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Preference of Son and Reproductive Profile of Three Endogamous Tribes of Arunachal Pradesh, India

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ABSTRACT
The fertility of a population is always influenced by various factors, directly or indirectly and these factors are, however, not the same for every population. The present study is an attempt to validate the various biological and social factors including son preference that influence the fertility among the three endogamous tribes of Arunachal Pradesh – Galo, Adi and Hills Miri. In together 624 ever married women were interviewed from both rural and urban areas using pre-tested schedule. It is found that one fourth of the male and one third of the female are marrying before the legal age at marriage among the study populations. It is higher among the rural compared to urban irrespective of gender and so the mean live birth among the rural are higher than the urban for all the study tribes. The age at marriage and age at first conception has inverse relation with the fertility. The mean live birth is higher among the illiterate mothers and house wife compared to literate and working mothers, respectively. The birth control users have a lower mean fertility compared to nonusers. Preference for son is observed among Galo and Hills Miri and gives an impact on fertility. Mother with lesser number of son have higher mean live birth.
Keywords: son preference, fertility, Arunachal Pradesh, reproductive profile

INTRODUCTION

Humans are continuing to exist on earth through reproduction. However, we have realized that if we utilized the potential of reproduction to its fullest it will be difficult for human to be survived in a healthy way considering the available natural resource. So, it has become important to control the fertility. To do so it is needed to understand the behaviour of fertility. The fertility of a population is always influenced by various biological and social factors, directly or indirectly. These factors are, however, not the same for every population.

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Biological factors like age at menarche, age at marriage, age at first conception and social factors like education, occupation of the mother and uses of birth control measures have a great impact on fertility and are extensively studied among many populations including few North East Indian population (Mukhopadhyay, 2001; Singh, 2006; Asghar et al., 2014).

Recently, the preference of son over daughter has becoming an important factor affecting fertility indirectly in many of the Indian population (Mutharayappa et. al., 1997; Chaudhuri, 2012; Asghar et al., 2014). The notion of this preference lies deep within the society itself. It is the social values ascribe to the male that lead to such preference. Such phenomenon not only brings inequality among the man and woman but also affect the total fertility outcome. The present study is an attempt to validate the various biological and social factors including son preference that influence the fertility among the three endogamous tribes of Arunachal Pradesh – Galo, Adi and Hills Miri. No such report is available from any of the tribes of Arunachal Pradesh and thus this will be the first of its kind.

POPULATION AND METHOD

Population

The present study is carried out among three tribal populations of Arunachal Pradesh – Galo, Adi and Hills Miri. All these populations come under Tani tribes. Each of them is endogamous tribe with clan exogamy. They have mongoloid feature and each of them speak their own dialect belongs to Tibeto-Burman language group. They use Hindi to communicate with other tribes.

The Galos represent one of the major tribes of the state. They inhabit in West Siang, parts of East Siang and Upper Siang districts of Arunachal Pradesh. They were earlier known as Gallong. The Adis are also one of the major tribes and found in majority in East Siang, Upper Siang, in some part of West Siang and Lower Dibang Valley District of Arunachal Pradesh. The Adis were earlier known as 'Abor.' After India's Independence, the term 'Abor' was replaced by 'Adi,' meaning 'Hillman.' The Hills Miris are the sub-tribe of Nyshi inhabiting in the districts of Lower and Upper Subansiri of Arunachal Pradesh along with the other tribes. Most of them are found very near to the Subansiri and the Kamla rivers. The population of Hill Miris is comparatively small and scattered.

Sample

In together 624 ever married women were interviewed using pre-tested schedule. Equal numbers of women are interviewed from both rural and urban areas. For Galo, 224 (112 from urban and 112 from rural) woman are interviewed. Urban sample were collected from Kolpu, Eso and Gori complex areas of Basar; and rural sample were collected from Gori-I, Gori-II and Ango-Tare villages of Basar, West Siang district. For Adi, 200 (100 each from rural and urban areas) women were interviewed from Pasighat, East Siang District. Sample for rural area was collected from Bamin Bilat and for urban area was collected from Pekung. For Hill Miris also 200 (100 each from rural and urban areas) women were interviewed. Urban population was

selected from Raga town and rural samples were collected from Kemiliko village which is 16 km away from the Raga town. Both the area comes under Lower Subansiri district of Arunachal Pradesh.

