Spatial, socio-economic and demographic variation of childlessness in India: A special reference to reproductive health and marital breakdown

Praween Agrawal[1], Sutapa Agrawal[2], Sayeed Unisa[3]*

ABSTRACT

Background/Objective India observe double burden of fertility – childlessness along with high fertility, which brings it close to a developed country. Childlessness has serious demographic, social and health implications. We explored spatial variation of childlessness women in India along with several socio-economic and demographic correlates. Further we examined maternal and reproductive health problems among childless women and linkages between marital breakdown (divorce) and childlessness, in comparison to fertile women.

Methods Cross-sectional data from 27,505 currently married women, aged 21-49 years, who were interviewed in 1998-99 National Family Health Survey (NFHS-2). These women had been filtered out from all India samples (90,303) based on criteria such as, age more than 20 years, currently not using any family planning methods, marital duration more than 3 years and staying with their husband. Multiple logistic regression analysis was used to estimate the prevalence odds ratios for childlessness, adjusting for various covariates.

Results Overall, 7% of currently married women in India were childless. Southern (10.9) and Western (10.7) region shows highest percentage of childless women while central region exhibits lowest (4.7%) percentage of childlessness. Andhra Pradesh state shows highest percent of childless women (13.3%) followed by Goa (11.8%). Women with high school complete and above education (OR:1.16;p=0.053), women belonging to other religion (OR:1.51;p=0.004), women belonging to other (general) caste (OR:1.20;p=0.007), women belonging to higher standard of living households (OR:1.30;p<0.0001), currently not working women (OR:1.42;p<0.0001), spousal age gap of 15 years and above (OR:1.55;p<0.0001) were more likely to be childless whereas women in rural area (OR:0.53;p<0.0001) and Muslims women (OR:0.53;p<0.0001) were almost half likely to be childless than their counterparts.

Maternal health problems, self reported reproductive health problems and violence against women also emerged significantly higher among childless women than fertile women. Autonomy, examined in terms of women's decision-making on what to cook and obtaining health care, we found childless women in both type of decision-making are behind the fertile women. The study also found that there is a more than five-fold gap in childlessness between divorced women (37.8%) and currently married women (7%).

Conclusion The study has clearly brought out various dimensions of childlessness at the national and state level. Our study indicates wide differences in the prevalence of childlessness among women by their place of residence, religion, caste/tribe status, educational attainment and standard of living. Along with population problems of high fertility in India, the issue of childlessness should also be considered in a more rational manner. More medical facilities especially infertility clinics are needed to address the problems. Going through the miserable situation of childless women in India regarding their poor health, lack of autonomy and social problems, attention is needed to mitigate the psychosocial trauma associated with childlessness.

Keywords: childlessness; women; spatial variation; NFHS-2; India

INTRODUCTION

Childlessness is defined, as woman having no live birth or no living children at the end of her reproductive life span[1]. This category, often used by demographers to indicate infertility, includes women who have never been pregnant, those who have suffered pregnancy losses, and those with no live births. Childlessness is a product of the complex interaction of biological, environmental and cultural factors, which needs to be understood at the local community level and for the planning reproductive health care services to address the problems[2].

Since childbearing is highly valued and childlessness can have devastating consequences for Indian women, infertility is often perceived to be a very serious problem[3]. Sociologists believe that childlessness is also a common cause of divorce. Most of the studies indicate that marital breakdown is clearly associated with childlessness[4-7]. In India, as in much of the rest of Asia, childless women are socially stigmatized and face grave personal and social consequences[8]. Childlessness of women may be influenced by factors such as cultural background, educational level, and labor force participation[9]. In the younger age groups a large percentage of women are childless, but the percentage drops rapidly and stabilizes at a lower level above age 35[10].

