OBSERVATIONS ON FEMALE STERILIZATION IN CHILE[1]

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During 1971-1975 a total of 2,400 voluntary female sterilizations were performed at the Regional Hospital of Valdivia in southern Chile. This article describes the circumstances of this work, weighs its impact, and compares it to similar work performed in the capital city of Santiago.

Introduction

Up to the beginning of 1976, when Chile's Ministry of Public Health declared that "sterilization will not be considered a fertility regulation activity and may be performed only for health reasons" *(1)*, voluntary female sterilization was part of the services offered by a number of family planning programs in Chile. Among the principal objectives taken into consideration in offering sterilization was that of irreversibly controlling fertility in those women who requested it or in those patients who, regardless of their number of children, had some medical contraindication to additional pregnancies. The measure was also expected to help reduce maternal mortality and morbidity, reduce the high incidence of induced abortions, lower perinatal mortality, and promote better control of congenital and acquired infant morbidity *(2)*.

Before the new regulations governing surgical procedures for the irreversible suppression of fertility were implemented, conflicting opinions had been voiced about the use of sterilization as a supplementary family planning method. For the advocates of the method, voluntary female sterilization appeared to offer an effective means of preventing conception and eliminating the risks and costs of high multiparity. The prevention of health, demographic, and socioeconomic problems also seemed to justify the inclusion of sterilization in a family planning program.

Those who did not agree with this position argued that contraceptive methods should be effective, safe, reversible, easily applied, and acceptable to the patient; and accordingly, because sterilization is irreversible, it would not be an appropriate contraceptive method. In addition, the rapid increase in the number of sterilizations in Chile during the first five years of the 1970's, combined with the fact that a relatively small percentage of women had used some other contraceptive method before the operation, may have helped awaken fears of mass sterilization campaigns and undesired sociodemographic effects *(3)*.

Sterilization Trends

The increase that occurred in voluntary sterilizations performed as part of Chilean family planning programs is indicated by the number of such operations performed in various hospital services. For example, data collected at the Valdivia Regional Hospital in southern Chile showed an almost sixfold increase in the number of sterilizations performed between 1971 and 1975. During that period the number of such operations totaled 2,400, rising from 142 in 1971 to 850 in 1975. Similarly, according to a study conducted at

[1]Study conducted under the auspices of the academic exchange program between the University of Minnesota, Department of Rural Sociology (St. Paul), and the Southern University (*Universidad Austral*) of Chile. Also published in Spanish in the *Boletín de la Oficina Sanitaria Panamericana* 91(6):520-530, 1981.

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the Maternity Department of the San Borja Hospital in the central area of Santiago and reported by Herrera, Wells, Araneda, and Mondaca *(4)*, the number of female sterilizations performed by that hospital between 1970 and 1973 totaled 1,149. If 1970 is taken as the base year, by late 1972 there had been an increase equivalent to 78 per cent. The authors reporting these results conclude by pointing out that "sterilizations of women [in the above-mentioned hospital] have increased proportionately in this year [1975] by almost 30 per cent. This upward trend," they said, "is common to all maternity hospitals in the country" *(4)*.

This unprecedented increase in voluntary sterilizations, coupled with the need for systematic evaluations providing information on the characteristics of the women sterilized and the possible clinical, psychological, and social consequences of this type of operation, prompted the study reported here, whose results are based on a 1976 survey of women from Valdivia Province who were sterilized at the Valdivia Regional Hospital in 1971-1975 *(5)*. For comparative purposes, this article also discusses some of the findings obtained by Herrera et al. in their study of 573 women sterilized at the San Borja Hospital in central Santiago between 1970 and 1973. These latter findings have previously been reported in the *Revista Chilena de Obstetricia y Ginecología (2)*.

