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Effects of Place of Residence on Fertility and Mortality Among the Ahom of Assam

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ABSTRACT The present study was conducted on Ahom, a Tai Mongoloid population of Assam to enquire into the effects of rural-urban residence, if any, on fertility and mortality. The study reveals a close relations between place of residence and both fertility and mortality.

INTRODUCTION

A study of differential fertility is useful in identifying the factors which determines fertility levels among various sub-groups. It has been observed that the levels and patterns of fertility vary considerably in various sub-groups of the same population. These sub-groups may be based on residence, whether urban or rural; social and economic status; in terms of educational attainment; family type; occupation; religion etc.

So far, only a few populations have been demographically explored in North East India. Keeping in view the dearth of data, in the present work, an attempt has been made to deal with some important reproductive parameters of the Ahom women inhabiting in rural and urban areas of upper Assam. The comparison is made to detect the effect of place of residence, causing micro socio-cultural difference on the rate of fertility and mortality. This type of information is relevant both to the demographic assessment of the population and to health policies and programmes. Mortality estimates are useful for projecting the future size of the population, and can be used in identifying sectors of the population that are in need of health services.

MATERIAL AND METHODS

The study was conducted among the Ahom women from two areas - Tiphuk village in Sibsagar district and Chiring Gaon in Dibrugarh district. Considering the location of the villages nearer to the township; communication through metal/all weather road; presence of government offices, health centres within easy proximity; etc., the Chiring Gaon can be categorised as 'more exposed' or urban as the villagers are exposed to and benefited by the urbal facilities maximally. The village Tiphuk on the other hand is about 15 km away from Moran town and represent a 'less exposed' or typical rural situation. The data were collected through specially designed fertility schedule to obtain information through indepth interview on fertility performance and various other factors relating to fertility. The survey concerned 189 evermarried Ahom women of which 89 are from Tiphuk village and 100 from Chiring Gaon. Proper care was taken to exclude related individuals in the sample. Women whose husbands are alive and have atleast one child are only interviewed. The collected information was also cross checked.

RESULTS AND DISCUSSION

The data on various demographic variables of the present Ahom sample are summarised in table 1. The ages at onset of first menstruation and the cessation of it are the two important demographic determinants of fertility. The mean age at menarche of the rural Ahom women is 12.46±0.18 years and that of the urban women is 11.89 ± 0.14 years. Ahom women of urban area thus, shows a tendency to be early maturers and their mean value deviate significantly (t value = 2.48) from that of its rural counterparts. The difference in menarcheal age between rural and urban women are well known and has been reported from North East India. In rural area mean age at menarche is comparatively higher than in the urban area (Sengupta, 1996).

The mean age at menopause in urban Ahom women is 43.00±0.73 years and is relatively earlier

than that of the rural women which records 43.70 ± 0.54 years. The two sub-samples show close affinity to each other as revealed from non-significant value of t test (t value = 0.77). Contrary to the present findings, the National Family Health Survey (NFHS) conducted in Assam 1992-93, reports somewhat late onset of age at menopause in urban than in rural areas.

min (16.51 years), Lalung (14.59 years), Moran (18.51 years), Deuri (18.47 years), Mishing (18.43 years), Chutiya (18.06 years), Koch (15.92 years) of Assam (c.f. Sengupta and Gogoi, 1995); Ao Naga (16 - 20 years) of Nagaland; Khasi (13 - 18 years) of Meghalaya shows a fairly low mean age at marriage.

The age of the Ahom mother at the time of first

Table 1: Fertility and mortality by place of residence among the Ahom of Assam

Parameters	*Rural Ahom (N=89)*	*Urban Ahom (N=100)*	*Ahom (R+U) (N=189)*
Age at menarche (in yrs)	12.46 ± 0.18	11.89 ± 0.14	12.16 ± 0.16
Age at menopause (in yrs)	43.70 ± 0.54	43.00 ± 0.73	43.27 ± 0.66
Age at marriage (in yrs)	18.58 ± 0.34	20.06 ± 0.39	19.36 ± 0.37
Age at first conception (in yrs)	19.90 ± 0.36	21.56 ± 0.40	20.78 ± 0.38
Mean number of conception	4.12 ± 0.23	3.89 ± 0.21	4.00 ± 0.22
Mean number of live birth	3.87 ± 0.22	3.59 ± 0.18	3.72 ± 0.20
Total number of conception	367	389	756
Incidence of live born children	344 (93.73%)	359 (92.29%)	703 (92.99%)
Male	182 (49.59%)	176 (45.24%)	358 (47.35%)
Female	162 (44.14%)	183 (47.04%)	345 (45.63%)
Incidence of abortion	19 (5.18%)	23 (5.91%)	42 (5.56%)
Incidence of still-birth	4 (1.09%)	7 (1.80%)	11 (1.46%)
Male	3 (0.82%)	5 (1.29%)	8 (1.06%)
Female	1 (0.27%)	2 (0.51%)	3 (0.40%)
Total embryonic wastage	23 (6.27%)	30 (7.71%)	53 (7.01%)
Incidence of infant death	15 (4.36%)	9 (2.51%)	24 (3.41%)
Male	5 (1.45%)	5 (1.39%)	10 (1.42%)
Female	10 (2.91%)	4 (1.11%)	14 (1.99%)
Incidence of child death	7 (2.03%)	6 (1.67%)	13 (1.85%)
Male	4 (1.16%)	2 (0.56%)	6 (0.85%)
Female	3 (0.87%)	4 (1.11%)	7 (0.99%)
Incidence of juvenile death	7 (2.03%)	2 (0.56%)	9 (1.28%)
Male	7 (2.03%)	1 (0.28%)	8 (1.14%)
Female	-	1 (0.28%)	1 (0.14%)
Total pre-reproductive mortality	29 (8.43%)	17 (4.47%)	46 (6.54%)