Childlessness is a neglected family planning ingredient in India. In other developing countries also, childlessness is a huge but badly recognized problem[11]. Infertility has been relatively neglected as both a health problem and a subject for social science research in South Asia, as in the developing world more generally. The problem of childlessness in India has been largely overlooked in favor of research and promotion of family planning[12]. Also, it is surprising to note that the issues related to the childlessness do not find any place in either recently declared National Population Policy, 2000 document or National Health Policy, 2002 of the Government of India[13-14]. As a matter of fact infertility research has been neglected both as a health problem and as a subject for social science research. The general thrust of both programmers and research has been on the correlates of high fertility and its regulation rather than understanding the context of infertility[15]. However, as modernization continues, childlessness becomes more and more voluntary and fertility begins to decline[16]. In India also the proportion of urban population is increasing at a considerable rate, which may lead to increasing childlessness in coming future. A recent analysis[17] shows that in India permanent childlessness in urban areas has increased more rapidly compared to the rural areas. Childlessness is also of particular concern because of the global extent of the problem and the social stigma attached to it. Further, very little is known about the characteristics of women who remain childless in India. Therefore, this paper is an attempt to study the spatial, socio-economic and demographic variation in childlessness in India with special

reference to reproductive health problems and marital breakdown.

METHODS AND MATERIALS

The present study is based on second National Family Health Survey (NFHS-2) all India data. NFHS-2 (1998-1999) provides information on fertility, mortality, family planning and important aspects of nutrition, health and healthcare for 90,303 ever-married women in the age group of 15-49 years, from 26 states of India, which covers 99% population of India. Details of sampling framework of NFHS-2 are provided in the basic report for all India[18]. The present study is based on the 27,505 currently married women, which had been filtered out from all India samples based on some characteristics such as, age more than 20 years, currently not using any family planning methods, marital duration more than 3 years and staying with their husband. Instead of including all women of all reproductive age group (15-49), only women between age 21-49 years has been considered for this study in order to avoid the consequences of physical immaturity of women for childbirth before age 20 years (i.e. shorter exposure to risk of pregnancy and most likely also in part to adolescent sub-fecundity) on one hand and menopause on the other. However, to find out the relationship between divorce and childlessness the sample includes 34,837 ever-married women of age 21-49 years instead of only 27,505 currently married women, irrespective of their husband staying with them.

Definition and measurement problems of childlessness

Studies of childlessness/ infertility are disadvantaged by the fact that different definitions are being employed in epidemiological and demographic research. Inability to conceive within two years of exposure to pregnancy is the epidemiological definition recommended by the World Health Organization[19-20] for childlessness. Clinical studies often use a one-year period of exposure. It is common in demographic studies to use a period of five years[21]. In our study we demarcated childless women as those who are currently married for more than 3 years, age more than 20 years, currently not pregnant, never used family planning methods, staying with their husband, and have no living children.

Covariates

Covariates considered for this study were: age, residence, education, religion, caste/tribe status, employment status, standard of living (calculated by the household goods and is the proxy variable for representing the economic condition of a household)[18] and age gap between husband and wife. Maternal health problems studied were: ever had an spontaneous abortion and ever had a terminated pregnancy, and self reported reproductive health problems considered such as: itching, bad odor, abdominal pain, fever and other problems, pain or burning sensation during urination, painful intercourse and blood after sex. Women's autonomy has been seen regarding their decision-making on what to cook and obtaining health care. Violence against childless women has been seen in terms of percentage beaten or physically mistreated by husband, mother-in-law, father-in-law and sister-in-law. Only those women have been taken into account that had been beaten or physically mistreated since last 15 years. For some definition of the variables see Table 2.

Statistical Analysis

Both bi-variate and multivariate technique have been used for data analysis. We first examined regional differentials in the prevalence of childlessness in India and then estimated the prevalence and its associations with socioeconomic and demographic variables. Population level covariates were selected on the basis of previous knowledge on their association with childlessness. We used multiple logistic regressions to estimate the prevalence odds ratios for each of these covariates, adjusted for the others. As certain states and certain categories of respondents were oversampled, in all analyses sample weights were used to restore the representativeness of the sample[18].

Results are presented as adjusted odds ratios with significance levels. Before carrying out the multivariate model, we assessed the possibility of multicollinearity between the covariates. In the correlation matrix of covariates, all pair wise Pearson correlation coefficients were <0.5, suggesting that multicollinearity is not a problem. All analyses including the logistic regression
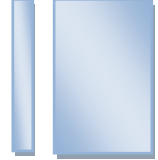
models were conducted using the SPSS statistical software package Version 19.

The survey got ethical clearance from International Institute for Population Science's Ethical Review Board. The analysis presented in this study is based on secondary analysis of existing survey data with all identifying information removed. The survey personnel obtained informed consent from each respondent before asking questions.

