Title: Levels, Trends, Determinants and Consequences of Adolescent Pregnancy in India

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Introduction

Adolescent pregnancy is one of the most important and serious problems faced by our society today. It is considered as a highly distressing incident around the world. About 15 million babies are born to adolescent mothers each year. These are high-risk births from the perspective of the health of both mother and child. They are also high-cost births when the associated negative effects on the quality of life and role of women in society are considered. About 8 in every 10 of these babies are born in the developing countries of Asia, Africa, and Latin America, and about 13 percent of all children born in developing countries are born to adolescent mothers [1].

The term "adolescence" is variously defined in studies like this one as "the state or process of growing up," "the period of life from puberty to maturity," and "the period of transition from childhood to adulthood, encompassing both the development to sexual maturity, and to psychological and relative economic independence" [1, p.1]. According to World Health Organization (WHO), the transition from childhood to adulthood may be referred to as 'adolescence' or 'teenage', which is known as the period between 10-19 years. This is the period when structural, functional, and psychosocial developments occur in a child to prepare her for assuming the responsibility of motherhood [2]. In the present study, women of 15 to 19 years age have been considered as the adolescent, and pregnancy occurred to them is termed as 'adolescent pregnancy'.

In the developing countries, adolescent marriage and adolescent fertility rates are disturbingly high. Unlike in most other countries, adolescent fertility in India occurs mainly within the context of marriage. As a result of early marriage, about half of all young women are sexually active by the time they are 18; and almost one in five by the time they are 15" [3, p.1286]. Marriage at a very young age has serious health consequences for both child brides and their children. Women married as minors are more likely than those married as adults to report early, frequent and unplanned pregnancies (typically as a consequence of non-contraceptive use), which have been consistently linked to increased risk for maternal and infant morbidity and mortality [4-6].

India, being the largest and most prosperous nation within South Asia, has maintained laws against child marriage since 1929, although at that time, the legal age of marriage was set at 12 years. Though, the legal age for marriage was increased to 18 years for girls in 1978, till today, marriage of adolescent girls below their legal age is still prevalent in India [7, p.2]. Not only that, while abortion has been legal in India since 1972, limited availability and poor quality have kept safe abortion

beyond the reach of most poor women. Of the estimated five million induced abortions that occur annually in India, only half a million are performed under the health services network [8]. Induced abortion is somewhat more likely among adolescent than among older women [3]. Most adolescent girls, being illiterate, are not aware of family planning methods, and even if they are, they do not have easy access to family planning services or fail to utilise them due to inhibitions or pressure to attain motherhood to satisfy their mothers-in-law or husbands. Naturally, the idea of seeking an abortion in the early stages of childbearing is neither approved by the family members nor is it socially sanctioned. Since the bulk of the deliveries in India, especially in rural areas, take place at home, the risk to the mother's life is high. This risk is compounded by early pregnancy, malnutrition and inadequate antenatal care [9]. Several medical complications like preterm birth, poor maternal weight gain, pregnancy-induced hypertension, anaemia, and sexually transmitted diseases are strongly associated with adolescent pregnancy. It also adversely affects the status of women [10, 11].

Adolescent pregnancy is a complex problem affecting families, health care professionals, educators, government officials, and youth themselves. The fact that decline in adolescent pregnancy rates and birth rates have occurred in the majority of industrialized countries, and even in a wide range of developing ones [12], suggests broad societal changes, as well as crosscutting socioeconomic, political and cultural characteristics of individual countries. It also plays an important role in explaining recent trends. These factors include the greater importance attributed to educational achievement, the increased motivation among young people to delay pregnancy and childbearing in order to attain higher education levels and to gain job skills before forming a family, as well as improvements in knowledge of and access to the means of preventing unplanned pregnancy [13]. Consequently, in India the issue of adolescent pregnancy needs to be directed with appropriate intervention measures.

Study rationale and conceptual framework

In India, adolescent pregnancies after marriage, in contrast to unwed pregnancies in developed countries, have social approval but have an adverse impact on maternal mortality and perinatal morbidity. Pregnancy among very young women is generally considered being a very high risk event because adolescent girls are physically and psychologically immature for reproduction [14-17]. Therefore, the present level and trend of adolescent pregnancy in India with respect to present sociocultural settings necessitate in depth study and consequential discussions.

