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The Study on Pattern of Family Planning Methods in Rural and Urban Areas

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Abstract - Family planning is a critical component of Serbia's population strategy, as the country's demographic trends are rapidly deteriorating. The purpose of this study was to investigate the disparities in family planning between rural and urban Serbian women. As a cross-sectional research on a representative sample of Serbia's population, the 2006 National Health Survey was used as the basis for this study. As a means of contraception, condoms were used by a higher percentage of the respondents who were younger, better-educated, more financially secure, and did not have any children. We found that urban and rural women's use of family planning differed, although these discrepancies might be attributed to disparities in age and education.

Keywords - pattern, family planning, rural, urban, method

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1. INTRODUCTION

While some women seeking fertility were inadvertently sterilized without their knowledge or consent, other women seeking to limit the size of their family were unable to get sterilization. As an example, obstetricians–gynecologists believe that a woman's age multiplied by her parity should equal 120 before she may be sterilized. As a consequence, some women, especially white middle-class women seeking private medical care, were denied sterilization. Many low-income and minority women in public hospitals, on the other hand, were subjected to state and federal measures aimed at lowering their fertility. Between 1909 and 1979, physicians in government-sponsored programmes used coercion to sterilize approximately 60,000 people in the name of research. It is apparent that a woman's colour, ethnicity, and socioeconomic level had a part in deciding whether or not she could have desired sterilization, whilst others were compelled to undergo undesired sterilization due to their social rank. This implies that "some types of persons are empowered to nurture and reproduce," while others are "disempowered."[1]

1.1 Sterilization and Regret

14 percent of sterilized women ask about reversing their sterilization, while just 1 percent of women ever have the procedure done. Women of colour and those who were younger when they were sterilized are more prone to seek out reversal operations. Women under the age of 30 are about eight times more likely than those over 30 to seek out information about reversing their sterilization and nearly four times more likely than those over 30 to go through with the procedure. The likelihood that a sterilization procedure hampered their ability to have children is higher among women of colour than among white women. Over half of the young, single, black women sterilized in one research wanted to know whether the procedure could be undone. If a woman has recently given birth or had an abortion or caesarean section, she is likely to be less happy with her decision to sterilize.[2]

1.2 Sterilization of Incarcerated Women

More than 140 tubal ligations were paid for by the state of California between 2006 and 2010. After signing permission documents, women were compelled to undergo sterilization treatments, and researchers later discovered that many of these surgeries had been carried out against their wills.

When an inmate's freedom is restricted, obtaining informed permission might be challenging. Every action and decision we make is examined and, in some circumstances, punished in today's society, which undermines the idea of individual liberty and choice. There is a lot of compulsion in jail, and convicts are forced to make all of their "choices" under the fear of discipline. A large number of women claim that their prison doctors urge them to be sterilized.[3] Coercion in the prison setting, according to scholars who have researched comparable cases, impairs a person's capacity to provide meaningful consent to the irreversible removal of fertility. Sterilization should not be

conducted on a regular basis despite the fact that women have some degree of control over their medical treatment in a confined context.[4]

1.3 An Ethical Approach to Sterilization Care and Policy

The College believes that all women have the right to be sterilized as a fundamental human right. When it comes to long waiting times and extensive approval processes, women on fixed incomes should not be subjected to the same restrictions as those who have private health insurance. Women in the United States have less choices when it comes to reproductive health care than women in other countries, and this makes them more vulnerable to sterilization as a result. Protecting women with public health insurance may be necessary until reproductive equality, or "stratification," is achieved (a long-term aim that entails the elimination of numerous societal injustices). Protective measures that don't impede open access are a challenge to implement because of an ethical tension between open access and protective measures. Bringing together a wide range of people who have never met before to debate this issue may be necessary to find a solution. Human rights and reproductive justice advocates; medical ethics and health policy experts; women who have had sterilization denied; women who have undergone nonconsensual sterilization; as well as state and federal Medicaid officials; reproductive justice advocates; women who have undergone consensual sterilization but feel violated; as well as women who have undergone nonconsensual sterilization.[5]

2. REVIEW OF LITERATURE

Allison, Paul. (2009) Single-level regression models assume that women behave independently of one another, but this is not the case when observations of women in the same area are likely to be dependent on one another. It is necessary to take into consideration Colombia's socio-geographic stratification in the strategy used to account for the fact that war exposure is not random in Colombia. Clustered standard errors were used in a fixed-effects linear regression and multi-level structure to account for geographical heterogeneity. The cluster variable department was utilized to identify the respondent's department of residence in Colombia. Department-specific errors were utilized to highlight how missing department elements influenced outcomes. Sterilization rates among women and the degree of local violence were both considered while devising this technique to account for contextually absent factors. Fixed effects are preferred to random effects because they are based on the premise that the unobserved variables in the department-specific error term are independent of all the measured indicators.[6]