Marriage is nearly universal in Ahom society, and takes place at relatively earlier ages. Women marry younger in rural areas than in urban areas. The mean age at marriage of the rural Ahom women is fairly early (18.58± 0.34 years) in comparison to that of the urban Ahom women (20.06 ± 0.39 years), and the difference between the two values is statistically significant (t value = 2.86). It merits to be mentioned here that the singulate mean age at marriage in Assamese women is 21.6 years (NFHS, 1995). There are few micro-level studies which dealt with the age at marriage at population level in North East India. The age at marriage for females among the Zemi (21.80 years), Dimasa (21.90 years), Boro Kachari (19.63 years) of Assam have comparatively later mean marital age than the Ahom (19.36 years). On the contrary, Kaibarta (17.18 years), Kalita (16.44 years), Brah-

conception shows marked variation in the two sub-samples. The rural women shows comparatively lower mean (19.90± 0.36 years) and stand significantly apart (t value = 3.07) from the urban women (21.56 ± 0.40 years) in this regard. It is worthwhile to be mentioned here that Romaniuk (1968) reported that there are no significant and systematic differences in age at marriage between low and high fertility populations in tropical Africa. The influence of age at marriage on fertility is reported to be relatively minor under conditions of natural fertility (Henry, 1976). Women who are married at a later age may practise short birth intervals and therefore catch up in child bearing with women who marry at an early age, or even exceed them (Henry, 1961).

The mean number of conception of rural Ahom women is 4.12± 0.23 and that of urban women is

3.89 ± 0.21. Test of significance (t value = 0.74) however, exhibit close affinity between the Ahoms of two different habitats. In respect of mean number of conception, barring Lalung (3.61) which exhibit significantly lower mean conception, the present Ahom sample (4.00) stand apart from most of the other populations of North East India like Kaibarta (4.33), Chutiya (4.58), Brahmin (5.20), Kalita (5.58), Deuri (5.62), Morân (5.74) population of Assam for having comparatively lower mean number of conceptions in comparisons to the latter.

The rural Ahom women leave behind more number of children each to contribute to the next generation. The mean number of living children born has been found slightly higher in rural Ahom sample (3.87 ± 0.22) than that of urban one (3.59 ± 0.18). However, the difference is very small (t value = 1.0). The average number of live birth among the Ahom women as a whole is 3.72, while it is 3.74 in Mishimi of Arunachal Pradesh, 3.80 in Kaibarta, 3.55 in Lalung, 4.54 in Chutiya, 4.94 in Brahmin, 5.15 in Kalita, 5.34 in Mishing, 5.52 in Moran and 5.54 in Deuri of Assam (c.f. Sengupta and Gogoi, 1995). According to NFHS estimates, the women of Assam have an average of 3.5 children each during their child bearing years, against 3.4 children per women for India as a whole. The mean number of children ever born in women of Assam are found to be 4.16 for urban areas and 6.01 for rural areas, 3.1 and 3.2 in Nagaland, 3.1 and 3.5 in Manipur, 2.6 and 3.2 in Arunachal Pradesh for urban and rural areas, respectively (NFHS, 1995).

In India many studies have suggested that there is an inverse relationship between age at marriage and fertility. The fertility declines with the increase in mean age at marriage. The shift towards later age at marriage in the urban Ahom sample may be one of the reasons for lower fertility in them than their rural counterparts.

Still-birth and abortion rates, which are general measures of reproductive (embryonic) wastage also influence the differential fertility of a population (Pearl, 1939). In measuring the fertility of the Ahom these two factors have also been taken into consideration. Pregnancy wastage is found to occur in relatively higher percentage in rural Ahom sample (6.27%) and of these wastage the abortion rate is 5.18%, the remaining 1.09% portion is due to still-birth. Whereas in urban sample abortion and still-birth contributes 5.91% and 1.80%, respectively, total reproductive wastage being 7.71%. In rural sample, the average abortion is 0.213 and still-birth is 0.045 per mother (Table 2). As a result, the total embryonic wastage is 0.258 per mother. The above two variables are recorded as 0.230 and 0.070, respectively in urban context and the pre-natal wastage in them works out to be 0.300 per mother. Turning to other populations of North East India on the basis of existing literature, embryonic wastage rate are reported as 7.68% and 8.09% among the Christian and non-Christian Khasi of Meghalaya respectively (Khongsdier, 1995). Among Khamiyang (8.40%) and Turung (8.21%) population also (Sengupta and Gogoi, 1995), the rate is quite high compared to Ahom (7.01%).

