisted basically of sterilizations that did not have proper consent, with the government trying to fill out predetermined sterilization quotas, not giving information about alternative methods, especially to poor, indigenous women, that lived in rural areas. In January of 1998 the Ombudsman Office informed publicly about irregularities in this program, and made recommendations to remedy them. These complaints were heard in the United States (Morrison 1998) and officially in the US Congress (United States Congress. House 1998) as the government agency USAID (U.S. Agency for International Development) was a sponsor of this program. Because of these complaints in Peru, in October of 1998 the US Congress enacted the Tiahrt Amendment, which prohibited that quotas be established, incentives be given, or aid be denied in family planning programs, and required that comprehensible and detailed information about family planning methods be provided to their users. The grave irregularities finally led to the suspension of the program. USAID on its turn performed its own monitoring of the program and adjusted its actions to the Tiahrt amendment (see, for instance, León 1998, USAID 2001).

After 2000, the Peruvian Congress, the Ombudsman's Office, as well as several Non Governmental Organizations (NGOs) continued the investigation of this family planning program and documented intensively the numerous cases of forced sterilizations. The Congress of Peru (2002) using data from MINSA established the total number of women and men that were sterilized at around 311 thousand sterilized women (tubal ligations) and 25 thousand sterilized men (vasectomies).

Research about this family planning program has been mainly qualitative and descriptive, focused on documenting and analyzing how these non-voluntary sterilizations occurred in Peru (Tamayo 1999, Zauzich 2000, del Aguila 2006, Boesten 2007, Getgen 2009, Ballón 2014). Some economic research articles focus rather on evaluating the impact of sterilizations on fertility, but also on other impact variables, such as education of the sterilized women (Gribble, Sharma, and Menotti 2007, Byker, T., y I. A. Gutierrez 2012, 2016, Battaglia and Pallarés 2018). The present article contributes to our knowledge by quantifying the number of sterilizations that were done without adequate information, a calculation that has been absent in prior research.

There are three main approaches about the number of non-voluntary sterilizations in the late 1990s in Peru. The first approach indicates that the massive sterilizations were essentially all non-voluntary, and is held by the commission of the Peruvian Congress that investigated these sterilizations (Congreso del Perú 2002). This approach is based on documentation about the existence of a policy of quotas and on several case studies, as well as statistics from the Health Ministry of Peru (MINSA) about the number of sterilizations. A second approach is that non-voluntary sterilizations were not necessarily massive,¹ yet there was a sterilization policy concentrated in certain groups: poor indigenous women, that lived in rural areas, mostly from 1996 to 1998 (Gianella 2004, Huayhua 2006). A third approach is that the vast majority of sterilizations were voluntary and that non-voluntary sterilizations were only isolated cases that do not conform evidence for a government policy (Villegas 2017). According to this approach, there is a small number of non-voluntary sterilizations, only those that were documented by the Ombudsman's Office (1998, 1999, 2002).

My approach consists of calculating the total number of non-voluntary sterilizations using the statistical evidence about sterilizations performed with incomplete information. ENDES/DHS makes it possible to determine the percentage of sterilizations executed with the user receiving incomplete information and thus ignoring their consequences or the existence of other possible methods. This estimated percentage and MINSA total data of sterilizations imply that 211 thousand sterilized women did not receive complete information, of which 25 thousand were not even informed that the sterilization implied that they will not be able to have more children, as

¹Lerner (2009) based on interviews with Rocío Villanueva, attorney and former responsible at the Peruvian Ombudsman's Office for defending women's rights, states that "Although, without doubt, it was so many times, it is not clear that there was a majority of cases in which the sterilizations were deliberately done against the will of the affected women, which does not mean that they were less illegal nor does it shed doubt that they implied various degrees of violence."

mentioned above.

I also estimate the determinants of the probability to adopt the sterilization as a contraceptive method, and the determinants of the probability of regret for having been sterilized. In both cases the provision of incomplete information turns out to be a crucial determinant. On the one hand, being indigenous and illiterate is a statistically significant determinant for being sterilized, and, on the other hand, not receiving complete information is a statistically significant determinant for regret about the sterilization. Not receiving complete information increases in 10 percent points the probability that a woman be sterilized and in 7 points the regret for the sterilization. If a woman did not receive information that the sterilization implied not to have more children, the probability of regret increases additionally in 12 percent points. These findings are consistent with the hypothesis of the existence of a policy that prioritized sterilization as a contraceptive method, and that information was denied on purpose to induce more women to be sterilized.