Anita, P., Nzabona, A. & Tuyiragize, R. (2018) Female sterilization treatments are widely available, highly effective, and easy for women who don't want to have more children, yet adoption in Uganda is exceedingly low due to cultural and religious barriers. We set out to find out what factors impact the uptake of female sterilization in Uganda, therefore we did some study to find out what those factors are. Secondary data from the 2016 Uganda Demographic and Health Survey was utilized (UDHS). We analyzed all of the 2016 UDHS data, which comprised 18,506 women ranging in age from 15 to 49 years old. Those who had been sterilized as well as those who had had more recent treatments were included in this sample. A Chi-square test was used to compare the present sterilization rates among women with those of a variety of other variables.[7]

Dalsgaard (2005) Conflict-affected women's pregnancies are fraught with peril because of the lack of security they experience in their personal and professional lives as a result (Schwarz et al. 2019). Health-seeking behaviors may be a means of establishing order in the face of uncertainty for even the most impoverished women (Enloe 2000). (Enloe 2000). Steffen and colleagues (2005), To have or not to have children, a woman must weigh her own self-perception, present circumstances, and future expectations in making this choice. If there are limited alternatives for women, their capacity to control their fertility may be their only method of expressing influence. It is based on (Dalsgaard 2005).[8]

Gupta S, Ahmed N, Gupta N, (2013) Increasing one's socioeconomic level is the best way to avoid disease. Himachal Pradesh has made great strides in all sectors, including family planning, during the last several decades. Among the study's objectives are an examination of the various methods of family planning used in California between 2003 and 2010 and their impact on population control and reduction. This data was received from the state's population covered by the FPP in 2011 for the state's family planning programme. Using data from India, we compared our results. We were able to determine the program's impact thanks to the usage of FP techniques. Between 1981 and 2009, the standardized programme indicators show an increase in overall fertility (per cent), births (per thousand people per year), and deaths (per thousand people per year). Growth rates as well as birth rates were taken into account.[9]

Mohanty, S.K., Mishra, S., Chatterjee (2018) Because of a large-scale family welfare programme, Indian public health clinics now offer free female sterilization. Acceptors are also compensated financially. Contraceptive services are rapidly being sought out by Indians of all socioeconomic levels and in all Indian states, despite these attempts. However, few studies have

looked at out-of-pocket payments and compensations for sterilization in India, despite the prevalence of study on the patterns, trends, and factors that influence the use of female sterilization services. In this study, the financial and non-financial aspects of female sterilization in India are investigated. Data from the fourth round of the National Family Health Survey, conducted in 2015–16, was used for the analyses. Comprised of compensation received and the amount of money paid by customers, four distinct categories were created.[10]

3. OBJECTIVE OF THE STUDY

- To find the pattern of family planning methods adopted in the study area
- To find the trend and decade in Female Sterilization adopted.
- To examine the factors associated with adoption of' female sterilization methods.

4. METHODOLOGY

Data for the presenT investigation were obtained from the continuing longitudinal studies conducted during 2019 to 21 on various aspects of human reproduction, and child growth and development in representative segments of Delhi, India representing rural and urban areas respectively. This study was conducted by Dr.J. Richard in the Department of Biostatistics, In this large, systematic and intensive study, after an initial base survey, the scope was on several aspects of human reproduction, especially the women's past reproductive history, events of pregnancies and its outcome, birth measurements and continuous observant of all liveborn for one year relating to all events and trends to relevant parameters. Thus in a large number of women very highly reliable and accurate information on contraception and fertility were obtained through careful observations and interviews. Thus data were availablefor the study of incidence and factors in fluencing Female sterilization.

After an initial baseline survey, the focus of this large systematic and intensive study was on several aspects of human reproduction, particularly the women's past reproduction history, pregnancies and their outcomes, birth measurement, and one-year continuous observation of all live born relating to all events and trends to relevant parameters. Thus, meticulous observations and interviews yielded extremely reliable and accurate information on contraception and fertility in a large number of women.' As a result, information on the frequency of female sterilization and the variables that influence it was accessible.

5. RESULT AND DISCUSSION

All married women age 15-49 years, 3356 were from rural and 1912 were from urban area. 54.4 percent of rural women and 48.6 percent of urban women used permanent methods of family planning, respectively. 'Temporary procedures were used by 1.2% of rural residents and 7.5% of city dwellers.

