

# Prevalence of Mini Laparotomy and Post-Partum Sterilisation at Primary Health Center, Kurhani, Muzaffarpur, Bihar

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## ABSTRACT

Abbreviations: SPSS: Statistical Package for Social Sciences; PPS: Post-Partum Sterilisation; MRHRU: Model Rural Health Research Unit; DHR: Department of Health Research

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## Introduction

A growing population is a matter of concern for developing countries like India. Family planning with the aim of controlling the growing population is required for sustainable development. In India, the government initiative of family planning programmes includes the promotion of male and female sterilisation to provide different con-

traceptives to couples like intrauterine contraceptive devices (IUDs), condoms, anti-pregnancy pills, etc. (Srinivasan, et al. [1]). female sterilisation is still the most accepted one (Tripathy, et al. [2]). Among various modern contraceptives, the most popular and widely adopted among currently married women (15–49 years of age) is female sterilisation, which has an acceptance rate of 38%, followed by male condoms (10%) and pills (5%), while 33% of currently married wom-

en still do not use any contraceptive (NFHS-5). According to the previous National Family Health Surveys, i.e., NFHS-4 and NFHS-5, the knowledge regarding female sterilisation among currently married men and women is very high (96.4% and 99.3%, respectively). And approximately half of the women undergo female sterilisation operations by the age of 26.

While socioeconomic conditions of the family (Oliveira, et al. [3]), and the ongoing family planning programme (Singh, et al. [4]), are the main reasons for the hegemony of sterilisation, around 70% of the total female sterilisation is carried out at public health sector facilities, mostly a government or municipal hospital or a community health centre, rural hospital, or block primary health centre. In the present study, the prevalence of minilaparotomy (MINILAP) and post-partum sterilisation (PPS) along with the number of male and female children per female were assessed from the Family Planning Operation Register of the Primary Health Centre of Kurhani block in Muzaffarpur district, Bihar.

## Methodology

### Data Availability

The data on female sterilisation performed at the Primary Health Centre was obtained from the Family Planning Operation Register. The information regarding the age of the participant, sterilisation method used, number of male and female children of the participant,

and age of the last child was collected. The data for 16 months, from April 2021 to July 2022, was collected.

### Data Analysis

Descriptive summary estimates of continuous variables were determined. A univariable logistic regression analysis was performed to determine the association between the age of mothers and the number of children per mother and the method of sterilisation. An unpaired t-test was performed to compare the average number of children among females sterilised by PPS and MINILAP procedures. All tests of significance were two-tailed, with a p-value less than 0.05 indicating statistical significance. Data analysis was performed using Statistical Package for Social Sciences (SPSS), version 16.0.

## Results

### Age of the Study Population

From the records, data on one thousand and eleven females (n = 1011) who underwent sterilisation in the above-mentioned time was obtained. The average age of females undergoing sterilisation was estimated. The maximum and minimum ages of the female participants were 38 years and 22 years, respectively. The average age of the participants was found to be 26.93 years, and half of the participants were below the age of 26 years, as determined by the median (Table 1). The standard deviation of the age for the participants is 2.32, with a standard error less than one.

**Table 1:** Distribution of the Age of the Female participants.

		Statistic	Std. Error
Mean		26.93	0.073
95% Confidence Interval for Mean	Lower Bound	26.78	
	Upper Bound	27.07	
Median		26.00	
Variance		5.378	
Std. Deviation		2.319	
Minimum		22	
Maximum		38	

### Method of Female Sterilization

Female sterilisation is done through tubectomy, or tubal ligation operations known as MINILAP (minilaparotomy) and PPS (post-partum sterilisation). The difference between both is that in PPS, the operation is performed after 24 hours and up to 7 days of delivery, while MINILAP can be performed later, usually after six weeks of birth. In our analysis, we observed that in 93% of cases, sterilisation by MINILAP mode was performed, while the percentage of PPS was only 7.0%. The significant difference between MINILAP and PPS is repre-

sented in the pie-chart diagram (Figure 1). The choice of sterilisation method was not associated [odds ratio with 95% confidence interval = 1.046 (0.932–1.173)] with the age of mothers. The average number of children among PPS (3.410.96) was significantly higher (p 0.001) than MINILAP (2.940.85). The odds rate for MINILAP appeared to be significantly reducing [OR (95% CI) = 0.580 (0.448–0.750)] with increasing numbers of children. Although the number of male children did not vary between the PPS and MINILAP groups, the PPS group had a significantly (p = 0.001) higher number of female children than MINILAP.