RESULTS

Spatial Variation of Childless Women in India

Table 1 and Figure1 explain the childlessness among currently married women in India by states. Overall 7% of women are childless in India. Region wise, Southern (10.9) and Western (10.7) region shows highest percentage of childless women followed by Eastern region (6.5). However, central region exhibits lowest (4.7) percentage of childlessness. In addition to this, rest of the regions Northern and Northeastern show childlessness below the national level average.

All the southern states show high prevalence of childlessness, which are quite above the national average. State wise Andhra Pradesh shows highest percent of childless women (13.3%) in India followed by Goa (11.8%). Kerala, Maharashtra and Tamil Nadu have 11.6, 11.4, and 9.5% childless women respectively. On the other hand, the northeastern states like Meghalaya, Arunachal Pradesh, Manipur, Nagaland, Assam and Tripura have low percentage of childless women 2.3, 2.7, 3.1, 3.4, 5.8, and 6.1% respectively. All these states have low percent of childless women lower than the national average. The northeastern states show high percent of childlessness than national level except Bihar where 5.0% women are childless. However, West Bengal and Orissa shows 9.5% and 8.7% childless women respectively, which is closer to the southern states. Northern states show a mixed pattern of childlessness. Jammu and Kashmir shows the low percentage of childless women (4.1%) whereas Himachal Pradesh shows high percentage of childless women (10.3%) above the national average followed by Punjab (7.8%). Other northern states like Delhi, Haryana and Rajasthan shows 7.1, 5.9, and 4.9% childlessness among women respectively, which are below the national average.

Among the central states, Uttar Pradesh shows low percentage (3.8) of childless women whereas Madhya Pradesh shows higher percentage (7.1) of childless women than the national average.

Socio-economic and demographic differentials in childlessness

Table 2 shows the socio-economic and demographic differential in childlessness among women in India. More than 8% women of age 21–24 are childless compared to 5% women of 45–49 years age. Urban women are more childless compared to rural women i.e. 9.8% and 6.3% respectively. 6% illiterate women are childless while 7.5% literate but middle school incomplete women are childless. Childlessness increases further to 9 and 10% for women with middle school complete and high school & above, respectively. Muslims women are least childless (4.2%) whereas other religion's women are most childless (11.8%). 8% of working women are childless compared to 6.4% not working women. About 10% of women belonging to high standard of living households are childless followed by 7% of women belonging to medium standard of living. However, 6.3% of women belonging to low standard of living are childless. About 6% women are childless whose age gap is less than one year whereas childlessness increases to 9% where the age gap was more than 15 years between husband and wife. 7% women were childless where gap were between 1-15 years.

Table 2 also shows the adjusted effect of different socio-economic and demographic characteristics on childlessness through logistic regression. Women of age group 45-49 years are almost half (OR:0.53;p<0.0001) less likely of being childless than women of age group 21-25 years. The likelihood of childlessness in rural area is 0.53 times less than in urban area. Muslims women are almost half likely to be childless than Hindu women and result is statistically significant (p<0.0001). Women with high school complete and above education are 1.2 times more (OR:1.16;p=0.053) likely to be childless than illiterate
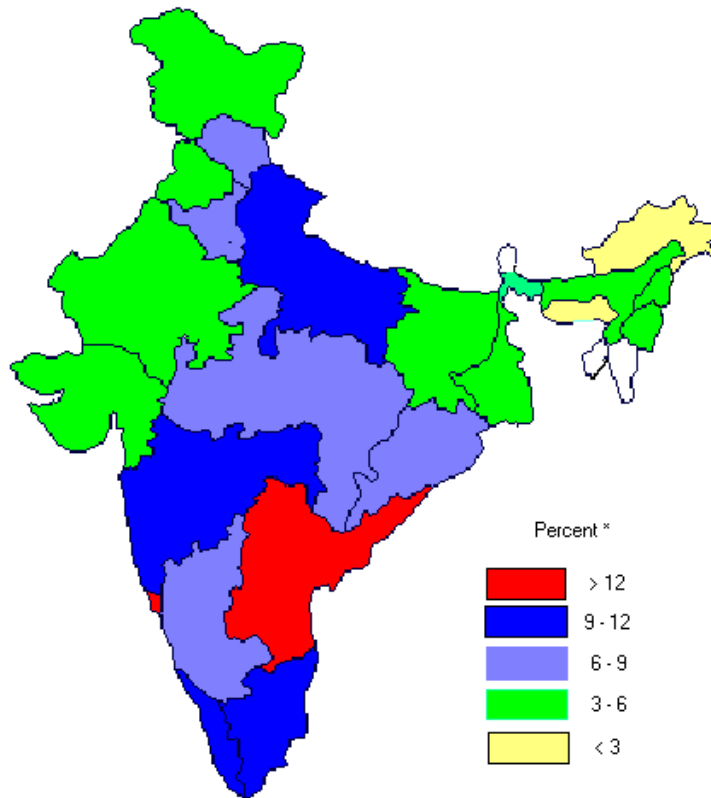
Figure 1: Distribution of Childless women in India 1998-99

