

# A study of demographic variables affecting tubectomy in a tertiary care centre in India

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## Abstract

**Introduction:** Family planning is one of the fundamental pillars of safe motherhood and a reproductive right. The practice of family planning is influenced by socio demographic factors. **Material and Methods:** All patients undergoing tubectomy were evaluated for age, parity, religion, belonging to rural/urban areas and whether undergoing tubectomy with/without MTP. Ethical clearance for the study was taken from the Institutional ethics committee. The statistical significances of differences in different variables were evaluated by calculating p-values. **Results:** Study demonstrated that majority of tubectomy acceptors (86.9%) belonged to age group of 25-30 years. Maximum no of couples (44.5%) had 3 children before opting tubectomy, next predominant group was of couple who had 1-2 children (31.2%). 96.8% of couples were Hindu and only 3.1% from Muslim community. 73.6% of the total tubectomy acceptors studied, were from rural areas, and 26.3% were from urban regions. 29% of couple had medical termination of pregnancy before sterilization. **Conclusion:** More of the young population in India are opting for tubectomy. Still women with 3 children are predominating the tubectomy group. Religion has a huge impact on contraceptive practices in India. Removal of the religious taboos is essential for proper implementation of family planning programmes. Maximum of the rural people are enrolling for tubectomy. There is need to spread the usage of spacing methods amongst this group. A significant no of people opted for tubectomy only when they became pregnant with the unwanted child, hence went for sterilization after medical termination of pregnancy.

## Introduction

WHO defined Family planning as “a way of thinking and living that is adopted voluntarily, upon the basis of knowledge, attitudes and responsible decisions by individuals and couples, in order to promote the health and welfare of the family group and thus contribute effectively to the social development of the country [1]. Family planning practices in India has always been a challenging scenario. Realizing the danger of population explosion, family planning programme was first politically launched in India in 1952 to promote contraception. Sterilization was introduced in 1966 with set targets to be achieved by health workers and in 1967 the government introduced cash incentives to attract sterilization. During Emergency (1975 to 1977), aggressive sterilization camps were held all over India and about 8.25 million sterilizations were carried out, which were mainly male sterilization [2]. Coercive sterilization programme during Emergency met massive

political fallout, that led to change in the programme from forcible male sterilization under the banner of Family Planning programme to voluntary sterilization preferably female by the name of Family Welfare Programme under the banner of women centered programmes such as ‘Reproductive and child health (RCH).

A considerable decline in fertility rate (births/woman) of approximately half has been noticed from 1960-2009 but unfortunately it steadied afterwards with only marginal decline in 2014. Total fertility rate was 5.7 in 1966, 3.3 in 1997, 2.9 in 2005 2.7 in 2009 and 2.3 in 2014. For population stabilization the goal for fertility rate is TFR of 2.1[3]. Nationally, total Unmet need for contraception was 13.9% in 2005-2006, and slightly reduced to 12.9% in 2015-2016. But data in Uttar Pradesh is encouraging, with total unmet need declining from 23.1% in 2005-2006 to 18.1% in 2015-2016 [4]. The need of the hour is to further focus on efforts to increase the FP practices.

Manuscript received: 6<sup>th</sup> January 2018  
Reviewed: 16<sup>th</sup> January 2018  
Author Corrected: 25<sup>th</sup> January 2018  
Accepted for Publication 31<sup>st</sup> January 2018

Family planning is one of the fundamental pillars of safe motherhood and a reproductive right. According to the recent survey by the Government of India, female sterilization continues to be a major method of contraception and about 86% of the contraception users use this method [5]. Practice of family planning is influenced by socio-demographic factors. This study was conducted to know the demographic variables affecting tubectomy in India.

## Material and Methods

**Place of study:** This study was done in the family planning clinic, department of Obstetrics and Gynecology, MLN Medical College, Allahabad, Uttar Pradesh, for a period of 5 years (April 2011-March 2016) with an aim to know the demographic variables affecting female sterilization in a tertiary center of eastern Uttar Pradesh.

## Result

Study demonstrated statically significant numbers of tubectomy acceptors (86.9%) belonged to age group of 25-30 years, followed by 30-35 years of age, which constituted 11.7% (p-value-.0001). Vertical review of the table shows the trend of increasing percentage (from 81.6% To 88.8%) of women in the age group 25-30 years having tubectomy over last five years with corresponding decreasing percentage in the age group 30-35 years. (**Table 1**)

**Table- 1: Age distribution of patients undergoing tubectomy.**

Year	25-30 Years	%	31-35 Years	%	36-40 Years	%	Total
Apr 2011-Mar 2012	449	81.6%	92	16.7%	9	1.6%	550
Apr 2012-Mar 2013	653	87.6%	85	11.4%	7	.93%	745
Apr 2013-Mar 2014	636	87%	85	11.6%	10	1.3%	731
Apr 2014-Mar 2015	762	88.2%	93	10.7%	8	.92%	863
Apr 2015- Mar 2016	603	88.8%	65	9.5%	11	1.6%	679
<b>Total</b>	<b>3103</b>	<b>86.9%</b>	<b>420</b>	<b>11.7%</b>	<b>45</b>	<b>1.2%</b>	<b>3568</b>