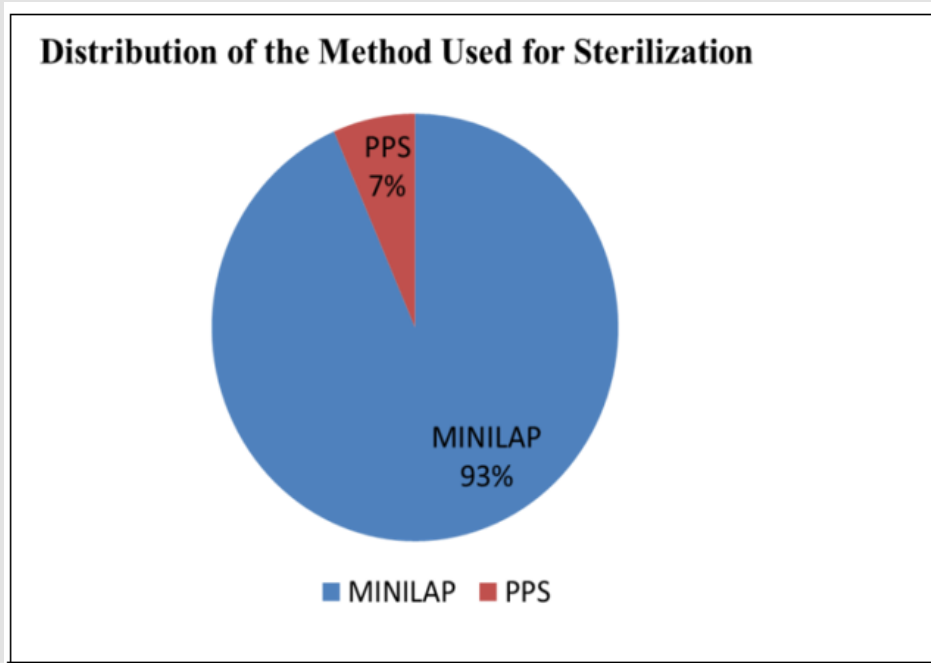


Figure 1: Pie-chart representation of the different methods of female sterilization at Primary Health Center Kurhani, Muzaffarpur, Bihar.

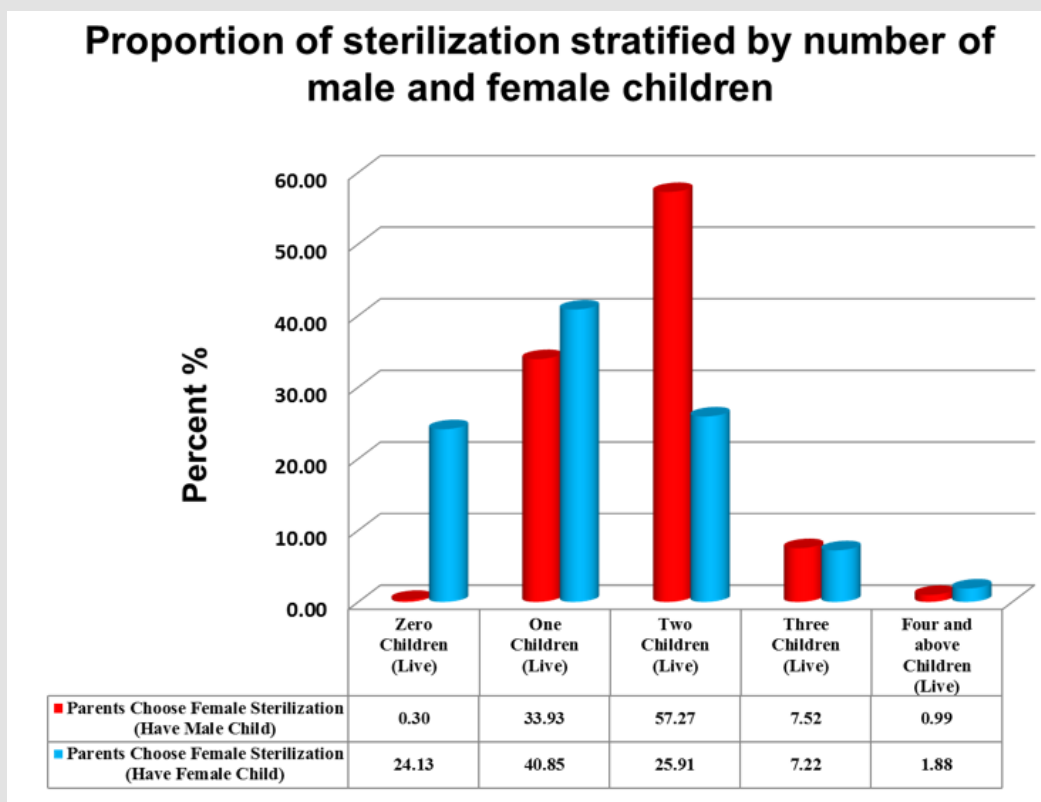


Figure 2: Graphic representation of the data of female sterilization showing relation between number of male and female child and percent of parents accepting the sterilization.

