Effect of Age at Marriage and Duration of Cohabitation on Unwanted Fertility in North-East India

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Abstract

In this paper we estimate the proportion of unwanted births in eight north-eastern states of India based on the data on ideal number of children, children ever-born and wantedness of the last child from NFHS-4. We also analyse how the age at marriage influences the proportion of unwanted births. Our analysis suggests that using the data on ideal number of children and children ever born, about 16 per cent of all births reported during NFHS-4 were unwanted but using data on the wantedness of the last birth, about 4 per cent of the most recent births were unwanted. Our analysis also shows that women who married after reaching 18 years of age had higher probability of reporting wanted births compared to women who married before 18 years of age. Duration of cohabitation has also been found to play an important significant role in deciding unwanted fertility.

Introduction

Unwanted births constitute a substantial proportion of all births in the developing countries. Reducing the number of unwanted births has important social, health and demographic consequences. At the individual level, preventing unwanted births enhances the well-being of women and their children. At the societal level, reducing the number of unwanted births leads to reduction in fertility rates. Measuring the level of unwanted fertility accurately and identifying factors associated with variations in unwanted fertility can, therefore, provide valuable information to policy makers. Research on unwanted fertility also improves our understanding of the process of transition from high to low fertility. The risk of having unwanted births or unintended fertility may be influenced by the lack of access to contraceptive methods, illegal sexual behaviour, religious beliefs, lack of knowledge about contraceptive methods. The risk of unwanted birth may also be influenced by the age at marriage and the duration of cohabitation.

Fertility intentions can be classified as wanted and unwanted. Births are classified as wanted if they were wanted at any time the time of delivery or earlier. Any live birth or current pregnancy that is reported as unwanted at the time of pregnancy is considered as unwanted whereas, a birth which is reported wanted later is considered as mistimed. Most countries witness a significant proportion of unwanted births or unintended fertility due to various reasons. Unwanted fertility is the consequence of unintended pregnancies. It is estimated based on the data from the fourth round of the National Family Health Survey (NFHS) 2015-16 that nearly one fourth of the pregnancies in India were unintended (Dutta et al, 2015). It has also been observed that the proportion of unwanted pregnancies has increased from NFHS 1998-88 to NFHS 2005-06. It has also been found that the likelihood of mistimed a pregnancy is more among young women whereas unwanted pregnancy is more among older women.

The risk of unintended pregnancy can be influenced by various characteristics of the women. In a study in Shanghai, China, has found that the level of education and employment of the woman were not related to the risk of unintended pregnancy (Shahbazin and Gholamy, 2015; Chen and Cleland, 2004). However, another study has found that level of education and employment status of the women is highly significantly related to the risk of unintended pregnancy (Dutta et al, 2015). Chen and Cleland (2004) have found that unintended pregnancies were common among married couples in Shanghai because of low contraceptive use and young women are more likely to have an unintended pregnancy after the first birth.

Unwanted births can occur among women of different social, demographic, and economic characteristics (Bankole et al, 2006). Unwanted births are found to be associated with the delay in prenatal care, no breast feeding of the new-born, poor health during childhood and poor relationship between the mother and the child which consequently affect the health of both (Mosher et al, 2012). Unwanted births raise the level of fertility. However, mistimed births have been found to have minimal effect on the level of fertility.

There are many studies in India that have analysed unwanted fertility and the causal effects of a range of social, economic, and demographic variables on unwanted fertility (Kulkarni and Choe, 1998; Singh et al, 2018; Sebastian et al, 2014)). There is, however, virtually no study, to the best of our knowledge, which has analysed the level of unwanted fertility in the north-eastern region of the country and explored the factors that are associated with the prevailing levels of unwanted fertility in the states of this region. The north-eastern region of India comprises of eight states – Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura, and Sikkim. The total population of these eight states was 45.8 million at the 2011 population census which constituted around 3.8 per cent population of the country. The social, economic, cultural, and demographic context of the north-east region is very different from the rest of the country which has implications for fertility intentions and fertility levels. The latest National Family Health Survey 2019-21 suggests that fertility varies

widely across the eight states of the region ranging from only 1.3 births per woman of reproductive age in Sikkim to 3.3 births per woman of reproductive age in Meghalaya (Government of India, 2021).

This paper has two objectives. The first objective is to estimate the level of unwanted fertility in the north-east region of the country and in the eight constituent states of the region using the data available from the fourth round of the National Family Health Survey 2015-16. Data from the latest National Family Health Survey 2019-20 are not yet available to carry out similar analysis. The second objective of the paper is to examine whether the age at marriage of the woman and the duration of cohabitation has any effect on the level of unwanted fertility. The paper is expected to enhance the understanding of fertility dynamics in the north-east region of the country.

