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A CROSS-SECTIONAL STUDY TO UNDERSTAND SOCIO DEMOGRAPHIC PROFILE OF COUPLES WHO ADOPTED PERMANENT STERILIZATION IN URBAN SLUMS OF SURAT CITY

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ABSTRACT

Introduction: There is big gap in the adoption of male and female sterilization. It is necessary to understand socio demographic factors of couples who adopted permanent sterilization.

Aims & Objectives: The study was done with the aim to document the socio demographic profile of couples who adopted permanent sterilization in urban slums of Surat city.

Material and Methods: It was a cross sectional study conducted during March-April 2011 in urban slums of Surat City. 532 couples who adopted permanent sterilization were interviewed for their socio demographic profile.

Results: Maximum males and females in our study who had adopted permanent sterilization operation were in age group of 30-34 yrs and 25-29 yrs respectively. 40.6% of couples were from joint family and 59.4% were from nuclear family. 58.83% of the families of study couples had family members of 4-6 persons. Literacy rate in studied population was 68.43% among males and 58.64% among females, with maximum no. of respondents had studied up to primary level education in both male and female. male sterilization is more common in Hindus as compared to Muslims. Males were more dominant than female regarding decision making for contraceptive use.

Conclusion: Female sterilization was more common in families with low socio economic status, low literacy and Muslim families. While male sterilization was more common in Hindu families and where husbands have high literacy levels.

Keywords: Sterilization, Urban Slum, Literacy rate

INTRODUCTION

Population of India has been growing at a very rapid rate. Family planning was accepted as the best way to control the rapidly and massively growing population[1]. India was the 1st country in the world to formulate the National Family Planning Program in the year 1952 with the objective of "reducing the birth rate of the extent necessary to stabilize the population at a level consistent with requirement of National economy[2]. Since the beginning of the program fertility levels had declined throughout the country. The contraceptive prevalence increased from 10 percent (1971) to 46 percent by mid 1990[3]. As on 31st March 2000, about 79 million of eligible couples 46.2% were effectively protected against child birth by one or the other approved methods of

family planning viz. sterilization, IUD, condom or oral pills. India is undergoing a fertility transition and an important feature of this transition is the fact that Contraceptive use has spread to uneducated women also[2]. The extent of acceptance of contraceptive methods still varies within societies and also among different castes and religious groups. The factors responsible for such varied picture operate at the individual, family and community level with their roots in the socio-economic and cultural milieu of Indian Society[4]. Acceptance of family planning methods varies within and between societies. There are many factors such as Age of male and Female, Age at the time of marriage, Literacy status, No. of children in the family, Previous contraceptive usage and decision making authority in the family, which are responsible for such variation at community, family and individual level. Socio-economic environment, Culture and education are few of them that play a vital role. According to MICS done in urban slum of Surat city[18], DLHS-III and various other studies and resources reveal that male sterilization is 4%-6% as compare to female sterilization which is almost 10 times higher than male sterilization[5].

OBJECTIVES

The study was done with the aim to document the socio demographic profile of couples who adopted permanent sterilization in urban slums of Surat city.

MATERIAL & METHODS

It was a cross sectional study conducted during March-April 2011 in urban slums of Surat City. Ethical clearance was taken from Human Ethics Committee of Government Medical College, Surat. For conducting this study prior informed and written permission was taken from higher officials from Surat Municipal Corporation. List of urban slums of Surat city was obtained from office of Surat Municipal Corporation, Urban Development Cell. There were 402 slums in the list with total slum population 4,66,724. This was an updated list after slum demolition and was updated for health mapping activity by Health department of Surat Municipal Corporation.

Sample size calculation was done by formula $n = pq/L^2$ using the prevalence of female sterilization in Surat district, which came out to be 532.

For the purpose of sample size calculation male sterilization rate was not taken in to consideration because of low prevalence of male permanent sterilization which would require more than 7000 sample population. So due to time constrain and feasibility purpose female sterilization rate was used as a parameter for calculation of sample size.

The pretested and predesigned questionnaire was used. Prior consent was taken from couples before collecting the data from them. Data was entered in MS Excel 2007 and analyzed in Epi info 3.4.3.