The remainder of the present article is organized in the following way. The next section explains the data and presents descriptive statistics. Section 3 details the use of sterilizations with respect to other contraceptive methods. Section 4 illustrates the information received to adopt a sterilization in comparison with other methods. Section 5 discusses the regret and the satisfaction with the adopted contraceptive method. Section 6 projects the number of total sterilizations that were done under incomplete information. Section 7 presents estimations about the determinants for sterilization and the regret for having been sterilized, as well as the satisfaction with the adopted method. Main conclusions are summarized in Section 8.

2 Data

The main source of data for this research is the Demographic and Health Survey (DHS) or in Spanish, *Encuesta Demográfica y de Salud Familiar* (ENDES) from year 2000. This survey comes from a program by the United States Agency for International Development (USAID) carried out in many countries of the world; it is implemented by Macro International Inc. (INEI 2001).

This survey contains several questions on health and therein about reproductive health and family planning, such as providers, users, and satisfaction about contraceptive methods. I select a sample of women that were users of a contraceptive method, of which lactational amenorrhea, periodic abstinence, rhythm/calendar/Billings and

withdrawal are excluded. Moreover, in the sample only women that adopted a contraceptive methods since 1995 were included, which leaves a final sample of 7,358 women. To project the total number of sterilizations I use data from MINSA.

Among the variables on socio-demographic attributes, the survey includes age, ethnicity, education, number of children, place of residence, and characteristics of the house of residence. There is information about type, year of adoption, provider and degree of information about contraceptive methods: that the sterilization implied no more children, side effects and what to do about them, and other possible contraceptive methods. There is also information about the satisfaction with the adopted contraceptive method: regret if sterilized, whether she uses the method that she desired at the moment of the adoption, assessment about the conditions of adoption of the method, opinion about the explanations on family planning, tidiness of the hospital, schedule of attention, etc.

This survey thus has the necessary information to analyze the determinants of the adopted contraceptive method, the degree of information with which the user adopted the method, and the further satisfaction with the adopted method.

3 Sterilization and other methods

In the data we find high percentages of sterilizations between 1995 and 1997. As shown in Table 1, for three consecutive years the percentage of sterilizations over all methods is above 36%, and then it falls to 16.5% in 1998, 8.5% in 1999, and 3.2% in 2000, together with an increase of other methods such as injections or the pill.

[Table 1 here]

In Table 2 we can see that in comparison with users of other contraceptive methods among sterilized women there is a higher percentage of indigenous women, that are illiterate, older, with more children, that have no electricity, reside in rural areas, and whose contraceptive methods were provided by the government. In this survey an indigenous person is defined as someone who regularly speaks quechua, aymara or other indigenous language at home.

[Table 2 here]

Sterilizations have more incidence on indigenous than non-indigenous women and on illiterate than literate women, as seen in Table 3. Similarly, the percentage of sterilizations is higher for women between 40 and 44 years old, and with 4 or more children. However, between 1995 and 1997 the percentages of sterilizations are relatively high also for women that only have two children, 44.5%, one child, 32.6%, and even, interestingly, for women that have no children: 19.3%.

[Table 3 here]

The percentages of sterilizations are also much higher for women that reside in areas without electricity, rural, outside of Metropolitan Lima, and when the contraceptive method is provided by the government, mainly by MINSA hospitals or in sterilization campaigns, called *ferias* or *jornadas* in Spanish.

These tables are informative about the socio-demographic profile of women that were sterilized in those years. The incidence of sterilizations is very high, especially for indigenous, less educated women, or who had no more than two children.

4 Information about the sterilization

In this section I show that a majority of women who were sterilized did not receive proper information about this contraceptive method. A large percentage of women that were sterilized between 1995 and 1997 were not informed about the side effects associated with sterilizations or what to do about them, or that there were other contraceptive methods available.

