High-Risk Pregnancy and Contraception Use Among Married Adolescent Women

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Abstract

Introduction: Adolescent pregnancy and its consequences have become a significant health concern globally, particularly in low-middle-income countries (LMIC). Many studies have cited that girls who become pregnant and give birth before attaining the age of 19 are more than twice as likely to die as those who have crossed 20 years. Pregnancy and childbirth complications are the leading cause of death among 15 – 19 years old girls globally. In India, adolescent pregnancy after the marriage has social approval but adverse maternal and neonatal outcomes. **Objective:** The present study mainly focuses on the status of high-risk pregnancies and the use of contraception among adolescent women in India. Further, the critical determinant of adolescent pregnancy and its impacts on adolescent health. **Data and Method:** Data for the present study have been drawn from the different National Family Health Survey waves**,** i.e. NFHS -1, NFHS-2, NFHS-3, NFHS-4 and NFHS-5. Bivariate and multivariate statistical techniques have been used for data analysis. **Result:** In India, 7% of adolescent women have begun childbearing before attaining their 19th birthday. The odds of beginning childbearing before 19 are lower among the adolescent with higher education (0.63*** CI: 0.51, 0.77) and who had ever terminated pregnancies (0.86*, CI:0.76, 0.97) as compared to an adolescent with no formal education and who did have ever terminated pregnancy respectively. **Conclusion:** The level of adolescent pregnancy has decreased significantly in the last three decades; however, women without formal education and belonging to the poorest wealth quantile are at high risk of getting pregnant before reaching the age of 19.

Key Words: Adolescent Pregnancy, Contraception, NFHS

High-risk pregnancy and contraception use among married adolescent women

Introduction

Adolescence may be defined as the transition from childhood to adulthood when structural, functional, and psychosocial developments occur. Consequently, pregnancy during adulthood can adversely affect health, as the adolescent girl has yet to attain her full growth potential. Adolescent pregnancy and its consequences have become a significant health concern, particularly in low-middle-income countries (LMIC). In LMICs, an estimated 21 million adolescents aged 15 – 19 years become pregnant, and approximately 12 million adolescent girls aged 15 – 19 years and at least 7,77,000 girls under the age of 15 give birth each year (WHO, 2020).

Definition of Adolescent Pregnancy

Adolescent pregnancy can be defined as; "teenage or underage girls who are usually between age 12 to 19 years old becoming pregnant". Earlier, it has been described as; "the young woman who has not reached her 20th birthday when the pregnancy ends, regardless of whether the woman is married or is legally an adult (age 14 to 21, depending on the counties).

Many studies have cited that girls who become pregnant and give birth before attaining the age of 19 are more than twice as likely to die as those who have crossed 20 years. A study from Bangladesh also reported similar findings, i.e. girls aged 15 – 19 years had a maternal mortality rate nearly twice that of women aged 20 – 24 years and the rate for girls aged 10 – 14 was almost five times higher. Pregnancy and childbirth complications are the leading cause of death among 15 – 19 years old girls globally. However, adolescent pregnancies are more likely to occur in marginalized communities, commonly driven by poverty (UN-ESCWA, 2019), employment opportunities and lack of education. It contributes significantly to maternal (Idoko et al., 2016), child mortality, and intergenerational cycles of ill health and poverty worldwide(Sharma, 2021).

Literature Review

Pregnancy among adolescent women has implications on the educational opportunity, population growth and ill-health of women. For this reason, the reduction of adolescent pregnancy has long been the focus of attention by several government and non-government organizations (Kassa et al., 2018). Many studies have shown that most maternal and child morbidity are related to hypertensive disorders of pregnancy, infections, low birth weight and preterm delivery. These morbidities can be reduced by lowering the already high level of adolescent pregnancy in developing countries. Consequently, reducing the high level of adolescent pregnancy and maternal mortality is considered the key Sustainable Development Goal (SDG), with targets 3.1 and 3.7 (UN, 2015).

There are clearly a lot of pieces of literature on adolescent pregnancy, but its scope is limited to the cause of adolescent pregnancy, the implications of the pregnancy to the young mother and her baby and school dropout-related factors. There are, however, very limited studies published that report on recent trends in adolescent

pregnancy in India. Even less is known about the factors associated with trends and adolescent pregnancy (Jonas et al., 2016).

A study by Sharon Levy (2022) revealed that many adolescents engaged in sexual activity but may not be fully informed about contraception, pregnancy, and STIs, including hepatitis C and HIV infections. Pregnancy can be a source of significant emotional stress for adolescents. Pregnant adolescents and their partners tend to drop out of school or job training, thus worsening their economic status, lowering their self-esteem, and straining personal relationships. Adolescents are less likely than adults to get prenatal care, resulting in poorer pregnancy outcomes (e.g., higher rates of prematurity). Adolescents, particularly the very young and those who are not receiving prenatal care, are more likely than women in their 20s to have medical problems during pregnancy, such as anaemia and preeclampsia. Infants of young mothers (especially mothers < 15 years of age) are more likely to be born prematurely and to have a low birth weight. However, with proper prenatal care, older adolescents have no higher risk of pregnancy problems than adults from similar backgrounds.