Number of offspring and its impact on Female sterilization, Sterilisation, either male or female, is directly driven by the number of children and, more precisely, by the number of boys or girls in the offspring. The data on female sterilisation was analysed to determine the correlation between a couple's offspring and female sterilisation. It was observed that no parent opts for volunteer female sterilisation if they do not have a single living male child. On the other hand, about 24.13% (n = 244) of parents go for female sterilisation without having any female children. Of total sterilised females, 33.93% (n = 343) had a single male child and 40.85% (n = 413) had a single female child. Female sterilisation was found to be at its maximum at 57.27% (n = 579), where the parents have two male children; contrary to that, the percentage of female sterilisation in the case where the parents have two female children was 25.91% (n = 262) (Figure 2). Hence, a significant difference was observed for the same number of children in a single group-two male children versus two female children. Further, female sterilisation was below 10% and comparable in cases where the number of male or female children was three or more than that. A sharp decline in female sterilisation was observed after two female children, whereas a sharp decline in female sterilisation in the case of male children was observed after three male children.

## Discussion and Conclusion

With the highest rate of acceptance among modern contraceptives, female sterilisation plays a leading role in the family planning programme of India. The present study is a preliminary analysis of the female sterilisation operations carried out at primary health centre facilities in the Kurhani block. As a part of Department of Health Research initiatives, the Model Rural Health Research Unit (MRHRU) has been established at Kurhani to deal with local health-related problems in the area. In our analysis, we first determined the mean age of the sterilised females, which we found to be about the same as reported in NFHS-4 and NHFS-5. Out of the two approaches to female sterilisation operations at government primary health centre facilities, MINILAP operations were performed in 93% of cases; relatively, the proportion of PPS operations was only 7%. In cases where the parents accept PPS, about 60% of them have three children, with one boy or male child in the maximum number of cases (data not shown). In Indian society, family planning is based on the number of offspring and the number of male or female children (Singh [5]). Various studies on the Indian population stated that the preference for male children is widespread and the preference for sons among women influences decisions about family size and hence the planning practises (Rasheed, et al. [6]). In our analysis, we observed that, in conditions where the parents did not have a single son or male child, the female sterilisation percentage was below 1%, while the sterilisation rate was significantly higher at 24% even if the couple did not have a single girl or female child. Similar non-uniformities were also observed in other conditions with different numbers of male and female children, but the data of no male or female child clearly indicates the pref-

erence or inclination. Thus, as key findings suggest, the study results suggest that half of married women go for sterilisation by the age of 26. Among the methods, the MINILAP procedure is widely followed to carry out female sterilisation at the Primary Health Centre-Kurhani. Although there is a differential in the number of offspring and the parent's acceptance of female sterilisation, the analysis suggests that there is a preference for the male child [7,8].

## Strengths and Limitations

The study outcomes will help to better understand the actual status of the family planning programme. The limitation of this study is that it is based on data collected from records on limited variables, and information regarding barriers and hesitancy in female sterilisation has not been discussed. Data collection through an in-depth review is required.

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## Conflict of Interest

The authors declared no conflict of interest.

## References

1. Srinivasan K (1998) Population Policies and Programmes since Independence. *Demogr India* 27: 1-22.
2. Tripathy SP, Ramachandran CR, Ramachandran P (1994) Health consequences of vasectomy in India. *Bull World Health Organ* 779: 782.
3. Oliveira IT de, Dias JG, Padmadas SS (2014) Dominance of sterilization and alternative choices of contraception in India: An appraisal of the socioeconomic impact. *PLoS One* 9(1): e86654.
4. Singh P, Singh KK, Singh P (2021) Factors explaining the dominion status of female sterilization in India over the past two decades (1992-2016): A multilevel study. *PLoS One* 16(3): e0246530.
5. Singh JP (2005) The Contemporary Indian family. In: Adams, Bernd N; Trost, Jan (Eds.), *Handbook of world families*. Thousand Oaks, California: Sage Publications, pp. 129-166.
6. Rasheed N, Khan Z, Khaliq N, Pathak R (2017) Women's Attitude for a Male Offspring and Related Family Planning Practices. *Natl J Community Med* 8(12): 718-720.
7. (2009) International Institute of Population Sciences (IIPS). National Family Health Survey (NFHS) 4.
8. (2009) International Institute of Population Sciences (IIPS). National Family Health Survey (NFHS) 5.

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