

## **A Comparative study on Willingness for tubal sterilization by Uncovered Postpartum mothers between vaginal and C- section deliveries**

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**Conflicts of Interest:** Nil.

### **Abstract**

**Background:** India was the first country in the world to launch the Family Planning Programme in 1951. Despite this fact, India still lags behind in practicing contraception and limiting family size. Even though various measures for encouraging the usage of contraception have been taken up, the achievement in this field is not up to the expectation due to various social & cultural factors [1]. The aim of our study is to assess the proportion of willingness for tubal sterilization between caesarean section and vaginal deliver among the uncovered mothers with two and more children before discharge at a tertiary hospital.

**Methods:** It is a cross sectional retrospective study using the survey data on uncovered mothers with two and more children who were discharged without accepting sterilization in a tertiary care hospital.

**Results:** Total number of uncovered mothers with 2 and more living children for sterilization was 142. About 66.9% of mothers stated willingness for sterilization but not done among the uncovered mothers with 2 and more children due to various medical causes and 33.1% of them stated not willing for sterilization. Among the 142 uncovered mothers, 60.6% had accepted the semi

permanent contraception method of postpartum intrauterine contraceptive (PPIUCD).

**Conclusions:** In present study willing mothers were not covered for sterilization was found more in caesarean section (45.1%) than in women who delivered vaginally (21.8%) among the uncovered mothers with 2 and above children and proved it statistically significant. The service providers, the pediatricians have to be improved a lot.

**Keywords:** postpartum, acceptance, willingness.

### **Introduction**

India is the second most populous country in the world and in the next few decades it will cross China if this exponential growth is maintained<sup>1</sup>. All India Hospital Postpartum Programme is a maternity centered hospital based approach to Family Welfare Programme and aims to motivate women in reproductive age group (15-44 years) and their husbands for adoption of small family norms through education and motivation, particularly during prenatal, natal and post natal periods<sup>2</sup>. The National Family Health Survey – 4 (2015-16) stated that the current rate of female sterilization is 36.0% in India<sup>3</sup>. The National net replacement level of total fertility rate is 2.1 by 2010<sup>4</sup>. It is emphasized that immediate objective of the NPP 2000 is to address the unmet needs for

contraception and the medium term objective is to bring the TFR to the replacement levels by 2010<sup>4</sup>. In the National Social Demographic Goals for 2010, promoting vigorously small family norm to achieve replacement levels of TFR is the one among other goals<sup>4</sup>. The latest National total fertility rate (TFR) is 2.3 (SRS 2015) and the Higher Order of Birth (HOB) is 22.9 % (SRS 2015)<sup>5</sup>. The aim of our study is to estimate the proportion of willingness for tubal sterilization among the uncovered mothers with 2 and above living children before discharge from a tertiary care hospital. All the postpartum mothers with 2 and above living children have to be covered under sterilization so that higher order of birth and TFR can be reduced to the extent needed. Objectives of the present study was to assess the proportion of willingness for tubal sterilisation between caesarean section and vaginal deliveries among the uncovered mothers with 2 and more living children without accepting sterilization discharged from Government Kilpauk Medical College Hospital, Chennai, for the reference period from 1<sup>st</sup> December to 31<sup>st</sup> December 2016.

### Methods

The survey data on uncovered mothers with 2 and above children without accepting tubal sterilization before discharge from the Government Kilpauk Medical College Hospital, Chennai-10 for the reference period from 1<sup>st</sup> December to 31<sup>st</sup> December 2016 was taken as secondary data<sup>6</sup>. The Statistical Analysis Z test and percentage are used for this study. It is an analytical cross sectional retrospective study.

### Results

#### Statistical Analysis

Hypothesis: - I

- H0: There is no difference between two proportions of willingness for tubal sterilization between caesarean section and vaginal deliveries among the

uncovered mothers with 2 and more children i.e.  $P_1 = P_2$

- H1: There is difference between two proportions of willingness for tubal sterilization between caesarean section and vaginal deliveries among the uncovered mothers with 2 and more children i.e.  $P_1 \neq P_2$  (two tailed)

$$\text{Formula } Z = \frac{p_1 - p_2}{\text{S.E.}(p_1 - p_2)}$$

$$\text{S.E.}(p_1 - p_2) = \sqrt{(PQ [1/n + 1/n])}$$

$$p_1 = 64/72 = 0.888888; \quad p_2 = 31/70 = 0.442857$$

$$\text{Where } P = \frac{(n_1 p_1 + n_2 p_2)}{(n_1 + n_2)} \quad \& \quad Q = 1 - P$$