In addition, there are some extrinsic factors such as inadequate prenatal care, illiteracy, and poor socioeconomic conditions that affect the outcome of pregnancy among adolescent women. Lack of prenatal care and delivery advices during pregnancy and delivery services can contribute to the higher

risks of neonatal morbidity and mortality [18, 19]. Another important determinant is contraceptive use, which is important for a better reproductive health in adolescent years, when pregnancy and child birth should be avoided as far as possible [20]. All these factors and their effect on adolescent pregnancy need intricate debate in the Indian context.

Therefore, the increasing rate of adolescent pregnancy is a health and social problem that require utmost attention of researchers and policy makers. The present study will try to concentrate on the level and trend of adolescent pregnancy in India. As well as, important determining factors (such as demographic and sociocultural factors and health care services) of adolescent pregnancy and its consequences on adolescent health in terms of complications during pregnancy and problems during delivery have been focussed.

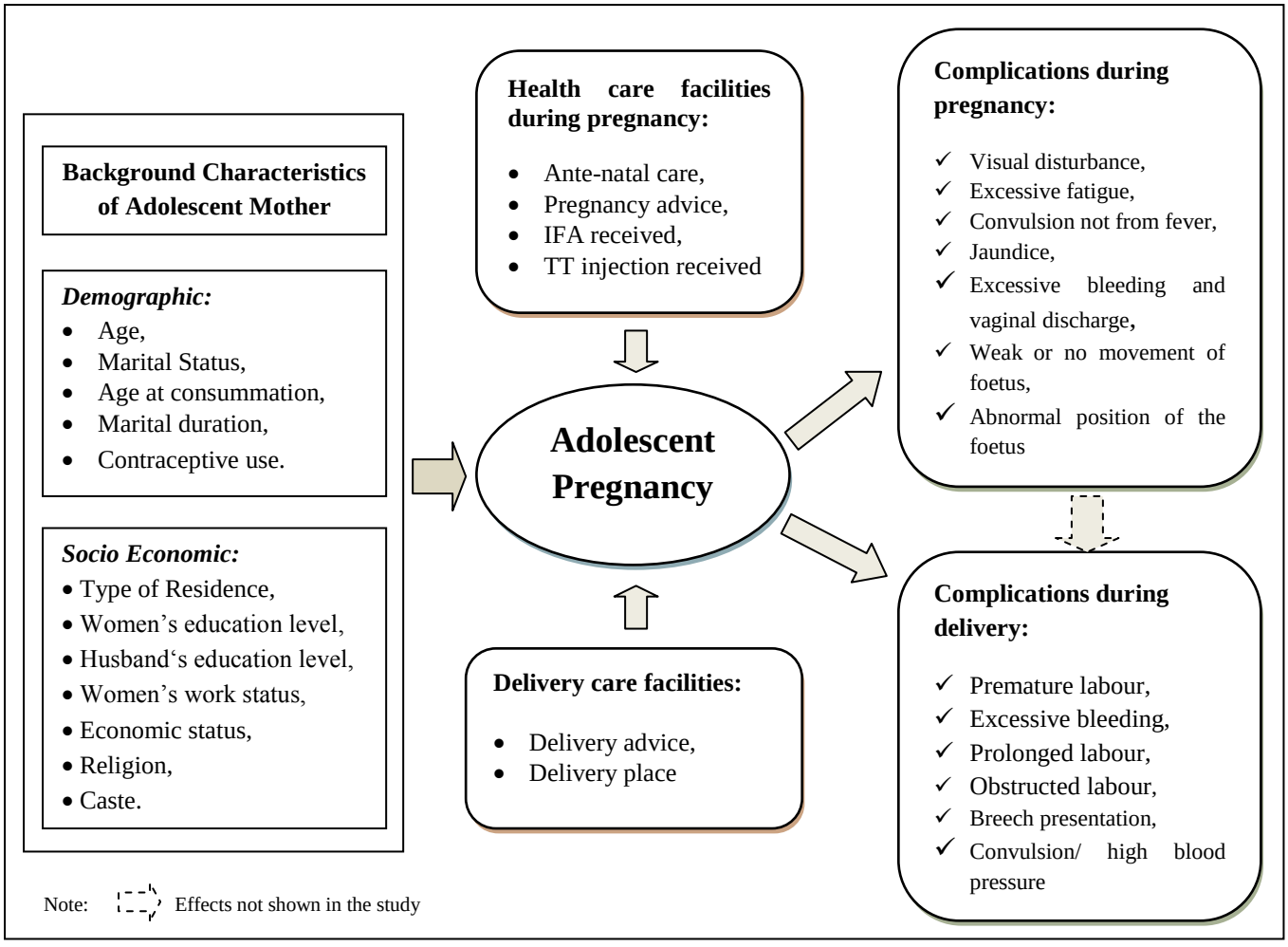

Figure 1. Conceptual Framework

In this context, a conceptual framework has been constructed which will give an insight into the study. The framework clearly shows the effects of background characteristics of adolescent women on their pregnancy. Adolescent pregnancy is also exceedingly subjective to received healthcare facilities by adolescent women during their pregnancy and delivery. From the framework, it is also evident

that, early pregnancy among adolescent women, eventually results in a number of health complications of mothers and problem with their foetuses, as a consequence, several complications take place during delivery.

Methods

Source of data

Three different time period data of District Level Household and Facility Survey-I (i.e. DLHS-I in1998-99), DLHS-II (2002-04) and DLHS-III (2007-08) have been used to show the level and trend of adolescent pregnancy in India. DLHS III (2007-08) data is used to find out the determinants and consequences of adolescent pregnancy in India. The study is based on the total number of adolescent (15 to 19 years women) pregnancies of 18709 and 14006 adolescent currently married women. [21-23]

Methodology

The methodology of the present study has been described in the following two sections i.e. variable construction and statistical analyses.

Variable Construction

Several simple and compound variables have been constructed. The variables used in the present study have been divided into two categories:

Predictor variables: The authors have used several predictor variables, which are re-coded for the purpose of analyses, and effective comparison of the results. They are: *Age group of women* (15 to 19 in a single year group, and other divisions of groups are15 to 17 and 18 to 19 years); *Place of residence* (rural, urban); *Age at consummation in years* (less than 18 years, and 18 and above); *Marital duration in years* (less than 2 years and 2 and above years); *Education level of women* in terms of completed years of schooling i.e. uneducated or less than five years, 5 to 9 years and 10 and above years; *Husband's education level in completed years* (uneducated or less than five years, 5 to 9 years and 10 and above years); *Contraceptive prevalence rate i.e. CPR for any method* (yes and no); *Work status of women* (yes and no); *Wealth quintile* (lowest, second, middle, fourth and highest for poorest, poor, middle, rich and richest); *Religion* (Hindu, Muslim and Others includes Christian, Sikh, Buddhist, Jain, Other, None); *Caste* (Scheduled Caste and Scheduled Tribe, Other Backward Caste and Others includes Brahmin and others) respectively; Times of ante-natal care or ANC received (less

than 3 and 3 and above); ANC received in 1st trimester (yes and no), Received advice to go health facility for pregnancy for last pregnancy (yes and no); Received delivery advice for last pregnancy (yes and no); Consumed iron and folic acid or IFA tablets and syrup at least for 90 days (yes and no); Received Tetanus Toxoid or TT injection (yes and no), Type of delivery (normal, caesarean by an instrument or assisted).

Dependent variables: Dependent variables used in the study, are also re-coded purposively. Pregnancy outcome is categorised into two parts, live birth and stillbirth/abortions, where abortion includes both spontaneous and induced. To see the effect of heath care services on adolescent pregnancy, the pregnancy outcome variable is again recoded in live birth and still birth which excludes abortion. Other dependent variables are such as *Pregnancy complications any* (includes any common problems i.e. swelling of hands, feet and face, paleness, giddiness/weakness, excessive vomiting, hyper tension / high blood pressure or any major problems or any problems with the foetus and other problems. *Any major pregnancy complications* (visual disturbance, excessive fatigue, convulsion, not from fever, jaundice, excessive bleeding and vaginal discharge); Problems with the foetus (weak or no movement of the foetus and abnormal position of the foetus); *Complications during delivery* (includes : premature labour, excessive bleeding, prolonged labour, obstructed labour, breech presentation, convulsion/high blood pressure and others).

Statistical analysis

Bivariate analyses (simple regression) and multivariate analyses like binomial logistic regression model (where the dependent variable is dichotomous) are used to see the association among the variables (direct and constructed) like different background factors and adolescent pregnancy outcomes and again association among adolescent pregnancies and its socio economic and health consequences. Significance of the effect of factors on adolescent fertility is tested by Chi-square test.

