

# Study Of Fertility Indicators In Slum Area of Ahmedabad City In India

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## Abstract

**Introduction:** India is one of the most populous countries of the world. Various efforts to control population growth in India are yet to reach the goal of stabilization of the population. Fertility indicators are the measures to know the direction of the population growth. **Methods:** Present cross sectional study was conducted to study the fertility indicators of a slum area of Ahmedabad city located in the western India. The study was conducted amongst 293 Married Women of Reproductive Age of a slum area, in the West Zone of Ahmedabad city, India. **Results:** The proportion of married women in 20-24 years was 21.8% reflecting the age at marriage. The mean numbers of conception and live births were 2.93+ 2.05 and 2.52 + 1.81. The proportion of pregnancy loss was 13.97% out of which MTP accounted for 52.5%. Fertility Indicators of the study area: Crude Birth Rate-32.86 per 1000 population, General Fertility Rate- 111.7 per woman, Total Fertility Rate- 3.4 per woman and Gross Reproductive Rate-1.66. **Conclusion:** It can be safely concluded from the study that fertility control measures need urgent attention in the urban slum areas.

## INTRODUCTION

“Mankind is now making attempts to prevent the tragedy of too many people. The debate on the cause and effect of too many inhabitants on this earth is centuries old but the effort to control the cause and mitigate the effect is only decade old”<sup>1</sup>.

Over last few decades, both fertility and mortality rates fell in India, but decline of mortality was strong enough to offset that of fertility. But the 2001 census gives a clear indication that India is passing through the last phase of fertility transition, moving towards moderate to low fertility. As a result, the decline in birth rate is now faster than the parallel decline in the mortality rates<sup>2</sup>.

The crux of the problem is that our women folk suffer from unregulated fertility and its consequences. The factors playing role in transformation from high to low fertility rates are age at marriage, woman's health and nutrition, infant feeding practices, child survival rates, the nature of family as an institution, the status of women, the female literacy, religion and belief system, type of economic system, the level of urbanization, labour force participation among women and health care system, especially reproductive health care. National Family health Surveys, and Census-2001 have revealed certain facts and figures with

regard to population structure, fertility patterns and various factors determining them. The fact is, we have not achieved the desired level of birth rate till date.

Demographers estimate that by 2030 approximately two-thirds of all people will live in large towns or cities. The human population is thus becoming urbanized. The number of people leaving in urban slums and shanty (Chawls) is an indicator of conditions in the cities<sup>3</sup>. 27.78% of India's population live in urban areas. Out of which 40,297,341 people lives in slum areas across 607 towns of the country<sup>4</sup>. The actual numbers might be more as definition of slums may differ. In Gujarat State about 12% population lives in slum area. In Ahmedabad City too, same percentage of people live in slum area<sup>4</sup>. Till recently urban population was not having well structured health services compared to rural population.

Therefore a need was felt to assess the current population composition, fertility pattern and factors affecting them in the local urban slum community.

## MATERIAL AND METHODS

### STUDY AREA

The study was conducted in Ahmedabad city. The city is divided into five zones. There are about 2024 slums and

chawls with 40 % population residing in the same,

The study was carried out in the randomly selected slums, in the West Zone of Ahmedabad city.

### **SAMPLING METHOD**

The Married Women of reproductive Age group (MWRA) (15-49 years) constituted the study group. As MWRA constitutes 22% of total population<sub>6</sub>, and taking .05 allowable error the sample size of 287 MWRA was taken<sub>7</sub>. Considering the compliance and dropouts sample size of 315 MWRA was taken, but 293 MWRA could be studied inspite of our best efforts.

### **STUDY PERIOD**

The study was conducted during February 2003 to May 2003.

### **STUDY MATERIAL AND METHOD**

A pre-designed, pre-tested Proforma was used for collecting information regarding fertility profile of married women of reproductive age group in the selected community. All pregnancy and their outcomes taking place between February 2002 to January 2003 were recorded for computation of the fertility indicators.

### **DATA ANALYSIS AND INTERPRETATION**

Data thus collected were tabulated and analyzed using EPI 6.04 software. Qualitative data were analyzed using appropriate methods.

### **OBSERVATION AND DISCUSSION**

#### **AGE GROUP OF WOMEN**

Tabel-1 shows that 20-24 years age group contains maximum numbers of females.(21.8%) followed by 30-34 years age group(17.7%). Only 6.8% female comprised 15-19 years age group, as more and more females now tends to marry at later age. Majority of women being in 20-34 years age, family planning efforts should be concentrated towards them. Mean age of MWRA in the study area was 31 years ( $\pm 8.7$ ).

