

AGE AT FIRST CHILD BIRTH AND FERTILITY DIFFERENTIALS AMONG WOMEN IN RURAL AND URBAN AREAS OF AJMER DISTRICT

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Abstract: *This paper examines the nexus between age at first child birth and fertility differentials among women in rural and urban areas of Ajmer District. The objective of the study is based on the relationships that exist between various indicators of socio-economic development and fertility level. Age at first child birth is an important phenomenon in understanding developmental process at both individual and societal levels. To achieve the objective of the paper, empirical quantitative data is used. Findings of the study show that irrespective of socio-demographic characteristics of women (such as place of residence, current age, occupational status, educational level, marital status and form of marriage), women who had their first birth below the age of 20 years exhibit significant higher number of children ever born in comparison with women who had their first birth by the age of 20 years and above. The age at first birth is a strong determinant, among others, responsible for relatively high fertility level in the district. Thus, basic knowledge about the intricacies and interrelationship between these variables is of direct relevance to planners and policymakers attempting to integrate population variables into development planning. Consequently, it is imperative for policymakers to develop appropriate policies and programmes that will address and inhibit early age at first birth in order to control the high natural population growth rate.*

Key words: Fertility, Fertility Differential, Demographic Transition, Population Growth

Introduction

Fertility can be defined as the actual reproduction performance in a population based on the number of live birth that occurs in a population and is largely responsible for the replacement of population and for the continuation of society. Child bearing is the sole prerogative of women which occurs in a social set up and is therefore affected by the social structure as well as societal customs, values, norms, beliefs and practices related to various aspects of bearing a child. Therefore, the understanding of beliefs and practices related to the fertility becomes necessary for the study. The paper examines the nexus between age at first child birth and fertility differentials among women in rural and urban areas of Ajmer District. The objective of the study is based on the relationships that exist between various indicators of socio-economic development and fertility level both at individual and societal levels. To achieve the objective of the paper, empirical quantitative data were used. In order to achieve this objective, the paper has been divided into four sections. In the first section, previous studies on fertility are reviewed, second section consist of the research methods adopted to achieve the stated objective of the study. The third section contains the major findings of the study, while in the fourth and last section, the major findings are discussed and essential recommendations are made.

Review of Literature

Many studies have revealed the relationship of fertility with social, cultural, economic, demographic and psychological variables. For a better understanding of fertility behaviour a few past studies are examined which have four prominent trends: macro-structural,

micro-economic, psycho-social and socio-economic (Patel, 1994). Thompson (1929); Note stein (1945); Kirk (1971); Repetto (1979) and Mauldin and Berelson (1978), propound the macro-structural perspective of demographic transition. This trend focuses on societies and regions as units of analysis and shows that modernization and development leads to decline in fertility. Many efforts have so far been made to identify and assess socio-economic dimensions which tend to influence the household fertility behaviour and the family-size desire. Becker (1960) undertook the pioneering work pertaining to relationship between income and fertility. Becker hypothesized that income should have a positive effect on family size but found a negative relationship in the empirical test of his theory. He attributed this phenomenon to the close association between parental education and income, which resulted in reduced demand for children. Singh (1986), reveals that respondent whose husbands were engaged in the lowest category of occupation had the highest number of live-births but reverse was not true for the respondents whose husbands were engaged in higher and prestigious occupations.

Many writers analyze the effect of education on fertility. Holsinger and Kasarda (1976) have observed that education may influence fertility directly by altering attitudes and behavioural patterns of individuals and indirectly by affecting such factors as age at marriage, acceptance of family planning along with infant and childhood mortality. Age at marriage has been considered an important factor influencing fertility and birth rates. The argument often advanced is that an increase in the age at marriage shortens the reproductive span and delays the outset of childbearing which consequently results in the reduction of fertility. Ridely and Sheps (1966) have demonstrated that an increase in age at marriage affects fertility by changing the fertility schedule and the family building patterns. Henin (1969) in his study of Sudanese tribes also found a close association between age at marriage and fertility. The respondents who married late had fewer children than those who married early.

