Research Article

Fertility pattern among married female employees at Government Medical College and Hospital and Government Ayurvedic College and Hospital, Nanded

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Abstract

The regulation of fertility through intervention requires knowledge of level of fertility. The present study was carried out among married female employees working at Government Medical College and Hospital, and at Government Ayurvedic College and Hospital, Nanded. The total 291 married doctors, married class III and married class IV workers in age group 15 to 44 years, 248 from Medical College, 43 from Ayurvedic College, were selected. The proportion of having two children was 56.25% in doctors, 47.89% in class III and 22.22%in class IV. The proportion of employees having 2 or less than children 2 increased with education status. Out of 156 Hindu, 17 (10.9%) employees had four children, 14 (50%) out of 28 Muslim had four or more children. More number of employees belonging to nuclear type of family accepted small family norm (72.7%). The mean age first pregnancy was 27.46 years for doctors, 26.65 years for Class III and 19.46 years for Class IV. Mean number of children before sterilization was 2.05 for doctors, 2.85 for Class III and 4.34 for Class IV

Keywords: fertility, religion, family type,

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INTRODUCTION

Although the link between poverty and population is clear, it is paradoxical situation when poverty is both the cause and effect. Poverty measured by level of income does not tell the whole story. It is also a human right issue which encompasses in its ambit empowerment of women, gender equality and equity, illiteracy, as also access to quality health care including sexual and reproductive health and rights. Factors that affect the perceptions of people about fertility regulation in India. The socio-economic status, level of education and religious beliefs has strong influences on their decision on family size, spacing between children and also the sex of the children. Moreover, a large number of people are either quite ignorant of or cannot afford to avail with the technologies and services for controlling their fertility. These factors generally perpetuate high fertility, which strongly affect the infant and maternal mortality and eventually quality of life both for present and future generation[13]. In India, although births are declining high fertility is deep rooted. Demographers attribute this change to changes in breast-feeding practices, abstinence and nuptiality, modernization and development, improvement in health and nutrition leading to improved infant and child mortality and life expectancy at birth as well as to the family planning programme itself. It is widely recognized

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that human fertility, responsible for biological replacement in society is a complicated process governed not merely by biological limits, but also greatly influenced by socio-cultural, economical, psychological and political factors. The factors that directly affect fertility are called proximate determinants of fertility. Each of the proximate determinants has a direct effect on fertility and together, they determine the level of fertility. Some of the factors such as contraceptives used and abortions have an immediate and direct impact on the number of children. These factors together represent the main characteristics of fertility at a given point of time[15]. The regulation of fertility through intervention, be it government, social or religious requires a knowledge of post and present level of fertility. Because, unless data relating fertility and child survival rates are available it will not be possible to make projections of population to be housed, educated, employment and even more important fed and clothed. It is therefore necessary to understand the relationship between economic and social development and fertility, which basically involves an identification of the main determinants of fertility and the way and means of taking them[9]. In present study, married female employees selected for study. An attempt being made to study fertility pattern with view to gain first hand information.

MATERIAL AND METHODS

The present study was carried out among married female employees working at Government Medical College and Hospital, and at Government Ayurvedic College and Hospital, Nanded, during January to December 2005. The total 291 married doctors, married class III and married class IV workers in age group 15 to 44 years, 248 from Medical College, 43 from Ayurvedic College, were selected. The coverage rate for study was 94.84% (276). The rest (5.16%) could not be included in the study due to various reasons such as non-availability, leave etc. Information available on pay of the Government employees was utilized for working out their class. These were divided in following groups according to their pay as

Doctors: Included those having professional degree or postgraduate either in modern medicine or in ayurveda and working as medical teachers and medical officers in these colleges and hospitals, in receipt of pay of Rs. 8000/month or more.

Class III: included those in receipt of pay of Rs. 3050/month or more but less than 8000/month and working as staff nurses, paramedical workers, office staff, lab technicians etc in these colleges and hospitals.

