

## Socio-demographic factors influencing family size among rural population of district Nainital, Uttarakhand

Pandey S<sup>1</sup>, Thakkar HK<sup>2</sup>, Rawat CMS<sup>3</sup>, Jha SK<sup>4</sup>, Awasthi S<sup>5</sup>

<sup>1,5</sup>Associate Professor, <sup>2,4</sup>Assistant Professor, <sup>3</sup>Professor, Department of Community Medicine, Government Medical College, Haldwani, Nainital.

### Abstract

**Background:** India is the second most populous country in the world. A decline in its population growth rate has been shown amounting to during the last decades. The decline in the family size is important step towards population stabilization for our country. The status of family size is related to various demographic, socio-economic, cultural factors and attitude towards use of family planning methods.

**Objective:** To assess the relationship of family size with socio-economic factors and effect of contraceptive use.

**Methodology:** A cross-sectional house to house survey to know the family size and socio-demographic was conducted in the adopted villages of field practice area. The study subjects are the married women of reproductive age group (15-49 years).

**Results:** About half (44.9%) of respondents were aged more than 35 years and only (0.9%) were < 19 years. The family size in our study was 2.55. About 54.5% of respondents have family size  $\geq$  2. About two-third of families (65%) with size less than or equals to two were of nuclear type. Education level of family has significant relationship with small family size.

About 90% of the respondents and their spouse of family size two or less were literate. A significant association was found between occupation of the spouse and family size. The spouses of the respondents with family size more than two were mainly engaged in agriculture (29.7%) and as labourer (38.5%). Among the families with family size of more than two, majority were from middle (81%) and lower (14.9%) class. There is no significant effect of use of contraceptives on the family size.

**Keywords:** Family Size, Socio-economic, Fertility.

### Introduction:

The size of the family is a matter of great importance not only for the country as a whole but also for the welfare and health of the individual, the family and the community. World population explosion has plunged the poor developing countries into dark age of poverty. Population explosion is a pessimistic expression of large family size. Traditional perceptions of women's role in society make it difficult for them to contribute to population control. The belief still persists among most women, especially illiterates that the most important role for a woman is to have as many children as one can bear. As countries became more prosperous, both birth and death rates has decreased, resulting in low population growth rates. Even though birth rates have declined substantially in many developing countries during the past decades, they still remain high, mainly for the some important reasons like agriculture as most important activity of poor household, social security regarding care in old age through large extended family and lack of knowledge about family planning.

Also, more than half a million women in the developing world die each year in pregnancy or childbirth. This amounts to one every minute. Another million suffer serious, sometimes permanent pregnancy-related injuries.<sup>1</sup> Much of this suffering and death could be prevented through effective family planning engendered by various methods of contraception.

The population size in almost all of the countries in the South East Asian region shows a significant increase in the last few decades. India, the most populous country in the region, with a population of over thousand million, showed a decline in its population growth rate amounting to 1.77 per cent per annum during the last decade. The percentage of the population living in the urban areas was only 28% in 2001 and rest in rural areas. Agriculture is the main occupation for both men and women in all parts of India. Almost half of the working women are involved in agriculture. India still reports a TFR of over three children. According to NFHS-3, the TFR in India is 4.8 and 2.55 in the Uttarakhand<sup>2</sup>. According to DLHS -3 figures for the district Nainital, it is reported that 50.9% of women of age 20-24 years reporting birth order of 2 or more and 5.3% of births to

### Address for Correspondence :

Sanjay Pandey, Associate Professor, Department of Community Medicine, Government Medical College, Haldwani, Nainital.  
Email: drsanjayp@indiatimes.com

women during age of 15-19 years in the rural areas<sup>3</sup>. This decline in the family size is important step towards population stabilization for our country. The status of family size is related to various demographic, socio-economic, cultural factors and attitude towards family planning methods. The paper aims to investigate the impact of these factors on the family size in this area. The present cross-sectional study was conducted with the objectives to assess the relationship between family size and socio-economic factors and to observe the effect of contraceptive use on the family size.