**Figure 1**

Table 1: Distribution of MWRA in age group of the study area

Age of Woman	Frequency	Percent
15-19	20	6.8
20-24	64	21.8
25-29	47	16
30-34	52	17.7
35-39	43	14.7
40-44	34	11.6
45-49	33	11.4
Total	293	100

#### **EDUCATION OF WOMEN**

Nearly half of the women, (49.2%) were illiterate. Among literate female, 29% were educated up to higher secondary level, only 2% were graduate and 0.7% were postgraduate. Thus more and more female needs to be encouraged for taking up education.

#### **AGE AT MARRIAGE**

Mean and median age at marriage was 17 years for female and mean and median age for their husbands was 20.7 years and 20 years respectively. Difference between age at marriage for males and female is three years. National average age at marriage has increased from 13 years in 1951 to 19.6 years in 1999<sub>8</sub>. Still over 50 percent of girls marry below the age of 18, the minimum legal age of marriage, resulting in a typical reproductive pattern of “too early, too frequent, too many<sub>9</sub>, 25.3% of women marry before 18 years of age in Gujarat in 1998-99<sub>6</sub>. In a similar study age at marriage was 20.31 years in an area of Ahmedabad City<sub>10</sub>. By increasing the age at marriage, married reproductive span can be reduced and the number of years women is exposed to the risk of pregnancy can decrease, thus reducing fertility.

Age at First pregnancy: The median age at first pregnancy was 20 years, thus there is an interval of average three years between age at marriage and age at first pregnancy. A study found it at 21.54 years in Ahmedabad City<sub>10</sub>.

#### **CHILDREN EVER BORN AND LIVING**

Table-2 indicates that 21.35% of MWRA had two children, while 43.67% of MWRA had more than two children. 20.13% of MWRA yet to have a child. NFHS-II6 found that in Gujarat the mean number of children ever born are 2.9 for MWRA. In this study it was 2.21.

Figure 2

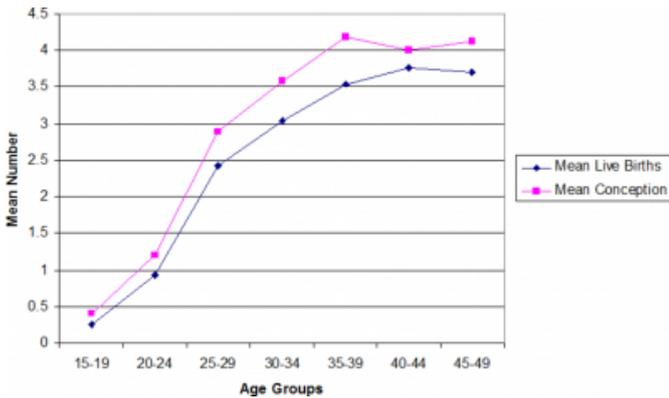
Table 2: Distribution of MWRA according to total number of living children

Number of Total Children	Frequency	Percent
0	59	20.13
1	43	14.67
2	63	21.35
3	66	22.52
4	39	13.31
5	16	5.46
6	5	1.70
7	1	0.34
8	1	0.34
<b>Total</b>	<b>293</b>	<b>100</b>

CONCEPTION AND LIVE BIRTH

Figure 3

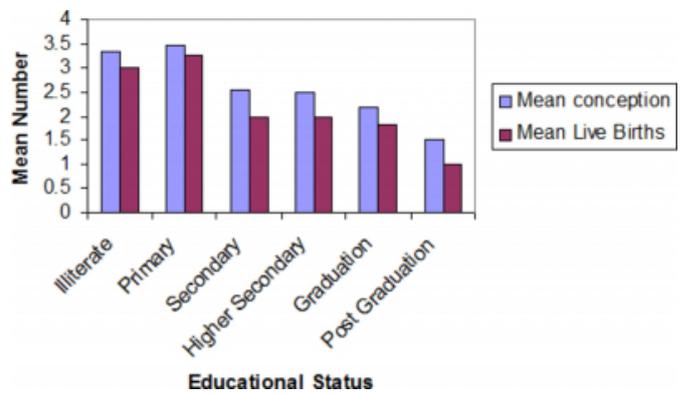
Figure 1: showing mean conception and mean live births according to age groups



Average number of conception of MWRA in the study population was  $2.93 \pm 2.05$ . The average conception in women up to the age 29 years was 2.89. As indicated in table-4 and figure-1, the average conception of MWRA was more than or equal to 4 in women beyond 30 years indicating increase the acceptance of fertility control measures in the younger age groups. It was observed that 56.33% of MWRA had two or less than two living children, indicating that the majority MWRA prefer to limit their family to two children. Average number of conception in Ahmedabad was  $2.75 \pm 1.95$  in similar study<sub>10</sub>. As per figure-2 both the mean conceptions and live births were inversely related with education- higher the education, lower are the values. The impact of education on reduction of fertility is appreciable once the woman has been educated at least up to secondary level.