Class IV: Include those in receipt of pay less than Rs. 3050/month and working as sweepers, attendants, peon etc in these colleges and hospitals. All these employees were interviewed on pretested proforma for the information about fertility pattern. Also personal data regarding following factors was collected: Age: This was recorded in completed years. Marital Status: This was considered as married, unmarried, separated, divorced or widowed. In this study Married: married and staying with their husband Divorce: Legal termination of marriage. Separation: Means physical separation of husband and wife, where they no longer share the same dwelling. Religion: It was noted as Hindu, Muslim, Christian, Buddhist and others. Others included Jain, Parasi, Sikh etc.

Literacy Status: Illiterate: A person who could not read or write. This category also included those who could sign mechanically and had no formal education at all.

Literate: a) Primary: Those who had studied up to primary school. b) Middle school: Those who had studied between 5th to 7th standard, c) Secondary School: Those who had studied between 8th to 10th standard, d) Higher Secondary School: Those who had studied between 11th and 12th standard or any other diploma, e) Graduate: Degree in any subject i.e. B.A., B.Sc. etc. and f) Postgraduate or professional degree: MBBS, BE, honorable degree, M.A. etc.

Employee: Only married female employees staying with their husband in age group 15-44 years were the subjects of this study.

Obstetric History: Total number of living children and age of last living children was asked. Duration for first parity from marriage and interval between first –second and second –third.

Type of Family: It was noted either as nuclear family or as joint family. **Nuclear family**-It consists of the married couple and their children where children still regarded as dependants. **Joint family-**It consists of number of married couples and their children who live in the same household .All men are related by blood and women of the household are their wives, unmarried girls and widows of family kinsmen.

OBSERVATION

Table I: Distribution of married employees by number of living children

No. Of living children	Doctors	Class III	Class IV	Total
Nil	3(9.37%)	6(3.16%)	1(1.85%)	10(3.62%)
1	10(31.25%)	25(13.16%)	4(7.4%)	39(14.13%)
2	18(56.25%)	91(47.89%)	12(22.22%)	121(43.84%)
3	1(3.12%)	51(26.84%)	18(33.33%)	70(25.36%)
4	--	15(7.89%)	14(25.92%)	29(10.5%)
5	--	2(1.05%)	3(5.56%)	5(1.81%)
6+	--	--	2(3.7%)	2(0.72%)
Total	**32(100.0)**	**190(100.0)**	**54(100.0)**	**276(100.0)**

(χ^2=40.7;df=4;p<0.001. number of children was categorized as 0/1,2,and 3+)

Table II: Distribution of married employees according to number of children and literacy status

Literacy Status	Employees	No of living children							
		0(%)	1(%)	2(%)	3(%)	4(%)	5(%)	6(%)	Total (%)
Illitrate	Doctor	--	--	--	--	--	--	--	--
	Class III	--	--	--	--	--	--	--	--
	Class IV	--	--	1(8.3)	2(11.1)	5(37.7)	3(100)	2(100)	13(24)
Lit. Primary	Doctor	--	--	--	--	--	--	--	--
	Class III	--	--	--	--	--	--	--	--
	Class IV	--	2(50)	4(33.3)	15(83.3)	6(42.8)	--	--	27(50)
Middle school	Doctor	--	--	--	--	--	--	--	--
	Class III	--	--	--	--	--	--	--	--
	Class IV	--	2(50)	7(58.3)	1(5.6)	1(7.1)	--	--	11(30.4)
Secondary School	Doctor	--	--	--	--	--	2(100)	--	--
	Class III	--	7(28)	37(40.7)	31(60.8)	13(86.7)	--	--	90(47.4)
	Class IV	1(100)	--	--	--	2(14.3)	--	--	3(5.6)
Higher secondary	Doctor	--	--	--	16(31.4)	--	--	--	--
	Class III	2(33.31)	8(32)	36(39.6)	--	2(13.3)	--	--	64(33.7)
	Class IV	--	-	--	--	--	--	--	--
Graduate	Doctor	--	9(36)	--	--	--	--	--	--
	Class III	2(33.3)	2(7.1)	13(14.3)	3(5.9)	--	--	--	27(14.2)
	Class IV	--	--	--	--	--	--	--	--
Postgraduate or rofessional	Doctor	3(100)	10(100)	18(100)	1(100)	--	--	--	32(100)
	Class III	2(100)	1(4)	5(5.5)	1(1.6)	--	--	--	9(4.7)
	Class IV	--	--	--	--	--	--	--	--
Total	**Total**	**10**	**39**	**121**	**70**	**29**	**5**	**2**	**276**
	Doctor	**3(100)**	**10(100)**	**18(100)**	**1(100)**	**--**	**--**	**--**	**32(100)**
	Class III	**6(100)**	**25(100)**	**91(100)**	**51(100)**	**15(100)**	**2(100)**	**--**	**190(100)**
	Class IV	**1(100)**	**4(100)**	**12(100)**	**18(100)**	**14(100)**	**3(100)**	**2(100)**	**54(100)**

