

Impact of Education and Age at Marriage on Fertility among Uttar Pradesh Migrants of Ludhiana, Punjab, India

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KEYWORDS Live-birth Performance. Biological Function. Reproductive Performance. Socio-economic Factors

ABSTRACT In the present study an attempt has been made to investigate the relationship between mean age at marriage, education and fertility among Uttar Pradesh (U.P.) migrant families of Ludhiana district. The sample size comprises 1000 migrant families from U.P. belonging to age range of 15 to 50 years. Here fertility is used as the number of children ever born for women. Higher education and age at marriage could bring the reduction in fertility rate. Women education has a significant effect on fertility than men. This impact of education and age at marriage on fertility among Uttar Pradesh (U.P.) migrant has not yet been reported, especially during fertility transitions. In present study, we found the complex relationship between age at marriage, education and fertility.

INTRODUCTION

Fertility and Age at Marriage

Fertility indicates the reproductive performance of a woman. The demographers define fertility as the child bearing activity of a population, where as in biology and medicine this term is generally used for capacity to bear children. Fertility is actual reproductive performance of a female or group of them (Raj 2001). The child bearing period of a woman is generally assumed to exist between the ages 15 to 40. The level of fertility in demography is measured in terms of live-birth performance. The child bearing is, no doubt, basically a biological function, but the child bearing in any society is performed in socio-economic and cultural setup and is, therefore, influenced by socio-economic factors as well as social customs, values and norms related to various aspects of childbearing (Bhende 2003).

It is widely acknowledged that age at marriage has a significant influence on fertility, particularly in countries where childbearing occurs within marriage. The close association between fertility and prevailing marriage patterns is well acknowledged. The importance of age at marriage on fertility variation is evident from its inclusion as one of the four proximate determinants of fertility (Bongaarts 1982) in populations with higher age at marriage, fertility is generally observed to be low. When marriage age increases under these conditions, fertility can be declined because of the reduced number of women at risk of childbearing. In

addition, marriage age can lower fertility when marital fertility among women marrying late is lower than among those marrying at a younger age. In many societies, as Coale (1992) observed, the relationship between late marriage and low fertility is the result of higher control levels of marital fertility among the populations that marry late.

Kaur (2000) indicated that higher age at marriage shortens the reproductive span which in turn, reduces the fertility rate. As per INFO (2003) a rising age at marriage helps in lowering the birth rate, especially surveys show a strong inverse relationship between the average age at marriage and TFR.

Fertility results in addition of number, a low birth rate could lead to a declining population where as high birth rate could lead to explosive growth. Fertility is of course, the vital force which continuously replenishes the population from attrition of mortality. Fertility being a biological phenomenon is influenced by a number of factors in the social environment. The age at which a woman marries and enters the reproductive period of life has a great impact on fertility. The higher the age at marriage the lower is the fertility thus age has great impact on fertility.

Many studies revealed a strong inverse relationship between age at marriage and the total fertility rate. The higher the age at marriage shortens the reproductive span which in turn reduces the fertility rate (Choudhary 1984; Jolly 1981; Kaur H 2000). Demographers such as Cochrane and Zachariah (1983) have estimated that if marriages were postponed from

the age of 16 to 21, the number of births would decrease by 20-30%. Gangadharan and Maitra (2003) have also observed that the age at marriage and age at first birth is also significant in the process of demographic change because higher the age at first birth is typically associated with lower fertility rate.

Fertility and Education

Education is a direct and powerful indicator of the status of a population and has a contributing effect which causes variations in the level of fertility. Singh (1989) commented that various studies brought out clearly the impact of female education on reduction of fertility. Education depresses the fertility by raising the age at marriage, strengthening the propensity to be in labor force, fostering a favorable attitude towards small size norm and improving the awareness and use of family planning methods (Patnaik 1985; Arora 1990; Vashisht et al. 1991).

Education is treated as one of the decisive and highly influential factor in reproductive behavior (Josipovic 2007). Singh et al. (2002) also established the fact that education affects reproductive behavior of women up to marked extent and influencing fertility by reducing it. Education has become one of the most important modern social factor that influence fertility. Female education is more inversely related to fertility than male's education. It is seen that better educated women have more attitude towards fertility control as they are more likely to seek professional advice, use a contraceptive technique (Brolchain 1988). It is also observed that spread of education among women is a crucial factor contributing to the higher degree of awareness of health problems and their utilization (Panikar 1979; Nag 1984). A United Nations study in rural Maharashtra (1993) supported the role of female education as a determinant of fertility change by affecting the delay of age at marriage and use of contraceptives to limit family size. Pick et al. (1988) clearly revealed the negative impact of education on determinants of fertility change in Mexico by regression analysis.

Choudhary (1984) found that education is the strongest correlated variable with use of contraception and also one of the significant variables explaining fertility in Bangladesh.

