

## PATTERN OF REPRODUCTION—CHANGING TRENDS

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Most of the developing countries of the world are experiencing the problems created by excessive and unplanned fertility. Excessive fertility in turn affects adversely all the plans for economic development and social progress. India is no exception to this. The country is fast changing from a traditional sector (agricultural) to a modern sector. "The more the merrier" was the motto for an average Indian family because the children could be helpful in the fields. More children were also a type of social security in old age. Fertility in higher age and parity groups was a characteristic pattern. Family planning programs are initiated all over the world in response to excessive fertility. India was the first country in the world to accept family planning as a national policy. The family planning program is now in full swing and facilities for fertility control are becoming more easily available. Organization of mass sterilization camps in different States is a new feature in the country's fight for population stabilization.

It is felt that the family planning program and economic progress of the country should affect the fertility pattern. It

is true that considerable time must elapse from initiation of the family planning program to resultant change in the fertility pattern. But now the family planning movement has been active for more than two decades and it is anticipated that the community would replace the "large family" norm by a small family" norm. With changing trends and development of fertility, contraception and (now) legalized abortion, the pattern of population growth might be visualized.

The purpose of the present study is to determine if changes have occurred in the fertility pattern over these years in one municipality. The new abortion laws may further affect the fertility pattern and so the present data may act as a baseline for evaluating changing trends in fertility at a future date.

### *Material and Methods*

The births taking place in the city of Baroda, India, from 1956 to 1970 are analyzed in relation to the age-parity pattern of mothers. Baroda is a city in the State of Gujarat (Western India) and about 250 miles north of Bombay. Baroda has a population of 450,000 according to the 1971 census. The birth rate would be a good index to study fertility patterns, but in developing countries, under-reporting is likely to alter the correct picture. Revenholt suggests that while measuring the impact of family planning

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programs on fertility, age and parity of women, two foremost determinants of fertility be fixed. Ravenholt *et al*, (1968) suggest "numerator analysis" utilizing a standard age-parity grid for studying trends in fertility.

#### Analysis

Table I shows the percentage of first births and births in parity 5+ in relation to total confinements. The incidence of first births has shown an increase from 17.4 per cent in 1956 to 23.3 per cent in 1970—an increase of 35%. The reduction in births among women with

parity 5+ is also striking. The parity 5+ accounts for only 20.5 per cent of total births in 1970 as against 37.4 per cent in 1956. This is attributed to voluntary sterilization and use of other contraceptive methods by women in higher parity groups. The fertility pattern in relation to parity in other countries is shown in Table II. Primigravidae accounts for 37.5 per cent of total births in the United States and 45.9 per cent of total births in Japan. The high parity (5+) births are very low in Japan (1 per cent) whereas in Costa Rica it still accounts for 44 per cent of births.

TABLE I  
Per cent Parity One and Parity Five and Over by Year Baroda, India  
1956-1970

Year	Primi births Percentage	Confinements in parity 5 + percentage	Total confinements
1956	17.4	37.5	10,248
1957	16.7	37.6	10,502
1958	17.3	36.3	10,996
1959	16.1	37.3	11,431
1960	17.8	35.7	11,435
1961	18.2	35.8	12,597
1962	18.5	35.5	12,572
1963	19.5	34.0	13,160
1964	19.2	29.8	12,853
1965	20.5	30.5	13,690
1966	21.4	28.3	14,207
1967	21.4	27.0	14,128
1968	23.9	26.1	14,777
1969	22.4	22.7	14,921
1970	23.3	20.5	15,368

TABLE II  
Per cent Live Births by Parity for Selected Countries

Country	Primibirths	Births in parity 5 +
U.S.A. (1968)	37.5	7.2
Japan (1967)	45.9	1.0
Costa Rica (1967)	18.2	44.0
Baroda (1970)	23.3	20.5

Source: United Nations Demographic Year Book, 1968.