(χ^2=40.7;df=9;p<0.001)*(10 employees had no child)

Table III: Distribution of married employees according to religion and number of children

No. Of Children	Employees	Hindu (%)	Muslim (%)	Christian (%)	Boudha (%)	Others (%)	Total (%)
0	Doctor	2(1.3)	--	--	1(2.4)	--	3(1)
	Class III	2(1.3)	2(7.1)	1(2.4)	1(2.4)	--	6(2.2)
	Class IV	1(0.6)	--	--	--	--	1(0.4)
1	Doctor	5(3.2)	--	1(2.4)	3(7.3)	1(11.1)	10(3.6)
	Class III	17(10.9)	1(3.6)	5(11.9)	2(4.9)	--	25(9)
	Class IV	2(1.3)	--	--	1(2.4)	1(11.1)	4(1.3)
2	Doctor	10(6.4)	2(7.1)	--	5(12.2)	1(11.1)	18(6.5)
	Class III	55(35.3)	4(14.3)	21(50)	7(17)	4(44.4)	91(33)
	Class IV	7(4.5)	--	--	5(12.2)	--	12(4.3)
3	Doctor	--	1(3.6)	--	--	--	1(0.4)
	Class III	29(18.6)	4(14.3)	11(26.2)	6(14.6)	1(11.1)	51(18.5)
	Class IV	9(5.8)	--	--	8(19.5)	1(11.1)	18(6.5)
4	Doctor	--	--	--	--	--	--

	Class III	8(5.1)	5(17.9)	1(2.4)	1(2.4)	--	15(5.4)
	Class IV	9(5.8)	2(7.1)	2(4.8)	1(2.4)	--	14(5)
	Doctor	--	--	--	--	--	--
5	Class III	--	2(7.1)	--	--	--	2(0.7)
	Class IV	--	3(10.7)	--	--	--	3(1)
	Doctor	--	--	--	--	--	--
6	Class III	--	--	--	--	--	--
	Class IV	--	2(7.1)	--	--	--	2(0.7)
	Doctor	**17**	**3**	**1**	**9**	**2**	**32**
Total	**Class III**	**111**	**18**	**39**	**17**	**5**	**190**
	Class IV	**28**	**7**	**2**	**15**	**2**	**54**
	Total	**156(100.0)**	**28(100.0)**	**42(100.0)**	**41(100.0)**	**9(100.0)**	**276(100.0)**

Table IV: Distribution of married employees by number of living children and family type

Number of living children	Family type							
	Nuclear family (%)				Joint family (%)			
	Doctors	Class III	Class IV	Total	Doctors	Class III	Class IV	Total
0 or1	10(38.5)	21(16.5)	3(13)	34(19.3)	3(50)	10(15.9)	2(6.4)	15(15)
2	16(61.5)	69(54.3)	9(39.1)	94(53.4)	2(33.4)	22(34.9)	3(9.7)	27(27)
3	--	29(22.8)	6(26.1)	35(19.9)	1(16.7)	22(34.9)	12(38.7)	35(35)
4+	--	8(6.4)	5(21.8)	13(7.4)	--	9(14.3)	14(45.2)	23(23)
Total	**26(100)**	**127(100)**	**23(100)**	**176(100)**	**6(100)**	**63(100)**	**31(100)**	**100(100)**