In Table 4 it is shown that from 1995 to 1997 only 36% of sterilized women received information about side effects of the adopted contraceptive method or information about alternative methods. This low percentage contrasts with the 65% of users of other methods who received complete information in that same period. Only 44% of sterilized women received information about side effects, a low percentage compared to the corresponding percentage of 68% for women who used other methods. The knowledge gap is even wider for information about other contraceptive methods: 66% for sterilized women received in contrast with 91% for women that used other methods. These numbers vary slightly for the period between 1998 and 2000, in which 38% of sterilized women received information about side effects or other methods in comparison with users of other methods for which this percentage is 62%.

In the period 1995-1997 a great majority of sterilized women, 92%, received information about the terminal character of sterilizations, that is, that they will not have more children. This percentage increases to 93% in the period 1998-2000.

[Table 4 here]

The percentage of sterilized women that received complete information, defined as information about side effects, other methods and that they could not have more children, is 35% in the period 1995-1997 and 37% in the period 1998-2000. The report of ENDES/DHS of 2000 (INEI 2001) conveys in an abbreviated fashion this same information, but it does neither inquire further on the matter nor does it report the assessment of users about the adopted contraceptive methods.

[Table 5 here]

Table 5 exhibits the percentage of women that received information about side effects and alternative methods by contraceptive method and socio-demographic attributes. More information was given to sterilized women that were non-indigenous, illiterate, between 30 and 34 years old, that have no children. More information was also given to sterilized women that live in rural areas, without electricity, in Lima and in the jungle region, whose contraceptive methods were provided by government agencies. However, the lowest information occurs in ESSALUD hospitals (and *postas*), and in government sponsored sterilization campaigns. On the other hand, inside each single socio-demographic segment and in both periods, 1994-1997 and 1998-2000, more information is always given to women that adopt other methods than to sterilized women.

In sum, a large percentage of sterilized women did not receive complete information; moreover, sterilized women notoriously received less information than women that adopted alternative methods.

5 Consequences: regret and dissatisfaction

In the present section I present descriptive evidence that there is more regret and dissatisfaction about the sterilization the lower is the information that the user received. Table 6 shows the percentage of sterilized women that declared to regret having adopted this method by level of information and period.

[Table 6 here]

There are larger percentages of regret for the sterilization when less information was received, more so if no information was received about the terminal character of the sterilization. Regret is relatively lower in the period 1995-1997 than in the period 1998-2000. When the level of information is lower, the reasons for regret are not the usual, such as the desire to have another child or collateral effects, but “Other,” notoriously in the period 1995-1997.

[Table 7 here]

Table 7 shows that the percentage of women that responds not to be using a desired method is larger for sterilized women than for women that use other methods. For sterilized women this percentage is larger the lower is the level of information that they received. The percentage is particularly high in the period 1995-1997, if women did not receive information that they could not have more children. From the sterilized women that do not use the desired method a 5% reports to have adopted it for food or free health services. In this dimension it also occurs that less information is associated with more reporting of “Other reasons.”

[Table 8 here]

As shown in Table 8, a relatively low percentage of sterilized women has a good opinion about the explanation of the family planning methods. The percentages of sterilized women that report a good opinion about explanations received about family planning methods, information about the prescribed method, and explanations by the physician are substantially lower than those reported by women that adopted other methods. Moreover, the percentage of sterilized women that reports a good opinion about these three aspects is lower for less information about sterilizations. Sterilized women that were not informed that they were not able to have more children, only 35% opines that the information about the prescribed method was good, which contrasts with the 74% reported by users of other contraceptive methods.

In sum, there is a clear association between receiving less information and more dissatisfaction with the adopted method, especially with sterilizations.

6 Total sterilizations with incomplete information

With ENDES 2000 data about proportions of sterilizations made with incomplete information and the data of total sterilizations by MINSA I calculate the total number of sterilizations made with incomplete information. As MINSA data correspond to sterilizations executed by government agencies, I use the percentages of sterilizations by the government sector available in ENDES.

Data by ENDES of incomplete information for the periods 1995-1997 and 1998-2000 by region are matched with the corresponding data by MINSA, by year and region. For years 1993 and 1994 in ENDES there is information that sterilizations implied not having more children. For that period MINSA data are matched with the lowest percentage of incomplete information in ENDES, which occurs in period 1998-2000. For year 2000 in which MINSA only contains data for the total number of sterilizations I use the total percentage for the period 1998-2000 on incomplete information. For sterilizations executed by other government agencies such as the *Instituto Peruano de Seguridad Social* (IPSS) or the Armed Forces (FFAA) I use the total percentages by year. Results of these calculations are shown in Table 9.