**Table-2: Parity wise distribution of tubectomy acceptors.**

Parity	1-2	%	3	%	4	%	>4	%	total
Apr 2011-Mar 2012	132	24%	253	46%	95	17.2%	70	12.7%	550
Apr 2012-Mar 2013	215	28.8%	313	42.01%	154	20.6%	63	8.4%	745
Apr 2013-Mar 2014	249	34%	304	41.5%	104	14.2%	74	10.1%	731
Apr 2014-Mar 2015	278	32.2%	416	48.2%	111	12.8%	58	6.7%	863
Apr 2015- Mar 2016	241	35.4%	303	44.6%	80	11.7%	55	8.1%	679
<b>Total</b>	<b>1115</b>	<b>31.2%</b>	<b>1589</b>	<b>44.5%</b>	<b>544</b>	<b>15.2%</b>	<b>320</b>	<b>8.9%</b>	<b>3568</b>

(**Table 2**) shows the number of children the couples had at the time of tubectomy. Maximum number of couples (44.5%) had 3 children before opting tubectomy (p-value-.0318). Next predominant group was of couple who had 1-2 children (31.2%). There has been a consistent rise in the percentage of couples in this group (except in 2014-2015) but the difference was not statistically significant. Another evident observation was gradual decrease in the percentage of women with parity of 4 or more over last five years.

**Table-3: Religion wise distribution of tubectomy acceptors.**

Year	Hindu	%	Muslim	%	Total
Apr 2011-Mar2012	534	97%	16	2.9%	550
Apr 2012-Mar2013	721	96.7%	24	3.2%	745
Apr 2013-Mar2014	710	97.1%	21	2.8%	731
Apr 2015-Mar2015	828	95.9%	35	4%	863
Apr 2015-Mar2016	661	97.3%	18	2.6%	679
<b>Total</b>	<b>3454</b>	<b>96.8%</b>	<b>114</b>	<b>3.1%</b>	<b>3568</b>

(Table 3) shows 96.8% of couples were Hindu and only 3.1% from Muslim community. The difference was statically highly significant (p- value: .0001).

**Table-4: Urban / Rural distribution of tubectomy acceptors**

Year	Urban	%	Rural	%	Total
Apr 2011-Mar2012	106	19.2%	444	80.7%	550
Apr 2012-Mar2013	199	26.7%	546	73.2%	745
Apr 2013-Mar2014	191	26.1%	540	73.8%	731
Apr 2014-Mar2015	226	26.1%	637	73.8%	863
Apr 2015-Mar2016	218	32.1%	461	67.8%	679
<b>Total</b>	<b>940</b>	<b>26.3%</b>	<b>2628</b>	<b>73.6%</b>	<b>3568</b>

(Table 4) Our study demonstrated that 73.6% of the total tubectomy acceptors studied, were from rural areas, and 26.3% were from urban regions. The difference was statistically significant (p-value-.0001). Yearly review shows gradual increase in urban women and corresponding decrease in rural women getting tubectomized.

**Table-5: Tubectomy with / without MTP**

Year	Without MTP	%	With MTP	%	Total
Apr 2011-Mar2012	412	74.9%	138	25%	550
Apr 2012-Mar2013	498	66.8%	247	33.1%	745
Apr 2013-Mar2014	518	70.8%	213	29.1%	731
Apr 2014-Mar2015	626	72.5%	237	27.4%	863
Apr 2015-Mar2016	464	68.3%	215	31.6%	679
<b>Total</b>	<b>2518</b>	<b>70.5%</b>	<b>1050</b>	<b>29%</b>	<b>3568</b>

(Table 5) shows that 29% of couple had medical termination of pregnancy before sterilization

## Discussion

According to recent National Family Health Survey 3, tubectomy accounts for the major method (37.3%) of contraceptive practices [5]. Despite heavy measures taken by various governments to control childbirth, fertility is still on the rise. Men and women tend to want large families [6] and still lack adequate knowledge and access to contraceptives. Unless we succeed in controlling their fertility, several environmental, economic and health problems will loom in the coming century throughout the nation. Inadequate infrastructure, implementation, education, religious misbeliefs and public opposition proved to be barriers for family planning acceptance. The utility of birth control not only lies in population control but also in reducing maternal and child deaths. It is estimated that

1,00,000 maternal deaths and up to one third of total child deaths could be avoided each year if all women who said they want no more children were able to stop child bearing [7]. Our study clearly indicates that majority of younger population are choosing permanent method of sterilization and trend was consistent for entire 5 years period. Various other studies in different years also demonstrated the same results and showed that up to 90.5% tubectomy acceptors were in the age group 20-30 years with mean age being 27-28 years [6,8,]. This shows the tendency of early marriage and focus on completing desired family size followed by terminating fertility. Less preference of LARCs (Long Acting Reversible Contraceptives) as birth control measure in younger population or even overall is due to

lack of awareness, fear of side effects and to enjoy freedom of sexual pleasure with no barrier, no hormone and no foreign body in their wombs. An even more striking observation was that maximum percentage of couple had 3 children prior to tubectomy. With the government of India trying to implement two or preferably one child norm, there is still a long way to go. MA Fahim et al in 2016 and Athavale et al in 2003 also reported mean family sizes of 2.36 and 3.17 children before tubectomy in their respective studies [6,9]. However, studies by and Nagapurkar et al [10] showed conflicting results from our study, with maximum numbers of couples having 2 children prior to tubectomy. Total number of living male children is also a significant factor in deciding to choose a permanent method of family planning. But sex preferences of the babies and decision of not producing after having more than two children per couples does not fulfill our aim of population reduction or at least population stabilization.