The rationale of the study

In India, adolescent pregnancy tends to occur within marriage, often arranged by parents, and few pregnancies occur among unmarried adolescents (Pratinidhi et al., 1990). In fact, India has one of the highest rates of early marriage globally. As per the latest data of NFHS-5 released by the Ministry of Health and Family Welfare, Government of India, 23.3% of girls in India are married before their 18^{th} birthday. The problem is much more prominent in rural areas (27%) than in urban areas (14.7%). Therefore, it is not astonishing that India has one of the world's highest numbers of adolescent mothers, given that in India, pregnancies occur in the context of marriage. In India, adolescent pregnancy after the marriage has social approval but adverse maternal and neonatal outcomes. As per the NFHS-5, 6.8% of females aged between 15 – 19 years were already mothers or pregnant at the survey time. Therefore, the level and trend of adolescent pregnancy in India with respect to current sociocultural settings needs in-depth study and subsequential discussion.

In addition, the use of contraceptive methods among adolescents is an essential determinant for better reproductive health and avoiding unwanted pregnancy/birth. Furthermore, several factors, such as illiteracy, lack of PNC and delivery care, poor socioeconomic conditions, lack of information about contraceptive use, etc., need an intricate debate in the Indian context.

Objectives

The present study mainly focuses on the status of high-risk pregnancies and the use of contraception among adolescent women in India. Further, the critical determinant of adolescent pregnancy and its impacts on adolescent health. The specific objectives of the study are-

1. To study the level, trends and patterns of high-risk pregnancies among adolescent women.

2. To study the level, trend and patterns of contraceptive use and unmet need for FP among adolescent women.

3. To examine the determinants of adolescent pregnancies, contraceptive use and unmet need for FP.

Data Source

For the present study, data have been drawn from the latest wave of the National Family Health Survey, 2019 -21 (NFHS – 5), a large-scale demographic household survey conducted by the International Institute for Population Sciences, Mumbai, under the stewardship of the Ministry of Health & Family Welfare (MoHFW), Government of India. The National Family Health Survey (NFHS-5) uses a two-stage sampling design in both urban and rural areas. NFHS-5 involved interviews with a total of 636,699 households and 724,115 women aged 15–49 years across the 707 districts of India. The response rate for women was 97%. See the NFHS-5 National report for further details regarding study design, sampling, tools and protocols ().

Study Population

The current study population are adolescent women aged 15 – 19 years interviewed in the fifth round of the National Family Health Survey during 2019 -2021.

Outcome Variable

In order to carry out the current study, three dependent variables were considered. These variables include "the adolescent women began childbearing before 19 ", "use of contraceptive methods", and "unmet needs for family planning". All three dependent variables are coded as dichotomous variables, which were calculated as currently pregnant, had a live child and currently pregnant as 1, else as 0; Using any method of FP as 1, else as 0; and adolescent women who are not using any contraception method and want to postpone the childbearing as 1, else as 0.

Independent Variables

The independent variables were chosen in light of the current state of adolescent pregnancies and knowledge of the barriers to undertaking FP services and methods. Thus, a number of sociodemographic characteristics were examined, including the region of residence (North, South, East, West, Central and Northeast), place of residence (Urban and Rural), age of adolescent girls (15–17 and 18–19), level of education (No education, Primary, Secondary and Higher Secondary), caste (SC/ST, OBC and Others), marital status (Never married and married), occupation (working and not working), religion, wealth quantile, media exposure, had terminated pregnancies, age at first sex, and knowledge of contraceptive methods.

Statistical techniques for data analysis

The statistical analyses were performed using STATA software, version 15. Bivariate and Multivariate techniques are used to analyze the data. Descriptive statistics

Result

Background characteristics of the study Population

A total of 1,22,544 adolescent women were interviewed in the fifth wave of the National Family Health Survey during 2019 – 21 (Table 1). Of the adolescents, 59.5% were aged between 15 years to 17 years, and 40.5% were between 18 years to 19 years of age during the interview. Most of the interviewed adolescents were educated at least for secondary level (83.2%), not married (87.3%), and not working (85.2%). Further, 22.5% and 22.8% of the adolescents belonged to the poorest and poorer wealth quantile, respectively, and 29.3% were from the Northeast region. Moreover, 79.8% of the adolescent were followers of the Hindu religion, and 71.8% resided in rural areas. Furthermore, 58.9% were exposed to media, 84.9% never had sex, 95.3% knew about any type of contraceptive methods, and 99.0% had not had any terminated pregnancy. Among the married adolescents, 17.8% had a demand for unmet need for contraception, and 28.1% are current users of any family planning methods.

Table 3.1: Sociodemographic and Sexual Reproductive Health Characteristics of Adolescent Women in India, 2019 - 21