OBSERVATIONS

There were 532 couples in study.

Table 1: Basic characteristics of families of study couples

Characteristic	Couple (%)
Religion	
Hindu	356 (66.92)
Muslim	176 (33.08)
Caste	
SC	53 (9.96)
ST	27 (5.08)
SEBC	344 (64.66)
Others	108 (20.30)
Type of Family	
Nuclear	314 (59.02)
Joint	216 (40.60)
Extended	2 (0.38)
Size of the family	
≤ 3	13 (2.44)
3-6	313 (58.83)
≥ 6	206 (38.72)
Socio-economic status	
I	4 (0.75)
II	7 (1.32)
III	19 (3.57)
IV	258 (48.50)
V	244 (45.86)
Total duration of married life	
< 10 years	285 (53.57)
≥ 10 years	247 (46.43)

In the study population, two third of couples were from Hindu religion, and one third belonged to Muslim Religion. Caste wise Distribution of the study population shows that more than 60 % of families were from SEBC. Rest of the couples was ST, SC, and Other castes. About 60 % (314 couples) of the study population belonged to Nuclear family and about 40 % (216 couples) belonged to Joint family. Only 2 couples

belonged to Extended Family. 313 couples out of 532, comprising about 60 % of the total couples, were having 4 – 6 members in the family; while only thirteen couples had up to three members in the family. Also majority of couples belonged to low socio economic class. It was also noted that there was more than half of couples had less than ten years of duration of married life.

Table 2: Distribution of age and education status of study participants according to gender

	Male(n=532)	Female(n=532)
Age Group (yrs)		
20-24	11 (2.07)	111 (20.86)
25-29	139 (26.13)	257 (48.31)
30-34	228 (42.86)	120 (22.56)
35-39	104 (19.55)	36 (6.77)
≥40	50 (9.40)	8 (1.50)
Education status		
Illiterate	168 (31.58)	220 (41.35)
Primary (1-7)	196 (36.84)	195 (36.65)
Secondary (8-10)	119 (22.37)	92 (17.29)
Higher Secondary(11-12)	39 (7.33)	24 (4.51)
Graduate	8 (1.50)	1 (0.19)
Post Graduate	2 (0.38)	0 (0.00)
Age at marriage (yrs)		
10 – 14	2 (0.37)	59 (11.09)
15 – 19	111 (20.86)	316 (59.39)
20 – 24	296 (55.63)	140 (26.32)
25 – 29	103 (19.36)	17 (3.20)
≥ 30	20 (3.75)	0 (0)

Figures in parenthesis indicate percentage

This table also shows that majority of Husbands from studied couples were in age group of 25 to 34 yrs, with maximum (42.86%) in the age group of 30-34 yrs and, while at the same time majority of female from the studied couples were in the age group of 20 to 34 yrs with maximum (48.30%) in the age group of 25-29 yrs. The mean age of females is 27.42 ± 4.10 yrs. and mean age of males is 31.71 ± 4.73 yrs. 31.57% of males and 41.35 % of females were illiterate and only 9 % of males and 4 % of females studied up to Higher Secondary and beyond. Majority of the males have studied up to primary education which comprised of about 36.85% of all Family males in the studied couples. While in females, 41.35% were illiterate and 36.65% had only primary education. Majority of the males were in the age group of 20 – 24 yrs at the time of marriage, which comprised almost 55% of the study couples, while most of the females were in the age group of 15 – 19 yrs at the time of marriage which indicates early marriage of females. Strik-

ing feature of this table is no. of females in the age group of 10 – 14 yrs at the time of marriage, which are 59 out of 532 females almost 11%.