The Valdivia data were obtained by surveying a random, stratified sample of 215 women sterilized at the regional hospital in 1971-1975. Cases that involved mental illness, according to the statistical data of the regional hospital's department of obstetrics and gynecology, were excluded from the sample. It should be noted that only patients at one National Health Service hospital were included in this sample, and so the sample excluded people who were not beneficiaries of that service. Therefore, the results to be discussed with regard to the sample's demographic, educational, economic, and other characteristics apply only to the population sector benefiting from the programs provided by this service.

Personal interviews were held at the homes of the women included in the sample. The interviewers, who administered questionnaires, were two students (candidates for nursing and midwifery degrees) at the Schools of Nursing, Midwifery, and Child Care of the Faculty of Human Medicine of the Southern University of Chile *(Universidad Austral de Chile)*. Because of the loss of some informants—resulting from changes of residence, death, and some small number of refusals to be interviewed—information was collected on a total of 198 sterilized women.

The number of voluntary sterilizations performed in the Valdivia Regional Hospital between 1971 and 1975 showed a sustained upward trend from 1971 through 1975 (Table 1). However, the number of births at the Valdivia Regional Hospital (averaging around 2,700 per year) increased only moderately during the period in question. As a result, the number of sterilizations as a percentage of the annual number of births rose from 5.9 in 1971 to 32 in 1975. The very substantial increase in the last two years of the period (see Table 1) may be attributed to growing demands by a population increasingly well-informed about the family planning services available, as well as to the introduction of new laparoscopy sterilization techniques that began being employed in 1974.

Sociodemographic Characteristics

To help assess the data on female sterilization in the Valdivia area and to compare them with the data collected by the Santiago study

Table 1. Increases in female sterilizations at the Valdivia Regional Hospital in 1971-1975, showing the accompanying increase in the ratio of sterilizations to live births.

Year	No. of live births	No. of sterilizations	Ratio of sterilizations to live births
1971	2,384	142	.059:1
1972	2,714	203	.075:1
1973	2,859	361	.126:1
1974	2,882	844	.293:1
1975	2,654	850	.320:1

(4), some of the sociodemographic characteristics of the women sterilized in the two cities are presented below.

Age

The median ages of the women in the two samples at the time the operation was performed were 33.6 years for the 198 Valdivia women and 33.9 years for the 573 Santiago women. As Table 2 shows, the composition of the patients by age group was fairly similar in the two populations. However, the Valdivia sample contained a higher proportion of women less than 26 years old (8.6 per cent compared to the Santiago figure of 4.7 per cent) and also contained a higher proportion of women over 40 years of age.

Marital Status

Most of the women who requested sterilization were married. However, while nine out of every 10 women in the Valdivia sample were married, the same was true for only 74.5 per cent of the Santiago sample. The percentages of single women sterilized in Santiago (7.7 per cent) and of those who said they were common-law wives (7.0 per cent) were higher than in Valdivia. However, the Valdivia sample was found to contain a slightly higher proportion of separated women than the Santiago sample.

Place of Origin or Residence

Table 2 also shows the urban, suburban, or rural distribution of the two samples-either by place of origin (Valdivia) or place of residence (Santiago). The proportion of patients from urban areas was similar in the two samples and included over half the women in each case. Significant differences were observed in the suburban and rural categories, the Santiago sample appearing to have a far higher proportion of suburban women and a far lower proportion of rural women than the Valdivia sample.

Table 2. Sociodemographic characteristics of 198 women sterilized in Valdivia and 573 sterilized in Santiago, according to the findings of two studies.

Sociodemographic characteristics	Valdivia sample (%)	Santiago sample (%)
Age when sterilized:		
≤ 20 years	0.5	0.5
21 – 25 "	8.1	4.2
26 – 30 "	24.7	24.8
31 – 35 "	31.3	34.7
36 – 40 "	25.3	30.7
≥ 41 "	10.1	5.1
Median ages: 33.6 years (Valdivia) and 33.9 years (Santiago)		
Marital status:		
Married	93.0[a,b]	74.5[b]
Single	0.5	7.7
Separated	3.5	1.2
Common-law wife	3.0	7.0
Unknown	–	9.6
Place of origin or residence:[c]		
Urban	55.0	52.9
Suburban	23.0[b]	42.6[b]
Rural	22.0[b]	4.5[b]
Education:		
Illiterate	8.1	8.4
Elementary education	65.7[d]	57.1[d]
Secondary education	22.7[b]	33.8[b]
University education	3.5	0.7
Religion:		
Catholic	73.7	76.6
Protestant	22.8[b,e]	9.4[b]
Other	–	3.5
No religion	3.5	6.5
Unknown	–	4.0