It is often felt that the enhancement of age at marriage leads to a reduction in fertility. The inverse association between the two has been depicted in various studies namely, Agarwala (1966); Karkal (1968); Raman (1973); Goyal (1974) etc. In particular, rising the age at marriage for women beyond 20 years has been viewed to cause a reduction in fertility of about 15-30 percent by Talwar (1967) and Agarwala (1966). Das (1969) claimed on the basis of an empirical study, that women marrying between 20 and 24 have similar fertility to those marrying before the age of 20. However, with a marriage age of 25 and above, there seems to be a different effect on fertility. Empirical evidence on age at marriage by Gulati (1969) and Das Gupta (1974) clearly show that age at marriage is higher in urban areas than rural and educated men and women marry later than uneducated ones.

Methodology

Situated in the 'Heart of Rajasthan', the biggest state of India, the district lies between 25⁰ 38' and 26⁰ 52' North Latitudes and 73⁰ 54' and 75⁰ 22' East Longitudes. As per the census of 2011, the population of Ajmer was 25, 83,052 persons spread out in an area of 8,481 sq. kms. It has a density of 305 persons per square kilometers and sex ratio of 950 female per 1000 males and a literacy rate of 70.46 percent. One of the basic characteristics of the population obtained through the census is its Rural-Urban distribution. Ajmer has a rural population of 1547642 persons and urban population of 1035410 persons. For a comprehensive analysis of the interrelationship the study include both rural and urban areas. A two stage stratified random sampling procedure is adopted to select the sample households. Sample selection is done in two stages. Stage one refers to selection of villages and urban blocks. In stage two households are selected. Ajmer has eight Panchayat Samities. To obtain data 3-4 villages are selected from each Panchayat Samiti. From each village 30-50 women respondents are chosen. Holistically from each Panchayat Samiti 150 respondents are chosen for the present study. The district has eight towns. Here also 150 respondents are selected from each town randomly. Thus, for the present

study 2400 women respondents are selected in the age-group of 15-44 years. SPSS software package was used to analysis survey data. Percentages, means, standard deviation, Pearson chi square, t-test, analysis of variance and post hoc test of homogeneous were the statistical methods used in the interpretation of quantitative data.

Results and Analysis

This part contains data on effects of age at first birth on total number of Children Ever Born (CEB) by the sampled respondents. The section is divided into two main parts. The first part of the section contains information on impacts of adolescent fertility on the total parity of sampled women, while the last and second part of the section contains data on socio-economic differentials in fertility levels of the respondents after controlling for age at first birth of the respondents.

Age at first birth and number of children ever born

Age determines the socio-psychological factor in fertility behaviour. The age of women at the time of marriage and delivery determines time, duration, term, space, span and course of delivery thus playing a vital role in fertility behaviour. The Table 1 shows the distribution of respondent's age and mean live birth. Number of Children Ever Born (CEB) is synonymous to parity. Data on parity in Table 1 show that there was a significant difference in parity levels of mothers in the study area. Specifically, adolescent mothers had relatively higher parity levels in comparison with older mothers in the study location.

Table 1: Respondent's Age and Mean Live Birth

Present Age (in years)	Rural Respondents				Urban Respondents			
	Freq.	%	Mean live birth	S.D.	Freq.	%	Mean live Births	S.D.
15-19	69	5.8	2.2	0.9	32	2.6	2	0
20-24	250	20.8	4.4	1.7	125	10.4	2	0
25-29	300	25.0	5.6	2.0	283	23.6	2.0	0.5
30-34	238	19.8	6.7	1.5	261	21.8	2.1	0.6
35-39	244	20.3	6.9	1.5	274	22.8	2.4	1.0
40-44	99	8.3	7.1	2.2	225	18.8	3.7	1.5
Total	1200	100	5.7	2.1	1200	100	2.5	1.1

Source: Based on field survey

The table above reveals that mean age of the respondents in the rural areas is 29.6 years while in urban areas the mean age of the respondents is 32.39 years. The rural respondents have a mean live birth of 5.7 ± 2.1 . The urban respondents have a mean live birth of 2.5 ± 1.1 . The table also reveals that mean live birth increases with the rise in the age of women. The lowest number of children is recorded in younger women while the highest number of live birth is recorded in women above 40 years of age. The table further shows that as the age of the respondents increased their mean live birth also increased. Analysis of variance showed marked difference in the mean live birth of different age categories. The variance is significant at F. 01 level. Thus there is a positive relationship between the respondent's age and their fertility. The value of correlation coefficient is 0.54 in rural areas and 0.48 in urban areas.