Because this research exclusively looks at female sterilization, it was necessary to go further into the experiences of those individuals. Among them 1813 (54 percent) underwent female sterilization in the rural region and 924 (48.3 percent) got female sterilization in urban areas. Around 44.4 percent and 3.8 percent of the married women in the sample was not taking any type of birth control in rural and urban settings correspondingly. The distribution of current contraceptive prevalence shows, female sterilizations is the most prevalent contraceptive technique which is 97.1 percent in rural regions and 85.9 percent, in urban areas. As predicted, female sterilization accounts for a larger percentage of overall contraceptive usage in rural regions than in urban ones. In rural regions, the prevalence of female sterilization was found to be 44,7%, whereas in urban areas, the prevalence was reported to be 46,0%.

Table 1: Details of Adoption of Family Planning Methods by area of Residence of women in 2019

Family planning Method	Rural		Urban	
	Number	Percentage	Number	Percentage
Tubectomy	1813	54.0	924	48.4
Vasectomy	15	0.4	4	0.2
Pills	4	0.1	18	0.9
IUD	24	0.7	92	4.8
Injection	1	0.0	-	-
Condom	5	0.1	29	1.5
Rhythm	2	0.0	1	0.0
Other	3	0.0	7	0.3
Not adopted any	1489	44.4	837	43.8
Total	**3356**	**100.0**	**1912**	**100.0**

5.1 Trends in Female Sterilization

Shows the changes in female sterilization rates over the last two decades, broken down by location., female sterilization has increased to 54.0% from 19.7% in rural and 48.3% from 33 .6% in urban. It reveals that, the women of current age 30-34 and 35-39 reported high sterilization adoption rate with 35.6%and 33.5% respectively in the year 1Y88. Similarly in the year 2019 also mothers of the same age group reported a high adoption rate of 72.3% and 68.0% respectively when compared to the other age groups. Another important feature highlighted is that the younger age group also adopted Sterilization.

The rate of usage has doubled by 10 years (from 2012 to 2019) among the women of all age groups. In urban area the trend of adoption of sterilization by current age of women peaks In 30-34,35-39 and 40-44 age groups by 49.5%, " 51.3% and 41.7% respectively in the year 2012. The trend is the same in the year 2019 with the peak prevalence of sterilization 60%, 59.4% and 67.2%, among the age groups 30-34, 35-39 and 40-44 respectively. The level of prevalence of female sterilization in the year 2019 has markedly increased when compared to the year 2012 among all the age groups of urban women.

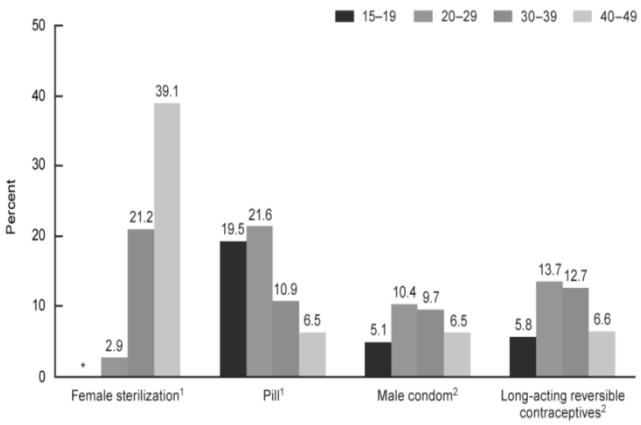

Figure 1: Trends in Female Sterilization among Married Women aged 15-49 from 2012 to 2019

Table 2: Recent Trends in Sterilization of Females by Current age in 2012 and 2019- Urban

Current Age of Women in years	Urban			
	2012		2019	
	Number of Women	Percentage of Women Sterilized	Number of Women	[Percentage of Women Sterilized
24	942	11.8	281	13.2
25-29	1131	36.8	424	41.2
30-34	1040	49.5	335	60.0
35-39	960	51.3	374	59.4
4044	725	41.7	250	67.2
45-49	637	33.3	248	48.4

As shown in tables when comparing the reported usage of female sterilization among rural and urban women in the year 2012. Urban women reported greater sterilization rate than the rural women. But the prevalence of female sterilization is higher among the rural women than the urban women in the year 2019. This recent trend in the adoption of sterilization among the rural women than the urban women shows that over the 10 years marc awareness and motivation were implemented on the part of rural women. Thus the predominant method among the rural women is permanent method. The urban mothers showed a low rate of adoption or female sterilization because of their awareness and adoption of other family planning methods (modern temporary methods).