Figure 4

Figure 2: Education status and mean conceptions and mean live births by age groups



PREGNANCY LOSS

The proportion of pregnancy loss to all conceptions was 13.97%. Table-3 shows that the pregnancy loss due to natural causes was 47.5% and the proportion of Medical termination of Pregnancy as a cause of pregnancy loss was 52.55, may be due to increased awareness and accessibility of MTP services in the area.

Figure 5

Table 3: Distribution of Pregnancy loss

Type of Pregnancy Loss	Number	Percent	Percent of Total Conceptions
<b>A) Natural</b>			
Abortions- Spontaneous	38	31.67	4.42
Still Births	19	15.83	2.21
<b>Sub-Total</b>	<b>57</b>	<b>47.5</b>	<b>6.64</b>
<b>B) Artificial</b>			
Abortions- M.T.P.	63	52.5	7.33
<b>Grand Total</b>	<b>120</b>	<b>100.00</b>	<b>13.97</b>

FERTILITY INDICATORS

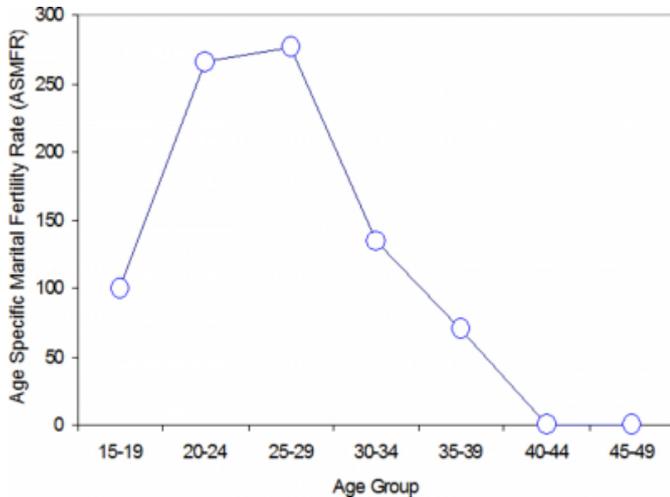
All the fertility indicators were calculated as per definitions given in the Reproductive indicators for the global monitoring, WHO 2000<sub>12</sub>. Age Specific Fertility Rate (ASFR) is highly sensitive index of fertility control behaviour in any community. In present study there were no births in 40 and higher age groups as shown in the figure-3.

Figure-3 shows that the highest ASFR was observed in 25-29 years and it drastically declined after 29 years indicating increased acceptance of fertility control measures by the MWRA. Various indicators of fertility, which reflects current status of fertility in the community like Crude Birth Rate, General fertility rate, Total fertility rate and Gross reproductive rate of the present study are mentioned in the table-4. The Marital fertility rates like General Marital

fertility rate have higher value than General fertility rate as denominator for the later also include unmarried women. Table-5 shows the comparison of fertility indicators of present study with the national and state fertility indicators.

**Figure 6**

Figure 3: Age specific fertility rate of the study population



**Figure 7**

Table 4: Various Indicators of fertility in the present study

Sr. No	Indicator	Value
1	Crude Birth rate (CBR)	32.86 per 1000 population
2	General Fertility Rate (GFR)	111.7 per 1000 WRA
3	General Marital Fertility Rate (GMFR)	143.34 per 1000 MWRA
4	Total Fertility Rate (TFR)	3.4 per WRA
5	Total Marital Fertility Rate (TMFR)	4.2 per MWRA
6	Gross Reproductive Rate (GRR)	1.66
7	Child: Woman Ratio	337.76
8	Sex Ratio at Birth	615 Female per 1000 Male
9	Pregnancy Prevalence Rate	71.62 per 1000 MWRA

**Figure 8**

Table 5: Comparison of fertility indicators

Indicator	India	Gujarat	D.V.Bala 1990 <sup>10</sup>	Present Study
C.B.R.	25.4 (SRS 2001) <sup>11</sup>	24.9 (SRS 2001) <sup>11</sup>	24.65	32.86
	24.8 (NFHS-II) <sup>6</sup>	24.3 (NFHS-II) <sup>6</sup>	-	
G.F.R.	106.5 (1998) <sup>13</sup>	98.7 (1998) <sup>14</sup>	121.15	111.7
T.F.R.	3.2 (1998) <sup>13</sup>	3.0 (1998) <sup>14</sup>	2.99	3.4
	2.85 (NFHS-II) <sup>6</sup>	2.72 (NFHS-II) <sup>6</sup>	-	
G.R.R.	1.6 (1998) <sup>13</sup>	1.4 (1998) <sup>14</sup>	1.42	1.66

**CONCLUSION**

It can be safely concluded from the study that fertility

control measures need urgent attention in the urban slum areas. Due to absence of well recognized structure of the health care delivery, fertility indicators of these areas are higher than the national and state level statistics. Awareness programs and family welfare service delivery should focus on urban slum areas to control the fertility.

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