[Table 9 here]

From 1993 to 2000, from 331 thousand women sterilized by the government, 211 thousand did not receive complete information, of which 25 thousand did not even receive information that they could not have more children.

7 Estimation of the effects of poor information

In this section I estimate the determinants of the probability of sterilization, regret for the sterilization and the dissatisfaction about the adopted method.

[Table 10 here]

By performing a Probit estimation I find that the absence of complete information increases in 10 percent points the probability that a woman be sterilized. If the method is provided by the government, the probability of sterilization is 10 points higher than if it is not. This probability is greater in the period 1995 to 1997, for

women that have 3 children, 4 children or more, indigenous women that have no more than two children, illiterate women that have no more than two children, for women who reside in rural areas and have no more than two children, for women that have no electricity and have no more than two children.

Attention is in the determinants that a woman that has 0, 1 or 2 children be sterilized, for which I made the following test of hypothesis:

Hypothesis	chi2(1)	Prob > chi2
Indigenous+Indigenous and max 2 children=0	7.69	0.0055
Illiterate+Illiterate and max 2 children=0	2.41	0.1207
Electricity+Electricity and max 2 children=0	0.02	0.8830
Rural+Rural and max 2 children=0	0.55	0.4600

It is more likely that a woman that has no more than 2 children be sterilized, if she is indigenous than if she is non-indigenous (very significant variable) or that if she is illiterate than if she is literate (variable which is significant to the 12% level). By contrast, having electricity or residing in rural areas has a lower impact in that a woman that has no more than two children be sterilized.

[Table 11 here]

I also estimate the determinants of regret and good opinion about the prescribed method for sterilized women. Not receiving complete information increases in 7 points the regret for the sterilization. If additionally a woman did not receive information that the sterilization is a terminal method, her regret increases in 12 percent points. On the other hand, among sterilized women not receiving complete information reduces in 26 percent points having a good opinion about the sterilization, and not receiving information that she could not have more children reduces additionally in 22 percent points having a good opinion about the sterilization. As a comparison, I report a similar estimation for all women that used a contraceptive method, and having a good opinion about their adopted method declines in 26 percent points, if complete information is not received. Interestingly, it is not statistically significant whether the method used was sterilization, which suggests that the dissatisfaction with the absence of information is similar across contraceptive methods.

These estimations that control for several variables corroborate that the provision of less information implies both a higher probability of sterilization and a higher dissatisfaction with the sterilization afterwards.

8 Conclusions

In this research, I have found that sterilizations in the years 1995-2000 were massive and mainly non-voluntary. There was a large use of sterilizations as a contraceptive method, between 1995 and 1998, more than 36% with a large percentage of women that was not properly informed about sterilizations: only 35% of sterilized women in those years received complete information. Moreover, the percentage of women that received information about alternative methods and side effects is only 36% for sterilization, very low compared to the 65% for users of other methods.

Using data from ENDES/DHS and MINSA I have calculated the number of sterilized women that did not receive complete information from 1993 to 2000. I have found that 211 thousand women did not receive complete information and 25 thousand women did not receive information about the terminal character of the sterilization. In this research I have not included the 25 thousand male sterilization that were performed in those years.

I have found that the probability that a woman be sterilized increases, by 10 percent points, if she did not receive complete information, and by 10 percent points if the sterilization was done by a government agency. There are large percentages of sterilized women that have no children, have one or two children and in the estimation we find that it is more likely that a woman that has 0, 1 or 2 children be sterilized, if she is indigenous or illiterate.

I also have found that the lack of complete information significantly increases dissatisfaction with sterilizations. I have estimated the determinants of regret for the sterilization and found that dissatisfaction increases in 7 percent points, if complete information was not received, and by 12 percent points, if additionally no information about the terminal character of the sterilization was received. Sterilized women that did not receive complete information do not have a good opinion about the explanations received about family planning, the prescribed contraceptive method and the explanations about the method. In the estimations I have found that not receiving complete information reduces by 26 percent points having a good opinion about the sterilization.

In sum, I have found massive sterilizations that not were the results of an informed decision with a clear concentration on indigenous and illiterate women. Not receiving complete information about sterilizations makes sterilizations not only more frequent, but also creates more dissatisfaction and regret about being sterilized.