abortion among fertile women. About 21% childless women were having itching problem compared to 17% of fertile women. Bad odor and abdominal pain was found higher i.e. 14% and 24% respectively among childless women than among fertile women. Fever and other problems were also found higher among childless women. Pain or burning sensation during urination was also found higher among childless women (24%) compared to fertile women (19%). Painful intercourse was found one and half times more among childless women (18%) than fertile (11%) women. In addition to this, blood visible after sex was experienced by almost double percentage of childless women (4%) than fertile women (2%).

women. Women belonging to other religion are 1.5 times more (OR:1.51;p=0.004) likely to be childless than Hindu women. Women belonging to other (general) caste are 1.2 times more (OR:1.20;p=0.007) likely to be childless than scheduled caste women. Women belonging to higher standard of living households are 1.3 times more likely to be childless than low standard of living women and result is statistically significant (p<0.0001). Women, who are currently not working are 1.4 times (OR:1.42;p<0.0001) more likely to be childless than women who are currently working. Women with age gap between husband and wife of 15 years and above were 1.6 times more (OR:1.55;p<0.0001) likely to be childless than women with age gap less than one year.

Reproductive health problems among childless women

Table 3 shows reproductive health problems among childless in comparison to fertile women. Spontaneous abortion was reported among 1.7% of childless women whereas there was not any single case of spontaneous

Autonomy and experience of violence among childless women

Table 4 presents the autonomy and experience of any type of violence among childless women in comparison to fertile women. Childless women in both type of decision-making are lagging behind the fertile women. 70% of childless women can decide themselves what to cook compared to 75% of fertile women. In addition to this, 11% other persons of childless women's household decides what to cook compared to 8% in case of fertile women. In case of decision about obtaining health care, 22% childless women can obtain health services for themselves compared to 25% fertile women. Relatively less percentage of childless women (88%) reported of being beaten by their husband compared to fertile women (93%). But, almost double percentage (8.4%) of childless women had been beaten or physically mistreated by mother-in-law than fertile women (4.4%).

Marital breakdown (divorce) and childlessness

Table 5 presents the prevalence of childlessness among divorced women by selected socio-economic and demographic condition. Overall, in India 37.8% of divorced women were childless. More than half the divorced women aged 21–24 years were childless compared to 22% of divorced women aged 45–49 years. In the age group of 30-44 years, about 40% divorced women were childless. Urban divorced women were less (30%) childless compared to rural divorced women (41%). 29% of Muslim divorced women were found childless compared to 41% Hindu divorced women. Divorced women who were working were found more childless than not working women i.e. 41% and 33% respectively.

Table 1 Region and statewise prevalence of childlessness among currently married women aged 21- 49 years, India, 1998-99

Regions/States in India	% of Childless Women	Total Number of Women
Northern Region	**5.6**	**3052**
Delhi	7.1	266
Haryana	5.9	373
Himachal Pradesh	10.3	68
Jammu & Kashmir	4.1	243
Punjab	7.8	345
Rajasthan	4.9	1758
Central Region	**4.7**	**8654**
Madhya Pradesh	7.1	2372
Uttar Pradesh	3.8	6283
Eastern Region	**6.5**	**6826**
Bihar	5.0	4350
Orissa	8.7	1082
West Bengal	9.5	1439
Northeastern region	**5.1**	**1133**
Arunachal Pradesh	2.7	37
Assam	5.8	781
Manipur	3.1	65
Meghalaya	2.3	86
Mizoram	*	14
Nagaland	3.4	58
Sikkim	*	10
Tripura	6.1	82
Western Region	**10.7**	**2909**
Goa	11.8	34
Gujarat	9.5	1058
Maharashtra	11.4	1818
Southern Region	**10.9**	**4929**
Andhra Pradesh	13.3	1727
Karnataka	9.0	1056
Kerala	11.6	481
Tamil Nadu	9.5	1665
All India	**7.0**	**27505**