Level and trend of adolescent fertility in India is also shown by analyzing the three time period data (DLHS I, DLHS II and DLHS III). The analyses have been done only for currently married women considering their last pregnancy. Due to limitation of the data, pregnancy among unmarried women is not incorporated and in DLHS I and DLHS II, only information on pregnancy of currently married women are available. Pregnancy rate among adolescent women is shown in number of pregnancies per thousand adolescent women.

$$Adolescent\ Pregnancy\ Rate = \frac{\text{Total number of pregnancy among } 15-19 \text{ years women}}{Total\ number\ of\ women\ of\ 15-19\ years} * 1000$$

The authors have performed the rest of the analyses in two stages: First, differentials in pregnancy outcomes among adolescent currently married women by background characteristics of women, such as age group of women, age at consummation, marital duration (demographic characteristic); place of residence, educational level of women and their husband, work status, caste, religion, wealth quintile of women are assessed by using binary logistic regression. Second, effects of women's age (i.e. 15 to 19 and 20 to 24 years) on pregnancy complications and complications during delivery are assessed.

Logistic Regression Analysis: The logistic regression is commonly used when the independent variables include both numerical and nominal measures and the outcome variables (dependent variables) are binary or dichotomous. Advantage of logistic regression analysis is that it requires no assumption about the distribution of the independent variables and the regression coefficient can be interpreted in terms of odds ratio. Logistic regression model is commonly estimated by maximum likelihood function. For the dependent variables, logistic model takes the following general form: Where b0 are intercepts and b1, b2, b3 ,……bk represents the coefficients of each of the predictor variables in the model while ek is an error term. The natural logarithms of the odds of the outcomes are represented by ek. Logistic regression model is applied to analyze the effect of selected socio economic factors on pregnancy outcome of adolescent women. Binary logistic regression is used to estimate the adjusted effect of background characteristics as independent variables.

Chi square tests have been done to see the significance level of the associations among women's age with pregnancy complications and delivery complications. Statistical software SPSS version 20 has been used for analysing the data.

Results

Table 1 shows the trend of adolescent pregnancy since 1998 in India. It has been found that, though the pregnancy rate of adolescent is decreased in India, still it is very high. In 1998-99, total pregnancy among currently married adolescent women was 427 per thousand or around 43 % which was increased to 47% in 2002-04. In 2007-08 again it has declined to 438 per thousand or 44%.

In this context, Appendix 1, table shows the recent trend of adolescent fertility in India. According to the World Bank, adolescent fertility rate in India has been declining which was 84, 82, 79 and 77 per thousand women in 2008, 2009, 2010 and 2011 respectively [24].

Table 2 summarizes the bivariate results of the outcome of pregnancy of currently married adolescent women by their background characteristics. Here, live birth is considered as successful

pregnancy outcome, whereas stillbirth and abortion (spontaneous or induced) are considered as adverse pregnancy outcomes. In India, percentage of successful pregnancy outcome among adolescent women is 88.9% whereas 11.1% pregnancies result in still birth or abortion. From the bivariate analysis, it is clear that, stillbirth and abortion are higher among adolescent women at their lower age (13.1%), in urban areas (13.5%), among those adolescents who had not ever used any contraception (12.2%), among higher educated women (11.5%) and women having higher educated husband (12.6%), among non working women (11.2%), among women belong to higher economic status (15.1%), among Hindu (11.4%) and other castes (12.4%).

Table 3 shows the results of logistic regression analysis where it has found that, live birth is significantly higher among 18 to 19 years women (OR= 1.246, $p<0.01$) than 15 to 17 years women, women in 2 or more years marital union (OR=1.164, $p <0.01$), among women having more than 10 years completed education (OR=1.050, $p<0.01$) and among women belong to others religion (OR=1.911, $p< 0.01$). Contrary to this, live birth is found significantly less among women who had ever not used any contraception (OR=0.473, $p<0.01$) and among women belong to higher economic status (OR=0.414, $p<0.01$). Surprisingly, live birth is found significantly slight less (OR= 0.770, $p< 0.01$) among women whose age at consummation is above 18 years.