[a]Includes two widows identified as such at the time of the survey.
[b]The difference between the two sets of data is highly significant ($p<0.01$).
[c]The Valdivia figures are based on place of origin while the Santiago data are based on place of residence.
[d]The difference between the two sets of data is significant ($p<0.05$).
[e]This category includes Evangelicals (21.3 per cent) and a few Lutherans (1.5 per cent).

Education

The educational levels of the women sterilized in both Valdivia and Santiago tended to be low. The proportion of illiterates was about the same in both groups. However, a significantly higher proportion of the Valdivia sample ($p < 0.05$) reported receiving only elementary education, a significantly lower pro-

portion of the Valdivia sample ($p < .01$) reported receiving secondary education, and a slightly higher proportion of the Valdivia sample (3.5 per cent versus 0.7 per cent in Santiago) reported receiving university education.

Religion

About three-quarters of the women sterilized in both the Valdivia and Santiago samples said they were Catholics (Table 2). Other data reflect differences found in the proportion of Protestant women in the two samples, there being a significantly higher percentage of Protestant women ($p < 0.01$) in the Valdivia sample and somewhat higher percentages of women with other religions or no religion in the Santiago sample.

Socioeconomic and Occupational Data

Nine out of every 10 women surveyed in Valdivia belonged to low-income families. The average income level for the entire family group of each informant was approximately 785 pesos (less than US$50) a month. As Table 3 shows, this information agrees closely with the data obtained for the Santiago sample, in which there was only a slightly higher proportion of subjects in the middle-income category.

Slightly less than a quarter of the women in both samples had paid employment outside the home, nearly 77 per cent of the Valdivia women and 76 per cent of the Santiago women being housewives. Comparison of the occupational distributions of the remaining women in Valdivia and Santiago shows that there was a higher proportion of blue-collar workers (14.7 per cent) and of workers at small commercial and industrial establishments (4.5 per cent) in the Valdivia sample.

Data about the spouse's occupation also provided worthwhile socioeconomic information. Overall, somewhat more than half the spouses of sterilized women in both samples were blue-collar workers. Very few spouses were found to be professionals, and only a fifth or less were white-collar workers. The percentage of spouses classified as unemployed in Valdivia (11.1 per cent) was higher than the 6.8 per cent so classified in Santiago, but this could be due partly to the high percentage of spouses with unknown occupations in Santiago, and also partly to the different dates on which the studies were conducted.

Table 3. Socioeconomic and occupational data on the two sample populations of sterilized women and their spouses.

	% of 198 Valdivia subjects	% of 573 Santiago subjects
Socioeconomic level:		
Low income	90.0	84.1
Middle income	10.0	15.9
High income	–	–
Woman's occupation:		
Housewife	76.8	75.9
Blue-collar worker	14.7	4.2
White-collar worker	2.0	3.5
Professional	2.0	1.2
Worker in small industry or business	4.5	–
Domestic servant	–	1.7
Unknown	–	13.5
Occupation of spouse:		
Blue-collar worker	56.6	50.8
White-collar worker	14.1	20.4
Professional	4.0	2.3
Worker in small industry or business	8.1	–
Retiree, pensioner	4.0	–
Unemployed	11.1	6.8
Unknown	2.0	19.7

Reproductive Backgrounds

Approximately half the women sterilized in Valdivia (52 per cent) and slightly less than that (45 per cent) in Santiago were grand multiparas, having delivered seven or more viable offspring. On the average, as Table 4 shows, the 198 women surveyed in Valdivia had an average of 4.7 children each, while the 573 Santiago women surveyed had an average of 4.2 children each. The average number of

Table 4. Reproductive backgrounds of the 198 sterilized women surveyed in Valdivia and the 573 sterilized women surveyed in Santiago.