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Appendix

A1. Sterilizations by regions

Table A1 reports total sterilizations by region from MINSA.

[Table A1 here]

In Table A2 the percentage of sterilizations with incomplete information by region is reported.

[Table A2 here]

Table 1. Contraceptive method by year of adoption. In percent

Method	Year of method adoption						Total
	1995	1996	1997	1998	1999	2000	
Female sterilization	36.28	37.66	36.31	16.48	8.48	3.15	16.88
Male sterilization	1.29	1.22	2.87	0.96	0.21	0.23	0.89
Pill	12.17	7.39	9.74	13.22	15.86	20.43	14.87
IUD	28.82	25.52	19.92	20.67	13.82	8.45	16.24
Injection	13.23	18.21	19.69	33.05	44.23	45.12	34.59
Condom	5.21	6.82	9.74	13.22	15.86	17.65	13.00
Other	3.01	3.19	2.26	2.14	3.63	4.96	3.53

Table 2. Demographic attributes of female users of contraceptive methods, by method and time frame: 1995-1997 and 1998-2000

Demographic attributes	1995-1997		1998-2000	
	Sterilization	Other	Sterilization	Other
Indigenous (%)	6.37	5.71	9.20	7.36
Illiterate (%)	21.37	11.41	14.62	11.78
Age at interview	36.29	32.64	34.61	28.69
Number of children	2.64	1.79	2.22	1.54
Access to electricity (%)	68.03	78.53	73.60	71.90
Rural (%)	33.15	24.70	30.81	30.60
Government-provided method (%)	91.32	76.30	88.77	80.10

Table 3. Percentage of sterilized females by demographic attribute and time frame: 1995-1997, and 1998-2000

Demographic attributes	1995-1997	1998-2000
Aggregate percentage	37.50	7.88
Non-indigenous	37.33	7.73
Indigenous	40.10	9.66
Literate	34.75	7.65
Illiterate	52.92	9.60
Age when interviewed		
20-24	3.73	1.03
25-29	19.77	4.29
30-34	37.97	10.85
35-39	48.64	18.35
40-44	54.34	16.63
45-49	36.40	12.88
Number of children		
0	19.26	3.26
1	32.58	8.21
2	44.49	8.87
3	45.47	14.79
4 or more	53.20	12.88
No access to electricity	47.20	7.44
Access to electricity	34.20	8.05
Urban	34.76	7.86
Rural	44.60	7.93
Lima (Metropolitan Area)	29.03	6.49
Rest of the Coast	43.32	8.77
Highlands	37.84	8.91
High jungle	45.05	7.58
Low jungle	43.22	7.00
Government provided	41.80	8.66
MINSAs hospital	67.53	24.93
MINSAs health centre	36.61	4.73
ESSALUD hospital	57.01	22.73
ESSALUD post	28.13	4.47
Campaign/ fair	63.17	2.47
Military/ police hospital		
Non-government provision	18.03	4.61
Private clinic	51.56	22.88
Private doctor's office	5.24	0.54
NGO: Clinic/ post	10.47	8.60
Other	38.43	22.31

Table 4. Percentage of women who were informed about their method of choice* by time frame

Was informed about	1995-1997		1998-2000	
	Sterilization	Other	Sterilization	Other
(1) Side effects	44.32	68.46	43.48	65.09
(2) Existence of other methods	66.04	91.11	68.00	88.44
(1) y (2)	36.27	64.79	37.61	61.94
(3) Impossibility of future childbearing	92.20		93.21	
Complete information (1),(2) y (3)	35.12		36.84	

* The variables related to information existed only for users of female sterilization, pill, IUD, injections and implants (Norplant and vaginal).