Note: Some missing cases has not been shown in the table
* Percentage not shown based on fewer than 25 cases

Table 2 Prevalence of childlessness among currently married women aged 21- 49 years by selected socio-economic and demographic characteristics and adjusted odds ratio (OR) of childlessness, India, 1998-99

Background characteristics	% Childless Women	Adjusted OR#	Total Number of Women
Age in years			
21–24 [R]	8.4	1.000[ref]	5561
25–29	7.4	0.858**	7288
30–34	7.4	0.848**	5886
35–39	6.4	0.717***	3695
40–44	5.7	0.617***	3186
45–49	5.1	0.527***	2890
Residence			
Urban [R]	9.8	1.000[ref]	5846
Rural	6.3	0.525***	21659
Types of place of residence			
Capital/Large city [R]	11.6	1.000[ref]	1383
Small city/Town	18.5	0.861	4461
Country side	6.3	0.782**	21659
Education[a]			
Illiterate [R]	6.3	1.000[ref]	19224
Literate, < middle school complete	7.5	1.110	4164
Middle school complete	8.7	1.111	1587
High school complete and above	10.3	1.163*	2522
Religion			
Hindu [R]	7.4	1.000[ref]	22007
Muslims	4.2	0.530***	4230
Christian	8.4	1.048	642
Sikh	6.5	0.798	278
Others[b]	11.8	1.514**	347
Caste/tribes[c]			
Scheduled caste [R]	6.5	1.000[ref]	5421
Scheduled tribe	7.6	1.152	2970
Other backward class	7.0	1.129*	9118
Other	7.2	1.198**	9632
Currently working			
Yes [R]	8.0	1.000[ref]	10011
No	6.4	1.420***	17489
Standard of living index[d]			
Low [R]	6.3	1.000[ref]	10889
Medium	6.8	1.054	12366
High	9.5	1.297***	3952
Age gap between husband and wife			
Less than 1 Year [R]	5.9	1.000[ref]	1487
1-5 Years	7.0	1.126	13285
6-15 Years	6.9	1.131	11411
15+ Years	8.8	1.554***	1279
Total[e]	7.0		27505

Note: Some missing cases has not been shown in the table
[R] Reference Category;   *** p<0 .001, ** p< 0.05, * p< 0.10

Adjusted for all other variables in the table
[a]Education: illiterate (0 years of education), literate but less than middle school complete (1–5 years of education), middle school complete (6–8 years of education, high school complete or more (9+ years of education).
[b]Buddhist, Jain, Jewish, Zorastrian.
[c]Scheduled Castes and Scheduled Tribes (STs) are Indian population groupings that are explicitly recognized by the Constitution of India, previously called the 'depressed classes' by the British, which together comprised over 24% of India's population, with SC at over 16% and ST over 8% as per the 2001 Census. Scheduled castes and scheduled tribes are identified by the Government of India as socially and economically backward and needing protection from social injustice and exploitation. Other backward class is a diverse collection of intermediate castes that were considered low in the traditional caste hierarchy but are clearly above scheduled castes. Others are thus a default residual group that enjoys higher status in the caste hierarchy.
[d]Standard of living was defined in terms of household assets and material possessions and these have been shown to be reliable and valid measures of household material well-being (IIPS and ORC Macro 2000). It is an index which is based on ownership of a number of different consumer durables

and other household items and is calculated by adding the following scores: house type: toilet facility: 4 for own flush toilet, 2 for public or shared flush toilet or own pit toilet, 1 for shared or public pit toilet, 0 for no facility; source of lighting: 2 for electricity, 1 for kerosene, gas or oil, 0 for other source of lighting; source of drinking water: 2 for pipe, hand pump, or well in residence/yard/plot, 1 for public tap, hand pump, or well, 0 for other water source; ownership of agricultural land: 4 for 5 acres or more, 3 for 2.0-4.9 acres, 2 for less than 2 acres or acreage not known, 0 for no agricultural land; ownership of irrigated land: 2 if household owns at least some irrigated land, 0 for no irrigated land; ownership of livestock: 2 if own livestock, 0 if not own livestock; durable goods ownership: 4 for a car or tractor, 3 each for a moped/scooter/motorcycle, telephone, refrigerator, or color television, 2 each for a bicycle, electric fan, radio/transistor, sewing machine, black and white television, water pump, bullock cart, or thresher, 1 each for a mattress, pressure cooker, chair, cot/bed, table, or clock/watch. Index scores range from 0-14 for low SLI to 15-24 for medium SLI to 25-67 for high SLI.
[e]Number of women varies slightly for individual variables depending on the number of missing values.