(χ^2=28;df=3;p<0.001)

Table V: Distribution of married female employees by age of last living child

Age of last living child	Doctors	Class III	Class IV	Total
<1yr	3(10.34%)	8(4.34%)	2(3.77%)	13(4.88%)
1-4yrs	11(37.93%)	48(26.08%)	10(18.86%)	69(25.93%)
5-9yrs	8(27.58%)	58(31.52%)	13(24.52%)	79(29.69%)
10-14yrs	5(17.24%)	56(30.43%)	18(33.96%)	79(29.69%)
>15yrs	2(6.89%)	14(7.6%)	10(18.86%)	26(9.77%)
Total	**29(100)**	**184(100)**	**53(100)**	**266(100)**

(10 employees had no child)

Table VI: Mean age at Marriage and Mean age at pregnancies

Employees	Mean age at Marriage (yrs)	Mean age at pregnancies (yrs)		
		First	Second	Third
Doctors	25.56	27.46	30.10	33.0
Class III	24.86	26.65	27.99	29.93
Class IV	18.54	19.46	22.93	26.69

Mean age at marriage and mean age for first, second and third pregnancies were maximum for doctors and minimum for Class IV.

Table VII: Mean duration between pregnancies

Mean duration	Doctors (Years)	Class III (Years)	Class IV (Years)
From marriage to first pregnancy	1.9	1.79	0.92
From first pregnancy to second pregnancy	3.13	2.57	2.25
From second pregnancy to third pregnancy	3.8	2.15	2.30

Table VIII: Mean number of children before sterilization

Employees	Mean number of children before sterilization
Doctors	2.05
Class III	2.85
Class IV	4.34

Doctors and class III accepted small family size as compared with Class IV.

RESULT AND DISCUSSION

The distribution of all married female employees according their marital status, age, religion, literacy and family type has been considered to study the socio-demographic status. The findings from the analysis of the data in respect of fertility pattern of the employees are discussed. Differentials in fertility performance of women belong to different socio-economic groups have been shown by various fertility studies. Several social and cultural factors, namely, early marriage, strong desire for a male child stimulate fertility while other factors such as abstinence, prolonged lactation, absence of spouses, divorce and practice of contraception contribute to reduction in fertility. The fertility of a population is also found to be related to social norms, religious beliefs, economic goals, technological levels and many other factors, which directly or indirectly influence fertility. In the present study, the fertility differentials in respect of doctors, class III and class IV employees were examined. The number of living children, mean age at marriage, mean age at pregnancies and mean duration for pregnancies were used as an indicator to examine fertility differentials between the various socio-demographic group of these government employees...

Number of Living Children

It was observed that 10 (3.62%) of employees had no living children. 160 (57.97%) had 1or2 living children. The proportion of having two children was 56.25% in doctors, 47.89% in class III and 22.22%in class IV. About 116 (61%) of class III employees had one or two children, 28 (87.5%) doctors were having one or two children, while 116 (61.05%) class III andonly16(29.62%) class IV were having one or two children. There was no doctor had more than three children. 17 (8.94%) class III employees and 19 (35.19%) class IV employees were having more three living children. (Table –I).Jain and Singal (1976) [4] observed that 18.3% employees had no living children. Sen N. (2001)[14] observed 1.1 living children per women, middle class and 3.3% among poor class. Mohanan, Kamath and Sajjan (2003) [12] observed 0-2 children in 48.8% eligible couples, 3-4 children in 29.8% eligible couples and 5+ in 21.4% eligible couples. Mohan, Khan and Surender (2003)[11] observed 0-2 children in 72.4% women, 3-5 children in 28.6% women and 6+ in 9.6% women. Mittal, Anandalakshmy and Lakhtakia (2003) [10] observed 0-3 children in 93% and 4+ in 7% women. Islam and Rashid (2004)[3] in Bangladesh observed 0-2 children in 54.5%, 3-4 in 27.4% and 5+ in 18.1% women. Chattopadhyay *et al* (2004)[2] observed in ICDs area 0-3 children in 82 % mothers and 4+ children 18% mothers. The analysis of present study indicates a substantially higher proportion of doctors and class III accepted small family norm than class IV.