Table 5. Percentage of women who received information
about side effects and about the existence of other methods;
by attribute, method and time frame: 1995-1997 and 1998-2000

Demographic attributes	1995-1997		1998-2000	
	Sterilization	Other	Sterilization	Other
Non-indigenous	36.69	65.21	38.05	63.40
Indigenous	34.41	67.12	36.46	48.40
Literate	35.80	66.76	38.18	64.00
Illiterate	39.30	54.53	36.25	50.73
Age when interviewed				
15-19		59.77		55.97
20-24	30.94	58.68	45.87	61.31
25-29	32.73	67.33	33.61	63.76
30-34	42.08	65.29	41.26	64.00
35-39	32.30	67.07	35.15	65.42
40-44	38.82	66.90	35.09	58.90
45-49	26.19	59.12	58.14	48.33
Number of children				
0	55.05	71.55	32.31	67.01
1	32.24	63.23	40.51	62.07
2	35.90	66.09	43.00	61.16
3	35.45	54.36	39.67	58.71
4 or more	35.17	65.95	30.23	55.54
No access to electricity	40.07	65.30	39.63	57.35
Access to electricity	34.89	65.32	37.29	64.52
Urban	34.40	65.18	38.24	64.32
Rural	40.89	65.69	37.15	58.21
Lima (Metropolitan Area)	41.67	63.38	38.89	67.25
Rest of the coast	30.53	62.08	34.04	62.87
Highlands	34.76	68.21	40.41	56.14
High jungle	52.91	66.79	32.33	63.32
Low jungle	40.20	75.32	39.46	61.73
Government provided	36.99	63.56	37.87	62.54
MINSA hospital	38.19	62.45	36.21	67.45
MINSA health center	43.13	64.66	41.56	64.30
ESSALUD hospital	26.45	71.26	40.12	70.91
ESSALUD post	21.80	66.18	47.97	60.76
Campaign/ fair	28.14	94.32		54.01
Non-government provision	31.98	74.33	38.22	60.18
NGO: Clinic/ post		86.11	77.40	73.42
Other			42.29	45.83

Cuadro 6. Percentage of regret of sterilized women
by level of information and period: 1995-1997 y 1998-2000

Percentage and reason for regret	1995-1997			1998-2000		
	All	Incom- plete info	No info no more children	All	Incom- plete info	No info no more children
Regret en %	23.33	27.61	39.77	14.09	15.76	30.72
Reason for regret						
Wants another child	46.96	47.08	35.76	36.18	32.23	16.66
Husband desire for children	2.79	2.76	0.66	0.00	0.00	0.00
Side Effects	41.60	40.20	37.86	59.82	64.85	83.34
Child died	0.79	1.04	0.00	0.00	0.00	0.00
Another reason	7.17	8.92	25.72	2.59	0.90	0.00

Table 7. Percentage of women who use an undesired method
by information, method and time frame: 1995-1997 and 1998-2000

Percentage using an undesired method and Reason for using the current method	1995-1997				1998-2000			
	Other me thod	Sterilized			Other me thod	Sterilized		
		All	Incom- plete info	No info no more children		All	Incom- plete info	No info no more children
Percentage	2.89	5.39	6.96	21.93	4.04	5.44	7.36	6.08
Reason								
Physician's recommendation	73.26	62.29	58.59	25.14	64.00	64.31	63.64	43.50
Other methods not available	13.12	1.00	0.63	0.00	12.14	0.00	0.00	0.00
Method wanted by partner	4.87	13.52	14.48	20.29	7.61	12.21	11.25	16.74
Free food/ health care	0.00	5.36	5.99	0.00	1.09	9.16	8.15	0.00
Program benefits	1.64	0.00	0.00	0.00	0.78	0.00	0.00	0.00
Other	6.67	16.97	20.31	52.22	10.84	15.32	16.97	39.76

Table 8. Percentage of women that has a good opinion about the attention received when the contraceptive method was prescribed, by method, level of information received and period

Good opinion about	1995-1997				1998-2000			
	Other method	Sterilization			Other method	Sterilization		
		All	No comp info	No info no more children		All	No compl info	No info no more children
Schedule of attention	82.03	74.84	70.40	69.68	77.84	77.59	73.63	61.90
Explanation about familyplanning methods	76.91	60.71	48.82	29.59	73.15	67.47	59.08	44.58
Information about prescribed method	74.25	61.84	50.40	35.45	71.59	63.13	52.95	36.79
Waiting room:								
Comfort	70.73	71.97	69.09	62.95	67.85	71.11	65.43	67.41
Cleanliness	82.55	80.09	78.31	78.10	80.76	82.13	78.51	58.86
Waiting time	57.41	61.23	58.33	58.58	53.74	62.97	62.06	60.94
Treatment by staff	74.60	74.87	71.86	75.14	71.61	73.39	73.22	77.51
nurses	79.30	77.28	74.67	77.51	77.09	78.06	74.76	72.14
physicians	87.22	83.82	80.59	74.77	81.39	87.78	83.15	68.45
Physician's explanation	82.10	73.34	67.82	49.18	76.22	78.53	73.69	57.26
Privacy	83.74	78.01	75.15	57.01	82.08	78.58	75.11	74.63