### Materials and Methods:

The present cross-sectional study was carried out in the four adopted villages of the field practice area of the Rural Health Training Centre of the department of Community Medicine, Government Medical College, Haldwani, Nainital. About 429 households are residing in these adopted villages. The duration of the survey was from February 2011 to March 2011. A house to house survey was carried out in each house of these villages to gather the information regarding the family size and various associated factors i.e; complete enumeration of study area comprising all 429 households.

The respondents are all the married women of reproductive age group (15-49 years). All the married females of reproductive age group present in the family during the visit were included in the study. Thus, finally 325 study subjects are included in the study. Verbal consent was taken from study subjects before collection of data. A pre-designed and pre-tested questionnaire was used to collect the information. The information collected was converted into a computer based spreadsheet.

Statistical analysis comprised calculating proportion and the chi-square ( $\chi^2$ ) test was used for testing statistical significance. The level of significance was taken at p value <0.05.

The major limitation of the study was some of the events may be difficult to remember and hence the effect of recall bias may exist.

### Results:

In the present study, about half (44.93%) of respondents were aged more than 35 years and very few (0.92%) were less than 19 years. Majority of the respondents were Hindu (97.84%). As regarding the type of family, more than half (58.76%) were of nuclear type. About 44% of respondents were married for more than 15 years

and only 4.9% were newly married. Maximum numbers of respondents (54.46%) have family size  $\leq 2$  (Table -1). The family size in our study was 2.55. The family type has also significant influence on the size of the family. About two-third of families (65%) with size less than or equals to two were of nuclear type (Table- 2).

The influence of educational status of both respondents and their spouse has been described in the Table-3. There has been highly significant relation between education levels in the family. About 22% of the respondents in our study were literate. The proportion of illiteracy among respondents (34.45%) and their spouse (23.64%) of the family size more than two were higher than those with family size two or less. About 90% of the respondents and their spouse of family size two or less were literate.

In our study, about 89.23% of the respondents were housewife and very few proportions of them were working. However, there is significant association between nature of job of the spouse of the respondents and family size. The spouse of the respondents with family size more than two were mainly engaged in agriculture (29.72%) and as labourer (38.51%) where as those with family size two or less were in service (35.02%) and as labourer (23.72%). (Table - 4)

Table-5 described significant relation of socio-economic status of family and family size. Majority (approx. 80%) of respondents belong to middle class and remaining either of lower or upper class. Among the large families i.e.; family size of more than two, majority were from middle (81.08%) and lower (14.87%) class, whereas proportion of upper (14.68%) and middle (80.22%) class were higher for small family size (two or less).

As regarding use of contraceptives, about 39% of the respondents in both groups were not using any contraceptive methods (Table -6). Among the contraceptive users, about less than one-fourth (15.38%) of the respondents of total study subjects were opted for the permanent methods. More than half (54.5%) of respondents were from small family (two or less). However, there is no significant effect of use of contraceptives on the family size.

**Table 1: Biosocial profile of respondents (n=325)**

Demographic characteristics	Subjects	
	No.	%
<b>Age (yrs)</b>		
15-19	3	0.92
20-24	32	9.85
25-29	72	22.15
30-34	72	22.15
35-49	146	44.93
<b>Religion</b>		
Hindu	318	97.84
Muslim	2	0.61
Others	5	1.55
<b>Type of family</b>		
Nuclear	191	58.76
Joint	134	41.24
<b>Duration of marriage</b>		
Upto 1 year	16	4.92
1-3	28	8.61
4-6	39	12
7-9	30	9.23
10-12	43	13.24
13-15	26	8
>15	143	44
<b>Family size</b>		
=2	177	54.46
>2	148	45.54

**Table 2: Relationship between type of family and family size**

Type of family	Family size				p value
	= 2 (n=177)		>2 (n=148)		
	No.	%	No.	%	
<b>Nuclear</b>	115	65.0	76	51.4	$\chi^2= 5.62$ df= 1 p = 0.018
<b>Joint</b>	62	35.0	72	48.6	

