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Brazil:

Comparative Study of the Consequences of Tubal Ligation for Women's Lives in Campinas

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This summary highlights findings from a larger scientific report and includes recommendations from in-country researchers

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Comparative Study of the Consequences of Tubal Ligation for Women's Lives in Campinas,

I Introduction

Tubal ligation is extremely popular in Brazil According to the 1996 Demographic and Health Survey, 40 percent of women in union, ages 15 to 49, have been sterilized More than half of them (57 percent) undergo the procedure before the age of 30, and 34 percent have only one or two children (PNDS, 1996)

Dependence upon tubal ligation as the primary contraceptive method has created a great deal of concern and controversy in Brazil To better understand the effects of sterilization on the quality of women's lives, the Women's Studies Project (WSP) at Family Health International (FHI) supported a study to examine the experience of tubal ligation and its effects on work history, marital stability, educational attainment, and psychosocial variables, such as self-esteem and affective relationships with partners and children Women were interviewed five or more years following the procedure, and their experiences were compared with those of women similar in age and in the same community but who had not undergone sterilization Research was conducted by the Centro de Pesquisas das Doenças Materno-Infantis de Campinas (CEMICAMP) of the Universidade de Campinas (UNICAMP) in Campinas, Brazil

II Background

The popularity of sterilization in Brazil can be attributed, in part, to women's limited access to other contraceptives Brazil is essentially a two-method society Women typically use oral contraceptives until they reach their desired family size, or as in many cases, after they have exceeded their desired family size, then they elect sterilization Intrauterine devices (IUDs) are not widely used because, historically, providers have not known how to insert them and few programs actually have IUDs in stock, especially public-sector programs Depo-Provera only recently has become available and other injectables have never become very popular Few barrier methods have been available, although condom use has increased as people seek protection against AIDS and other sexually transmitted diseases

Until recently, sterilization was illegal in Brazil for contraception but could be performed for health reasons after a physician's evaluation This illegality appears to have been a factor in the country's high rate of Cesarean sections Fifty-nine percent of sterilized women have undergone sterilization in conjunction with C-sections, many of which were performed for the sole purpose of giving women access to a tubal ligation (PNDS, 1996, Faundes, 1991)

Because sterilization was not officially sanctioned as a contraceptive method, there has been little provider counseling for clients Previous studies have documented a high degree of regret

especially among women who were sterilized early in their reproductive lives subsequently separated from their first husband, but remarried and wanted a child with their new partner (Hardy, 1994) Many women were not aware of the procedure's irreversibility Hardy found

In the last decade, research has focused on the disadvantages of tubal ligation, particularly regret, possible harmful physical side effects, and the lack of contraceptive alternatives for women There has been less discussion of and attention to the potential advantages of female surgical sterilization its efficacy, safety, low cost in the long term, autonomy (in theory women do not need a partner's collaboration), and convenience (does not interfere with sexual intercourse) The characteristics of efficacy and convenience, on the one hand, and irreversibility, on the other, provide a strong rationale for an examination of the long-term influences, both positive and negative, that tubal ligation may have on women's lives

III Study Goals and Objectives

1 The goals of this WSP subproject were to

2 Examine the long-term impact of tubal ligation on women's lives, based on their perceptions of changes in their economic status, educational achievement, marital stability, affective relationships with partners and children, decision-making ability, and self-esteem

3 Compare the experiences (changes in both economic and psychosocial aspects of life) of women who have had tubal ligation with a similar group of women who have not undergone the procedure

4 Understand the conditions under which the tubal ligation was performed and the long-term changes it in women's lives, based on women's perceptions of their life experiences prior to and after the procedure

5 Provide information to policy-makers and reproductive health care service providers to help them improve the design and delivery of services offered to women who are planning a tubal ligation

IV Research Methodology

A The Survey

The study on sterilization was a cross-sectional population-based study of women 30 to 49 years of age living in low- to middle-income[1] neighborhoods of urban Campinas, São Paulo Using a two-stage probability sample[2], interviewers surveyed 236 women who had had a tubal ligation at