Data and Methodology

The paper is based on the data available through the fourth round of the National Family Health Survey (NFHS-4) that was launched by the Government of India, Ministry of Health and Family Welfare and conducted by the International Institute for Population Sciences, Mumbai during 2015-2016 (Government of India, 2017). The NFHS-4 covered all states of the country and surveyed 699,686 women aged 15-49 years. In the eight states constituting the north-east region of the country, the survey covered 98702 households and interviewed 71286 currently married women aged 15-49 years. The eight states that constitute the north-east region of the country are: Sikkim, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura, Meghalaya, and Assam.

Estimating the prevalence of unwanted fertility is a challenging task as it has been observed that there is a tendency to rationalise births unwanted before the delivery as wanted births after the delivery (Casterline and El-Zeini, 2007). Respondents may feel that declaring a birth as unwanted is a violation of social norms. This paper employs two methods to estimate the proportion of unwanted births. The first method is based on the direct question related to the wantedness of the last birth at the time of the survey. In NFHS-4, women were asked "At the time you become pregnant, did you want to become pregnant then; did you want to wait until later; or did you not want (more) children at all." The answer options to the question were "Then," "Later" and "Not at all." If the respondent's answer was "Then" the birth was classified as wanted, while all other births were classified as unwanted. Based on this question, all births during the three years prior to the survey were classified as either wanted or unwanted. The limitation of this approach, however, is that the response of women may be biased as they sometimes rationalise an unwanted birth prior to conception as wanted birth after delivery. It has been observed that during the retrospective inquiry, women may be reluctant to classify a child, who is already born, as the unwanted child (Bongaarts, 1990).

The second method is based on the total number of children ever born and the ideal number of children desired. This method was developed by Lightbourne (1985) and is based on the opinion of the respondent about the ideal number of children that they wanted, and the actual number of children ever born. In NFHS-4, women were asked "If you could go back to the time when you did not have any child and could choose exactly the number of children to have in your whole life, how many would that be". If the ideal number of children reported by the respondent is greater than or equal to the children ever born at time of interview, then the respondent is classified as having no unwanted birth. If the ideal number of children is less than the number of children ever born, then the difference between the children ever born and the ideal number of children wanted is taken as the number of unwanted births and the respondent is classified as having unwanted birth(s). The limitation of this approach is that it is not possible to classify a particular birth as wanted or unwanted. The advantage is that this method considers all children ever born to the respondent.

For analysing the correlates of women having unwanted births, we have classified women as having only wanted births and women having both wanted and unwanted births. Women having only wanted births are coded as 1 while women having unwanted births also are coded as 0. On the other hand, the independent variables included in the analysis are current age and education of the woman, her age at the time of the marriage, duration of cohabitation, knowledge of contraceptive methods, use of contraceptive methods, intention and unmet need of contraceptive, number of living children and fertility intentions. The age at the time of the marriage is categorised into three categories: early age at marriage (<18 years); average age at marriage (between 18 and 25 years); and late age at marriage (≥25 years). The duration of cohabitation is also categorised into three categories: less than 5 years; 5-15 years; and at least 15 years. The knowledge of the woman about different contraceptive methods was categories into two categories: knows any method; and knows no method. Unmet need is divided into four categories. The unmet need is categorised as "Yes" for those women who were fecund and sexually active at the time of the survey and were not using any contraceptive method but reported that they did not want any child. The unmet need is categorised as "No" for those women who were using a contraceptive method to regulate their fertility. The unmet need is categorised as "Failure" for those women who had delivered a child despite using a contraceptive method. Finally, the unmet need is categorised as "Others" for those women who reported no unmet need or who were not married or who were either infecund or menopaused. The current age of the woman is categorised into three categories: 15-25 years; 25-35 years; and 35 years and above. Fertility intention is categorised into three categories: wanted child; undecided; and not wanted child. Finally, education of the woman is categorised into four categories: no education; primary level education; secondary level education; and higher education.

The analytical strategy involves three steps. The first step is to estimate the proportion of unwanted births. At the second stage of the analysis, bivariate analysis is carried out to analyse the variation in women having unwanted births by

independent variables included in the analysis. Finally, logistic regression analysis is carried out to analyse the association of the women having only wanted births with the independent variables including the use of contraceptive methods, duration of cohabitation, and unmet need of family planning by calculating the odds ratios.