Table 3 Maternal and reproductive health problems among currently married childless and fertile women aged 21-49 years, India, 1998-99

Problems*	% Childless women	% Fertile women	% Total
Maternal health problems			
Ever had a spontaneous abortion	1.7 (32)	0.0 (0)	0.1 (31)
Ever had a terminated pregnancy	23.0 (438)	23.5 (6012)	23.5 (6381)
Reproductive health problems*			
Itching	20.7 (399)	17.3 (4425)	17.5 (4760)
Bad odor	14.0 (270)	11.9 (3032)	12.0 (3257)
Abdominal pain	24.0 (464)	18.2 (4652)	18.6 (5046)
Fever	10.0 (194)	8.2 (2085)	8.3 (2249)
Other problems	9.9 (191)	7.9 (2031)	8.1 (2195)
Pain or burning during urination	23.6 (457)	18.7 (4764)	19.0 (5154)
Painful intercourse	17.7 (347)	11.4 (2903)	11.8 (3202)
Blood visible after sex	3.9 (76)	2.0 (512)	2.1 (578)
Total	**1926**	**25579**	**27505**

Note: Figures in the parentheses show number of cases
*problems reported for the three months preceding then survey

Table 4 Autonomy and violence among childless women and fertile women in India, 1998-99

Autonomy and violence	% Childless women	% Fertile women
AUTONOMY		
Who decides what to cook		
Respondent	69.5	74.5
Husband	3.8	5.0
Jointly with husband	6.0	4.8
Others in household	10.9	8.3
Jointly with others in household	9.8	7.4
Who decides on obtaining health care		
Respondent	22.2	24.6
Husband	44.7	46.2
Jointly with husband	19.8	17.4
Others in household	7.3	6.9
Jointly with others in household	6.1	4.9
VIOLENCE*		
By Husband	87.6	92.5
By Mother in law	8.3	4.4
By Father in law	1.3	1.4
By Sister in law	1.5	1.3

Includes only those women who had been beaten or physically mistreated since age 15

Table 5 Prevalence of childlessness among divorced women age 21-49 years in India by selected socio-economic and demographic characteristics, 1998-99

Background	% Childless	Total number of divorced women
Age in years		
21–24	53.1	32
25–29	31.7	60
30–34	39.2	74
35–39	40.0	75
40–44	38.7	31
45–49	22.2	27
Residence		
Urban	30.0	90
Rural	41.1	209
Types of place of residence		
Capital/Large city	36.8	19
Small city/Town	29.0	70
Country side	41.1	209
Education		
Illiterate	36.6	164
Literate, < middle school complete	42.3	71
Middle school complete	*	16
High school complete and above	31.3	48
Religion		
Hindu	40.8	196
Muslims	29.2	72
Christian	*	21
Sikh	*	0
Others	*	10
Caste/tribes		
Scheduled caste	39.3	56
Scheduled tribe	36.1	36
Other backward class	39.6	96
Other	34.6	107
Currently Working		
Yes	40.5	104
No	32.7	195
Standard of living index		
Low	36.7	139
Medium	39.7	116
High	34.7	43
Regions		
Northern	*	14
Central	19.4	31
Eastern	42.3	52
North Eastern	*	15
Western	54.3	70
Southern	34.2	117
Total	**37.8**	**299**

DISCUSSION

Abstracting childlessness from a data based having no direct question about infertility and childlessness is quite complex. However, in this study we defined these two terms synonymously as has been done in some of the literature. We explored spatial variation of childlessness women in India along with several socio-economic, demographic correlates. We also examined maternal and reproductive health problems among childless women and the linkages between marital breakdown (divorce) and childlessness, both in comparison to fertile women by using NFHS-2 (1998-99) data.