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[1] The research team defined low and middle income as no more than 8 1 minimum salaries (approximately U S $800 a month in 1996)

[2] The first stage was the selection of the census sectors (clusters) The Brazilian Institute of Geography and Statistics (IBGE), responsible for the most recent census in 1991, determined the average household

least five years prior to the study and 236 women from the same community who were not sterilized Nonsterilized women were matched to sterilized women by place of residence, and were within two years of age of their sterilized pair (If a sterilized woman was 49 years old, her pair was 47 to 49, for women age 30 the pair was 30 to 32)

The interviews were conducted in the women's homes from December 1996 to June 1997 Data were obtained on income-earning capacity, educational attainment and marital status, as well as women's perceptions of their life experiences within at least the last five years Background information was also collected, such as reproductive history, reasons for selecting the contraceptive methods that they did, the circumstances under which women chose sterilization and why nonsterilized women had not undergone the procedure

The data were weighted to adjust for 1) the study design (the probability of a woman selected in the second stage was unknown and had to be estimated since the list of all eligible women in a census sector could not be made), 2) poststratification for socioeconomic status (SES)[3], and 3) nonresponse

Five screening checklists to identify eligible women were completed for every interview conducted On average, the interviewers were able to complete 2 7 interviews per day Four percent of the households refused to comply with the checklist, and of the households with completed checklists and eligible women, 12 percent of the women refused to grant an interview

The actual study population sample was somewhat different from the one that was planned The original design called for 388 women in each group, but the sample size had to be reduced, given the lack of funds to extend the duration of the project A series of difficulties delayed the start of the study and extended the field work beyond the initial time estimate To carry out the sampling

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income for each census sector, thus only those sectors with 8 1 minimum salaries were part of the sampling frame Sector selection was made randomly with equal probability, using the software STATA Once the sector was chosen the research team verified that according to IBGE at least 36 women ages 30 to 49 lived in the sector If there were fewer than 36, a neighboring sector was added The second stage of the sampling process involved the selection of the individual women Originally, the research team planned to go door to door to establish this list of 36, but it became apparent that making such a list would be too time consuming Instead the team made a list as they went which included names and addresses of eligible women whether they agreed to participate in the study, and the score based on a checklist of material goods for each household to determine socioeconomic status Originally, each sector would produce four women (two sterilized women and two matches) When the number of census sectors was reduced from 190 to 100, the number of pairs increased from two to three, taking advantage of the labor already invested in list preparation The field team began with the first eligible sterilized woman and proceeded to seek her pair The match was always the first nonsterilized woman who met the age criteria and who lived closest to the sterilized woman The recalculation of sample size was made estimating an 8 percent difference between groups instead of a 6 percent difference

[3] IBGE classification of socioeconomic status is recognized as weak because household members tend to conceal their true incomes The original design called for a target population of low-income and middle-income households but it was determined once the data from the checklists were examined that about a third of the sample had higher incomes Thus, the lower SES neighborhoods were underrepresented

plan, census sector maps were obtained from the Instituto Brasileiro de Geografia e Estatistica (IBGE), but they had to be updated, which took considerable staff time A number of interviewers quit, which required training new research staff Also, it was difficult to find women 40 or older who were not sterilized Another factor that negatively affected the field work was a growing concern among study participants about personal safety Women at home were reluctant to participate in household surveys for fear of robbery On one occasion, interviewers knocked on a door as a car drove up, armed men got out and ran to the back door, and gunshots were fired Fortunately, there are no reports of anyone being harmed

B Focus Groups

Four focus groups consisting of sterilized and nonsterilized women together were conducted prior to the development of the questionnaire The primary purpose of these groups was to determine how women defined the psychosocial concepts of self-esteem, well-being, marital satisfaction, and the balance of power in the couple's relationship Based on the results of the focus groups, a series of questions or statements was devised to quantify levels of these four concepts For example The well-being scale was created from nine elements, each with four possible answers, ranging from very satisfied to unsatisfied, and individual scores of three to zero Questions included "How do you feel about your relationship with the people with whom you live?," "How do you feel about the way you are treated by the people with whom you live?,' and "How do you feel about how much time you have to do the things you like to do?"