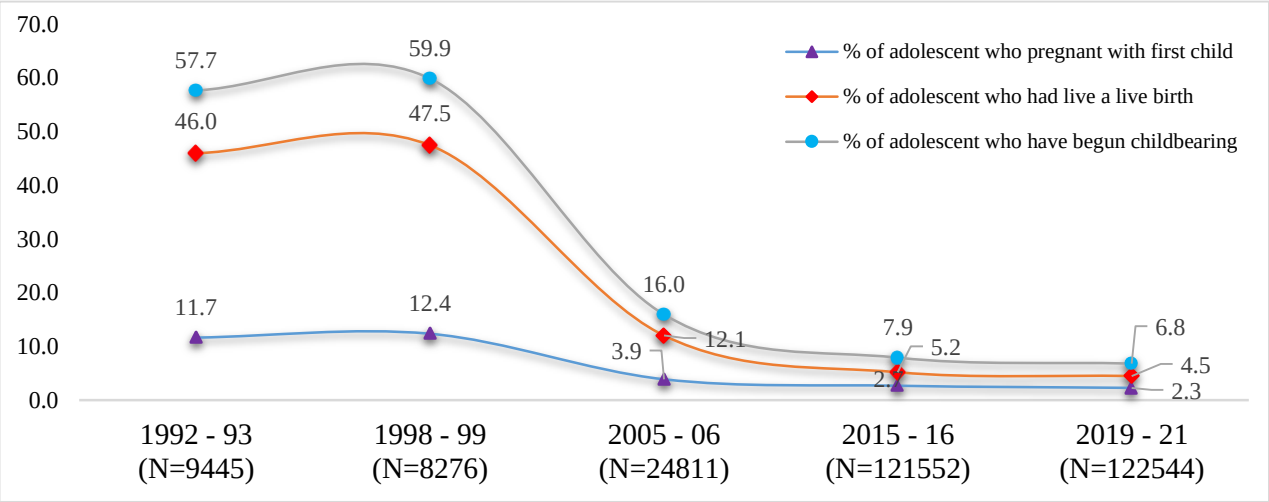
Background Characteristics	Percentage	Sample
Age		
15 - 17	59.5	72,910
18 -19	40.5	49,570
Level of Education		
No education	4.4	5,332
Primary	5.2	6,355
Secondary	83.2	1,01,848
Higher Secondary	7.3	8,946
Marital Status		
Never Married	87.3	1,06,904
Married	12.6	15,399
Widowed/Divorced/Separated	0.1	176
Occupation		
Working	14.8	2692
Not working	85.2	15548
Wealth Quantile		
Poorest	22.5	27,513
Poorer	22.8	27,957
Middle	20.9	25,635
Richer	18.6	22,789
Richest	15.2	18,650
Region		

Background Characteristics	Percentage	Sample
North	14	17,195
Northeast	29.3	35,898
Central	25.1	30,730
East	3.5	4,264
West	12.1	14,782
South	16.1	19,674
Religion		
Hindu	79.8	97,827
Muslim	15.8	19,410
Others	4.3	5,307
Place of residence		
Urban	28.2	34,543
Rural	71.8	88,000
Media exposure		
No	41.1	50,319
Yes	58.9	72,225
Age at first sex		
Not had sex	84.9	1,04,082
Less than 17	5.2	6,398
Between 18 - 19	2.7	3,295
Others	7.2	8,769
Knowledge of Contraceptive methods		
Knows no methods	4.7	5,754
Knows Traditional/folk/Modern	95.3	1,16,790
Unmet need for contraceptive		
Yes	17.8	2,742
No	82.2	12,666
Contraceptive use		
User	28.1	4,334
Non - user	71.9	11.073
Ever had pregnancy terminated		
No	99.0	1,21,372
Yes	1.0	1,172
Total	**100**	**1,22,544**

Level and Trend of Adolescent pregnancy in India

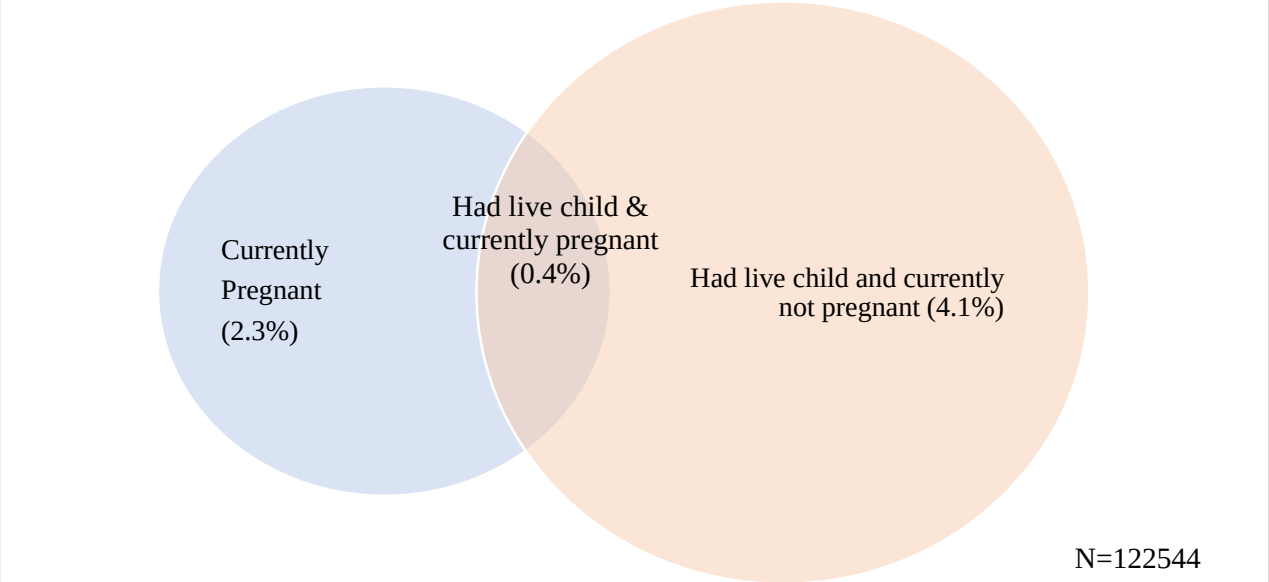
During the 1990s, the level of adolescent pregnancy in India was alarming. Preliminary results of the current study depict that 57.7% of adolescent women in 1992 – 93 and 59.9% of adolescent women in 1998 – 99 had begun childbearing before their 19th birthday (**Figure 3.1**). However, after 2000 the trend of adolescent pregnancy has significantly reduced. **Figure 3.2** depicts that 7% of adolescent women have begun childbearing before their 19th birthday. Of these, 4.1% had live children, followed by 2.3% who were currently pregnant, and 0.4% had a live child and were pregnant with their second child.