Table 9. Total number of women sterilized by the government by level of information and year

Año	Total sterilizations government	No complete information		No information about no more children	
		People	Percentage	People	Percentage
1993	19,261	12,510	64.95	1,934	10.04
1994	18,249	11,683	64.02	1,868	10.24
1995	32,883	21,295	64.76	2,571	7.82
1996	81,760	52,359	64.04	6,458	7.90
1997	109,689	70,213	64.01	8,447	7.70
1998	25,995	16,328	62.81	1,387	5.34
1999	26,764	16,688	62.35	1,444	5.39
2000	16,640	10,485	63.01	956	5.75
Total	331,24	211,006	63.70	25,306	7.64

Table 10. Determinants of the probability of sterilization. Probit Estimation
Average Marginal Effects in Percent Points

Model:	(1)		(2)		(3)		(4)	
Variable	Est.	S.E.	Est.	S.E.	Est.	S.E.	Est.	S.E.
Indigenous	-0.9	1.3	-0.9	1.5	-3.0	1.5	-3.1	1.6
Illiterate	0.6	1.1	-0.1	1.2	-0.1	1.2	-0.6	1.3
Electricity	1.8	1.0	2.6	1.1	2.6	1.1	3.7	1.2
Rural	-2.4	1.0	-2.1	1.1	-3.7	1.1	-3.5	1.2
Age	0.7	0.1	0.8	0.1	0.7	0.1	0.9	0.1
1995-1997	17.9	0.7	18.3	0.8	17.6	0.7	18.1	0.8
3 children	15.5	1.0	16.2	1.1	15.9	2.4	15.8	2.6
4 children or more	17.5	1.0	18.4	1.1	18.4	2.4	18.5	2.6
Government provided	10.3	1.3	4.8	1.6	9.9	1.3	4.5	1.6
Indigenous and max 2 children					10.2	3.0	11.2	3.3
Illiterate and max 2 children					5.2	2.6	4.6	2.9
Electricity and max 2 children					-2.9	2.3	-4.0	2.5
Rural and max 2 children					5.1	2.3	5.1	2.5
Incomplete Information			10.3	0.8			9.9	0.8
Nobs	7,358		6,334		7,358		6,334	
LR	1921.21		1929.70		1975.36		1979.85	
Pseudo R2	0.28		0.30		0.29		0.31	

Table 11. Determinants of regret and good opinion about the adopted method
Probit Estimación. Average Marginal Effects in Percent Points

Model:	Sterilized								All	
	Regret				Good opinion				Good opinion	
	(1)		(2)		(1)		(2)		(1)	
Variable	Est.	S.E.	Est.	S.E.	Est.	S.E.	Est.	S.E.	Est.	S.E.
Indigenous	9.4	3.5	9.0	3.5	-8.8	4.5	-8.0	4.4	-8.6	1.9
Illiterate	7.2	2.7	7.1	2.7	1.1	3.3	1.2	3.3	-0.5	1.6
Age	-0.7	0.2	-0.7	0.2	0.0	0.3	0.1	0.3	0.2	0.1
1995-1997	8.7	2.5	8.6	2.4	1.2	2.8	1.2	2.8	2.4	1.3
3 children	-8.7	3.4	-8.4	3.4	-0.6	4.1	-1.7	4.1	-1.1	1.6
4 children or more	-7.7	3.1	-7.2	3.1	-0.6	3.9	-1.5	3.9	-2.6	1.7
Government provided	3.5	4.8	3.3	4.7	-12.7	5.6	-12.7	5.5	12.3	2.0
Sterilized									-0.3	1.6
Incomplete Information	8.2	2.3	7.0	2.3	-27.5	2.4	-25.8	2.4	-25.9	1.0
No info no more children			11.9	3.9			-21.5	4.9		
Nobs	1285		1284		1273		1272		6307	
LR	67.88		76.60		115.41		134.85		625.73	
Pseudo R2	0.05		0.06		0.07		0.08		0.08	