TABLE III

*Per cent of Mothers by Age and Year of Confinement Baroda, India 1956-1970*

Year	Teenage	20-29	30-34	35 +
1956	9.3	59.2	19.5	12.0
1957	9.0	60.0	18.5	12.5
1958	8.0	58.8	21.2	12.0
1959	8.4	57.6	22.4	11.6
1960	8.2	58.3	21.5	12.0
1961	7.4	60.0	21.0	11.6
1962	7.8	59.1	21.5	11.6
1963	7.3	60.1	21.2	11.5
1964	7.0	60.9	20.8	11.3
1965	7.0	64.0	18.3	10.7
1966	7.2	62.5	21.3	9.0
1967	6.8	62.8	19.7	10.7
1968	6.2	64.5	19.2	10.1
1969	6.1	67.6	17.0	9.3
1970	6.2	68.4	17.1	8.3

The confinements in relation to age are analyzed in Table III. Per cent pregnancy among teenagers has shown a fall from 9.3 per cent in 1956 to 6.2 per cent in 1970. This is a welcome change. Raising the age at marriage by legislation is one method of fertility control. But, more than legislation it is the education of young people and availability of contraceptive methods which could reduce fertility among teenagers. The per cent of first pregnancy in teenage girls is also on the decline in the city of Baroda. Teenagers accounted for 38.9 per cent of primigravid births in 1956 as against 22.2 per cent in 1970. It is interesting to note that per cent confinements among teen-

agers are on the increase in many other countries (Table IV). Japan is an exception because teenagers account for only 1.2 per cent of total births. The conception in women above the age of 35+ is on the decline the world over. In Baroda the incidence of confinement at age 35+ fell from 12.0 per cent in 1956 to 8.3 per cent in 1970. The fertility pattern in age group 20-29 has shown a significant proportionate rise from 1956 to 1970 in Baroda, whereas births in age group 30-34 have shown a slight fall from 1956 to 1970. This is consistent with the modern trend to complete the family by 30 years and after having two to three living children.

TABLE IV

*Per cent Live Births by Age for Selected Countries*

Country	Teenage	20-29	30-34	35 +
U.S.A. (1968)	17.2	64.1	12	7.7
Japan (1967)	1.2	74.4	19.9	4.5
Costa Rica (1967)	14.1	51.7	16.4	17.1
Baroda (1970)	6.2	68.4	17.1	8.1

Source: United Nations Demographic Year Book, 1968.

## Teenage Births in Primigravidae

1956	38.9 per cent of primigravidae
1970	22.2 per cent of primigravidae

TABLE V

Year	Primigravid births	Births in parity 5 +	Births in teenagers	Births after 35 +
1956	17.4	37.5	9.3	12
1970	23.3	20.5	6.2	8.3

The Baroda women until now, tended to marry early, conceive early, have more children and continue fertility after the age of 35 years. In contrast, the women now marry later, postpone the first pregnancy until at least 20 years of age, have fewer children and are less likely to conceive after the age of 35 years. It is likely that having fewer births in the early years of childbearing will mean today's younger married couples will end up with smaller families.

Reduction in human fertility is an important component of social and economic development. If ignorance, tradition and indecision lead to larger families in India, smaller families could be promoted through massive programs of education and fertility control services directed towards married couples of all ages rather than restricted to high age-parity groups. Simply providing contraceptive advice to high age-parity groups will be of little help in reducing large family size. This effort comes too late and frequently is directed to couples who are not convinced that large families are undesirable. Improvement in child care by promoting health programs and providing social and economic security at old age are some of the conditions which should be changed for the success of the family planning program.

In India, fertility is influenced by the desire to ensure the survival of one or

more sons to maturity. The fertility could be reduced if the modern research on physiology of conception ensures the birth of a son. Many women in our society, in spite of having many children, will not accept family planning methods because they want a son.

The declining fertility in most developed countries strongly indicates that married couples will limit the size of their families if they believe it is in their interest to do so and if means for controlling their own fertility are available to them.

The women in Baroda have shown that they prefer to have a small family and like to restrict fertility before the age of 20 years and after 35 years. The above figures represent the fertility pattern of Baroda women. But, what is true for the city of Baroda may be true for women in other parts of India. It may be that India is well on its way to accepting a "small family" norm as a way of life.

## References

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