Figure 3.1: Trend of Adolescent Pregnancy in India, 1992 – 2021



Source: NFHS 1 (1992 – 93), NFHS 2 (1998 - 99), NFHS 3 (2005 - 06), NFHS 4 (2015 - 16), and NFHS 5 (2019 – 21)

Figure 3.2: Status of pregnancy among adolescent women in India, 2019 - 21



Source: NFHS 5 (2019 – 21)

Current Level of Adolescent Pregnancy by Sociodemographic Characteristics

Table 3.2 shows the current level of adolescent pregnancy in India by sociodemographic characteristics. Overall, 6.8% of adolescent mothers began childbearing before reaching their 19th birthday. Of these adolescent mothers, 2.3% are currently pregnant with their first child, and 4.5% had live birth at the time of the survey. A higher percentage of adolescent mothers aged 18 – 19 years (14.5%) began childbearing before 19 birthday as compared to those aged 15 – 17 years (1.5%). Similarly, it was higher among the rural areas (7.9%), followers of the Muslim religion (8.5%), belonging to the Scheduled caste/tribe (7.8%), not working adolescents (6.9%), not exposed to any media (8.4%), and had knowledge of any type of contraception methods (7.1%) than the adolescent women from the urban areas (3.8%), followers of other religions (5.4%), belong to

other castes, working adolescent (6.0%), had exposure of media (5.7%), and did not know about any contraceptive methods. Further, 47% of adolescents who had begun childbearing before 19 had their first sex before 17 and 31.7% had their first sex between 18 – 19 years.

Table 3.2: Percentage of Adolescent Pregnancy among Adolescent Women by their background characteristics in India, 2019-21

Background Characteristics	% of the adolescent women who began childbearing before 19	Sample
Age		
15 - 17	1.5	72,948
18 -19	14.5	49,596
Level of Education		
No education	17.7	5,335
Primary	12.6	6,358
Secondary	6.2	1,01,901
Higher Secondary	2.5	8,950
Marital Status		
Never Married	0.0	1,06,960
Married	53.4	15,407
Widowed/Divorced/Separated	32.2	177
Occupation		
Working	6.0	2,692
Not working	6.9	15,548
Wealth Quantile		
Poorest	10.0	27,513
Poorer	8.0	27,957
Middle	6.9	25,635
Richer	5.0	22,789
Richest	2.3	18,650
Region		
North	3.3	17,195
Central	3.4	35,898
East	12.2	30,730
Northeast	11.4	4,264
West	6.7	14,782
South	6.6	19,674
Religion		
Hindu	6.5	97,827
Muslim	8.5	19,410
Others	5.4	5,307
Caste		
SC/ST	7.8	39,895
OBC	5.8	53,755
Others	7.3	28,895
Place of residence		

Background Characteristics	% of the adolescent women who began childbearing before 19	Sample
Urban	3.8	34,543
Rural	7.9	88,000
Media exposure		
No	8.4	50,319
Yes	5.7	72,225
Age at first sex		
Not had sex	0.0	1,04,082
Less than 17	47.0	6,398
Between 18 - 19	31.7	3,295
Others	48.5	8,769
Knowledge of Contraceptive methods		
Knows no methods	1.1	5,754
Knows Traditional/folk/Modern	7.1	1,16,790
Unmet need for contraceptive		
Yes	54.5	2,742
No	53.2	12,666
Contraceptive use		
User	53.2	4,334
Non - user	53.4	11,073
Ever had pregnancy terminated		
No	6.3	1,21,372
Yes	52.8	1,172
Total	**6.8**	**1,22,544**

Adolescent pregnancy decreases as the education level of adolescents increases, such as a higher percentage of adolescent women (17.7%) without formal education had begun childbearing before 19 than the adolescent women with a higher level of education (2.5%). Similarly, a higher percentage of adolescent women belonging to the poorest wealth quantile (10.0%) had begun childbearing before 19 than the adolescent women belonging to the richest wealth quantile. A higher percentage of adolescents from the east region (12.2%) followed by the northeast (11.4%) region had begun childbearing before 19 years as compared to other regions.

More than half of the adolescent women who are currently married (53.4%) had begun childbearing before 19. Similarly, 52.8% of adolescent mothers who had ever terminated the pregnancy had begun childbearing before 19. A slightly higher percentage of married adolescent women who had demanded the unmet need of contraceptive use and are currently non-users of contraceptives had begun childbearing before 19 than their counterparts.

Current Level of Knowledge on Contraceptive Methods in India

Table 3 shows the percentage of adolescent women who knew contraceptive methods by their sociodemographic characteristics. Overall, 95.3% of adolescent women knew contraceptive methods. A

slightly higher percentage of older adolescent women (97.4%), followers of the Hindu religion (95.6%), belonged to urban areas (95.7%) and had media exposure (95.9%) have knowledge on any contraceptive methods than their counterparts. Similarly, a slightly higher percentage of adolescent women who had ever terminated pregnancy (95.3%) and had first sex before the age of 19 years (94.9%) have knowledge of all types of contraceptive methods than the adolescent women who did not have terminated pregnancy and did not have first sex.