Table 2: Some demographic parameters among mother

Parameters	*Rural Ahom*	*Urban Ahom*	*Ahom (R + U)*
Average abortion per month	0.213	0.230	0.222
Average still-birth per mother	0.045	0.070	0.058
Average embryonic wastage per mother	0.258	0.300	0.280
Average infant death per mother	0.169	0.090	0.127
Average child death per mother	0.079	0.060	0.069
Average juvenile death per mother	0.079	0.020	0.048

It is observed that in rural Ahom out of 367 conceptions, 344 (93.73%) results in live birth. In them 29 children (8.43%) die before they reach reproductive age. On the other hand in urban Ahom sample out of 389 conception, 359 (92.29%) results in live births and 4.74% children (17 number) of them died within 15 years of life. The embryonic wastage is higher in urban Ahom sample while it is just reverse with regard to pre-reproductive mortality. In this context, it may be mentioned that the embryonic wastage is said to be more closely related to intrinsic (genetical) factors, whereas pre-reproductive wastage is more influenced by extrinsic (environmental) factors.

In the present study 4.36% of rural Ahom children die before they cross one year of age. Child mortality and juvenile mortality (2.03% each) is also comparatively high among them. The Ahom mother of urban area on the other hand experience comparatively much lower incidence of infant mortality (2.51%). The child (1.67%) and juvenile (0.56%) mortality is also low among them. It may be mentioned here that lower infant and child mortality rates usually results into lower fertility rate. The urban Ahom sample with comparatively lower fertility has also the lower pre-reproductive mortality rate. It seems that the Ahom of urban area are able to take the advantage of medical facilities available. On the other hand, comparatively high pre-productive mortality perhaps motivate rural Ahom women to produce more offspring due to fear of losing children early by death.

The infant mortality rate in Assam is 88.7 per 1000 live births and the rate is 10 per cent higher in rural areas than in urban areas, 93.6 per 1000 live births compared with 84.9. The urban-rural differential is largest in the case of child mortality; children in rural Assam experience a 86 per cent higher risk of dying between age 1 and 4 years than do urban children (NFHS, 1995).

Infant mortality rates differ very widely between the states of the north eastern region. Assam has the highest infant mortality rate of 88.7 (per 1000) followed by Tripura with 75, and Meghalaya with 64.2. Mizoram has the lowest infant mortality rate, 14.6, followed by Nagaland 17.2. The rate shows a wide range of variation in populations of Assam which varies from 2.35% among Lalung, 2.64% among the Chutiya to as high as 13.07% among the Kumar. The rates in Kaibarta (4.41%), Kayastha (4.75%), Hira (5.11%), Brahmin (6.21%), ZemiNaga (8.61%), Jogi (9.00%), Moran (9.21%), Kalita (9.56%), Assamese Muslim (10.85%), and Mishing (11.35%) of Assam ranges in between (c.f. Sengupta and Gogoi, 1995). Cases of infant mortality among Mishimi (19.37%) of Arunachal Pradesh and Hajong (18.20%) of Meghalaya, are found to occur in higher percentages.

In both the Ahom sub-samples with regard to still-birth, males are subjected to higher death risk (rural = 0.82%, urban = 1.29%) compared to those of females (rural = 0.27%, urban = 0.51%). The present findings corroborate with the suggestions made by Stern (1973) that male offsprings are subject to higher death risk in comparison to female offspring.

The NFHS conducted in Assam 1992-93 (NFHS, 1995) reported that the pattern of sex differentials in neonatal mortality, which reflects a substantial component of congenital conditions, is higher for males than for females. Higher neonatal mortality among boys than girls is also found in most populations and reflects greater underlying male fraility.

In Assam the child mortality rate record slightly higher frequency for females than for males (63 compared with 53 per 1000). In Ahom, both infant and child mortality is slightly higher for females. This reversal of sex differentials in mortality after the age of weaning has been observed in other studies conducted in South Asia and is thought to reflect the relative nutritional and medical neglect of girls after breast feeding has ceased.

From the foregoing analysis thus, it is evident that the place of residence has certain role in influencing these demographic parameters in the Ahom of Assam. In comparison to other populations of the region, the infant and child mortality rates, embryonic and pre-reproductive mortality in both the sub-samples of Ahom are more or less moderate. Similar type of survey in many more populations of North East India are to be screened promptly for better understanding.

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