Data collection and analysis

Information regarding reproductive profile, educational and occupational status was collected by using a pre-tested schedule from ever married women. Under reproductive profile, information like age at menarche, marriage and first conception; outcome of each conception; the gender of each live birth; uses and type of birth control measures were recorded. The interview was conducted on one-to-one basis to maintain privacy. The analysis is done on MS Excel. The mean live birth is use as an indicator of fertility. Mean live birth is calculated as number of live birth per mother in the sample.

RESULTS AND DISCUSSION

Menarche

The age at menarche is an important factor which affects the reproductive period and found to be varies from population to population. The mean age at menarche is known to be influenced by a number of factors like environment, altitude of place, socioeconomic status and genetic factors, and so forth (Srivastava and Goswami, 1968; Abelson, 1976; Bangham and Sacherer, 1980). The average age at menarche in the present study is found to be lowest among the Adis and highest among the Galo (**Table 1**). Comparing the urban and rural population, it is found that average age at menarche is lower among urban woman in Adi (12.12 years in urban, 12.48 in rural) and Hills Miri (12.92 years in urban, 13.13 years in rural) but among Galo it is slightly higher than the Rural (13.98 years in urban, 13.87 years in rural). The difference in age at menarche between urban and rural population may be due to the living style. Usually, in urban area people enjoy good and nutritious food compared to rural area. This can also be linked with the observed lower mean live birth and higher literacy rate among the urban compared to rural area (**Table 2** and **3**). With fewer numbers of children, couple may able to provide good and nutritious food to their children.

Age at marriage

The legal age of marriage in India is 21 years for male and 18 year for females. Among the study populations it is found that 25.48% of male and 33.65% of female are marring before they reach the legal age of marriage. If we see region wise it is observed that marrying before legal age of marriage is higher among the rural area compared to urban for both male and female. But in the case of female the difference is almost double (**Table 1**). Among all the study populations the percentage of marrying before legal age of marriage is higher in rural than the urban except among the Galo males. Among Galo male there is more than three-fold higher in urban (26.79%) compared to rural (8.93%). But among Galo females there is no difference between urban and rural. However, among Adi females only 1% in urban region gets marriage

Table 1. Mean age at marriage, first conception and menarche

		Galo	Adi	Hill Miri	Total
mean age at menarche (year)	Urban	13.98	12.12	12.92	13.01
	Rural	13.87	12.48	13.13	13.16
	Total	13.92	12.30	13.02	13.08
mean age at marriage male (year)	Urban	24.70	26.40	24.47	25.19
	Rural	26.85	23.00	23.18	24.34
	Total	25.77	24.70	23.82	24.76
mean age at marriage female (year)	Urban	20.08	22.35	17.96	20.13
	Rural	20.29	19.12	16.70	18.70
	Total	20.18	20.73	17.33	19.41
mean age at first conception (year)	Urban	21.47	23.81	19.02	21.43
	Rural	21.74	20.38	17.41	19.84
	Total	21.60	22.09	18.21	20.63

before legal age while it is 42% in rural area. The number of male and female marrying before legal age is same in urban and rural area for Adi. The highest proportion of marrying before legal age is observed among the rural female of Hills Miri (63%). Among all the urban population also, marrying before legal age is observed highest among Hill Miri female (38%).

The mean age at marriage for male and female among the study population is 24.76 and 19.41 year, respectively. For males, the highest mean age at marriage is found among Galo and the lowest among the Hills Miri. Comparing urban and rural, it is found to be lower in rural area among Adi and Hill Miri but higher among Galo. In case of female, Adi has the highest age at marriage and Hills Miri has the lowest. It is lower in rural area compared to urban among Adi and Hill Miri. The mean age of marriage among Hills Miri female is lower than the Legal age of marriage (**Table 1**).