Table 4 indicates the influence of ante-natal care (ANC) and delivery care advices and services on adolescent birth outcome. Study has found that, prevalence of successful birth outcome i.e. live birth is higher among those women, who have received at least three ANC (98.7%), ANC received in 1st trimester (98.6%), had pregnancy advice (98.7%) and delivery advice (98.8%), consumed IFA at least for 90 days (99.0%), had TT injection(98.5%), and had normal (98.4%) and caesarean delivery (98.5%).

Results of logistic regression also support the results of bivariate analysis. Live birth is found more likely to be significant among women who had delivery advice (OR=1.381, $p<0.05$), who consumed IFA at least for 90 days (OR=1.369, $p<0.1$) and received TT injection (OR=2.291, $p<0.01$). Live birth is significantly less among women who had their delivery done by instrument or assisted (OR=0.377, $p<0.01$).

Table 5 shows the prevalence of pregnancy complications and delivery complications among adolescent women with compare to the women of 20-24 years age. The study has found that, during pregnancy, women of 15 to 19 years age had more complications (62.4%) than women of 20 to 24 years (59.9%, $p< 0.01$). 48 percent adolescent women had any major problems (such as visual disturbance, excessive fatigue, convulsion, not from fever, jaundice, excessive bleeding and vaginal discharge) whereas the percentage is less (45.3%, $p<0.01$) for 20 to 24 years old women. Besides,

percentage of adolescent women had problem with their foetus is also higher (9.7%) than 20 to 24 years old women (9.2%, $p< 0.1$). The study shows that, adolescent women are also at higher risk during delivery. About 67 percent adolescent women had found any complication during delivery which is much less as compared to women of 20 to 24 years age (63.1%, $p< 0.01$).

Discussion

Adolescent fertility is still high in India though its contribution to total fertility is on the decline. Besides, the wide spatial variations show that state or district level strategies are obligatory to provide the reproductive health needs to the adolescent in India. Use of contraception among married adolescents in India is sadly low among all groups. A study by Singh et al. has found that, in India, the extent of adolescent fertility declined from 100 per thousand in 1971 to 52 per thousand in 1999 [20]. But, the present study has shown that, adolescent pregnancy is much higher than the adolescent fertility, which denotes that, there is considerable number of pregnancies which are end in abortion or still birth. Therefore, though during the 28 years from 1971, the percentage of adolescent fertility to total fertility rate decreased from 9.7 percent to 8.1 percent [20], there is no reason to be contented because of the fact that, abortion and still births among adolescent women have increased in India in the past three decades and the rate is considerably varied among the different states [25-28]. It is universally well established fact that, still birth and abortions have an adverse effect on women's health [29], and if it happens with the women at their tender age (i.e. teenage), when they are physically immature and psychologically unprepared, it exerts a long lasting blemish on their physical and mental health.

Again, adolescent pregnancies represent a high-risk group in reproductive terms because of the double burden of reproduction and growth. The combination of poor nutrition and early child bearing expose young women to serious health risks during pregnancy and childbirth, including damage to the reproductive tract, pregnancy related complications, such as anaemia, pregnancy-induced hypertension, preterm labour, maternal mortality, perinatal and neonatal mortality, and low birth weight [30, 31]. Complications of pregnancy and childbirth are the leading cause of mortality among girls aged 15-19 years in developing countries [32]. A study has found that, preterm delivery and maternal perinatal complications most likely to contribute to the risk of perinatal death in poor and disadvantaged populations, especially for deliveries occurring outside hospitals or health care facilities in developing countries [33].

To address the problems of adolescent pregnancies, it has to be endeavour that diminution of the incidence of adolescent pregnancy should be targeted, not only to minimize the adverse outcomes on young mothers than the older women (20 to 24 years women), but also to limit the family-size. Efforts

need to be directed towards strict enforcement of laws barring adolescent marriage in India. Access to quality health services to the adolescent women should be ensured. For pregnant adolescents attending the antenatal clinic, extra care should be taken to make certain that the minimum number of regular antenatal visits is made. Appropriate and adequate counselling on different antenatal services need to be open to them. Tetanus toxoid immunization and consumption of the recommended dose of iron and folic acid should be checked, and intake of an additional meal should be advised at every visit [34].