Singh (1989), Patnaik (1985) and Vashish et al. (1991) found that education depresses fertility by raising the age at marriage, fostering a favorable attitude towards small family norm and improving awareness of using family planning methods. These studies have clearly brought out the impact of education on reduction of fertility. Education is regarded as being the primary catalyst in reducing fertility by attaining education which in turn affect the age at marriage.

Nahar and Rahman (2006) examined the factors associated with women's age at first marriage and interval between marriage and birth during 1983-1985 and 1992-1994. They documented that age at marriage was steadily rising in rural areas of Bangladesh, and the increase was strongly associated with increased female education. However, education of women has opposite effects on childbearing i.e. on the first birth (fertility). There was an indication that educated women tend to have their first birth as early as possible after marriage.

The present paper also aims at observing the impact of age at marriage and educational status on fertility among Uttar Pradesh (U.P.) migrants of Ludhiana, a least studied population.

MATERIAL AND METHODS

The present study has been conducted on 1000 migrant families of Uttar Pradesh who inhabited various localities of Ludhiana in Punjab. Families included in the present study were having minimum stay of ten years or more at Ludhiana after their migration from original place of their abode. The information on fertility, age and education was recorded on a printed questionnaire by their personal interview. The data was collected from both husband and wife of the family. An attempt was made to record the information as accurate as possible by applying various checks and crosschecks. Age of the each individual was calculated up to three decimal places by using decimal calendar provided by Wiener and Lourie method (1969). Age at marriage of each individual was recorded by calculating their present age.

To find out the educational status of the subjects under study, the data was grouped into five categories according to Kuppuswami scale (Mishra and Singh 2003) viz., illiterates means

those persons who were unable to read and write, upto primary level including all those individuals who attained education up to primary level, up to middle comprising persons having received education from sixth class to eighth, similarly upto matric comprising person having received education to tenth class, graduation and post graduation on the basis of educational achievement by calculating their percentages. For looking in to the reproductive profile of the female of the family in the following information was extracted and was put to required analysis. The information included age of the female, age at marriage, age at menarche, age at menopause, total no of conceptions, age at each conception, result of each conception, miscarriage, abortion, still birth, duration between last two pregnancies and total no of surviving children.

The objective of the present study was to find out the relationship between age at marriage, educational level of the couple on their fertility

RESULTS AND DISCUSSION

Fertility levels may be determined by a number of factors in the socioeconomic sphere. The fertility differentials existing among different population groups are mainly due to the differential environmental and social factors in the present population. Fertility was measured as children ever born (CEB) to the female.

Table 1 shows the distribution of mean number of children born (fertility) according to the age at marriage of the respondents. The average number of children ever born per ever married women was more when a girl married at a younger age, particularly below 18 years and the average number of children born decreases as her age at marriage increases. The average number of children born was 3.58 when wives are married between the age group of 15.00-17.99 and decreased from 3.55 to 2.86 when married between the age group of 18.00 - 20.99 years and 21.00 -23.99 years respectively.

A similar trend was found when the husband's age at marriage was considered. When husbands married below the age of 18 years, the average number of children born to ever married women was 3.62 followed by 3.61 as husbands married at the age of 18.00-20.99 years. The average number of children born to ever married women was found 3.10 when husband's married at later age, that is, 21.00- 23.99 years. The F – ratio was 5.14^{***}, which was statistically significant at 1 percent level. Accordingly the husband's age at marriage had negative impact on fertility, whereas F-ratio for wives is non- significant, that is, 1.31.

Age at marriage was a factor of considerable importance. Many studies clearly exhibited that age at marriage was an important social factor; it has been observed that increase in age at marriage there was decline in fertility (Lapham 1970; Tein 1970; Bhadra 2000). These studies concluded that rising age at marriage sociologically contributes to the family welfare, better education and to improve the quality of life of girls and women, in turn reducing the reproductive span. Similarly Ahmed and Chaudhary in 1981 found clear negative association between age at marriage and fertility (average number of children born) and Kaur (2000) indicated that higher age at marriage shortens the reproductive span which in turn, reduces the fertility rate. This leads us to conclusion that by rising age at marriage of both the respondents' fertility decreases.