**Table 3: Family size and educational status of respondent and their spouse**

Educational status	Family size				P value
	= 2 (n=177)		> 2 (n=148)		
	No.	%	No.	%	
<b>Husband</b>					
<b>Illiterate</b>	12	6.77	35	23.64	$\chi^2=17.20$ df=1 (Illiterate vs literate) p = <0.001
<b>Literate</b>	165	93.23	113	76.46	
Primary	5	3.03	17	15.04	
Middle	17	10.30	23	20.35	
Secondary	36	21.81	35	30.97	
Higher secondary & above	107	64.86	38	33.64	
<b>Wife</b>					
<b>Illiterate</b>	20	11.29	51	34.45	$\chi^2= 23.98$ df=1(Illiterate vs literate) p = <0.001
<b>Literate</b>	157	88.71	97	65.55	
Primary	6	3.82	29	29.89	
Middle	22	14.01	29	29.89	
Secondary	36	22.92	21	21.64	
Higher secondary & above	93	59.25	18	18.58	

**Table 4: Family size and occupational status of respondent and their spouse**

Occupational status	Family size				p value
	= 2 (n=177)		> 2 (N = 148)		
Husband	No.	%	No.	%	$\chi^2= 19.95$ df=4 p = <0.001
Service	62	35.02	33	22.29	
Business	23	12.99	08	5.40	
Agriculture	36	20.33	44	29.72	
Labourer	42	23.72	57	38.51	
Unemployed	14	07.94	06	4.08	
Wife					$\chi^2= 0.025$ df= 1 p = 0.875
Housewife	157	88.70	133	89.86	
Working	20	11.29	15	10.14	

**Table 5: Family Size and socioeconomic status of the families**

Socioeconomic status	Family size				p value
	= 2 (n=177)		> 2 (n=148)		
	No.	%	No.	%	
Upper	26	14.68	6	4.05	$\chi^2=17.35$ df=2 p <0.001
Middle	142	80.22	120	81.08	
Lower	9	5.1	22	14.87	

\*Modified B G Prasad classification 2011

**Table 6: Family Size and use of contraceptives among the Respondents**

Contraceptive usage	Family size				p value
	=2 (n=177)		>2 (n=148)		
	No.	%	No.	%	
<b>Not using</b>	69	38.98	59	39.86	$\chi^2= 0.00231$ df=1(Users vs Non - Users) p = 0.962
<b>Using</b>	108	61.02	89	60.14	
<b>Temporary</b>	94	87.03	53	59.55	
<b>Permanent</b>	14	12.97	36	40.45	
Vasectomy	01	7.14	08	22.22	
Tubectomy	13	92.86	28	77.78	

**Discussion:**

The unrestrained population growth and its associated problems in our country in general need attention towards a number of contributory factors influencing high family size and fertility. Biological, cultural, and socioeconomic conditions together determine the number of children that a woman will have. Accordingly, this study has attempted to look into different

demographic and social determinant affecting the family size in a typical rural set up. About three –fourth of Indian population resides in the rural areas. The average household size in the rural areas of our country is 4.7<sup>4</sup>. The average family size in our study is 2.65 which is less than the national figure and almost equals to figure for the rural area of Uttarakhand<sup>2</sup>. Most of the women in our study were of age more than 25 years and only



about 11% were below the age of 25 years which much less as compared to the study conducted in the Nepal, a neighboring country in the adjoining border of this state<sup>5</sup>.

About two-third of the females were married for more than 10 years in the study area and all these factors indicate that the ideal age of marriage of females as per governments is being practiced in this area. The small family size is related to fertility and the decline in the fertility is due to the combined effect of substantial socio-economic development achieved during in the last few decades and the effective implementation of family planning programme.

The socio-economic developments and related family size are also related to types of family. In our country, majority of the population reside in rural areas and culture of joint family was predominant in these areas. But, in recent decades, globalization has tended to promote the nucleation of family units. Difficulties of child bearing and rearing due to formal sector employment, lack of government incentives, global cultural influences, and rural to urban migration have diminished the importance of the joint or extended family. This significant relation has been obvious seen in our study. It is well known that the fertility of a woman is negatively associated with her level of education. This study similar to many other studies also showed that illiterate women and their husband have almost three to four times the number of children ever born than do literate women. Education exposes women to information, empowers and makes them more aware of their own health and the health of their children-all of which are negatively associated with the number of children a woman will have during her reproductive life<sup>5-9</sup>.

In our country, more than two – third of total population resides in the rural areas. Agriculture is the main occupation for the families in the rural areas in India. More than half of husbands who were head of the families were employed in agriculture and as labourers as noticed in our study.

