

## Impact of Age at Marriage and Effective Marital Period on Natural Fertility : A Case Study on The Paschatya Vaidik Brahman Women of West Bengal

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**ABSTRACT** The present paper attempts to examine the relationship between age at marriage, effective marital period and fertility in a sample of 194 ever married post menopausal women of Paschatya Vaidik Brahman of Bhatpara, Naihati, North 24 Parganas, West Bengal. The data show that the age at marriage is inversely related to fertility and the effective marital period is positively correlated with fertility. These and in the light of several findings in India and other parts of the world are discussed.

Though human reproduction is essentially a biological phenomenon, it is greatly influenced by several social as well as ecological factors (Michelson, 1944; Lorimer et al., 1954; Bharadwaj and Virmani, 1973; Valsik et al., 1973; Chaudhury, 1984). It has long been recognised that age at marriage is one of the major parameters for differential fertility. Pearl (1939) is of the opinion that contraception is less effective than age at marriage to reduce total fertility among the American women. Coole and Tye (1961) have observed that delayed marriage plays a significant role to reduce the birth rate and consequently, the population growth rate. Many studies in different parts of the world have substantiated this view.

In India many studies have suggested that there is an inverse relationship between age at marriage and fertility (UN 1961; Driver, 1963; Wyon and Gordon, 1971; Sinha, 1987; and others). It means that the fertility declines with the increase in mean age at marriage (Poti et al., 1960; Goyal, 1964; Agarwala, 1965; Chaudhury, 1984 and others). However, Nag (1962) does not find any relationship between fertility and age at marriage in a cross-cultural study of 48 non-industrial societies. Two other

studies, one by Sinha (1952) and other by Das (1965), also do not find any such relationship between fertility and age at marriage. The inverse relationship between age at effective marriage and fertility has been observed by Sinha (1987) in some rural and urban populations of Eastern Rajasthan. So, the relationship between age at marriage and fertility is still a matter of controversy.

The 'effective period', i.e., the period between age at menarche or marriage and age at menopause or age at widowhood (in the absence of widow remarriage and contraception), is known as the period of risk to pregnancy, and is another important factor to reckon with. It affects the fertility level of women. In most of the rural societies in India, where widow remarriage is generally prohibited, marriage generally takes place before the onset of menarche. In such cases the effective marital period is more important than age at marriage for understanding the mechanisms which regulate human fertility. Till now not much data on effective marital period and fertility are available.

In view of the above findings, the present study deals with the relationships between age at marriage as well as effective marital period, and reproductive performances of P.V.B. woman among whom marriage generally takes place before the onset of menarche.

### MATERIALS AND METHODS

The Brahmans of Bengal are divided into a number of subgroups. One of them is the *Vaidik Brahman*. The Vaidik Brahmans of Bengal are again sub-divided into two sub-endogamous sections : the *Dakshinatyia Vaidik*

*Brahman (D.V.B.)* and the *Paschatya Vaidik Brahman (P.V.B.)* The high concentration of the P.V.B. is now found in Bhatpara and Naihati in the district of North 24-Parganas, West Bengal. The P.V.B. of Bhatpara and Naihati hold a very high social status and economic position.

All demographic data were collected from the ever-married P.V.B. women, residing at Bhatpara and Naihati, during the period between November, 1979 and August, 1980. Bhatpara and Naihati are the two semi-urban centres and are situated in Barrackpur subdivision of North 24 Parganas district in West Bengal. Data on bio-events and reproductive performances of 686 evermarried women were collected through questionnaires. Of the 686 P.V.B. women, 248 had already crossed the reproductive period. Out of 248 women in post-reproductive period, 194 confirmed that neither they nor their husbands adopted any family planning methods at any point of time. They lived continuously in wedlock. The present study deals with those 194 married women.

The effective marital period<sup>1</sup> has been defined as the period between the age at marriage or menarche (whichever is later) and age at menopause.