Literacy and number of children

As the level of literacy increases, the fertility decreases. This is observed not only between the three group but also among the class III and class IV employees. The proportion of employees having 2 or less than children 2 increased with education status in class III as well as class IV employees. This association was found statically significant (Table-II).Literacy level is the major determinant of employment, which in turn is the major determinant of socioeconomic status. It is proven fact that higher the socioecobomic status, lower is the fertility.

Religion and number of living children

In present study, religion was considered as an important variable that affects fertility. Considering all employees together, out of 156 Hindu, 17 (10.9%) employees had four children, 14 (50%) out of 28 Muslim had four or more children, the percentage for Christian was 3 (7.1%) out of 42 and that of Boudha was 2 (4.9%) out of 41 had four children. While 28 (66.67%) Christian employees had two or less than two living children, 101 (64.74%) Hindu employees had two or less than two living children and 19 (46.36%) Boudha employees had two or less than two living children, only 9 (32.14%) Muslim employees had two or less than two living children. Overall 7 (25%) Muslims had 5 or more than 5 living children. (Table – III).This reveals that religion affects fertility and the highest fertility was found in Muslims employees in this study. Many previous authors also exhibit higher fertility among Muslims than in other religions (Kansal *et al*, 2005[7]; Kabir *et al*, 2005[6]; Tripathy and Sarangi, 2004[15]; Chattopadhyay *et al*, 2004[2]; Islam and Rashid, 2004[3]; Mohanan, Kamath and Sajjan, 2003[12]; Mohan, Khan and Sureender, 2003[11]). In India, religion has a special significance, as it is closely associated with age at marriage, remarriage, separation and divorce, taboos on sex etc., which have a great impact on fertility performance.

Family type and number of living children

More number of employees belonging to nuclear type of family accepted small family norm (72.7%) than the employees belonging to joint type of family (42%).This was found statistically significant (Table-IV).Child rearing is a full time job. In a nuclear type of family, especially if both husband and wife are working, obviously there is paucity of time to look after the child. Also decision makers are husband and wife themselves and no one else as it happens in joint type of family.

Age of last child

In the present study 82 (30.81%) employees had younger child below five years. Proportion of employees having last child below five years was 14 (48.27%), 56 (30.42%) and 12 (22.63%) among doctors, class III and class IV employees respectively (Table – V). 26 (9.77%) of the

employees had age of younger child above 15+. 6.89% doctors ,7.6%class III and 18.86% class IV had age of last living child above 15yrs.The proportion of this was 2(6.89%),14(7.6)and 10(18.86%) among doctors, class III and class IV. Jain and Singal (1976)[4] noted that, among female employees, 65.1% were had their children below five years of age. Except the grade IV female employees, the proportion of those having the last child below five years decreased with increase in their service grade. Jamshedji and Pachouri (1980)[5] in their study had the age of youngest child less than one year for 32.2%, 1 to 2 years for 19.2% and 2 to 3 years for 20.2% of the women, it was more than 4 years in about 20 %of the cases.