Women in the families of these areas were mostly housewife and unemployed. These conditions were favourable for large family size<sup>6</sup>. As per our study, wife's occupation had only a weak, non-significant influence on family size, but husband's occupation has significant and important influence on it. This is contrary to scenario of African countries<sup>10</sup>. The determinants of desired family size are also expected to be guided by

economic circumstances of the family and perceived costs and benefits related with children. Our analysis showed that the women from upper economic strata were likely to have fewer children than those who were from lower economic class. This result is the same as for other studies<sup>5,10,11</sup>. The reason could be that poor people may perceive children as a source of income, thus motivating them to have more children.

Contraceptive use is another substantial proximate factor affecting family size among countries. In the present study, ever use of contraceptives did not appear to have a significant effect on family size. It could be that women adopt contraception when they reach or exceed the target number of children they would like to have. The similar conditions were also observed in Rajasthan where the family size was over 5 irrespective of family planning trainings<sup>12</sup>. Since women's who live rural area and low education status directly or indirectly influence contraceptive use. Similar findings were documented in the studies conducted in developing countries of African region<sup>13,14</sup>.

### Conclusion:

The study is thus an attempt to highlight the variables that have an influence on family size in the rural areas. These socio-demographic factors are age at first marriage, perceived ideal number of children, literacy status, economic status, occupation of women and type of family. Our results appear to confirm the hypothesis that development in the rural areas regarding social, educational and economic conditions lead to positive attitudes in favour of fertility decline i.e; limiting of family size. Rural development then seems to bring about changes in the cultural environment of reproduction that may make it easier to adopt new norms, including those conveyed by family planning programmes.

### References:

1. Ronsmans C, Graham WJ. On behalf of The Lancet Maternal Survival Series Steering Group. Maternal mortality: Who, when, where, and why. *Lancet*. 2006; 368: 1189-1200.
2. International Institute of Population Sciences (IIPS) and Macro International. 2007. National Family Health Survey (NFHS-3), India, Mumbai: IIPS; 2005-2006.
3. International Institute of Population Sciences (IIPS). District Level Health Survey (DLHS-3), Reproductive & Child Health Project, India, Mumbai: IIPS; 2007-08, Available from: [www.rchiips.org](http://www.rchiips.org)

4. Government of India, Press Note dated 25 May, 2010, Available from: [http://mospi.gov.in/NSS\\_Press\\_note\\_531\\_25may10.pdf](http://mospi.gov.in/NSS_Press_note_531_25may10.pdf)
5. Adhikari R. Demographic, socio-economic, and cultural factors affecting fertility differentials in Nepal. *BMC Pregnancy and Childbirth* 2010, 10:19, Available from: <http://www.biomedcentral.com/1471-2393/10/19>.
6. Banerjee, B. Differential of fertility and women's employment. *Indian Journal of Occupational and Environmental Medicine* 2004; 8(2): 34-37.
7. Balakrishnan TR, Lapierre-Adamcyk E, Krotki KJ: *Family and childbearing in Canada: A demographic analysis*. Toronto: U of T Press. 1993.
8. Tawiah EO: Determinants of cumulative fertility in Ghana. *Demography*. 1984; 21(1): 1-8.
9. Caldwell J: Fertility decline in Africa: A new type of transition? *Population and Development Review*. 1992; 18(2): 211-242.
10. Adamchak DJ, Mbizvo MT. The impact of husband's and wife's education and occupation on family size in Zimbabwe. *J Biosoc Sci*. 1994; 26(4): 553-8.
11. Robinson W: The economic theory of fertility over three decades. *Population Studies*. 1997; 51: 63-74.
12. Sharma V, Sharma A. The status of women, fertility and family planning among tribals of South Rajasthan. *The Journal of Family Welfare* 1993; 39(4): 20-25.
13. Getu D, Alemayehu W. Differentials of fertility in North and South Gondar zones, northwest Ethiopia: A comparative cross-sectional study. *BMC Public Health*. 2008; 8: 397.
14. Samson G and Mulugeta B. Level and Differentials of Fertility in Awassa Town, Southern Ethiopia : *Afr J Reprod Health*. 2009; 13(1): 93-112.