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Trend and Differentials of a Socio-Demographic Scenario and Extent of Adolescent Fertility in Maharashtra, India

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ABSTRACT

This study examines trends in rural-urban differentials since 1970 and consequences of adolescent fertility in Maharashtra. Results indicate that the contribution of adolescent fertility in total fertility level is quite high in Maharashtra compared to the national value. This proportion is significantly higher in rural Maharashtra (12%) than in the urban counterpart (7%). Though the trends of adolescent fertility share to the overall fertility in Maharashtra are somehow stagnant after 1990, the rural picture is different than the urban one. The share of adolescent fertility has declined at a much faster rate in the urban than in the rural Maharashtra after 1990. Adolescent childbearing also varies along with the socio-demographic characteristics of teenage girls. It can be confirmed by three rounds of The National Family and Health Survey that early age (15-19) childbearing is more frequent among Muslims, illiterate women and those belonging to the Schedule Caste compared to their respective counterparts. Women's work status shows significant influence on adolescent fertility. The study shows that 47% of adolescent working women began childbearing while more than 72% of non working women began childbearing in 2005-2006. To understand the extent of childbearing among adolescents, the study uses the Mean Number of Children Ever Born (MCEB) per adolescent. We found that MCEB among adolescents decreased steadily from 1992-93 to 2005-2006. Finally, it can be said that while the Total Fertility Rate is declining in India as well as in Maharashtra, the teenage fertility is still high but its contribution to Total Fertility Rate shows a decline.

1. INTRODUCTION

Adolescent childbearing has emerged as an issue of increasing concern throughout the developing and developed countries once with the International Conference on Population and Development (ICPD) held at Cairo in 1994. The concern derives primarily from the desire to improve the social status of adolescent girls and safeguard the health of young mothers and their children [1], [2].

"Adolescence" has been defined in several of ways in many studies depending on the subject matter of research. It has been defined 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" [3], [4]. However, the operational definition varies mainly because of the variations in defining the age range for adolescents. United Nations have taken the age range of 13 – 19 years to understand the reproductive behaviour of adolescents [5]. The World Health Organization (WHO) defined 'adolescence' as the transition from childhood to adulthood, which is known as the period between 10 and 19 years [6]. But, the teenage reproductive behaviour tends mostly to occur in the age group of 15 to 19 in most populations. Hence, many studies pertaining to adolescent fertility and reproductive behaviour of adolescents focused on the age group of 15-19 years for women [7], [8], [9].

Adolescent childbearing has been of concern to governments for two distinct reasons – medical and socio-economic [10]. In practice, these two types of

problems are probably not as independent as they may seem, since the medical problems may be associated as much with low levels of care as with any straightforwardly physiological difficulty associated with early conception [11]. Thus, there is high incidence of teenage pregnancy, abortion, early marriage and, in some instances, of sexually transmitted diseases among young people. It is estimated at the global level that girls aged 15-19 are twice as likely to die from childbirth as are women in their twenties, while girls younger than age 15 face a risk that is five times higher [12]. Early sexual activity leads to early pregnancy at the age when they are not biologically mature to rear the foetus and this exposes them to acute health risk during pregnancy and childbirth [13].

The major factor determining adolescent fertility is the early age at marriage and child bearing. In Nigeria, about half of all women are married by the age of 17 and half of them become mothers by the age 20, while more than a quarter of teenagers aged 15-19, are either pregnant or already have children [14]. A study in Brazil shows that the young women's level of education is the most strongly and consistently factor associated with the probability of giving birth during adolescence [15]. Marriage and consequent onset of sexual activity and fertility occur far earlier in India than in many regions of the world, thrusting teenage females early into adulthood, sometimes soon after regular menstruation is established [16].