Mean age at marriage and mean age at pregnancies

In present study mean age at marriage was 25.56,24.86,18.54 for doctors class III and class IV respectively. The mean age first pregnancy was 27.46 years for doctors, 26.65 years for Class III and 19.46 years for Class IV. (Table-VI) Kaur H. (2000)[8] observed mean fertility falls with rise in age at marriage. Chandhick *et al* (2003)[1] observed that mean age at first pregnancy 19.4±2.7 years in rural India. Sen N.(2001)[14] observed early marriage causing higher fertility and late initiation of spacing resulting in early pregnancy. Tripathy and Sarangi (2004)[15] observed that significant association between fertility and mean age at first birth. In present study mean age at first pregnancy was more in Doctors and Class III as compared to Class IV. This might be due to late marriages in Doctors and Class III and early marriages in Class IV.

Mean Duration between Pregnancies

Mean duration for first and second pregnancy was maximum for Doctor, while it was less in Class III and even least in Class IV. This was due to more acceptance of spacing method between marriage and first child in doctors and Class III and no acceptance of spacing methods between marriage and first child in Class IV. (Table-VII).This was due to more acceptance of spacing methods in doctors and Class III and no acceptance of spacing methods between marriage and first pregnancy and between first and second pregnancy in Class IV employees. 8. Mean Number of Children before Sterilization: In present study, mean number of children before sterilization was 2.05 for doctors, 2.85 for Class III and 4.34 for Class IV i.e. quality of sterilization was better in doctor (2.05) and Class III (2.85) as compared to Class IV (4.34) (Table VIII) This indicates need for spacing methods and motivation for sterilization after two children in class IV. Acceptance of sterilization after four children does not fulfill objectives of family welfare programme, as sterilization found to be for completing target and purpose is not solved.

REFERENCES

1. Chandhick N, Dhillon B, Kambo I Contraceptive knowledge, practices and utility services in the rural areas of India (An ICMR Task Force Study). Ind J Med Sci 2003; 57:301-07.
2. Chattopadhyay T, Mundle M, Shrivastava P, Chattopadyay D Mitra S. Limiting factors in contraceptive acceptance in urban slum with or without ICDS. Ind J Com Med 2004; XXIX (3).Sept.
3. Islam M, Rashid M. Determinants of unintended pregnancy among ever married women in Bangladesh. Indian J Fam Welfare 2004; 50 (2).Dec.
4. Jain PK, Singal DS. Fertility levels and contraceptive practices among central government employees of India – Technical report series – 6, National Institute of Health and Family Welfare, New Delhi.
5. Jamsheji K, Pachuri B. The sterilization decision – A socio-demographic and fertility profile of Indian women. Ind J Fam Welfare 1980; 26:27.
6. Kabir MA, Khan M, Kair M, Raheman M, Patwary F. Impact of women's status on fertility and contraceptive use in Bangladesh: Evidence from Bangladesh demographic and health survey 1999-2000. Indian J Fam Welfare 2005; 51(1):1-8.
7. Kansal A, Chandra R, Kandpal S, Negi K. Epidemiological correlates of contraceptive prevalence in rural population of Dehradun District. Indian J Com Med 2005; 30(2):60-2.
8. Kaur H. Impact of income and education on fertility. Indian J Family Welfare 2000; 46(1):7-76.
9. Mitra RG. Fertility and its determinants Mizoama. Indian J Fam Welfare 1993; 29(2):50.
10. Mittal S, Anandlakashmy and Lakhtakia M. Socio-demographic profile of emergency contraceptive users. Indian J Family Welfare 2003; 49(2):14-7.
11. Mohan K, Khan A and Sureender S. Two child family norm:Woman's attitude in Uttar Pradesh. Indian J Family Welfare 2003;49(2):21-32.
12. Mohanan P, Kamath A, Sajjan B. Fertility pattern and family plannning in a rural area in Dakshin Kannada. Indian J Com Med 2003;XXXVIII(1):15-18
13. Puri N. Population and development-Linkages and challenges. Indian J Family Welfare 2002; 48:1-4.
14. Sen N. Differences in family planning status between the middle class and poor in Calcutta: Reasons and remedies a comparative study. Indian J Family Welfare 2001; 47(1):14-27.
15. Tripathi P, Sarngi P. Proximate determinants of fertility in India. Indian J Fam Welfare 2004; 50(2):22-29.

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