Surprisingly, Impact of religion on choosing sterilization had been very strongly fixed over the years with very tiny percentage of Muslim women being sterilized. Gradual change in demography of the population can be very well explained by this strange observation. The reason might be anything from illiteracy to fixed mind set due to religious misbeliefs, this is adversely affecting the society and its development. The same trend had been observed by other authors also with some variable statics defining slight differences in different states. MA Fahim in Raichur, Karnataka demonstrated 13.9% Muslim women had sterilization; [6]. Rahman S et al in Assam showed 26% of Muslim adopting tubectomy [11]. In study by by Anant T et al in Kerala, utilization of any method of contraceptive was found only in 14.4% of Muslim [12]. Study by Nagapurkar et al [10], Chawla R et al [7] have also supported this observation. Speizer et al in 2012 did a study amongst poor urban women in six cities of Uttar Pradesh also reported that Muslim women are less likely to be sterilized than non-Muslim women [13].

Poorer results in Uttar Pradesh emphasizes something more effective to make the impact. Another important aspect visualized was that maximum no of rural population enrolled for tubectomy, This is probably because couples from rural areas have less knowledge about other methods of contraception or were reluctant to opt them due to various misbeliefs or due to strong motivation by the local health workers to get tubectomised as soon as the family gets completed. The incentives given to the health workers for motivational

efforts to increase the number of sterilizations definitely have an impact on their continued motivation of the rural and poorly educated women to have sterilization as a method of family planning. The huge impact of this make these rural women to prefer terminating their fertility rather than spacing births. Study by Laxmi G et al [14] also demonstrated that maximum no of couples in their study belonged to rural (69.5%) as compared to urban (30.5%) areas. 29% of the total population studied, opted for tubectomy along with medical termination of pregnancy.

## Conclusion

More of the young population in India are opting for tubectomy. Still women with 3 children are predominating the tubectomy group. Religion has a huge impact on contraceptive practices in India. Removal of the religious taboos is essential for widespread implementation of family planning programs. Maximum of the rural people are enrolling for tubectomy. A significant no of people opted for tubectomy only when they became pregnant with the unwanted child, hence went for sterilization after medical termination of pregnancy. The results of the study clearly recommend the need for increased awareness regarding the other methods of LARC so as to avoid unwanted pregnancies. There is an immense need for removal of religious misbeliefs so as to control population as well as maintain the demographic pattern of the society in these terms. The Government should initiate some attractive incentives to motivate couples to have only one or two children followed by sterilization.

This rapidly growing population is a major factor behind failures of many Governmental plans and programs, increasing mortalities despite all possible efforts. Overcrowded public places, increasing corruptions, crimes and many heart wrenching events occurring on daily basis in the society are somehow directly or indirectly related to the uncontrolled population expansion. The need of the hour is again forceful programs for mandatory adoption of contraception and at any cost not more than two children per couple. Unless we do not succeed in this two-child norm, our dreams of having a literate, cultured and developed nation might be a dream only.

**Contribution by different authors:** Procedures were performed by all of the authors.

**Manuscript Preparation and statistical analysis:** Dr Amrita Chaurasia, Dr Nidhi Sachan.

## Original Research Article

**Data Compilation:**Dr Shalini Singh, DrSomya Saxena.

**Addition of study to existing knowledge:** The existing literature about the subject suggests that we are far behind in achieving the goals of contraceptive practices for population stabilization, if not control. The current rate of population growth is directly or indirectly causing failures of many Governmental policies. Our hospital is a tertiary care centre that cater the population in the city as well as nearby areas, so, can be taken as a representative of this zone of Uttar Pradesh.

Our observation depicts that despite continuous efforts by the government, still majority of couples are preferring the three-child norm and religious taboos are affecting tubectomy practices. If the same practice continues, population stabilization can never be achieved. Currently, Government has predominant focus on reducing maternal mortality and very little emphasis on contraceptive practices. But if we may succeed in motivating the couples to use contraception, the reduced number of pregnancies will lead to major reduction in the maternal mortality. Thus, one strategy will solve two problems at the same time, of population control as well as maternal mortality.

**Funding: Nil, Conflict of interest: None.**

**Permission of IRB: Yes**

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## How to cite this article?

Chaurasia A, Sachan N, Singh S, Saxena S. A study of demographic variables affecting tubectomy in a tertiary care centre in India. *Int J Med Res Rev* 2018;6(01):49-53. doi:10.17511/ijmrr. 2018.i01.08.