The knowledge of contraceptive methods increases with an increase in the education level as well as an increase in wealth status, i.e. higher percentage of adolescent women who have attained a higher level of education (98.4%) have knowledge of contraceptive methods than the adolescent women, who attained only primary level of education (94.1%). Similarly, a higher percentage of adolescent women belonging to the richest wealth quantile (96.1%) have knowledge of contraceptive methods than the adolescent women belonging to the poorest wealth quantile (94.2%). Further, a higher percentage of adolescent women from the east region (96.6%) and south region (96.6%) know about contraceptive methods.

Table 3: Percentage of adolescent women who knew contraceptive methods by their background characteristics in India, 2019 - 21

Background Characteristics	% of the adolescent women who knew contraceptive use	Sample
Age		
15 - 17	93.9	72,948
18 -19	97.4	49,596
Level of Education		
No education	94.1	5,335
Primary	93.3	6,358
Secondary	95.2	1,01,901
Higher Secondary	98.4	8,950
Marital Status		
Never Married	94.8	1,06,960
Married	98.8	15,407
Widowed/Divorced/Separated	98.1	177
Occupation		
Working	95.9	2,692
Not working	95.2	15,548
Wealth Quantile		
Poorest	94.2	27,513
Poorer	95.1	27,957
Middle	95.7	25,635
Richer	95.7	22,789
Richest	96.1	18,650
Region		
North	95.8	17,195

Background Characteristics	% of the adolescent women who knew contraceptive use	Sample
Central	94.5	35,898
East	96.6	30,730
Northeast	94.2	4,264
West	92.6	14,782
South	96.6	19,674
Religion		
Hindu	95.6	97,827
Muslim	94.1	19,410
Others	93.3	5,307
Place of residence		
Urban	95.7	34,543
Rural	95.1	88,000
Media exposure		
No	94.4	50,319
Yes	95.9	72,225
Age at first sex		
Not had sex	94.9	1,04,082
Less than 17	98.5	6,398
Between 18 - 19	98.5	3,295
Others	96.1	8,769
Ever had pregnancy terminated		
No	95.3	1,21,372
Yes	99.8	1,172
Total	**95.3**	**1,22,544**

Demand for unmet need and use of contraception in India

Table 4 presents the percentage of demand of unmet need for family planning and contraceptive use among married adolescent women by their sociodemographic characteristics in India. It depicts that a higher percentage of younger adolescents (21.3%) have a demand for unmet needs for family planning than the older adolescent (17.0%). Similarly, the demand of unmet need for family planning was higher among adolescent who are not working (18.6%), belongs to the urban areas (18.3%), followers of the Hindu religion (18.6%), had any type of media exposure (18.3%), had terminated pregnancy (18.2%) and did not knows about the contraceptive methods (39.0%) than their counterparts. Further, the demand for the unmet need for family planning was higher among adolescent women with higher education (19.2%) and adolescent women from the western region (21.0%), followed by the central region (18.2%).

The demand for unmet need for family planning decreases as the level of wealth status increase, i.e. the adolescent women belonging to the poorest wealth quantile have a higher demand for unmet need for FP (19.1%) than the richest adolescent women (17.2%).

Table 4: Percentage of unmet need for family planning and contraceptive use among the married adolescent by their sociodemographic characteristics in India, 2019 – 21

Background Characteristics	% of unmet need for family planning among married adolescents (15 - 19)	% of contraceptive use among the married adolescent	Sample
Age			
15 - 17	21.3	27.8	2,837
18 -19	17	28.2	12,571
Level of Education			
No education	16.1	24.2	1,717
Primary	15.8	28.9	1,403
Secondary	18.2	28.8	11,737
Higher Secondary	19.2	23.5	550
Occupation			
Working	15.4	29.8	318
Not working	18.6	30.5	1,980
Wealth Quantile			
Poorest	19.1	27.8	4,717
Poorer	17.6	31.4	4,257
Middle	17.4	27.6	3,292
Richer	16.2	24.4	2,243
Richest	17.2	25.8	899
Region			
North	17.6	29.1	1,278
Central	18.2	26.6	2,486
East	18.1	33.8	6,622
Northeast	16.1	38.7	772
West	21	22.7	1,925
South	14.6	14.2	2,324
Religion			
Hindu	18.6	26.9	12,151
Muslim	14.8	34.7	2,772
Others	16	22.9	483
Place of residence			
Urban	15.4	29.1	2,522
Rural	18.3	27.9	12,885
Media exposure			
No exposure	18.3	28	7,744
Any exposure	17.3	28.3	7,664
Age at first sex			
Not had sex	68.6	3.3	42
Less than 17	19.1	33.8	4,720
Between 18 - 19	16.7	22	2,857
Others	17.1	27.1	7,789
Ever had pregnancy terminated			

Background Characteristics	% of unmet need for family planning among married adolescents (15 - 19)	% of contraceptive use among the married adolescent	Sample
No	18.2	28.7	14,268
Yes	12.4	21.7	1,139
Knowledge of Contraceptive methods			
Knows no methods	39	0	182
Knows Traditional/folk/Modern	17.5	28.5	15225
Total	**17.8**	**28.1**	**15,407**

On the contrary, the demand for the unmet need for family planning, the contraceptive use among younger adolescent women was slightly lower than that of older adolescent women.