In India, adverse or undesirable outcomes of adolescent pregnancy could be attributed not only to lower maternal age, but also to their relatively disadvantaged socioeconomic background. Among disadvantaged families, whatever the reason of early pregnancy among adolescent women (such as low level of education of women or an additional child is considered to be an additional helping hand or high son preference), reduction in early motherhood will not eliminate the effects of poverty and other inconveniences. It represents a potentially productive strategy for widening the pathways out of poverty or, at the very least, not amalgam the handicaps imposed by social disadvantages [35].

Conclusions

Avoiding childbearing during adolescent period allows young women the chance to complete their schooling and to take advantage of work opportunities, and could have long-term benefits. If married adolescent women can be better educated about family planning methods and can be encouraged to adopt the small family norm by postponing the birth of the first child and properly spacing birth, both infant and maternal mortality rates can be significantly reduced [34].

On the other hand, having a child during the adolescent period may have negative social consequences, especially if the adolescent is unmarried and rely on financial support from parents, government programs or other sources [36]. The provision of sex education in the schools, which has increased in many countries, is likely to have made an increasing contribution to improve knowledge of contraception, ability to negotiate contraceptive use and effectiveness of contraceptive use among adolescents. In this regard, example of Sweden's success can be cited in reducing teenage pregnancy rates and birth rates which is credited to both improved sex education and improved provision of contraceptives to adolescent [37,38].

The results of the study indicate that, to protect the reproductive rights of adolescent women and to screen their health problems (due to early pregnancy), programme and strategies at the state level need to be implemented which will certainly target the adolescent women from socioeconomically disadvantaged background.

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Table 1 Adolescent pregnancy in India

Period	Pregnancy per thousand currently married women aged 15-19 years	Women (N)
DLHS- I (1998-99)	427	14255
DLHS-II (2002-04)	467	39892
DLHS-III (2007-08)	438	34346

*Only last pregnancy considered

Table 2
Percentage of pregnancy outcome among currently married women of 15-19 years age group by their background characteristics, India, 2007-08.

Background characteristics	Pregnancy outcome		Total pregnancy (N)
	Live birth	Still birth/abortion*	
Women's age (years)			
15	83.7	16.3	285
16	85.6	14.4	889
17	87.8	12.2	2329
18	88.7	11.3	6094
19	89.8	10.2	9112
15 to 17	86.9	13.1	3503
18 to 19	89.4	10.6	15206
Residence			
Rural	89.4	10.6	16601
Urban	86.5	13.5	2108
Age at consummation			
Below18	89.5	10.5	16501
Above18	85.1	14.9	2208
Marital duration (years)			
Less than 2	86.9	13.1	8142
2 & above	90.5	9.5	10567
CPR for any method			
Yes	93.8	6.2	3331
No	87.8	12.2	15378
Women's education level (in completed years)			
Uneducated or less than 5	90.2	9.8	10617
5 to 9	87.0	13.0	6517
10 & above	88.5	11.5	1575
Husband's education level (in completed years)			
Uneducated or less than 5	89.5	10.5	12514
5-9	88.9	11.1	1944
10 & above	87.4	12.6	4251
Women's work status †			
Working	89.8	10.2	1972
Not working	88.8	11.2	11844
Wealth quintile †			
Poorest	92.4	7.6	4439
Second	89.7	10.3	5120
Middle	88.2	11.8	4457
Fourth	86.5	13.5	3406
Richest	84.9	15.1	1279
Religion			
Hindu	88.6	11.4	15058
Muslim	89.4	10.6	2676
Others	92.3	7.7	975
Caste			
SC/ST	89.7	10.3	7455
OBC	88.8	11.2	7727
Others	87.6	12.4	3527
India	88.9	11.1	18709

†Total excludes missing cases. *Abortion includes both spontaneous and induced.

Table 3
Results of logistic regression analysis of pregnancy outcomes of currently married women of 15-49 years by their background characteristics, India, 2007-08