	Valdivia (%)	Santiago (%)
Parity		
Grand multiparas	52.0	44.7
Average no. of living children per patient	4.7	4.2
Miscarriages		
Percentage of women with miscarriages	21.2	26.0
Average no. of miscarriages per patient	0.57	0.55
Induced abortions		
Percentage of women with induced abortions	38.9[a]	20.2[a]
Average no. of induced abortions per patient	0.31	0.52
Use of contraceptive methods:		
Used	68.2[a]	49.7[a]
Not used	31.8[a]	50.3[a]
Results of contraceptive methods.[b]		
Complications	47.0	47.4
Pregnancies	16.2[a]	34.4[a]
No complications	36.8[a]	18.2[a]

[a]Differences between the two sets of data that are significant at the level of $p<0.01$.

[b]Data for only 136 Valdivia women and 285 Santiago women are included in this section

spontaneous abortions was also similar among the survey populations in the two cities, but there was a considerable difference in the average number of induced abortions. Also, even though the average number of induced abortions per woman was lower in the Valdivia sample than in the Santiago sample, the percentage of Valdivia women reporting induced abortions was significantly higher ($p < 0.01$) than the percentage of Santiago women reporting induced abortions.

Another important difference was the percentage of women who reported using some method of contraception before requesting sterilization. In this regard, it was surprising to find a significantly higher percentage ($p < 0.01$) of the women in the Valdivia sample reporting use of contraceptives. Specifically, 68.2 per cent of the Valdivia subjects reported using contraceptives before their operations, whereas nearly half the Santiago informants said they had never used contraceptives. Of those sterilized women who reported using family planning methods, a significant number became pregnant and about half experienced other complications. Complications reported by the women interviewed in Valdivia included nausea, vomiting, and high blood pressure among oral contraceptive users and pelvic infection, irregular bleeding, and perforation of the uterus or cervix among IUD users. The proportion of women becoming pregnant was significantly higher in Santiago (34.4 per cent) than in Valdivia (16.2 per cent). Conversely, the proportion of contraceptive users experiencing no complications was higher in Valdivia than in Santiago. Most of the Valdivia women who reported using contraceptives said they had used an intrauterine device (46.5 per cent) or birth-control pills (20.2 per cent). None reported using the Ogino or "rhythm" method, which requires that the woman refrain from sexual intercourse on days near the predicted time of monthly ovulation.

Reasons Cited for Sterilization

Methodologically, it is not completely valid to compare the Valdivia and Santiago data on reasons cited by the women requesting sterilization, because the Valdivia survey only considered the principal reason given by the woman requesting sterilization while the Santiago survey accepted multiple answers. Nevertheless, the percentages presented in Table 5 appear to reflect important general trends.

According to most of the women, especially those from low-income sectors with large families, difficult socioeconomic conditions led them to request sterilization. In Valdivia, approximately four out of every 10 informants (38.9 per cent) cited economic problems as the principal reason for requesting the operation, and in Santiago more than half the women in the sample cited this reason.

In addition, over a third (37.9 per cent) of the Santiago women said their families were

Table 5. Reasons for requesting sterilization.

Reason cited	% of 198 Valdivia women	% of 573 Santiago women
Socioeconomic situation	38.9	52.0
Family complete or too many children	27.3	37.9
Medical reasons or too many pregnancies	29.3	24.6
Failure of contraceptive method	–	16.1
Problems with spouse	2.5	8.4
Other reasons	2.0	–
Total	100.0	139.0[a]

[a]The Santiago survey permitted multiple answers, which is why the percentage recorded exceeded 100. This was not true in the Valdivia survey, where the women interviewed were asked to give the most important reason for requesting sterilization.