Further, the use of contraception was slightly lower among the working married adolescent (29.8%), followers of other religions (22.9%), reside in rural areas (27.9%), did not have media exposure (28.0%), had first sex at the age of 18 and 19 (22.0%), and had terminated pregnancy (21.7%) as compared to the not working married adolescent (30.5%), followers of Muslims religion (34.7%), resides in urban areas (29.1%), had any type of media exposure (28.3%), had sex before the age of 17 (33.8%) and did not have terminated pregnancy (28.7%).

Interestingly, contraception was slightly lower among married adolescents with a higher level of education (23.5%) than the illiterate married adolescent (24.2%). Similarly, the use of contraception was low among the richer (24.4%) and richest (25.8%) married adolescents than among the poorer (31.4%) and poorest (27.8%) married adolescents. The use of contraception was too low in the south region (14.2%) as compared to the northeast region (38.7%).

Determinants of Adolescent Pregnancy

Table 5 depicts that some of the important factors such as the age of the adolescent women, education level, marital status, caste, religion, wealth status, region, age at first sex, knowledge of contraception methods and ever had terminated pregnancies are the significant factors associated with the high-risk pregnancy during 2019 - 21. The odds of getting pregnant before 19 among the older adolescent of age 18 – 19 years are more than threefold (AOR: 3.16; CI: 2.89 – 3.46) than the younger adolescent women of age 15 – 17 years. In India, pregnancies tend to occur in marriage, often arranged by parents. So it is not surprising that married adolescents (AOR: 138.09; CI: 88.35 – 215.84) were significantly associated with a greater risk of getting pregnant before 19, and the odds of getting pregnant before 19 are significantly high among the adolescent women who had their first sex before the age of 17 (AOR: 120.99; CI: 53.28 – 274.75).

Interestingly, the odds of getting pregnant before 19 are significantly higher among adolescent women who knew contraceptive methods (AOR: 2.19; CI: 1.58 – 3.03) than those who did not know contraceptive methods. Similarly, the odds of getting pregnant before 19 are significantly high among adolescent women

from the southern region (AOR: 1.86; CI: 1.61 – 2.15), followed by the northeast region (AOR: 1.75; CI: 1.44 – 2.14) and central region (AOR: 1.6; CI: 1.4 – 1.83)

Education plays an important role in reducing high-risk pregnancies at any level. The odds of getting pregnant before 19 among adolescent women who went to have a higher level of education (AOR: 0.62; CI: 0.5 – 0.76) is significantly low as compared to the adolescent women without formal education. Similarly, the odds of getting pregnant before 19 are low among adolescent women belonging to the SC/ST categories (AOR: 0.92; CI: 0.83 – 1.01), followers of the Hindu religion (AOR: 0.82; CI: 0.68 – 1.0), belongs to richest quantile (AOR: 0.77; CI: 0.65 – 0.92) and has terminated pregnancies (AOR: 0.86; CI: 0.76 – 0.97).

Table 5: Determinants of Adolescent Pregnancy among adolescent women aged 15 – 19 by their background characteristics in India, 2019 - 21

Background Characteristics	AOR	95% Confidence Interval
Age		
15 - 17		
18 -19	3.16***	[2.89 - 3.46]
Level of Education		
No education		
Primary	1.13	[0.97 - 1.31]
Secondary	1.06	[0.95 - 1.19]
Higher Secondary	0.62***	[0.5 - 0.76]
Marital Status		
Never Married		
Married	138.09***	[88.35 - 215.84]
Widowed/Divorced/Separated	51.04***	[29.3 - 88.91]
Caste		
Others		
SC/ST	0.92	[0.83 - 1.01]
OBC	0.85**	[0.77 - 0.93]
Religion		
Others		
Hindu	0.82*	[0.68 - 1]
Muslim	0.98	[0.79 - 1.21]
Wealth Quantile		
Poorest		
Poorer	0.85***	[0.77 - 0.93]
Middle	0.89*	[0.8 - 0.99]
Richer	0.82**	[0.72 - 0.93]
Richest	0.77**	[0.65 - 0.92]
Place of residence		
Urban		
Rural	1.04	[0.94 - 1.14]
Region		
North		
Central	1.15	[0.99 - 1.32]

Background Characteristics	AOR	95% Confidence Interval
East	1.6***	[1.4 - 1.83]
Northeast	1.75***	[1.44 - 2.14]
West	1.39***	[1.2 - 1.62]
South	1.86***	[1.61 - 2.15]
Media exposure		
No		
Yes	1.05	[0.97 - 1.13]
Age at first sex		
Not had sex		
Less than 17	120.99***	[53.28 - 274.75]
Between 18 - 19	29.73***	[13.03 - 67.79]
Others	75.07***	[33 - 170.75]
Knowledge of Contraceptive methods		
Knows no methods		
Knows Traditional/folk/Modern	2.19***	[1.58 - 3.03]
Ever had a pregnancy terminated		
No		
Yes	0.86*	[0.76 - 0.97]

Note: Level of significance: * p<0.05, ** p<0.01, *** p<0.001

Determinants of Contraceptive Use and Unmet Need of Family Planning

Table 6 depicts the association between demographic and contraceptive use as well as unmet needs for family planning. The odds of an unmet need for family planning are significantly associated with independent characteristics of adolescent women such as age, higher education level, OBC category, wealth quantile, northern region and first sex before 17. Thus, the unmet needs for family planning are negatively associated with older adolescent women aged 18 -19 years (AOR: 0.8; CI: 0.72 – 0.89), adolescent women living in the northern region (AOR: 0.81; CI: 0.68 – 0.98), and belonging to lower (AOR: 0.88; CI: 0.78 – 0.98), middle (AOR: 0.88; CI: 0.77 – 1.01) and richer (AOR: 0.81; CI: 0.69 – 0.95) wealth quantiles.