Results

Table1 presents estimates of the proportion of unwanted births based on two methods in the north-east region of India and its eight constituent states. It may be seen from the table that the proportion of unwanted births obtained from method 1 (retrospective method) are substantially lower than the proportion of unwanted births based on method 2 (difference between total living children and ideal number of children). Based on method 1, about 4 per cent of the recent births in the region are unwanted in the region whereas using the method 2, the proportion of unwanted births is estimated to be almost 16 per cent. Within the region, Sikkim has the highest proportion of unwanted births based on method 2 but Arunachal Pradesh has the highest proportion of unwanted births based on method 1. On the other hand, the proportion of unwanted births based on method 2 is the lowest in Mizoram whereas the proportion of unwanted births based on method 1 is the lowest in Sikkim. The two methods of estimating the proportion of unwanted births give two different perspectives of unwanted fertility. The method 1 gives the immediate perspective of unwanted fertility whereas the method 2 provides the long term or the life-time perspective of unwanted fertility.

Table 1: Ever-married women and estimates of unwanted fertility from two methods in north-eastern India

Region/State	Women interviewed for wantedness of the last birth	Proportion of last birth unwanted (Per cent)	Women interviewed for CEB and ideal number of children	Total number of children ever born	Proportion of unwanted children (Per cent)
North-east	28671	4.4	63832	175165	15.6
Arunachal Pradesh	3842	9.4	9266	25635	19.7
Assam	8529	5.0	19843	51711	22.3
Manipur	4427	3.0	8493	22941	11.2
Meghalaya	3104	3.0	5400	17242	9.2
Mizoram	3591	2.4	7590	22125	3.5
Nagaland	3110	4.7	6485	21299	13.3
Sikkim	899	1.4	3179	6838	29.0
Tripura	1169	1.5	3576	7374	13.5

Source: Authors

Table 2: Variation in the proportion of unwanted births estimated from method 2 (difference between children ever born and ideal number of children) by selected characteristics of the respondents.

Characteristics of the respondents	Proportion of births (Per cent)		N
	Wanted	Unwanted	
Age at marriage			
<18 years	68.7	31.3	24693
18-25 years	81.3	18.7	28539
25 years and above	88.9	11.1	8049
Duration of cohabitation			
Less than 5 years	96.1	3.9	11089
5-15 years	82.1	17.9	27136
15 years and more	62.6	37.4	23056
Current age			
15-25 years	93.3	6.7	10588
25-35 years	80.8	19.2	24343
35-50 years	67.7	32.3	26350
Number of living children			
0-2	92.9	7.1	34467
3-4	64.4	35.6	20363
5 and more	34.6	65.4	6451
Fertility preference			
Want another child	96.3	3.7	13360
Undecided	85.4	14.6	7831
Do not want another child	69.4	30.6	40090
Knowledge of contraceptive methods			
Knows any method	77.3	22.7	61278
Knows no method	100.0	0.0	3
Unmet need			
Yes	77.8	22.2	11426
No	76.1	23.9	24708
Failure	68.5	31.5	73
Others	78.2	21.8	25074
Education			
No education	61.9	38.1	14339
Primary	72.7	27.3	11005
Secondary	84.1	15.9	32286
Higher	91.8	8.2	3651

Source: Authors' calculations

Table 2 shows the variation in the proportion of unwanted births estimated based on method 2 by different characteristics of the respondents. The proportion of unwanted births decreases with the increase in the age at the time of the marriage of

the respondent. The proportion of unwanted births is the lowest in women who were married at an age of 25 years or more. By contrast, the proportion of unwanted births increases with the increase in the current age and the duration of cohabitation of the woman. Similarly, the proportion of unwanted births is very high in woman having at least five children and in women who did not want any more children. The proportion of unwanted births has been found to be the highest in women with contraceptive failure. On the other hand, the proportion of unwanted births is found to be the highest in women with no education but the lowest in women with higher education. Finally, the proportion of unwanted births is estimated to be zero in women who had no knowledge any contraceptive method.

Results of the logistic regression analysis are presented in table 3. The dependent variable in the regression analysis the woman of reproductive age who is coded as 1 if she does not have any unwanted birth according to method 2 and 0 if she has at least one unwanted birth based on method 2. The table shows that relative to Arunachal Pradesh, the odds of a woman with only wanted birth is more than seven times in Mizoram and more than four times in Meghalaya but only around 28 per cent in Sikkim and less than 50 per cent in Assam. On the other hand, odds of woman with only wanted births is 44 per cent higher in women who are married after reaching 25 years of age as compared to women who are married before 18 years of age. Similarly, the odds of women with only wanted births is lower in women having a duration of cohabitation of at least five years as compared to women having a duration of cohabitation of less than five years. The odds of women with only wanted births is also found to be lower in women aged at least 25 years compared to compared to women 15-25 years and in women having at least three children compared to women having less than two children. The odds of a wanted birth is found to be directly associated with the fertility intentions of women. The odds of a wanted birth is the lowest in women who did not want any more children as compared to women who wanted a child. The odds of women with only wanted births is also found to be 38 per cent higher in women who did not have any unmet need for family planning compared to women who have any unmet need for family planning. The odds of women with only wanted births has also been found to increase with the increase in the level of education of the woman. Women having higher level of education have been found to be 33 per cent more likely to have only wanted births compared to women have no education. Finally, the odds of women having only wanted births is found to be higher in women who wanted another child immediately as compared to women who were uncertain about to have or not to have another child or women who did not want to have another child at all. It is clear from table 3 that the characteristics of women, especially, their age at the time of the marriage and the total period of cohabitation since marriage have strong influence on whether a woman is having only wanted births or is having both wanted and unwanted births during her reproductive life. It appears that a higher proportion of women below 25 years of age have total number of children ever born which are less than the ideal number of children desired. This is not the case with women at least 25 years of age.