In India, where giving birth before marriage is considered to be a taboo, the age at marriage has an important impact on the total fertility. It is a well-known fact that marrying at young age gives a longer fertility period and therefore enhancing fertility. The present finding is in agreement with this fact. Among all the study population in both rural and urban areas the fertility decreased with the increase of age at marriage except in few age cohort (**Table 2**). Comparing urban and rural populations, it is observed that the fertility is higher in rural area for all the study tribes. The highest mean live birth/ fertility rate is observed among the rural Hills Miri (5.48)

Age at first conception

The mean age at first conception for the study population is 20.63 years. The mean age at first conception is found to be highest among the Adi and lowest among the Hills Miri. Among Adi and Hills Miri the mean age at first conception is lower in rural compared to urban areas. But in case of Galo it is more or less same. Among the rural Hills Miri it is even lower than the legal age of marriage. The **Table 2** shows the relation between age at first conception

Table 2. Relationship between age at marriage and age at first conception with fertility

Age Cohort (year)	Mean live birth based on age at marriage						Mean live birth based on age at first conception					
	Galo		Adi		Hill Miri		Galo		Adi		Hill Miri	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
>14	4.00	4.78	0.00	0.00	6.00	7.60	3.00	0.00	0.00	0.00	6.46	6.88
15-19	3.87	3.69	4.17	4.23	3.73	5.81	3.78	3.77	4.06	3.9	4.17	4.98
20-24	3.06	3.07	3.68	3.51	2.97	6.09	3.69	3.4	3.63	3.18	2.91	4.73
25-29	2.23	3.1	3.26	2.67	8.00	5.20	2.13	3.1	2.93	3	5.33	4.67
30-34	1.75	3.6	2.73	1.75	0.00	3.00	1.57	4.00	1.38	1.33	0.00	3.00
35-39	2.00	1.00	1.80	3.00	0.00	3.43	2.00	1.00	0.00	0.00	0.00	0.00
Overall	3.33	3.49	3.23	3.40	3.97	5.48	3.33	3.49	3.23	3.40	3.97	5.48

and fertility. It is seen from the table that the mean live birth increased with the decrease in age at first conception in almost all the age cohort.

Education, occupation and birth control measures

Education and occupation of the mother are two most important social factors which affect the total reproductive outcome of the population. There is a general notion that educated mother preference less number of child and moreover, they are more aware of the family planning. Likewise, working mothers also preferred less number of child compare to housewives. In the present study, the percentage of literate mother is higher than the illiterate in all the three populations, in both urban and rural area except among rural Hill Miris. The illiteracy is higher among the rural area for all the three study populations compared with urban area. However, the mean live birth is higher among the illiterate population in both rural and urban area for all the populations except among urban Adi where there is no illiterate mother (**Table 3**). This finding is in agreement with various other populations which reported that illiterate mother produce more children than the literate counterparts (Choudhury and Devi, 1997; Singh, 2006; Asghar et al., 2014).

The number of house wife mother outnumbers the working mother in all the study populations and in both rural and urban areas except for urban Adi. Comparing urban and rural, the number of house wife are higher among rural area in all the study populations. The percentage of house wife in rural area is more than 80% for all the study populations. The mean number of conception and mean number of live birth are higher among the house wife mother compared to working mother in all the populations (**Table 3**). This finding is in agreement with the earlier report (Asghar et al., 2014) and indicates that those engaged in mental work have less number of children, as compared to those who do some sort of physical labour (Raj, 2006). Among the working mothers, the mean number of conception and mean number of live birth are higher in rural area compared to urban area for all the populations.

Birth control measures (BCM) is an important intervention to reduce the rate of conception. The question of accepting this measure is always a big issue in many populations. In the present study, populations the number of birth control users outnumbers the nonusers

Table 3. Relationship of education, occupation and uses of birth control measures with fertility

			Education		Occupation		Birth control measures (BMC)	
			Illiterate	Literate	House Wife	Working	User	Non-user
Galo	Urban	Mother %	24.11	75.89	59.82	40.18	80.36	19.64
		Mean no. of conception	5.56	2.74	3.93	2.67	3.30	3.91
		Mean no. of live birth	5.59	2.61	3.87	2.53	3.19	3.91
	Rural	Mother %	42.86	57.14	80.36	19.64	78.57	21.43
		Mean no. of conception	4.73	2.70	3.66	3.23	3.16	5.08
		Mean no. of live birth	4.67	2.61	3.57	3.18	3.11	4.88
Adi	Urban	Mother %	0.00	100	39.0	61.0	90.00	10.00
		Mean no. of conception	0.00	3.37	3.79	3.15	3.33	3.70
		Mean no. of live birth	0.00	3.23	3.64	3.05	3.19	3.60
	Rural	Mother %	5.00	95.00	89.00	11.00	74.00	26.00
		Mean no. of conception	4.60	3.55	3.64	3.27	3.39	4.19
		Mean no. of live birth	4.20	3.35	3.43	3.18	3.23	3.88
Hill Miri	Urban	Mother %	36.00	64.00	62.00	38.00	42.00	58.00
		Mean no. of conception	5.64	3.13	4.56	3.16	3.60	4.34
		Mean no. of live birth	5.47	3.13	4.47	3.16	3.60	4.24
	Rural	Mother %	57.00	43.00	93.00	7.00	27.00	73.00
		Mean no. of conception	6.75	4.23	5.66	5.00	4.48	6.11
		Mean no. of live birth	6.46	4.19	5.46	5.00	4.37	5.89