Whereas the unmet needs for family planning are positively associated with the upper level of education (Secondary – AOR: 1.24; CI: 1.07 – 1.43), Higher Secondary – AOR: 1.53; CI: 1.18 – 1.99), belonging to the OBC category (AOR: 1.14; CI: 1.01 – 1.28), and adolescent women who had her first sex before 17 (AOR: 1.08; CI: 0.98 – 1.19).

Table 6: Determinants of Unmet need of family planning and use of contraception among adolescent women aged 15 – 19 by their background characteristics in India, 2019 - 21

Background Characteristics	Unmet Need for FP		Use of Contraception	
	AOR	95% CI	AOR	95% CI
Age				
15 - 17				
18 -19	0.8***	[0.72 - 0.89]	1.3***	[1.18 - 1.43]
Level of Education				
No education				

Primary	1	[0.82 - 1.21]	1.19*	[1.01 - 1.4]
Secondary	1.24**	[1.07 - 1.43]	1.25***	[1.1 - 1.41]
Higher Secondary	1.53**	[1.18 - 1.99]	1.28*	[1.01 - 1.63]
Caste				
Others				
SC/ST	0.89	[0.78 - 1.01]	1.03***	[0.92 - 1.14]
OBC	1.14*	[1.01 - 1.28]	0.75***	[0.68 - 0.83]
Religion				
Others				
Hindu	1.06	[0.83 - 1.37]	1.26*	[1 - 1.57]
Muslim	0.79	[0.6 - 1.04]	1.57***	[1.23 - 2]
Wealth Quantile				
Poorest				
Poorer	0.88**	[0.78 - 0.98]	1.33***	[1.2 - 1.46]
Middle	0.88*	[0.77 - 1.01]	1.3***	[1.16 - 1.46]
Richer	0.81***	[0.69 - 0.95]	1.25**	[1.08 - 1.44]
Richest	0.88	[0.7 - 1.09]	1.28*	[1.05 - 1.55]
Place of residence				
Urban				
Rural	1.13	[1 - 1.29]	0.9	[0.81 - 1]
Region				
South				
North	0.81*	[0.68 - 0.98]	1.52***	[1.28 - 1.79]
Central	0.82	[0.7 - 0.96]	1.45***	[1.26 - 1.68]
East	0.79	[0.69 - 0.91]	1.97***	[1.74 - 2.24]
Northeast	0.77	[0.61 - 0.97]	2.18***	[1.79 - 2.64]
West	0.64	[0.54 - 0.75]	0.6***	[0.51 - 0.7]
Media exposure				
No exposure				
Any exposure	0.96	[0.87 - 1.06]	1.23***	[1.13 - 1.33]
Age at first sex				
Others				
Not had sex	5.77	[3.27 - 10.18]	0.09**	[0.02 - 0.47]
Less than 17	1.08***	[0.98 - 1.19]	1.3***	[1.2 - 1.42]
Between 18 - 19	0.96	[0.86 - 1.08]	0.71***	[0.64 - 0.79]
Ever had pregnancy terminated				
No				
Yes	0.65	[0.54 - 0.77]	0.65***	[0.56 - 0.76]

Note: Level of significance: * p<0.05, ** p<0.01, *** p<0.001

Moreover, the odds of contraception use are significantly associated with independent characteristics such as age, education, caste, religion, wealth quantile, region, media exposure, age at first sex and ever had terminated pregnancies. Thus, the use of contraception is 30% higher among older adolescent women aged 18 – 19 years (AOR: 1.3; CI: 1.18 – 1.43) than younger adolescent women aged 15 – 17 years. Similarly, the use of contraception was 3% higher among the adolescent women belonging to SC/ST categories (AOR: 1.03; CI: 0.92 – 1.14), 26% and 57% higher among the followers of the Hindu (AOR: 1.26; CI: 1.0 – 1.57), and the Muslim (AOR: 1.57; CI: 1.23 – 2.0) religions, respectively. Further, the use of contraception was 23% higher

among adolescent women who had any exposure to the media (AOR: 1.23; CI: 1.13 – 1.33) than the adolescent women who did not have any media exposure.

Education has played an important role in the use of contraception among adolescent women. As the education level increases, the use of contraception also increases. Further, a slightly higher percentage of adolescent women belonging to poorer (AOR: 1.33; CI: 1.2 – 1.46), middle (AOR: 1.3; CI: 1.16 – 1.46), richer (AOR: 1.25; CI: 1.08 – 1.44) and richest (AOR: 1.28; CI: 1.05 – 1.55) wealth quantiles are using contraception than the adolescent women belonging to the poorest wealth quantile.

Adolescent women living in the northeast regions are more likely to use the contraception methods (AOR: 2.18; CI: 1.79 – 2.64), followed by adolescent women living in the eastern region (AOR: 1.97; CI1.74 – 2.24), northern region (AOR: 1.52; CI: 1.28 – 1.79) and central region (AOR: 1.45: CI: 1.26 – 1.68) than the southern region.