It is widely acknowledged in various studies that the responsibilities of early parenthood have long-lasting effects on the socio-economic wellbeing of the women and children involved [3], [4], [8]. Based on the findings of the research literature on the subject spanning over two decades, Hayes (1987) concluded that those who become parents in adolescence were at greater risks of social and economic disadvantages throughout their lives than those who delayed childbirth until they were in their twenties [17]. Duncan and others (1998) for example observed that the young mother's risk of poverty was especially high in the early period of her child-rearing – when, the potential ill-effects on her children's development might be the most serious [18].

Early marriage and adolescent childbearing is a very peculiar feature of the Indian population in general and that of the Rajasthan in particular. A substantially large number of girls in the state marry before the legal minimum age at marriage (18 years) and a sizable number of them have their first child very soon after. According to the 1991 census of the country, there were approximately 13,143,448 females in the country aged 15-19 years who were already married at the time of the census (accounting for nearly 36% of the total female population aged 15-19 years).

These numbers speak by themselves of the volume and seriousness of the situation regarding the issues related to adolescent motherhood in this state and its implication for the need to tackle the situation. According to the Sample Registration System [19], adolescent fertility (15-19 years) contributes with almost 8% of the total fertility of the country and with more than 10% for the state of Maharashtra.

Therefore the present paper discusses issues related to adolescent motherhood in Maharashtra (one of the most progressive states in socio-economic and demographic development). The overall goal of the present paper is to unfold various issues related to adolescent motherhood in the state of Maharashtra.

2. DATA AND METHODOLOGY

The data for the present study has been drawn from multiple secondary sources like the Sample Registration System of India (SRS), and the National Family and Health Survey (NFHS).

The Sample Registration System (SRS) of India is one of the largest demographic surveys in the country, organised and published by the office of the General Registry of India, New Delhi. SRS has been mandated to provide annual estimates of fertility as well as of mortality indicators at the state and national level on a regular basis from 1971 onward. SRS has a unique feature of dual recording, which involves collection of data through two different procedures (i.e. continuous enumeration and retrospective half-yearly surveys), followed by the process of matching the two records and subsequent field verification of unmatched and partially matched events.

The National Family and Health Survey (NFHS) is another large scale demographic survey in India, coordinated by the International Institute for Population Science, Mumbai. The NFHS is a national representative of the Demographic Health Survey (DHS). The programme was initiated in the early 1990_s and it completed its three rounds of the surveys. The reference periods of the surveys were NFHS-1 in 1992-93, NFHS-2 in 1998-99, and NFHS-3 in 2005-6. However, the NFHS is very rich in providing information about various demographic aspects like women fertility behaviour, adolescent reproductive health, high risk behaviour of the teenage girls, etc.

In the present analysis, adolescent fertility is measured as the number of live births per 1,000 women aged 15-19. The Total Fertility Rate (TFR) has been defined as the number of children a woman would bear during her reproductive years if she were to experience the Age Specific Fertility Rate (ASFR) prevailing at the time of the survey. Mathematically, the TFR is five times the sum of all the ASFRs for the five-year age groups:

$$TFR = 5^* \sum ASFR_{15\text{-}49}$$

3. RESULTS AND DISCUSSION

3.1. Level and trends of adolescent fertility

Figure 1 suggests that adolescent fertility in India halved steadily from about 105 live births per 1,000 women in 1970 to 46 in 2005. Maharashtra also showed an overall decline in the adolescent fertility during this period (from around 80 to 44), even though the state actually experienced an increase in adolescent fertility until the mid eighties. The late eighties witnessed a steep decline in adolescent fertility in the state, declining from 88 during 1985 to 44 in 2005 (a decline by almost 50% in about 15 years). An interesting finding that emerged from the comparison between the general adolescent fertility in the state and India was that throughout the period of analysis, the levels were lower in the state, even for the periods when the state actually experienced increase in adolescent fertility. The data by place of residence indicated that the urban areas of Maharashtra had a steady decline from 80 births per 1,000 women in 1970 to less than 27 in 2005 (lower than the average for urban India). However, the rural areas of the state had a different story altogether. As seen, the rural areas of the state registered an increase in adolescent fertility during the seventies and mid eighties after which they showed a consistent decline of these levels.