Table 3: Results of the logistic regression analysis of women with only wanted births (method 2) in the north-east region of India.

Independent variables	Regression coefficient β	'p'	Odds ratio (e^β)
State			
Arunachal(ref)			
Assam	-0.715	0.000	0.489
Manipur	0.527	0.000	1.694
Meghalaya	1.436	0.000	4.205
Mizoram	2.066	0.000	7.892
Nagaland	0.681	0.000	1.976
Sikkim	-1.258	0.000	0.284
Tripura	-0.422	0.000	0.656
Age at marriage			
Less than 18 years (ref)			
18-25 years	0.244	0.000*	1.277
25 and above	0.364	0.000*	1.440
Duration of cohabitation			
Less than 5 years (ref)			
5-15 years	-0.245	0.000*	0.783
15 years and above	-0.339	0.000*	0.713
Current age			
15-25 years (ref)			
25-35 years	-0.266	0.000*	0.766
35-50 years	-0.279	0.000*	0.757
Number of living children			
0-2 (ref)			
3-4	-2.04	0.000*	0.130
5 and more	-3.576	0.000*	0.028
Fertility intention			
Want another (ref)			
Undecided	-0.802	0.000*	0.448
Want no more	-1.132	0.000*	0.323
Unmet need			
Yes (ref)			
No	0.323	0.000	1.381
Failure	-0.269	0.396	0.764
Others	0.188	0.000	1.207
Education			
No education			
Primary	0.059	0.085	1.061
Secondary	0.188	0.000	1.207
Higher	0.285	0.000	1.330
-2log likelihood	44575.835		
Number of observations	61281		

Source: Authors' calculations

Discussions and Conclusions

Estimation of the levels and differentials in unwanted fertility may be useful from the perspective of population policy and programmes directed towards promoting the use of family planning to regulate fertility. In this paper, we have attempted to estimate the unwanted fertility in the north-east region of India in terms of the proportion of unwanted births in currently women aged 15-49 years. The proportion of unwanted births is estimated using two approaches. The first approach classifies the last birth as wanted or unwanted. The second approach, on the other hand, estimates the proportion of unwanted births based on the difference between total number of children ever born and the ideal number of children desired. Both methods have limitations as regards estimation of unwanted fertility.

The present analysis reveals that the there is big difference in the proportion of unwanted births based on the two methods of classifying births as wanted and unwanted. The estimates of the proportion of unwanted births based on the retrospective method are substantially lower than the estimates of the proportion of unwanted births based on the different between the number of children ever born and the ideal number of children desired a currently married woman. In earlier studies also, it has been reported that the retrospective account of the wantedness of the last birth may lead to significant underestimation of the true level of unwanted fertility (Koenig, 2006; Casterline and El-Zeini, 2007).

The present analysis reveals that there is significant variation in the proportion of unwanted births across the states of the north-east region irrespective of the method used for estimating the proportion of unwanted births. These variations suggest that there are state-specific factors that influence the level of unwanted fertility across the states of the region. Very little is currently known about these factors. There is a need to carry out state-specific analysis to understand the determinants of unwanted fertility in the region as reflected through the proportion of unwanted births.

The analysis also shows that the main determinants of unwanted fertility in the region is the age at the time of the marriage of the woman and effectiveness of the practice of family planning in preventing unwanted births. This suggests that the proportion of unwanted births in currently married women of reproductive age in the region can be reduced substantially by improving the effectiveness and efficiency of the efforts directed towards meeting the fertility regulation needs of women. A reinvigoration of the family planning services delivery system in the region from the perspective of preventing unwanted births in currently married women of reproductive age may be the need of the time. The reduction in the proportion of unwanted births in the currently married women of reproductive age will have an impact on the level of fertility in the region which has been found to vary widely across the states of the region.

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