Place of Residence

Previous studies have consistently observed that women living in urban areas have fewer children than their rural counterparts. The explanations for this differences is often that women in urban areas tend to have more education and are more likely to participate in the formal labour market. Consequently, these women are more likely to appreciate the advantage of having a smaller family. At the same time, urban women are assumed to have better knowledge of and access to modern contraception than women in rural areas. The mean number of children ever born of the rural and urban respondents can be seen in Table 1. Data on the table confirmed previous findings in the demographic literature: rural

fertility is higher than urban fertility. Women who delayed their first births till age 20 years and above are not likely to have significant low fertility differential irrespective of their place of residence (rural/urban), whereas adolescent mothers living in rural areas in the State will have significantly higher number of parity compared with their counterparts living at urban areas.

Current Age

Demographic studies in the traditional societies especially where there is little or no use of contraception, show a positive relationship between age and fertility level of women. Women at the end of their childbearing age (i.e. age group 45-49) usually have high parity level in relation to women in other age groups of childbearing age. The main reason behind this is the fact that the more years a woman spent within childbearing ages; the more she is at risk of conception and childbirth, especially when other fertility inhibiting factors (such as delayed marriage, use of contraceptive methods, and induced abortion) are relatively low in the community. Data on Table 1 showed a positive relationship between age of the respondents and fertility levels of mothers. It is essential to note also that in each of the age groups, the fertility level of rural mothers is consistently higher than the fertility level of urban mothers.

Educational level

Education is generally considered as a process by which society transmit its culture from generation to generation. It is now seen as catalyst and motivator to social and economic transformation and fertility control. Sending children, especially girls, to school is given little priority. Therefore, a very large proportion of couples, especially wives, are illiterate in rural areas. The trend is now changing girls are being sent to school and a few are also going to college or completing their college education by appearing privately in examination.

Table 2: Level of Education V/s Number of Children in Rural Areas

Education Level	Mothers with Number of Children Born								Mean Child Per Mother	S.D.
	1-3	4-6	7-9	10+	E	C	Total	%		
Illiterate	0	90	302	21	21	7	441	36.8	7.5	1.4
Primary	13	200	61	0	11	5	290	24.1	5.5	1.4
Middle	53	121	62	0	4	3	243	20.3	5.1	2.1
Secondary	43	114	0	0	2	2	161	13.4	4.1	1.3
Graduate	54	2	0	0	2	0	58	4.8	2.1	0.6
P.G. & higher	7	0	0	0	0	0	7	0.6	2	00
Total	170	527	425	21	40	17	1200	100	57	2.1

Source: Based on field survey

Women education level and their mean live birth are shown in Tables 2 and Table 3. E in the tables denotes a woman expecting child, C means childless women and U is related to unmarried women. The Tables reveal that in the rural areas education is not given importance while in urban areas 97.5 percent of the girls are educated. The tables reveal that illiterate respondents have higher mean live birth as compared to the literate ones. The difference in the mean live birth is statistically significant. Hence there is an inverse relationship between literacy and fertility of the respondents. The value of correlation coefficient between education and number of children is – 0.67 in rural areas and – 0.75 in urban areas. The analysis of variance reveals that in the two samples as literacy level improves fertility declines. Further an attempt is made to study the fertility differential by level of education of the literate respondents. It is clear from the above tables that respondents having education upto primary level have higher mean live birth as compared to those receiving higher education. The tables indicate that illiterate rural respondents have a mean live birth of 7.5 ± 1.4 while it is 5.1 ± 0.4 in the urban areas. But, as the levels of education improves the difference in the mean child per mother decreased. At graduation and other level there is hardly any difference.