V Results

The sterilized and nonsterilized women were similar in terms of

- their age (the average age was 42 years),
- level of education achieved (14 percent had 11 years of schooling or more),
- ethnic background (73 to 78 percent self-identified as white, 16 to 18 percent as black),
- religious practices (34 to 37 percent were practicing Catholics, 12 to 19 percent were practicing Protestants), and,
- current work status (44 percent were not working for pay)

Researchers also noted differences between the two groups Nearly all sterilized women were married while 18 percent of the nonsterilized women were single Among women who reported having had a pregnancy, sterilized women clearly had more children Sixty-three percent of sterilized women had three or more live births compared with only 20 percent of nonsterilized women In addition, sterilized women began their childbearing significantly earlier than nonsterilized women Sterilized women appeared to be more knowledgeable than nonsterilized women about contraceptive methods (a score based on four questions assessing what women know about different methods), controlling for other variables Among working women, the nonsterilized women appeared to have higher per capita incomes than sterilized women, but sterilized women reported higher family incomes

During the survey, a series of questions was directed at all contracepting women to better understand their experiences with family planning Among the sterilized women, overall satisfaction with the procedure was high (92 percent), nevertheless, 14 percent reported regret regarding the procedure Nonsterilized women who were contracepting at the time of the interview (or if they were not contracepting, they were asked about the last method they used) also said they were satisfied (82 percent)

Looking closely at those women who were dissatisfied, researchers found that dissatisfaction among sterilized women was related to age at the time of the procedure A larger percentage of women who were sterilized before age 25 reported dissatisfaction (15 percent), compared with women sterilized at age 25 or older (9 percent) However, this difference was not statistically significant

Women were asked if they perceived any changes since the adoption of their contraceptive that they attributed directly to the method itself Among the sterilized women, the most frequently reported change of any kind was related to menstruation (44 percent) Thirty-two percent of women reported increased menstrual flow [4] Fewer nonsterilized women (27 percent) reported menstrual changes 7 percent reported increases and 8 percent decreases in menstrual flow

Twenty-two percent of sterilized women and 14 percent of nonsterilized women attributed changes in their sexual life to their contraceptive, 78 and 42 percent, respectively, reported an improvement Smaller percentages of women (18 percent or less) in both groups attributed changes in their health, body, marital relationship, economic situation and self-esteem

Aggregate scores for each psychosocial concept (self-esteem, well-being/quality of life, relationship with partner, and gender issues) were calculated and the two groups' frequency quartiles compared No significant differences were detected between the two groups, but modeling these outcomes revealed other findings of interest None of the independent variables tested was found to be associated with self-esteem Per capita income (> U S $300 monthly) and employment were positively associated with well-being/quality of life, while three or more living children was negatively associated with well-being Partner relationship was positively associated with education and per capita income, but negatively associated with more than two pregnancies and the woman's age Education was also positively associated with an improvement in sex life Finally, the score on gender relations/issues was inversely related to a woman's age, more than two pregnancies and being employed

A multivariable analysis to determine factors associated with a woman's perception that her birth control method had brought about a worsening of her health showed an increase in that perception among women who actively practice their religion Family income was a factor related to a decrease in this perception The only factor associated with the woman's perception that her method contributed to strengthening her self-esteem was actively practicing her religion

[4] Although not verified by the data, given the contraceptive practices of many Brazilian women, if the sterilized women were switching from oral contraceptives it is not surprising that women experienced an increase in menstrual flow after sterilization

Given the widespread use of sterilization, women who were not sterilized were asked why they had not undergone the procedure Of the 101 women who said they had thought about having tubal ligation, the most common reasons for not having undergone the operation included insufficient money to pay for surgery, refusal by the health service to perform the procedure because the woman was too young or had too few children, fear of surgery or partner's objection to the procedure