Table 3.1: Distribution of Study population according to Education Status in Female Operated Families, n = 505

Education Status	Male(n=505)	Female(n=505)
Illiterate	168 (33.26)	219 (43.36)
Primary	194 (38.41)	187 (37.02)
Secondary	115 (22.77)	80 (15.84)
Higher Secondary and Above	28 (5.54)	19 (3.76)

Figures in parenthesis indicate percentage

Table 3.2 Distribution of study population according to Education Status in Male Operated Families, n = 27

Education Status	Male(n=27)	Female(n=27)
Illiterate	0 (0)	1 (3.70)
Primary	2 (7.42)	8 (29.62)
Secondary	4 (14.81)	12 (44.44)
Higher Secondary and Above	21 (77.77)	6 (22.22)

Figures in parenthesis indicate percentage

The table shown above shows that in Female Operated Families Illiteracy among Female (43 %) is much higher than Illiteracy among Male (33.26%). Also, only about 5 % of males and females had higher secondary or above education.

This table shows (in Male Operated Families) education status among male and female is better. Maximum number of males (77.77%) has education up to Higher Secondary and above, whereas most of the females (45%) have education up to Secondary level.

In female operated families, 66.91 % of families were Hindu and 33.09% families were Muslim, but in Male operated families 96.29% families were from Hindu religion. This is highly significant that adoption of male permanent sterilization is more in Hindu religion than in Muslim religion. In male operated families 77.77% males have higher education status, while in female operated family majority of females (76.69%) are illiterate. This is highly significant that adoption of male permanent sterilization is high in education status of higher secondary and above, whereas adoption of female permanent sterilization is more in illiterate and primary educated families.

Table 4: Distribution of the study population according to adoption of permanent sterilization between male and female with reference to their religion and education status

	Male (n=27)	Female (n=505)	Total	Chi square Value	P value
Religion					
Hindu	26	330	356	9.74	p < 0.05
Muslim	1	175	176		
Education Status					
Illiterate and Primary	2	406	408	204.56	p < 0.001
Secondary	4	80	84		
Higher Secondary and above	21	19	40		

Table – 5: Distribution of study population according to decision making regarding contraceptive usage

Respondent	Responses (n=532) (%)
Male	120 (22.56)
Female	54 (10.15)
Both	355 (66.73)
Government	3 (0.56)

Table 6 shows that majority of respondent replied that decision making regarding Contraceptive usage is done by of couple, which comprises of more than 65% of responses. 22% respondents told that it is male decides for contraceptive usage and 10 % told that it female make decisions regarding contraceptive usage.

DISCUSSION

Population explosion is the number one problem of a developing country like India. The population of India has increased by more than 181 million during the decade 2001-2011. The population of India, at 1210.2 million, is almost equal to the combined population of U.S.A., Indonesia, Brazil, Pakistan, Bangladesh and Japan put together (1214.3 million)[6]. Practicing contraception by eligible couples is a crucial means to deal with this problem. Between the two, male partners dominate in all decision taking including those, which pertains to the family planning[7]. From 1960 to 1977, males were the main acceptors of family planning (vasectomy and condom) and their proportion was always more than 50 per cent of the total family planning acceptors. However, as a consequence of the excesses during the emergency for promoting vasectomy, the program received a major setback. With the introduction of new technology like mini-lap and laparoscopic sterilization slowly the program orientation shifted towards women.

Therefore, present study was undertaken to document various socio demographic factors of the couples who chose permanent sterilization as their choice of family planning be it male or female. In view of this, present study was conducted in urban slums of Surat city of Gujarat state. The urban slums had a good mix of population that provides helps to find out our study objectives.

Out of list of 402 slums, provided by health officials of Surat Municipal Corporation, we 62 slums were visited. Study period for this study was from November 2010 to April 2011. Population yield of these 62 slums was approximately 85,864. Within these slums we have interviewed 505 females who had undergone permanent sterilization operation, and 27 males who had adopted Non Scalpel Vasectomy as a purpose of family planning method.

Proportion of women in our study population is highest (48.30%) in age group of 25-29 yrs, while proportion of males is highest (42.48%) in age group of 30-34 yrs. The mean age of females is 27.42 ± 4.10 yrs. and mean age of males is 31.71 ± 4.73 yrs. One study from Agra done by Khan et al. showed mean age of females was 30.44 ± 8.44 yrs and that of males 34.2 ± 8.8 yrs who adopted permanent sterilization, which is little bit higher than our study[8].