Table 3: Level of Education V/s Number of Children in Urban Areas

Education Level	Mothers with Number of Children Born									Mean Child Per Mother	S.D.
	1-3	4-6	7-9	10+	E	C	U	Total	%		
Illiterate	0	46	1	0	10	12	0	69	5.8	5.1	0.4
Primary	11	51	0	0	13	23	0	98	8.1	4.5	1.1
Middle	44	62	0	0	7	10	0	123	10.2	3.4	1.5
Secondary	96	20	0	0	3	6	3	128	10.7	2.5	1.1
Graduate	479	0	0	0	0	4	18	501	41.8	2.0	0
P. G. & Higher	261	0	0	0	0	2	18	281	23.4	2.0	0
Total	891	179	1	0	33	57	39	1200	100	2.5	1.1

Source: Based on field survey

Education, especially of the women not only changes the outlook of the person regarding value of children and ideal number of children preferred but also leads to greater acceptance of family planning. It also raises the age at marriage, thus cutting down the reproductive span of the women.

Occupational Status

Occupation is the human effort in the scenario that one puts in to earn one's bread. Gainful employment of women is reported to curtail fertility (U.N. 1961; Mandelbaum 1974; Papanck 1973). Anand (1967), George (1978) and Arora (1983) found that working women had lower fertility as compared to the non-working women. Table 4 gives an overview of the occupation of the respondents. It indicates that 91.8 percent rural respondents are employed in household and domestic works. The remaining 8.2 percent respondents are working as agricultural labourer, peon, domestic servants, daily wages, dai, clerk etc. In the urban areas 57 percent respondents are working as teachers, bank clerks, telephone operators, lecturers, tailor, cashier, bank officers, engineers, peons, domestic servants etc.

Table 4: An Overview of Working & Non-working Respondents

Respondents Occupation Status	Rural Respondents		Urban Respondents		Total Respondents	
	Freq.	%	Freq.	%	Freq.	%
Working	99	8.2	683	57	782	32.6
Non working	1101	91.8	517	43	1618	67.4
Total	1200	100.0	1200	100	2400	100.0

Source: Based on field survey

The remaining 43 percent respondents take care of the domestic works. Most opportunities for development are concentrated in urban areas while most rural women are caught in a vicious circle of illiteracy, poverty and ignorance. In such circumstances their chances of utilizing opportunities for higher education are very limited. Consequently their chances of pursuing careers are also limited.

Findings and Recommendations

The study revealed major findings about fertility differentials along different socio-economic background of women in the District. One, early child bearing shortens the period between generations, extends the reproductive life span and tends to be associated with high population growth. Thus it is essential to note that life time pattern of fertility is likely to be established during adolescence; those who start having children early generally have more children at shorter interval than those who embark latter on parenthood. Two, the study shows that rural fertility is higher than urban fertility. Three, the study reveals positive relationship between age of the respondents and fertility level. The rural mothers exhibit

high fertility levels at all levels than urban mothers. Thus it can be deduced that to reduce fertility level policy makers and programme planners should aim at discouraging early child birth in all its totality. The findings support the significant positive relationship between current age and total number of children ever born. Four, there is a significant fertility differentials with levels of education. Specifically, the study shows a significant negative relationship between women education and fertility level in the study area. Data on effects of age at first birth on fertility level in the rural and urban areas of Ajmer District show that irrespective of socio-economic and demographic backgrounds of women such as place of residence, current age, occupational status, educational level rural mothers exhibit higher level of fertility in comparison with the urban mothers when the later were at similar categories to the former. Thus, timing of first childbirth is a significant and dominant explanatory variable to explain fertility differentials and high natural population growth rate in the study location. In order to achieve the nation policy of small family norm, conscious efforts should be put together to articulate, design and implement appropriate intervention programmes (such as compulsory education for female children up to senior secondary school level and sex education for the adolescents) that will inhibit teenage pregnancy and marriage and invariably adolescent fertility in country.

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