5.2 Factors Associated with Adoption of Female Sterilization

Table gives the percentage adopters of female sterilization by current age of women in the rural areas it revealed that the adoption of female sterilization increased from 17.9% when the women's current age was below 24 years to 72% at the age of 30-34 years. It decreased to 68% at the age of 35-39 and to 48% at age " of 45 and above There is highly significant association between adoption of female sterilization and women's current age at P<0.01 level In urban, It revealed a high percentage of adopters among those who were aged 40-44 years at the time of the study (67.2%) Both rural and urban areas clearly indicate that in the early ages they avoid this Sterilization. This suggested that the women aged 30-34, adopted sterilization more than other age

groups in the rural area and the age group 40-44 adopted more in the urban area.

Table 3: Female Sterilization by Number of Male Children- Rural in 2019 Study

Number of children	Sterilized		Not Sterilized	
	Number	Percentage	Number	Percentage
No child	145	17.8	668	82.2
One child	782	58.4	558	41.6
Two Children	674	74.5	231	25.5
Three Children	166	71.9	65	28.1
Four & Abovechildren	46	68.7	21	31.3

X^2=625.56 d.f = 4, p<0.001

Table 4: Female Sterilization by Number of Male Children- Urban in 2019 Study

Number of children	Sterilized		Not Sterilized	
	Number	Percentage	Number	Percentage
No child	115	21.3	425	78.7
One child	393	52.1	361	47.9
Two Children	307	68.7	140	31.3
Three Children	89	67.4	43	32.6
Four & Abovechildren	20	51.3	19	48.7

X^2=225. d.f = 4, p<0.001

Table 5: Female Sterilization By Number Of Female Children- Rural In 2019 Study

Number of children	Sterilized		Not Sterilized	
	Number	Percentage	Number	Percentage
No child	326	33.0	662	67.0
One child	744	59.3	511	40.7
Two Children	491	67.6	235	32.4
Three Children	185	68.8	84	31.2
Four & Abovechildren	67	56.8	51	43.2

X^2=267.89 d.f = 4, p<0.001

Table 6: Female Sterilization by Number of Female Children - Urban in 2019 Study

Number of children	Sterilized		Not Sterilized	
	Number	Percentage	Number	Percentage
No child	139	24.0	439	76.0
One child	392	53.0	347	47.0
Two Children	284	69.4	125	30.6
Three Children	80	61.1	51	38.9
Four & Abovechildren	29	52.7	26	47.3

X^2= d.f = 4, p<0.001

The percentage of adopters of female sterilization by the number of living sons in rural area is shown in table. Highest proportion of the women sterilized had two male children. The adopters of female sterilization was less among women with no male children (17.8%) when compared to mothers of two male children constituting high proportion (74.5%) A highly significant association between adoption of female sterilization and number of living sons was found on doing a chi-square test of association at (P < 0.00) level. Association between adoption of female sterilization and number of living daughters was highly significant at P < 0.001 level in both urban and rural area. High proportion of female sterilization (68.8%) was found among

mothers having 3 male children in the rural area, but in urban area it was mothers with 2 male children (69.4%). However when they were classified according to the total number of living daughters they showed downward trend beginning after two daughters. That is, there were Jess adopters among those who had more than 2 daughters.

6. CONCLUSION

Theaim of thisstudyis to determinethe factorsthatinfluencefemale sterilization. The specific objectives that were analyzed in this study are To study the pattern of family p1anning methods adopted in the study area. To study the trend over a decade in Female Sterilization adopted. To examine the factors associated with adoptionoffemalesterilizationmethods. .To identifythe potentialcovariates influencing female sterilization using multivariate techniques. To study the female sterilization according to parity and sex composition of children. To determine the relationship between age at marriage and family planning adoption over a decade. To describe the female sterilization and other contraceptive use projected through National Family Welfare Programme. Data fort he present investigation were obtained from continuing longitudinal studies conducted during the time period 2011-12 on various aspects of human reproduction" child growth and development in the same, India. The number of women studied was 4191 in rural and 2347 in urban area. Among them the women of age15-49 years were included for the analysis.The study group was classified as adopters and non-adopters of female sterilization with respect to the various characteristics under study. Representative samples of rural and urban' areas were chosen.Proportion of adopters of female sterilization in the study population was found, and then chi-square test, multivariate technique was administered to find out the characteristics that influence the adoption and non-adoption of sterilization. Among all married women age 15-49 years 54% had female sterilization in the ruralarea and 48.3% in the urban areas.The prevalence of female serialization in 2019-21 reported that 44.7% in rural and 46.0% in urban areas; this is own when compared with the present study. The trends in female sterilizationby current age in theyear of2012 and2019 in ruraland urbanareas revealthat the women of currant age 30 - 34 and 35 39 reported high sterilization adoption rate.

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