A perusal of various family-based characteristics in the study population also revealed that more than two third (66.91%) of the families were from Hindu religion and one third (33.09%) were from Muslim religion. While comparing this data with NFHS-3 survey it shows that 81.7% were Hindus and 12.5% Muslims and rest were from other religion[9]. Religion wise distribution in our study population also signifies that adoption of male permanent sterilization operation was more in Hindu religion as compared to Muslim religion, as only 1 out of 27 males who had undergone permanent sterilization operation belonged to Muslim religion.

This study also revealed that 64.66% families were from SEBC, almost 10% from SC, 5% from ST and almost 20% were from other castes. Whe-

reas data of NFHS-3 survey shows, 39.6% of families from SEBC, 19.2% from SC, 8.4% from ST, and 31.9% from other castes[9]. These data did not coincide with our data as there is vast difference in caste wise composition of our study population as compared to that of NFHS-3 survey data[9]. Though Gujarat has 14.9 percent of its population from scheduled tribes and such population is more concentrated in South and eastern parts of Gujarat, in our study we got only 5% of ST population. This might be due to urban area in which we conducted this study and most of tribal population is staying in rural area.

Our study also revealed that almost 40% of the families were from Joint type of family and 60% of them were from nuclear type of family. Our data regarding type of family coincide with NFHS-3 survey data in which it was 63% nuclear family and 37% non nuclear family[9]. Education in our study population was decisively poor as only 68.43% of males were literate and 58.55% of females were literate. This gap might be due to our study area as we studied slum population of Surat city, while these survey data are irrespective of study area. In a study done by Rajni Dhingra et al. in Jammu and Kashmir, male education was 62% and female education was 67% which was also higher than our study[10].

When we compared education status of male and female in male and female operated families it showed wide gap in education status. In female operated families education status showed that 33.26% of males and 43.36% of females were illiterate while in male operated families 100% of male were literate and 96.3% of their wives were literate. This gap indicates that education plays vital role in adoption of permanent sterilization in male when both male and females are educated. While if both husband and wife were illiterate, adoption of female sterilization was more. A study done in Warangal and Karimnagar district of Andhra Pradesh Male illiteracy was very high as 52.8% and 41.1% in Warangal and Karimnagar respectively[11].

While analyzing data of our study, in social class I and II we found 10 male and 1 female sterilization operations, where as in social class III there were 5 male and 14 female sterilization operations. Maximum numbers of female sterilization operations (490) were in social class IV and V, which were more than male sterilization operations (12) in same class. This indicates that male sterilization adoption is more in higher socio-economic class, and female sterilization adoption is more in lower socio-economic class. This might be due to factors like lower education level, less awareness about male sterilization operation, less access to male sterilization operation than female sterilization operation, etc.

In our study mean age of husband (22.05 yrs) at the time of marriage was significantly higher than mean age of wife (17.73 yrs) at the time of marriage. Large proportion (>21%) of the husband got married before attaining legal age of marriage (21 yrs). Same way, more than 70% of women got married before the age of 19 yrs. Considering the fact that our study area was urban slums and population was mix of migrant and local people our this finding is very useful. In a study done in rural Haryana (1989) the mean age at the time of marriage for women was found to be 14.7 years. Further in the same study more than 90 percent women (aged > 25 years) got married before the age of 17 years[12]. Yet another study from the slum of Kanpur showed the low age at the time of marriage. About 69% of husbands and 76% of their wives married at less than the current legal age of marriage[13].

CONCLUSIONS

Study of family-based characteristics revealed that adaptation of permanent sterilization method in Muslim families is far lower than Hindu families. Males from both Hindu and Muslims should be encouraged to adopt male permanent sterilization method by means of active IEC and behavior change communication. Literacy rate of male and females among male operated family was higher than literacy rate of male and females of female operated families. Male sterilization is more common in Hindus as compared to Muslims. Majority of Respondent replied that decision making regarding contraceptive usage is responsibility of couple, which comprises of more than 65% of responses. 22% respondents told that it is responsibility of male and 10 % told that it is responsibility of female.

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