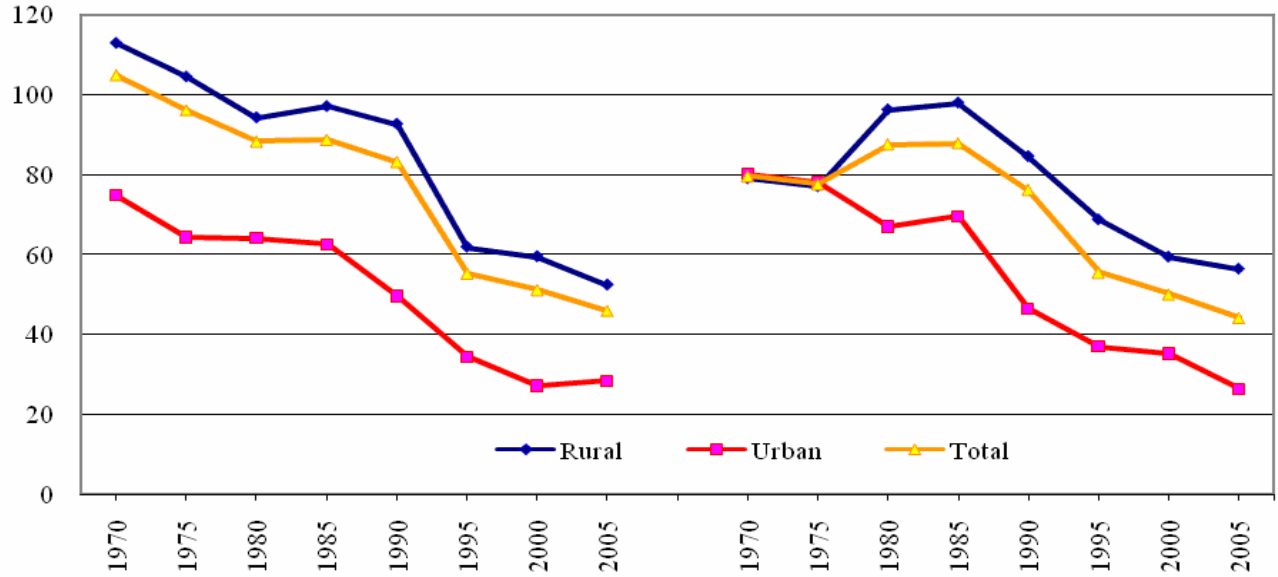

Fig. 1. Trends in adolescent fertility in Maharashtra and India by place of residence (1970-2005).