Background characteristics	Pregnancy outcomes		
	Expβ	95% CIs for Expβ	
		Lower	Upper
Women's age group (years)			
15 to 17®	1		
18 to 19	1.246***	1.081	1.437
Residence			
Rural®	1		
Urban	0..932	0.794	1.093
Age at consummation			
Below18®	1		
Above18	0.770***	0.653	0.906
Marital duration (years)			
Less than 2®	1		
2 & above	1.164**	1.027	1.319
CPR any			
Yes®	1		
No	0.473***	0.398	0.562
Women's education level (in completed years)			
Uneducated or less than 5 ®	1		
5 to 9	0.077*	0.788	1.012
10 & above	1.257**	1.011	1.562
Husband's education level (in completed years)			
Uneducated or less than 5®	1		
5-9 years	0.879	0.732	1.055
10 & above	1.050	0.913	1.206
Women's work status			
Working®	1		
Not working	1.037	0.882	1.218
Wealth quintile			
Poorest®	1		
Second	0.726***	0.607	0.868
Middle	0.613***	0.511	0.736
Fourth	0.531***	0.436	0.647
Richest	0.414***	0.323	0.531
Religion			
Hindu®	1		
Muslim	1.142	0.973	1.340
Others	1.911***	1.410	2.590
Caste			
SC/ST®	1		
OBC	1.037	0.910	1.181
Others	0.944	0.801	1.111
Constant	18.465		

®-Reference category of different characteristics; ***p<0.01; **p<0.05; *p<0.1

Table 4

Percentage of currently married women of 15-19years, experienced live/still birth by received ANC and delivery care services for last birth, India 2007-08

ANC and delivery care services	Pregnancy outcome		Total Women (N)*	Expβ (95% CIs of Expβ)
	Live birth	Still birth		
Times of ANC received				
Less than 3®	98.0	2.0	7487	1
3 & above	98.7	1.3	6519	1.118(0.801-1.560)
ANC received in 1st trimester				
No ®	98.1	1.9	8333	1
Yes	98.6	1.4	5673	1.159(0.843-1.595)
Received advice to go health facility for pregnancy				
No®	98.2	1.8	5728	1
Yes	98.7	1.3	4857	1.154 (0.830-1.606)
Received delivery advice†				
No ®	98.1	1.9	5675	1
Yes	98.8	1.2	4911	1.381**(0.975-1.954)
Consumed IFA at least for 90 days				
No®	98.1	1.9	11500	1
Yes	99.0	1.0	2506	1.369*(0.888-2.112)
TT injection received				
No®	97.7	2.3	3737	1
Yes	98.5	1.5	10269	2.291***(1.253-4.187)
Delivery types/methods†				
Normal®	98.4	1.6	12713	1
Caesarean	98.5	1.5	879	1.037(0.541 - 1.987)
By instrument or assisted	95.9	4.1	410	0.377***(0.211- 0.675)
India	98.3	1.7	14006	

* Unweighted frequency; † Total excludes missing cases; ®-Reference category of different characteristics; ***p<0.01, **p<0.05, *p<0.1.

Table 5

Percentage of currently married women of 15-24 years, experienced complications during their last pregnancy and delivery by age, India, 2007-08.

Age (years)	Women had complications during pregnancy						Women had problem during delivery		Women (N)
	Any problem[1] (%)	χ^2 test	Any major problem[2] (%)	χ^2 test	Problem with the foetus[3] (%)	χ^2 test	Any problem[4] (%)	χ^2 test	
15 to 17	63.9		48.8		9.5		67.0		2701
18 to 19	62.0		47.8		9.7		66.5		11305
Total	62.4	3.853**	48.0	1.407	9.7	0.084	66.6	0.181	14006
15 to19	62.4		48.0		9.7		66.6		14006
20 to 24	59.5		44.8		9.1		62.5		73455
Total	59.9	42.302***	45.3	46.302***	9.2	3.663*	63.1	74.614***	87461

***p<0.01, **p<0.05, *p<0.1;

[1]Women experienced any one of the common problems (swelling of hands, feet and face, paleness, giddiness/weakness, excessive vomiting, hyper tension / high blood pressure), major problems and other problem during pregnancy;

[2]Women experienced any major problem (visual disturbance, excessive fatigue, convulsion not from fever, jaundice, excessive bleeding and vaginal discharge) during pregnancy;

[3]Women experienced problems during pregnancy related to either weak or no movement of foetus or abnormal position of the foetus;

[4]Women experienced any one of the following problems during delivery: premature labour, excessive bleeding, prolonged labour, obstructed labour, breech presentation, convulsion/high blood pressure and others.

Appendix1 Recent trend of adolescent fertility, India

Adolescent fertility rate (birth per thousands women ages 15-19 years)				
Years	2008	2009	2010	2011
Fertility Rate	84	82	79	77

Source: World Development Indicators, World Population Prospects, The World Bank.