Our study has clearly brought out various dimensions of childlessness at the national and state level. As seen in the analysis, in comparison to other countries the level of childlessness in India seems to be moderate. Spatial variation in childlessness in India shows that a 7% of currently married women in India are childless. The Census of India[22] also shows that there are 6% women who remained childless in 2001[23]. The Southern and Western regions show highest percentage of childless women compared to the northern states, which is revealed in other national studies[23]. The state of Andhra Pradesh shows the highest percentage of childless women in India followed by Goa.

In addition to the differences by state, our study also indicates wide differences in the prevalence of childlessness among women by their place of residence, religion, caste/tribe status, educational attainment and standard of living of the household. A number of studies have shown varying levels of childlessness among different socioeconomic sub-groups of women[23]. Urban areas have more percentage of childless women than rural areas. This may be due to lifestyle or a later age at first marriage in urban areas[24]. Age is negatively associated with childlessness whereas education of the women shows significant association with childlessness. In India as a whole, there are 5% of women who remain childless at the end of their reproductive period (age group 45-49 years).

In this study we found, the percentage of childlessness is least among women who are illiterate and highest among those who are more educated. This can be related to the fact that with aspirations for attaining higher educational level, marriage is delayed as a result of which childlessness rate is high among this sub group of population[24]. Scientists focusing on cultural issues often interpret fertility differentials among women at different educational levels as a consequence of the greater range of possible lifestyles and other choices increasingly available to women with greater educational attainment[25-29]. It is also argued that women lower their preferences for children as they proceed with their education[30] and thus a higher rate of childlessness among more educated women, which in part can be attributed to

their longer stay in education. Empirical studies[31-34] have found that prolonged education may therefore lead to a postponement of childbearing to a later age, when biological factors may make it more difficult to conceive. Also the desire for having children is likely to decline when women have greater range of options[35].

We found a wide variation in childlessness according to religious affiliation in India. On the whole, women belonging to other religious background, Christian and Hindu women, and the Scheduled Tribe women have exhibited relatively higher levels of childlessness as compared to their respective counterparts. Women who are working are more childless than women who are not working. The higher the standard of living, the higher the childlessness observed in India. The age gap between husband and wife also shows positive association with childlessness. There may likely be problem in conception because of higher age gap.

In this study we have addressed an important issue of consequences of childlessness in terms of women's autonomy and marital breakdown. Low autonomy and marital separation among childless women may be perceived as a consequence of childlessness[6,36]. We found several health problems including reproductive and maternal health are associated with childlessness. Reproductive health problems such as itching, bad odour, abdominal pain, fever and other problems, pain or burning sensation during urination, painful intercourse and blood visible after sex emerged significantly high among childless women than fertile women. All the problems associated with menstruation were also higher among childless women than among fertile women. Maternal health problems were found more among childless women than among fertile women.

We found significant differential in childlessness among divorced women by age, residence, education, religion, and working condition. Also childless women's autonomy is restricted in comparison to the fertile women. However from our study we cannot draw a strong conclusion that childlessness is the main factor for divorce because the reason and timing of divorce (year of divorce after marriage) are not available with the data. However, the analysis clearly shows that there is more than five-fold gap in

childlessness between divorced women and currently married women in India.

The study has both strengths and limitations. The population-based approach makes its results generalizable to the childless women living in the country. Although rigorous methods were employed to maintain the data quality of NFHS, some limitations are inherent to a cross-sectional survey of this type, which involves reporting of past behaviors and inhibit us to infer causality. Moreover, NFHS data was not based on direct question on either infertility or childlessness and this poses a major drawback in explaining childlessness in proper context[24].

CONCLUSION

Our study clearly brings out various dimensions of childlessness in India, at the national and individual level. This study highlights the need for greater attention from all stakeholders, policy makers, programmers and researchers to takes up the issues related with childlessness into various programs and research activities. Along with population problems of high fertility in the developing country like India, childlessness caused by infertility should be considered in a more rational manner. More medical facilities especially infertility clinics are needed to address the problems. Yet, women suffering from individual disappointment and social stigma of childlessness cannot be ignored. Going through the miserable situation of childless women in India regarding their poor health, lack of autonomy and social problems, attention is needed to mitigate the psychosocial trauma associated with childlessness. Family planning clinics may also be also selected to offer basic evaluation of childlessness and its counseling and treatment.

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