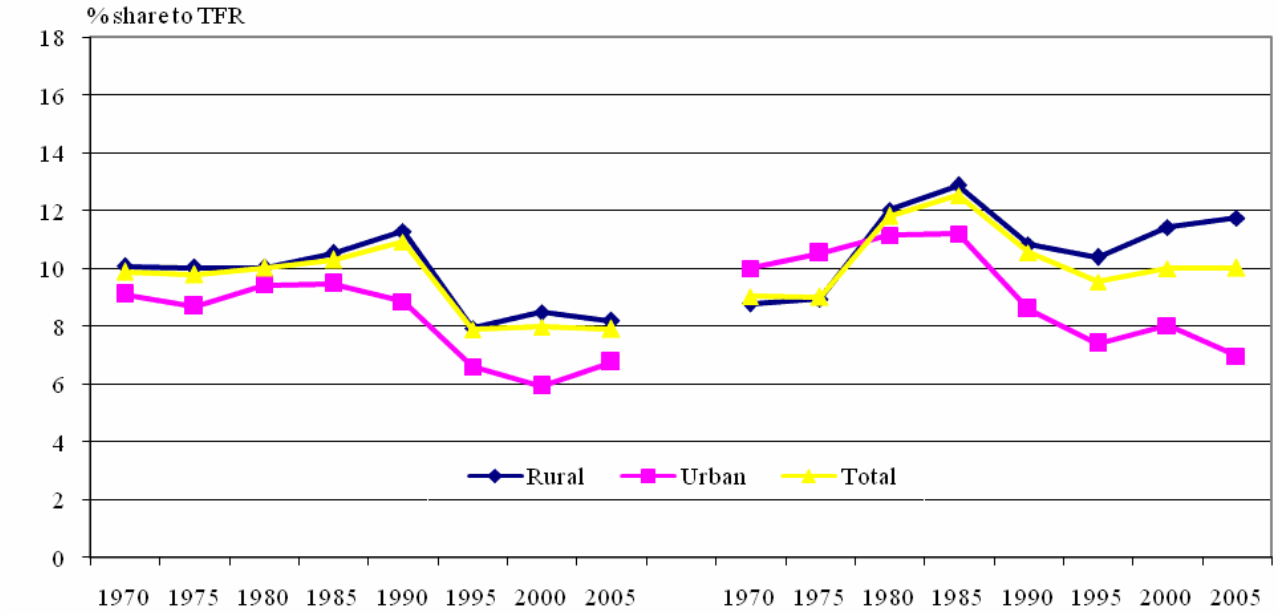

Fig. 2. Trends of percentage share of adolescent fertility to total fertility in Maharashtra and India by place of residence (1970 – 2005).

Figure 2 gives the percentage share of adolescent fertility to the total fertility for India and Maharashtra by place of residence for the period 1970 to 2005. The findings suggest that adolescent in Maharashtra contribute with about 10% to the total fertility as compared to about less than 8% for the country as a whole. This is an interesting result as previously we have noted that the levels of adolescent fertility are lower in the state as compared to the national average. The time series data showed that the share of adolescent fertility in total fertility increased from about 9% to over 12% in Maharashtra and remained somewhat at 10-11% in India during 1970 to 1990. However, after 1990, the share of adolescent fertility declined to less than 8% in case of India and to about 10% in Maharashtra. The share of adolescent fertility seems to have remained somewhat unchanged in the recent times, however.

Once again experiences are different by place of residence. The contribution of adolescent fertility in rural and urban areas has shown an increasing pattern until the eighties. The share of adolescent fertility increased from 9% to 13% and from 10% to a little over 11% in rural and urban areas of Maharashtra during 1970-1990, while for the nation as a whole it increased from 10% to a little over 11% in rural areas and remained around 9% or so in the urban areas throughout the eighties. During the post eighties, the urban areas showed considerable decline in the share of adolescent fertility (less than 7%). However, in case of rural areas the decline was registered for both Maharashtra and India. The decline was much sharper for the latter (to 8% as compared to nearly 12% for Maharashtra). The increase in the share of adolescent fertility until 1990 or so may partially be attributed to the changes in the age structure of women consequent to high fertility in the previous periods.

In order to understand the changes in the adolescent fertility from the National Family Health Survey, in table 1 we compiled the levels of ASFR (15-19) and of TFR for India and Maharashtra from three rounds of the NFHS (NFHS 1, NFHS 2, and NFHS 3).

In the NFHS, the ASFR for any specific age group is calculated by dividing the number of births to women in that age group during the period 1-36 months preceding the survey by the number of woman in that age group during the same three-year time period. The results of the three rounds of the national family health survey revealed that the contribution of adolescent fertility to total fertility was of 25-26% in Maharashtra during the nineties which over time reduced to less than 20% during 2005-2006 (the share being much higher than what it was observed from the SRS).

In rural Maharashtra, adolescent fertility contributed with about 29% to the total fertility during the nineties which declined to 23% during 2005-2006, whereas in urban areas the share of adolescent fertility increased from 17% in 1992-1993 to 21% during 1998-1999 and declined thereafter to less than 17% during 2005-2006.

Table 1. Age-specific and total fertility rates for the three-year period preceding the survey, according to place of residence in Maharashtra, 1992-2003 to 2005-2006.