Interestingly, the adolescent women who had their first sex between 18 – 19 years (AOR: 0.71; CI: 0.64 – 0.79) and had ever-terminated pregnancies (AOR: 0.65; CI: 0.56 – 0.79) are using less contraception than the other adolescent women who did not disclose their age at the time of first sex and did not have terminated pregnancies, respectively.

Summary and Discussion

As the global adolescent population grows, reducing early childbearing is crucial to achieving the Sustainable Development Goals (SDGs) related to poverty, health, nutrition, general well-being, equity and education (Nguyen et al., 2019). By use of data from the National Family Health Survey (NFHS-5), we aim to understand the level of high-risk pregnancies and the use of contraception methods among adolescent women. The study observed a reduction in high-risk pregnancies and increased contraception use. The prevalence of high-risk pregnancy and the use of contraception methods varied by sociodemographic characteristics.

Adolescent Pregnancy

Unlike in other developed and developing countries, in India, adolescent pregnancies usually occur within the marriage, which is arranged by parents (Nandi J K et al., 2014). The study suggests that in India, the trend of adolescent pregnancy has reduced significantly over the three decades; however, a significant level (6.8%) of adolescent women aged 15 – 19 years are still pregnant with their first child or had a live birth before 19, which is a worrying concern with regard to the high –risk vulnerability of stillbirth, and maternal mortality associated with it (Jonas K. et al., 2016, WHO, 2022). It is estimated that 14% of adolescent girls and women give birth before age 18 (UNICEF, 2022). However, due to a lack of disaggregated data, early adolescent childbearing is a largely hidden problem that is rarely recognized or addressed through policy or programmes. Around half

of these occur in girls under the age of 15 (Neal S et al., 2012), so they are therefore excluded from most official estimates of adolescent fertility as well as maternal mortality estimates.

The finding of the study suggests that adolescent women with no formal education are more likely to begin childbearing before 19 (17.7% vs 2.5%) than adolescent women with the higher secondary level of education (OR:0.62). Similarly, adolescent women who belong to the poorest wealth quantile are more vulnerable to early pregnancies than adolescent women who belong to the richest wealth quantile (10.0% vs 2.3%). These adolescent women are also most likely to be vulnerable to high-risk pregnancies: they live in east and northeast regions and have their first sex before 17.

Unmet need for FP and Contraceptive Use

In India, along with adolescent pregnancy, the level of unmet need for family planning has also been reduced. However, there is strong demand for the unmet need for family planning among adolescent women who have at least a secondary level of education. These adolescent women want to postpone their pregnancy. Further finding suggests that younger adolescent women have more demand of unmet need for FP than older adolescent women (21.3% vs 17.0%), adolescent women who live in the western region than the southern region (21.0% vs 14.6%), and adolescent women with no knowledge of contraception than knows about any contraception (39.0% vs 17.5%).

It is widely recognized that consistent and correct use of contraception by couples or partners can help space or limit the number of children and avoid unwanted pregnancy (Bupe Bwalya et al., 2022). With considerable efforts and nationwide campaigns, the use of modern contraception methods among adolescent women has more than doubled in the last 15 years (IIPS and MI, 2007), though the overall contraceptive prevalence rate (CPR) among adolescent women is still low (28.1%).

The literature review shows that the low use of contraceptives use by unmarried girls and married adolescent women are influenced by many interrelated multi-layered factors such as education level, religion, marital status, and knowledge and service delivery-related barriers (Subedi et al., 2018). Many studies have suggested that education, in general, is found to have a positive impact on the use of modern contraception among adolescent women (Subedi et al., 2018); however, in India, there is no significant difference among adolescent women with the higher secondary level of education and without formal education (23.5% vs 24.2%). Similarly, the wealth of the family has not shown an influential impact on contraceptive use. Even in order to avoid constraints of income in affording contraceptives, the government of India has made contraceptive methods available in every public health facility free of cost.

Furthermore, evidence from several studies indicates that individual religion or belief and marital status influence the use of contraception (Aftab Shah et al., 2008; Srikanthan & Reid, 2008; Subedi et al., 2018).

There is no difference in the scenario in India, as the adolescent women who follow the Hindu and Muslim religions reported 26% and 57% higher use of contraception, respectively, than the adolescent girls who follow the other religion.

Conclusion and Policy Recommendation

Findings from the study confirm that in India, the level of adolescent pregnancy has significantly reduced in the last three decades. The education level and wealth status of adolescent women have played an important role in reducing adolescent pregnancy. Similarly, the demand for unmet needs for family planning has also been reduced as adolescent women with the knowledge of contraception method has lower demand than adolescent women without knowledge of contraception methods.

The study also suggests an increase in contraception use among adolescent women in the last 15 years; however, it is still as low as 28.1%. The lowest is among adolescent women living in the southern region of India. The government has introduced many adolescent programmes and considerable health campaigns; however, these strategies have worked only for a certain section of the population. Therefore, there is a need for the government and its collaborating health partners to promote the use of contraception to adolescent women using specific community-based interventions among adolescent women in order to avoid early pregnancies and pregnancy complications.

The study focuses only on the level and trend of adolescent pregnancy and the use of contraception among them and has included only young women. Further research on the use of contraception, demand and uptake has been noted.

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