Table 6. Medical indications cited for sterilization of women in Santiago and Valdivia.

Indication	Valdivia[a] (%)	Santiago[b] (%)
Parity (grand multipara)	57.5	45.4
Repeated Cesarean deliveries	9.8	38.0
Psychiatric and neurologic conditions	2.3	2.6
Contraceptive failure	1.0	10.5
Purely obstetric reasons	26.9[c]	13.8
Other medical or genetic reasons	2.2	8.4

[a]The Valdivia figures cover a total of 2,400 voluntary female sterilizations performed between 1971 and 1975.

[b]The Santiago figures were taken from Table 17 of the 1975 article by Mario Herrera et al. *(4)*, p. 66. The percentages recorded exceed 100 per cent because the Santiago survey permitted multiple answers.

[c]This Valdivia figure includes some subjects for whom the prime indication for sterilization was multiparity.

"complete" or they had "too many children," and this was the prime reason cited by over a quarter (27.3 per cent) of the Valdivia women. Health reasons and a desire to avoid additional pregnancies were also common explanations, being cited by 24.6 per cent of the Santiago women and 29.3 per cent of the Valdivia women. Failure of other contraceptive methods was cited as a reason by 16.1 per cent of the Santiago women. This answer was not listed on the Valdivia questionnaire, so women motivated by this reason were presumably lumped into the "health reasons and too many pregnancies" category.

With respect to the medical indications for sterilization (Table 6), it is important to note that the Valdivia data cover all 2,400 sterilizations performed in that city between 1971 and 1975. Consequently, there is no direct methodological correlation between these results and the results of the Santiago survey reported by Herrera et al. *(4)*. However, as Table 6 shows, the two sets of results both pinpoint grand multiparity as the medical indication in most cases of sterilization. Aside from this, and aside from similar small percentages of women sterilized for psychiatric and neurologic conditions, the two sets of medical indications data differ considerably. The Valdivia data show that 26.9 per cent of the women involved were sterilized for purely obstetric reasons, while 9.8 per cent were sterilized because of repeated Cesarean deliveries. The respective percentages reported for the Santiago women studied were 13.8 and 38.0 per cent.

Sources of Influence

Medical and paramedical health services personnel appeared to play a major role in the patients' decision to request sterilization. As Table 7 shows, approximately eight of every 10 informants in Valdivia identified the staff of the hospital services (physicians, nurses,

Table 7. Sources of influence recognized by women deciding to undergo sterilization.

Recognized sources of influence	Women citing different sources in: Valdivia (% of 198 women)	Santiago (% of 573 women)
Medical and health personnel	80 8	93.0
Friends, neighbors, relatives	12.1	4.2
Mass media	0 5	2.8
Nobody	6.6[a]	–

[a]This category includes four women (2 per cent of the total) who stated that they only knew about the sterilization operation sometime after it had been performed.

midwives) as having the greatest influence on their decision. This proportion was even higher (over nine out of every 10 women) in Santiago.

Such informal sources of information as relatives, neighbors, and friends were considered most important by some women, especially in Valdivia (12.1 per cent, versus 4.2 percent in Santiago). The fact that the Valdivia women lived near one another, coupled with the rural origins of many, could have led to more interaction between neighbors, friends, and relatives; and this in turn could account for the Valdivia women's greater tendency to regard advice on sterilization from such sources as important *(13)*.

Few women in either Santiago or Valdivia said the mass media played a key role in their decision. However, a small number of Valdivia informants (6.6 per cent) stated that they had not been influenced by any source of information before sterilization. This group included four women who said they did not know of the operation until some time after it had been performed.

Surgical Methods

The two surgical techniques of female sterilization that were used in the maternity section of the Valdivia Regional Hospital were the Pomeroy and laparoscopy methods. The latter was introduced in 1974 *(6-7)* and by the end of 1975 had been used in 545 cases. This means it was used in over a fifth of all the 2,400 female sterilizations performed in 1971-1975. An even higher percentage of the Valdivia women interviewed (32.5 per cent) were sterilized by the laparoscopy method, the remaining 67.5 per cent being sterilized by the Pomeroy method.