Time period	ASFR (15-19)	TFR (15-49)	% Share of TFR
Rural			
1992-1993	0.183	3.12	29.33
1998-1999	0.156	2.74	28.47
2005-2006	0.105	2.31	22.73
Urban			
1992-1993	0.088	2.54	17.32
1998-1999	0.094	2.24	20.98
2005-2006	0.064	1.91	16.75
Total			
1992-1993	0.141	2.86	24.65
1998-1999	0.129	2.52	25.60
2005-2006	0.084	2.11	19.91

Source: National Family Health Survey, I, II and III.

3.2. Adolescent childbearing by socio-economic characteristics

Table 2 shows the proportion of adolescents who have already began childbearing (either have had a live birth or were currently pregnant with their first child at the time of survey) by a few selected background characteristics such as religion, caste, educational status and working status of the woman and standard of living of the household. The data suggests that the proportion of adolescent women who have already begun childbearing is higher among Muslims and among those belonging to scheduled castes as compared to their respective counterparts (Hindus or Other castes) across three rounds of the NFHS.

The educational status and the working status of the adolescents clearly seem to influence the initiation of childbearing. For example, as it may be seen from the data in table 2, the level of adolescent childbearing has always been higher among adolescents who have no education than among those with some level of education. The percentage of adolescent who had already begun childbearing declined from nearly three-fourth among the illiterate to two-thirds or less among those who had at least completed primary education during 1992-1993. Similarly, the percentage of adolescents who had begun childbearing declined from about 69% among illiterate to 50% among those who completed high school or more during 2005-2006.

The work status data reveals that the percentage of adolescents who are not working and have begun childbearing is higher than of those who are working. The relationship between the work status of women and initiation of childbearing seems to have strengthened over time as the gap between non-working and working has widened from NFHS – 1 to NFHS – 3. Out of the non-working adolescents, about three fourth already began childbearing during 1992-1993 as compared to the two-thirds of those working (a gap of about 9% points). In 2005-2006, about 73% of working adolescents began childbearing as compared to less than 48% among those working (a gap of about 25% points).

Table 2. Percentage of adolescents who began childbearing by socio- economic characteristics in Maharashtra, 1992-1993 to 2005-2006.

Socio-economic Characteristics	1992-1993	1998-1999	2005-2006
Religion			
Hindu	69.6	65.2	59.5
Muslim	75.5	86.3	70.5
Others	70.7	58.6	72.7
Caste			
Scheduled caste	78.8	73.1	72.4
Scheduled tribe	75.6	67.6	66.7
OBCs and general	68.9	65.6	57.5
Educational status			
Illiterate	74.7	71.9	68.9
Literate	73.3	72.5	52.3
Primary Completed	66.7	66.4	62.3
Middle School Completed	63.6	65.0	54.5
High School Completed and above	0.0	37.8	50.0
Working status			
Non-working	75.0	68.6	72.8
Working	65.6	65.6	47.5
Standard of living			
Low	75.4	67.7	72.5
Medium	70.1	68.2	50.0
High	60.7	60.6	67.8
Total	**70.5**	**66.9**	**62.1**

3.3. Adolescent childbearing by demographic characteristics

Table 3 gives the percentage of adolescents who had already begun childbearing by selected demographic characteristics for 1992-1993, 1998-1999 and 2005-2006 from the respective National Family Health Survey. Nearly 62% of married adolescents aged 15-17 years began childbearing during 1992-1993 which only reduced marginally to 54% in 2005-2006. Among those aged 18-19 years, over 77% in 1992-1993 and 67% in 2005-2006 had already begun childbearing.

Thus a substantially large proportion of adolescents began childbearing before reaching age 18, the minimum legal marriage age for girls in India. Marriage and the consequent onset of sexual activity and fertility occur far earlier in India than in many regions of the world, thrusting teenage females early into adulthood, sometimes soon after regular menstruation is established. The marriage of girls at young ages in India leads to teenage pregnancy and motherhood. The change to a minimum age of 18 years for marriage has been suggested as a means of reducing the number of teenage pregnancies. Still, many girls are

getting married below age 18 years and become mothers. The data indicate that the percentage of adolescents who began childbearing declined substantially with an increase of marriage age at.