VI Conclusions and Recommendations

Relatively few characteristics distinguished the sterilized women from those who were not sterilized Specifically marital status, marital duration, age at first birth parity and family and per capita income Marital status may explain both parity and income differences

Because an objective of the Women's Studies Project is to learn how women view the benefits or disadvantages of family planning, it is important to note that, in this study, women did not perceive major consequences of contraceptive use The results suggest that most women, regardless of the method they use, did not attribute to contraception any major positive or negative changes in the domains of their lives that were investigated The majority of women reported being satisfied with their method, and in fact, a higher proportion of sterilized women expressed satisfaction with their method than did women using other methods Critics of the widespread use of sterilization should take note of this finding while working to increase the number of options for long-term contraception

This study found that 44 percent of women experienced menstrual changes following sterilization The findings in the international literature on this subject have been mixed, but the consensus is that menstrual alterations are not a major problem among sterilized women However, in these studies, sterilization tends to be medicalized and results based on women who consult their physicians because of the problem, rather than on women's solicited reporting Further research may be warranted to determine the extent to which sterilized women suffer menstrual disturbances after the procedure

Researchers also noted that sterilization may be seen as an important consequence of women's reproductive life histories Compared to nonsterilized women, sterilized women had more children, began their childbearing earlier and terminated their reproductive lives with sterilization earlier This is a finding that will add to the on-going discussion about the role of sterilization and the dramatic drop in fertility in Brazil

As with previous studies on regret in Brazil, age at the time of tubal ligation appears to be positively correlated with satisfaction, although the number of women who were sterilized at young ages was too small to show statistical significance in this study This tendency has important implications for women contemplating sterilization, as well as providers of reproductive health care Women who are sterilized before age 30 may run a greater risk of regretting their decision than do women who are sterilized after age 30 Providers and counselors

should be aware of this and they should discuss with their younger clients other "risk factors" for regret, such as marital instability Other long-term contraceptive options, such as the IUD, should be offered Also, women need to understand that sterilization is considered permanent, no one should undergo the procedure believing that a second procedure will guarantee a successful return to fertility

Although the Brazilian Congress has now legalized sterilization, many in the health care community are alarmed at the potential increased demand for sterilization, and perhaps more importantly, the potential demand for reversal, which the public sector unequivocally would not be able to meet The new law states that voluntary sterilization should be available to any ' man or woman with full citizen's rights and older than 25 years of age, or who has at least two living children, such that s/he observe at minimum a 60-day period between the request and surgery, in which the person must have access to fertility regulation services, including counseling by a multidisciplinary team, in order to discourage premature sterilization "

The new law also states that if the man or woman seeking sterilization is married, consent must be obtained by their partner This has caused an outcry within the women's movement and it remains to be seen just how strictly providers will adhere to the letter of the law

Given the negative attitude that many in the medical community have had about sterilization, their current interest in how the law will be interpreted, and the law's potential long-term consequences, reproductive health professionals have expressed concern that the quality of counseling may be jeopardized and that clients will not receive information about informed consent and the irreversibility of sterilization To improve the quality of family planning services in Brazil, researchers have recommended that providers be trained to effectively counsel women seeking sterilization and that policy-makers expand access to other types of contraceptive methods Because so many women undergo sterilization at a young age, providers and policy-makers should conduct educational campaigns about family planning options, to reach women with information about contraceptive options prior to their first birth

VII Study Details

Dr Maria Jose Duarte Osis, Dr Maria Helena de Sousa, Dr Aníbal Faundes of CEMICAMP and Dr Patricia Bailey and previously, Dr Arlene McKay, of Family Health International were responsible for this study Research was supported by the Women s Studies Project at Family Health International through a Cooperative Agreement funded by the U S Agency for International Development (USAID) This particular study was funded by field support from the USAID Mission in Brasilia