According to Herrera et al. *(4)*, most women in their Santiago sample (53.8 per cent) were sterilized by the Pomeroy method, the others being sterilized by the Madlener and other methods.

Table 8. Surgical methods used for sterilizing women included in the Santiago and Valdivia surveys.

Methods	Frequency of methods used in: Valdivia (% of 198 women)	Santiago (% of 573 women)
Pomeroy[a]	67.5	53.8
Laparoscopy[b]	32.5	–
Madlener[c]	–	9.4
Other	–	36.8

[a]The Pomeroy method consists of tying off and cutting the fallopian tubes to prevent the passage of eggs between the ovaries and the uterus.

[b]In a laparoscopy, the fallopian tubes are sealed off with the help of an instrument called a laparoscope that brings light into the abdomen and provides a lens system that aids the physician in seeing the reproductive organs during the operation.

[c]The Madlener method utilizes a clip or band that is placed around each fallopian tube to compress it and seal it off.

Some Results of Sterilization

The effects attributed to sterilization by the women interviewed are presented in Table 9. One category of these are clinical problems and related pains capable of affecting the health of the patient sterilized. The proportion of women who stated that they suffered from such clinical changes following the operation was similar in the two samples, including about a quarter of all respondents.

Another relevant consideration was the operation's impact on attitudes of the sterilized women's spouses. In this regard, most of the

Table 9. Some postoperative results attributed to sterilization by the women sterilized in Valdivia and Santiago.

Results reported	Results cited by women in: Valdivia (% of 198 women)	Santiago (% of 573 women)
Clinical problems, related pain:	24.8	23.0
Postoperative attitude of spouse:		
Favorable and positive	79.8	70.5
Unfavorable or doubting	16.7	2.4
Unknown	3.5	27.1
Sexual relations:		
Same	52.1	78.5
Better	19.2	12.4
Worse	27.2[a]	8.9[a]
Unknown	1.5	–

[a]Differences significant at the level of $p<0.01$

Valdivia and Santiago women said their spouse's post-operation attitudes had been positive and favorable. However, a noteworthy proportion (16.7 per cent) of the Valdivia women said their spouses had negative attitudes or had expressed doubts about the operation's outcome. The comparable percentage in Santiago (2.4 per cent) was significantly smaller ($p < 0.01$), but a larger proportion of the Santiago women interviewed said their spouse's attitude was unknown.

Information was also collected on the sterilized women's perceptions about the operation's effect on their sexual relations. Most (52.1 per cent in Valdivia and 78.5 per cent in Santiago) said there had been no change in their sexual relations, and some (19.2 per cent in Valdivia and 12.4 per cent in Santiago) said their sexual relations had improved.

However, 8.9 per cent of the Santiago women and 27.2 per cent of the Valdivia women blamed sterilization for adversely affecting their sexual relations. There is a significant difference between these percentages ($p < 0.01$), and the high percentage of Valdivia women reporting adversely affected sexual relations would appear to call for careful scrutiny by health personnel.

Discussion and Conclusions

With regard to religion, the findings presented here tend to bear out the conclusions of various other studies indicating that there are no substantial differences between the contraceptive behavior of Catholic and non-Catholic women. According to Miró, the teachings of the Church in Latin America do not appear to present women with an obstacle to family planning *(8)*. Stycos contributes similar data and suggests that Catholicism's slight impact on popular attitudes and behavior regarding contraceptive practices is probably due, in part, to the average woman not being very Catholic, as judged by the standards of the Church *(9-11)*.