among Galos and Adis. But among Hill Miris the number of nonusers is higher than the users. For all the study, populations of the number of users is higher among the urban area compared to rural area. The mean number of conception and mean number of live birth is found to be higher among the nonusers of birth control measures as expected for all the study populations (**Table 3**). This finding indicates that birth control measures have an impact in controlling the fertility in these study populations.

Son preference

To assess the effect of son preference on fertility, the gender of first two live births for those women who have completed their fertility were considered. For these 288 mothers (78 Hills Miri, 105 Adi, and 105 Galo) were found to be 40 year and above age and so are eligible. Analyzing the changes in the mean live birth of the mother base on the gender outcome for the first two live births, it is observed that among Galo and Hill Miri there is a gender preference both in rural and urban areas (**Table 4**). When there was no son in the first two live births the mean live birth is found to be the highest among the rural and urban Galo and also among the rural Hill Miri. It goes on decreasing with the number of son increased in the first two live births. In contrast, when there was no daughter the mean live birth is found to be the lowest in both Galo and Hill Miri in both rural and urban areas. But it increased with the increase in the number of daughter in the first two live births. Similar findings were also

Table 4. Preference of son and its relationship with fertility

	Mean live birth based on number of gender in first two live birth					
	Galo		Adi		Hills Miri	
	Urban	Rural	Urban	Rural	Urban	Rural
No. of males						
0	5.28	5.53	4.00	3.67	6.00	8.12
1	4.61	4.67	3.80	3.48	5.73	6.52
2	3.78	3.63	3.94	4.13	6.50	6.40
No. of females						
0	3.50	3.33	3.94	4.00	5.71	5.50
1	4.67	4.52	3.80	3.38	5.73	7.05
2	5.47	5.81	4.00	4.20	6.50	8.12

reported from the Muslim population of Manipur (Asghar et al., 2014) in addition to the strong son preference reported from Northern and Central India particularly in Himachal Pradesh and Punjab (Chaudhuri, 2012). However, such trend is not observed among the Adi. This finding show that among Galo and Hill Miri, irrespective of urban or rural, the mean fertility rate in increasing because of wanting for more sons. In other word in order to get more sons the couples are keep on trying thereby the overall fertility is increasing. Previous studies on different population have linked the reason for son preference over daughter in India to number of socio-cultural and economic factors (Bulatao, 1981; Vlassoff, 1990; Friedman et al., 1994). These reasons could not be validated as it is beyond the scope of this study.

CONCLUSION

The present study found that one fourth of the male and one third of the female are marrying before the legal age at marriage. Marrying before legal age of marriage is higher among the rural compared to urban irrespective of gender. This has already given an impact on the fertility as the mean live birth among the rural are higher than the urban for all the study tribes. The age at marriage and age at first conception has inverse relation with the fertility. With the decreased in age at marriage and first conception the mean live birth is increasing irrespective of region. Education, occupation of mother and uses of birth control measures also have a positive impact on fertility in this study. The mean live birth is higher among the illiterate mothers. Similarly, mean live birth is higher among the house wife compared to working mother. The birth control measures have a lower mean fertility compared to nonusers. Preference for son is observed among Galo and Hills Miri and gives an impact on fertility. Mother with lesser number of son have higher mean live birth. In opposite mother with less number of daughter have lower mean live birth irrespective of region. So, this finding can be used as a base line data for further study addressing the reasons behind the gender preference among these tribes in particular, and among all the population of Arunachal Pradesh in general.

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