Therefore, different ratios of childbearing were registered at the time of survey. For instance, out of the adolescents who married before age of 14, about 83% in 1992-1993 and over 81% in 2005-2006 had already begun childbearing and the same was registered in the case of those who married at the age of 14-16 yet in a lower percentage (of 73% and 66%). The difference is visible when compared to the shares of 53% and 46%, registered by adolescents that got married at the age of 17-19.

Early marriage subsequently leads to low educational achievements and an overall low status of women, which leads to poor knowledge of sexual and reproductive health issues, including contraception and low reproductive decision making power.

Table 3. Percentage of adolescents who began childbearing by demographic characteristics in Maharashtra, 1992-1993 – 2005-2006.

Demographic Characteristics	1992-1993	1998-1999	2005-2006
Age of the women (in years)			
15-17	61.5	57.7	53.7
18-19	77.4	73.8	66.9
Age at marriage (in years)			
<14 yrs	82.7	69.3	81.3
14-16 yrs	73.1	74.4	65.5
17-19 yrs	52.9	48.4	46.3
Duration of marriage (in years)			
<1 yrs	31.7	25.0	25.2
1-2 yrs	65.4	75.9	70.7
3-4 yrs	82.5	83.1	82.4
>=5 yrs	98.3	81.6	92.6
Mean age at first child bearing	**15.8**	**16.1**	**16.5**

Table 4. Average no. of children ever born and percentage of adolescents with 2 or more children ever born (CEB), by place of residence, Maharashtra, 1992-1993 – 2005-2006.

Children ever born	1992-1993	1998-1999	2005-2006
Average no. of Children Ever Born			
Combined	0.88	0.75	0.60
Rural	0.92	0.75	0.58
Urban	0.73	0.74	0.63
Percentage who have 2 or more CEB			
Combined	30.1	26.6	16.3
Rural	33.2	27.3	17.2
Urban	20.0	24.7	14.5

3.4. Extent of childbearing among adolescents

The early initiation of childbearing makes adolescents more vulnerable to repeat exposures to childbearing and thereby may influence their health adversely in the long run. In order to understand the extent of childbearing among the adolescent we provided the average number of children ever born and the percentage of adolescents who had 2 or more children ever born at the time of survey by place of residence for the state for all three rounds of the NFHS. The same is presented in table 4. The average number of children ever born was of 0.87 in NFHS-I, for all ever married women. The average number of children ever born among adolescents in Maharashtra had decreased steadily from 0.88 in 1992-1993 to 0.75 in 1998-1999 and further to 0.60 in 2005-2006. This decline was more visible in the rural areas of the state as compared to the urban areas (the average number of CEB was of 0.58 in rural Maharashtra during 2005-2006 while in the urban areas it was of 0.63).

The data further shows that about 30% of the married adolescents in 1992-1993 in the state had 2 or more children ever born to them, number that declined to nearly 27% in 1998-1999 and further to a little over 16% in 2005-2006.

The findings further suggest that the rural-urban gap seems to be fast bridging as far as the

percentage of adolescents with 2 or more CEB is concerned. In 1992-1993, about 33% of the rural adolescents and 20% of the urban adolescents had 2 or more CEB (a gap of about 13% points) which reduced to 17% and less than 15% respectively in 2005-2006 (a gap of less than 3% points).

4. CONCLUSION

Adolescent fertility in Maharashtra declined remarkably from 1970 to 2005. The share of teenage fertility to total fertility declined marginally during the 35 year long period since 1970. Education has a substantial impact on the teenagers' fertility behaviour. The proportion of teenage ever married women having no children increased along with the improvement of educational status. The same proportion increased from 1992-93 to 2005-06 also in the case women with the same educational level, even among the illiterates. Therefore, although it seems that women are becoming aware about the effects of early childbearing, mass campaigning for lowering the family size as a whole and proper counselling of the teenage about the negative aspects of early initiation of childbearing needs special meditation.

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