However, the problem would also appear to be closely connected with lack of knowledge, on the part of a wide segment of the population, about the teachings of the Church on the subject, coupled with economic and social pressures on poor and large families. Indeed, the average size of the families of the women sterilized in Valdivia was more than six people. In addition, when the question "Do you know whether your Church has any teaching about sterilization?" was asked, most of the informants (72 per cent) said they were unaware of any. It should also be pointed out that only 12.6 per cent of the women involved regularly attended and participated in Church activities, so that in most cases the degree of religious participation was rather nominal.

Another important point concerns the relatively high percentage of patients who sought sterilization without having previously used other contraceptive methods, as well as the high incidence of complications and pregnancies recorded among those women who did use other contraceptive methods. These findings appear to indicate a need for more adequate family planning education in Chile. In this regard, Sciarra *(12)* points out that in the more developed countries, sterilization is typically performed following a period when other contraceptive methods were used, but that in the developing countries sterilization is frequently the first procedure considered for controlling fertility.

In addition, even though the attitudes reported or expressed by the sterilized women and their spouses represent subjective appraisals, the findings demonstrate why these attitudes need to be considered in developing or adapting family planning extension services and teaching activities. Such action, besides helping to prevent undesired pregnancies or pregnancies that would endanger health, would also help to remove fears and negative emotions affecting both the woman involved and her relations with her spouse and family.

Overall, the postoperative consequences of sterilization cited by the Valdivia and Santiago patients suggest a need for research and analysis by interdisciplinary teams. Although medicoclinical studies tend to consider sterili-

zation an efficient and effective surgical procedure, and some recommend it as a supplement to family planning programs, few psychosocial studies have been made *(14-18)* concerning the behavior of the sterilized woman and her attitudes toward herself, her spouse, and her family.

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SUMMARY

This article presents data and observations about voluntary female sterilizations performed between 1971 and 1975 on a sample of 198 women in the Valdivia Regional Hospital in southern Chile. These data and observations are compared with findings obtained by Herrera, Wells, Araneda, and Mondaca *(4)* from interviews with 573 women sterilized at a hospital in central Santiago.

Voluntary sterilizations performed in Valdivia increased substantially between 1971 and 1975, the number rising from 142 in 1971 to 850 in 1975. Relative to the number of births at the hospital, there were approximately six sterilizations per hundred births in 1971 and 32 sterilizations per hundred births in 1975. Data collected in Santiago suggest a similar upward trend in this type of operation.

Data on the sociodemographic characteristics of the 198 sterilized women interviewed in Valdivia showed that the average age of the patients was 33.6 years, that they had little education, that most were married, that most came from low-income families, and that most did no paid work outside the home. A little over half the members of the Valdivia sample came from urban areas, the remainder having their places of origin in suburban (23 per cent) or rural (22 per cent) areas.

Most of the sterilized women interviewed in Valdivia and Santiago said they were Catholics; but there was a higher percentage of Protestant women in the Valdivia sample.

The reproductive backgrounds of the women sterilized showed that 52 per cent of the informants in Valdivia and 45 per cent of those in Santiago were grand multiparas. The number of living children born to each sterilized woman averaged 4.7 in the Valdivia sample and 4.2 in the Santiago sample.

The data indicate that approximately half the women in the Santiago sample and over 68 per cent of those in the Valdivia sample had used some contraceptive method before sterilization.

Most of the women in the two samples said they opted for sterilization because of their socioeconomic situation, or because they felt they had too many children and their families were complete. These statements are consistent with the listed medical indications for sterilization, the indication recorded in most cases being the grand multiparity of the patient.

With regard to their decision to request sterilization, nearly all the women involved said that health personnel (physicians, nurses, and midwives) were their most important source of information. However, a noteworthy proportion of the Valdivia women (12.1 per cent) said friends, neighbors, or relatives provided their most important source of information.

Regarding the operation's aftereffects, 15.6 per cent of the Valdivia women interviewed said their spouses had taken a negative attitude toward the operation, and 27.2 per cent of the Valdivia women blamed the operation for adversely affecting their sexual relations. These findings indicate circumstances demanding the close attention of health care and family planning personnel.

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