## RESULTS AND DISCUSSION

The mean and median values of age at marriage and effective marital period are presented in table I. The mean age at marriage is found to be  $13.28 \pm 0.25$  years. The median value is found to be 12.1 years. The mean and median

values for the effective marital period are found to be  $31.01 \pm 0.41$  years and 31.19 years, respectively. So, it appears that the median is as much as the mean for the effective marital period.

Table 1: Mean and median values of age at marriage and effective marital period among the P.V.B. Women

| Bio-events               | N   | Mean $\pm$ S.E.<br>(in year) | Median |
|--------------------------|-----|------------------------------|--------|
| Age at marriage          | 194 | $13.28 \pm 0.25$             | 12.09  |
| Effective marital period | 194 | $31.01 \pm 0.41$             | 31.19  |

Table 2 shows the average reproductive performance of the ever-married women by age of marriage. It is clear that the mean number of pregnancies and live births decrease as age at marriage increase. Further, there is an inverse relationship between the age at marriage and number of pregnancies. The value of co-efficient correlation ( $r$ ) is  $-0.43 \pm 0.06$ . It is statistically significant. It is also observed that the women, married at the age between 17 and 18 years, have on an average nearly double the number of pregnancies and live births in comparison to the women, married at the age between 19 and 20 years. In respect of the reproductive performances (total number of pregnancies and total number of live births), there are significant differences between these two groups of women (for total number of pregnancies  $t=2.91$ ,  $P<0.05$ . and for total number of live-births  $t=2.60$ ,  $P<0.05$ ). Poti et al. (1960) have reported more or less a similar finding among the middle class population in Calcutta. They have observed that the women, married of age, below 14 years have had 6.3 mean number of live births, whereas in case of those, married between 15 and 19 years, the mean number of live births is 5.1. But in case of those, married between 20 and 24 years, the mean number of live-births is 3.7. Goyal (1964) is of the opinion that the birth rate can be brought down to one third only through late marriage. Agarwala (1965) has suggested that the birth rate decreases by 27 per cent, if the

1. Regarding the term effective marital period actually I want to state the effective reproductive span (This term used commonly) because in some societies like Paschatya Vaidik Brahman especially among the older women, marriage takes place before menarche. Then age at menarche is more effective than the age at marriage for fertility measures. The sample size that I have taken into consideration in my paper consists of those women who live continuously with her husbands during her reproductive period. Those women who became widows before menopause were excluded from the sample. So by effective marital period I mean to understand that the period between menarche or marriage (whichever later) to menopause

Table 2: Age at marriage and fertility among the P.V.B. women

| Age at marriage (years) | No. of married women | Fertility                 |                            |                              |                              |
|-------------------------|----------------------|---------------------------|----------------------------|------------------------------|------------------------------|
|                         |                      | Pregnancy Mean $\pm$ S.E. | Live Birth Mean $\pm$ S.E. | Still Birth Means $\pm$ S.E. | Sp. Abortion Mean $\pm$ S.E. |
| <10                     | 36                   | 8.5 $\pm$ 0.67            | 8.0 $\pm$ 0.65             | 0.17 $\pm$ 0.07              | 0.36 $\pm$ 0.15              |
| 11-12                   | 55                   | 7.9 $\pm$ 0.50            | 7.3 $\pm$ 0.44             | 0.29 $\pm$ 0.11              | 0.36 $\pm$ 0.10              |
| 13-14                   | 45                   | 6.0 $\pm$ 0.47            | 5.6 $\pm$ 0.42             | 0.20 $\pm$ 0.09              | 0.24 $\pm$ 0.08              |
| 15-16                   | 26                   | 5.5 $\pm$ 0.47            | 4.9 $\pm$ 0.45             | 0.15 $\pm$ 0.09              | 0.42 $\pm$ 0.17              |
| 17-18                   | 18                   | 5.2 $\pm$ 0.47            | 4.9 $\pm$ 0.45             | 0.17 $\pm$ 0.09              | 0.06 $\pm$ 0.06              |
| 19-20                   | 5                    | 2.6 $\pm$ 0.74            | 2.4 $\pm$ 0.87             | 0                            | 0.20 $\pm$ 0.20              |
| 21-22                   | 6                    | 2.7 $\pm$ 0.42            | 2.7 $\pm$ 0.42             | 0                            | 0                            |
| 23 +                    | 3                    | 2.7 $\pm$ 0.67            | 2.3 $\pm$ 0.88             | 0                            | 0                            |
| Total                   | 194                  | 6.6 $\pm$ 0.26            | 6.1 $\pm$ 0.24             | 0.20 $\pm$ 0.04              | 0.29 $\pm$ 0.65              |