$$\text{Therefore } P = \frac{[(72 \times 0.888888) + (70 \times 0.442857)]}{(72+70)}$$

$$P = 94.999926 / 142$$

$$= 0.6690135$$

$$Q = 1 - P = 1 - 0.6690135 = 0.3309865$$

$$\text{S.E.}(p_1 - p_2) = \sqrt{0.6690135 \times 0.3309865} \times [0.01388 + 0.01428] = 0.079$$

$$Z = \frac{(0.888888 - 0.442857)}{0.079} = 5.646$$

### Result

Reject the null hypothesis at 5% I.o.s., since Z is greater than 1.96. There is significant difference in willingness for tubal sterilization between caesarean section and vaginal deliveries among the uncovered mothers with 2 and more children.

### Tables

The table 1 shows that willingness and not willing for tubal sterilization by uncovered mothers with 2 and above children was 66.9 % and 33.1% respectively. It was found that women willing for sterilization were more in caesarean section than in women who delivered vaginally and vice versa for not willing. Table: 1 Mode of delivery vs Willingness for Tubal Sterilization.

Mode of delivery	Willingness for sterilization				Total
	Willing but not done sterilization		Not willing		
Vaginal delivery	31	21.8%	39	27.5%	70(51.1%)
LSCS	64	45.1%	8	5.6%	72(48.9%)
Total	95	66.9%	47	33.1%	142(100%)

Table 2 Mode of delivery vs PPIUCD acceptance

MODE OF DELIVERY	PPIUCD		Total
	Inserted	Not inserted	
Vaginal delivery	39(27.5%)	31(21.8%)	70(49.3%)
Caesarean	47(33.1%)	25(17.6%)	72(50.7%)
Total	86(60.6%)	56(39.4%)	142(100%)

Table: 3 willingness and not willingness for Sterilization

Reasons	Nos.	%
<b>Willing but not done Sterilization</b>		
Deferred by paediatrician	82	
Not treated within 7 days of delivery for LRI, Anaemia and others	13	
Total	95	66.9
<b>Not willing cases</b>		
Partner	4	
Selecting nearby hospital	2	
Want of male / female bay	8	
First baby health not good	2	
Nobody taking care of me	2	
Willing for TAT	20	
Baby was kept inside the new born care	5	
Any other reasons	4	
Total	47	33.1

The table 2 shows the coverage of PPIUCD and mode of delivery. About 60.6% of the left out mothers had PPIUCD insertion among the multi paraous women before discharge from the hospital. The Table 3 shows the willingness for sterilization but not done due to various medical reasons stands to 66.9% and reasons for not willing to sterilization was 33.1% among the uncovered mothers with 2 and more children.

**Discussion**

Anjana Vaithyanathan,K. Caroline Prema, P. Seenivasan and others-4 found in their study that preferred method of female sterilization was 74.4% <sup>7</sup>. In the present study the

willingness for sterilization among the uncovered mothers was found to 66.9%. Kanmani K, Gokulakrishnan G and Rani P.R found in their study that the mothers with 2 and above children had accepted PPIUCD was 45.3% <sup>8</sup>. In the present study the PPIUCD insertion was 60.6% among the uncovered multi paraous women. In our study, the refusal was due to various medical reasons and various social causes were 66.69% and 33.1% respectively. Similar findings were found in the study conducted by Kanmani K et al. <sup>9</sup>

**Conclusions**

This study proved that there was a difference between the two proportions of willingness by uncovered postpartum mothers for tubal sterilization who delivered multi-paraous child between caesarean section and vaginal deliveries at p - value < 0 05 and it was statistically significant. This study reveals that the various medical reasons might also affect the sterilization achievement to the expected level in addition to various social & cultural factors. About 66.9% of mothers with 2 and more children were willing for sterilization but not done due to various medical reasons and 33.1% of them not willing for sterilization due to various social causes but they were covered under PPIUCD (60.6%) before discharge at a tertiary hospital.

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### Annexure

Uncovered mothers with 2 and above children for Sterilization and their PPIUD coverage from 1.12.2016 to 31.12.2016				
Secondary data	Normal / Assisted	LSC S	Total	%
Uncovered mothers with 2 and more children for sterilisation	70	72	142	61.5
Willing and not done Sterilization due to medical reasons	31	64	95	66.9
Not willing for sterilisation	39	8	47	33.1
Total	70	72	142	100
Coverage of FW Methods among uncovered mothers				
PPIUCD	39	47	86	60.6
Percentage	55.7	65.3	60.6	