Table A1. Number of female sterilizations by year, region and government entity
Source: Health Ministry of Peru

Region	1993	1994	1995	1996	1997	1998	1999	Total
Amazonas	200	223	193	645	962	294	544	3,061
Ancash	1,714	281	1,067	3,811	4,389	818	658	12,738
Apurimac	78	77	236	1,438	1,371	333	563	4,096
Arequipa	970	659	1,445	2,457	3,241	1,350	788	10,910
Ayacucho	112	206	213	1,712	2,084	242	266	4,835
Cajamarca	1,207	654	2,144	3,535	5,248	1,380	1,106	15,274
Callao	889	790	940	1,910	2,574	447	537	8,087
Cusco	668	206	1,070	1,808	4,535	955	999	10,241
Huancavelica	20	72	35	622	1,724	616	518	3,607
Huánuco	196	237	281	1,460	2,451	589	608	5,822
Ica	350	345	400	2,477	2,190	538	561	6,861
Junin	639	805	888	2,825	4,071	1,611	1,345	12,184
La Libertad	614	630	1,486	4,346	4,564	1,052	1,024	13,716
Lambayeque	634	515	795	2,720	3,951	1,047	1,289	10,951
Lima	3,442	4,386	5,620	14,912	20,103	5,151	6,154	59,768
Loreto	430	399	802	2,709	4,247	1,206	716	10,509
Madre de Dios	74	46	52	243	416	84	76	991
Moquegua	17	4	31	480	422	140	175	1,269
Pasco	0	120	114	890	1,195	252	112	2,683
Piura	517	1,135	1,297	8,452	9,863	1,189	1,321	23,774
Puno	428	469	494	1,625	2,054	361	455	5,886
San Martin	467	131	553	3,030	3,664	769	593	9,207
Tacna	305	346	225	724	636	185	209	2,630
Tumbes	188	71	236	935	1,038	318	346	3,132
Ucayali	624	512	1,284	1,495	1,525	457	459	6,356
Total MINSA	14,783	13,319	21,901	67,261	88,518	21,384	21,422	248,588
IPSS	4,209	4,411	10,156	13,742	20,654	4,173	4,586	61,931
FFAA	269	519	826	757	517	438	756	4,082
Total	19,261	18,249	32,883	81,760	109,689	25,995	26,764	314,601

Table A2. Percent of female sterilizations with incomplete information performed by public entities by region and period

Region	Complete Information		Information about no more children		
	1995-1997	1998-2000	1993-1994	1995-1997	1998-2000
Amazonas	36.00	41.67	88.89	90.00	100.00
Ancash	23.81	20.00	88.89	90.48	100.00
Apurimac	77.78	68.18	90.48	86.11	90.91
Arequipa	31.82	15.79	85.71	90.91	100.00
Ayacucho	29.63	40.00	100.00	92.59	80.00
Cajamarca	44.44	45.45	100.00	100.00	81.82
Callao	33.33	75.00	100.00	77.78	100.00
Cusco	20.00	13.04	83.33	96.67	87.50
Huancavelica	61.11	53.33	100.00	88.89	100.00
Huánuco	69.57	90.00	100.00	100.00	90.00
Ica	36.36	53.85	91.30	90.91	100.00
Junin	41.67	36.36	90.48	92.00	100.00
La Libertad	18.92	42.86	90.91	89.19	86.67
Lambayeque	17.86	14.29	85.71	89.29	85.71
Lima	35.40	33.05	87.49	92.20	97.00
Loreto	37.50	35.00	94.74	94.87	100.00
Madre de Dios	58.54	72.22	100.00	97.56	100.00
Moquegua	34.48	57.14	100.00	93.10	100.00
Pasco	28.21	45.45	100.00	95.12	77.27
Piura	35.59	33.33	83.33	91.80	100.00
Puno	33.33	42.86	88.89	88.89	100.00
San Martin	49.09	47.37	88.89	96.43	100.00
Tacna	46.15	37.50	92.86	100.00	100.00
Tumbes	54.72	53.33	86.84	92.45	93.33
Ucayali	39.39	40.00	90.63	91.18	80.00
Total	35.71	36.99	89.22	92.10	94.25