Age at Marriage and fertility (No. of pregnancies)  $\gamma = -0.43 \pm 0.06$  Sp. = Spontaneous

age at marriage in case of females rises from 15.6 to 19.5 years.

In Mysore study, it has been observed by Sinha (1987) that the mean number of children is 5.9 in case of the women, married between 14 and 17 years of age, while in case of those, married between 18 and 21 years, it is 4.7. He has further observed that the woman, married before 19 years, will have, on an average, 1.3 additional live births on completion of their reproductive period. It appears that there will be, on an average 0.7 additional living children than those married later.

Table 2 further shows that the frequency of reproductive wastages (both still births and spontaneous abortions) is, by and large, same for all women, irrespective of age at marriage.

Table 3 shows that the mean numbers of pregnancy as well as live births increase with increase in the effective marital period, though there is a minor fluctuation in the mean number of pregnancy in case of the women aged 20-24 years. Further the mean number of still births and the mean number of spontaneous abortions are more in case of the women who have had less than 20 years of effective marital period. However, there is not much difference in frequency of reproductive wastages according to the length of the effective marital periods. In the present study, it is found (Table 3) that the effective marital period is positively correlated with fertility (measured in terms of total number of pregnancies) ( $r = +0.16 \pm 0.06$ ) since the value of  $r$  is more than twice its standard error (Chambers, 1955).

Table 3 : Effective marital period and fertility among the P.V.B. women

| Effective marital period (years) | No. of married women | Fertility                 |                            |                             |                              |
|----------------------------------|----------------------|---------------------------|----------------------------|-----------------------------|------------------------------|
|                                  |                      | Pregnancy Mean $\pm$ S.E. | Live Birth Mean $\pm$ S.E. | Still Birth Mean $\pm$ S.E. | Sp. Abortion Mean $\pm$ S.E. |
| <19                              | 8                    | 5.8 $\pm$ 1.05            | 4.8 $\pm$ 0.92             | 0.12 $\pm$ 0.12             | 0.87 $\pm$ 0.35              |
| 20-24                            | 16                   | 5.3 $\pm$ 0.69            | 5.0 $\pm$ 0.71             | 0.06 $\pm$ 0.06             | 0.25 $\pm$ 0.14              |
| 25-29                            | 45                   | 6.2 $\pm$ 0.50            | 5.9 $\pm$ 0.48             | 0.09 $\pm$ 0.09             | 0.18 $\pm$ 0.07              |
| 30-34                            | 68                   | 6.8 $\pm$ 0.45            | 6.3 $\pm$ 0.41             | 0.19 $\pm$ 0.07             | 0.32 $\pm$ 0.09              |
| 35-39                            | 51                   | 7.5 $\pm$ 0.55            | 6.8 $\pm$ 0.50             | 0.39 $\pm$ 1.13             | 0.27 $\pm$ 0.09              |
| 40 +                             | 6                    | 6.0 $\pm$ 0.68            | 4.7 $\pm$ 0.72             | 0.33 $\pm$ 0.21             | 0                            |

Effective marital period and fertility (No. of pregnancies)  $r = +0.16 \pm 0.07$

Overall it may be suggested that there is an inverse significant relationship between age at marriage and number of pregnancies. The average number of live births is higher in case of those who have married in early years of age than those who have married quite late. But in case of reproductive wastages no such difference is noticed. It is further observed that the frequencies of pregnancies and live-births increase with increase in length of the effective marital period. But no such relationship is noticed in the present study between the effective marital period and frequency of reproductive wastages. However, a further study is needed to confirm the present findings.

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