As can be observed in Table 2 that in general for all population groups the illiterate wife had a higher average number of children ever born to ever married women than the literate wife. It was observed from the table that as educational level increased the average number of children born decreased. The F ratio was 3.98^{***} which was statistically significant at 1 percent level, revealed that education of wife had negative impact on fertility. Mean fertility was also seen varied between 3.15 to 3.63 among wives and 3.26 to 3.62 among husbands. Mean fertility was higher

Table 1: Distribution of husband and wife according to their mean age at marriage and fertility

Age at marriage (Years)	Wife		Husband	
	Number	Mean $\pm$ SD	Number	Mean $\pm$ SD
15.00-17.99	756	3.58 $\pm$ 1.96	398	3.62 $\pm$ 1.91
18.00-20.99	237	3.55 $\pm$ 2.72	506	3.61 $\pm$ 2.29
21.00-23.99	7	2.86 $\pm$ 1.95	96	3.10 $\pm$ 2.41
F-ratio		1.31		5.14 ^{***}

Table 2: Distribution of average number of children born to ever married women according to wife's and husband's educational level

<i>Educational level</i>	<i>Wife</i>		<i>Husband</i>	
	<i>Number</i>	<i>Mean $\pm$ SD</i>	<i>Number</i>	<i>Mean $\pm$ SD</i>
Illiterate	397	3.63 $\pm$ 2.12	269	3.62 $\pm$ 2.09
Primary	320	3.61 $\pm$ 2.19	229	3.64 $\pm$ 2.18
Primary to middle	183	3.59 $\pm$ 2.34	260	3.58 $\pm$ 2.24
Middle to 10+2	96	3.15 $\pm$ 2.09	215	3.26 $\pm$ 2.55
Above secondary	4	3.52 $\pm$ 2.28	27	3.6 $\pm$ 2.29
<i>F-ratio</i>	3.98*** (**p<0.001)		1.87	

among illiterate husbands and wives that is, 3.62 and 3.63. Mean fertility was lowest in case of wives who were having educational level up to secondary that is, 3.15 likewise in husbands that is, 3.26. The mean fertility in both husbands and wives had been found to be inversely proportional to their educational status, that is, with the attainment of education the fertility diminishes except for a very small group of couple who were having their educational level above secondary. The present study results showed negative correlation between mean fertility and educational level of the couple. The mean fertility was the highest among the illiterate or less educated couple and lowest in case of educated couple. The present study is also indicating that fertility is inversely proportional to the education of husband and wife that is higher the education level lower is the mean fertility by calculating the F-ratio for education of wife is 3.98*** it is significant at one percent level indicating that women's education reduces fertility than men education. Whereas the F-ratio for male is 1.87 indicating that male has no significant on reducing the mean fertility

These results are also in accordance with the study of Appleton (1995) which explained that the education of female increased the age at marriage and lowered the total fertility rate that is number of children ever born to a woman. Singh et al. (1993) argued that women's education exerts a strong negative effect on fertility. These findings were consistent with the idea that it was women's situation, knowledge and attitudes towards childbearing and children, rather than their socioeconomic status that must strongly influence reproductive behavior. Apart from all these, education also affects other determinants of fertility. All the above studies also supported the results of the present findings that as educational level of females increased the number of

children born decreased. Thus education helped in reducing the fertility. Isiugo-Abanihe (2003) emphasized on men's position and dominance that played an instrumental role in every aspect of sexual and reproductive dynamics. Without doubts, an educated male will be more amenable to the current changes in the status of women and be more receptive to their views and aspirations. Ushie et al. (2011) also revealed that educational attainment of males influences the marital values of people and awareness in order to understand fertility in turn which helps in reduction of fertility. So these studies are also supported by our present study results.

Martin and Jaurez (1995) explained the mechanism of inverse relationship between fertility and education. Kaur (2001) found inverse relationship between the level of education and fertility.

Kanan and Nagrajan (2008) reported that the age at marriage has negative effect on fertility. This implies that late marriage reduces the fertility. Huber et al. (2010) investigated the association between socio-economic status and reproductive output which was varied by the source of status and resources, the woman's education, and her age at reproductive onset (proxied by age at marriage). They examined the association between a woman's reproductive output and education. Education and age at marriage were negatively associated with a woman's number of children and increased her chances of childlessness.

Moreover, it has also been witnessed from the study that education of couple plays more vital role in impinging upon the fertility behavior. An inverse relationship between level of education and fertility has emerged in this study. It concludes that level of literacy was effective in controlling the family size. Education was helpful, to large extent, in rising the age at marriage,

improving the status of women by enabling them to have a potent say in determining the size of their family and in overcoming parental preference for son by changing their outlook.

CONCLUSION

The findings of present study demonstrate that wives are getting married at lower age than their husbands. The current study further shows that age at marriage had a negative impact on fertility. The lower the age at marriage, the higher was the fertility. The findings also indicate an inverse relationship between the level of education and fertility. It was observed that moderately educated women are more likely to discuss, with their husbands and other family members about controlling the family size. Education opens economic opportunities for women and relationship of education to women's working status was found positive and level of literacy is more effective in controlling family size. Thus education helps in depressing fertility. It may be concluded that the whole fertility for the population is seen to co-vary with certain factors. Educational level of both husband and wife had a negative impact on fertility and couples who were more educated tend to have fewer children.

ACKNOWLEDGEMENTS

We are grateful to funding agency, University Grants Commission who is giving me the scholarship for meritorious student since Nov, 2008 and also to the families who form the basis of present study without their co-operation this work would have been so smoothly possible.

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