Demographic Study with Special Reference to Reproductive and Child Health among Chiru Tribe of Manipur

(SYNOPSIS)

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INTRODUCTION
The present study was conducted among the Chiru tribe of Manipur, India. The Chiru, one of the 33 scheduled tribes of Manipur, India are mostly distributed in the Senapati, Tamenglong and Churachandpur Districts. They speak a dialect belonging to the Old Kuki linguistic family. Their population size is 5487 (2001 census).

In rural India especially among tribal populations, poverty, illiteracy and multiple pregnancies take their toll on mother’s health and the infant. High prevalence of anaemia and malnutrition among women in the reproductive age group, particularly during pregnancy and lactation can have irrevocable effects on the infant’s health. Earlier studies have shown that amalgamation of health research with demography is necessary to understand the health status of a comprehensively growing population. Thus, an anthropological demographic study on the reproductive and child health is much needed for socio-economically backward population particularly tribals. Keeping the above points in mind, the specific aim and objectives of the present study are as follows:

1. To study the demographic processes such as fertility, mortality and morbidity along with socio-economic and educational status of Chiru of Manipur
2. To study the fertility, mortality, morbidity patterns of the population and factors that affects them
3. To find out the practices pertinent to maternal care and child care
4. To assess the knowledge, attitude and practices of family planning
5. To study the reproductive morbidity, knowledge and treatment of RTIs in the population

The present study provides useful demographic information about the population to further facilitate other researchers working in this field besides generating data bank for intellectual inquiry.

MATERIALS AND METHODS
Data was collected from 647 ever-married women in the reproductive ages (15-49 years) from seven Chiru villages of the Senapati and Tamenglong Districts. An exhaustive pre-
tested demographic schedule containing both open ended and close ended questions was used for collecting information on age and sex, household data, socio-economic status, reproductive and child health performance, maternal health, birth control measures, morbidity, vaccination and health seeking behaviour of the Chirus.

A pilot survey was conducted in the month of April to June 2009 for identification of the ‘universe’ and rapport establishment. During this period demographic schedule was administered to 50 ever-married women with a view to pre-test, modify and validate the research schedule. Two phases of intensive fieldwork have been conducted covering all the seven villages of the Senapati and Tamenglong Districts of Manipur. The first phase fieldwork was conducted from August to November 2009, in Bungte Chiru, Nungsai Chiru and Waithou Chiru villages of Senapati district while the second phase of fieldwork was conducted from May to August 2010 in the villages of Kangchup-Chiru, Uran-Chiru, Shadu-Chiru of Senapati District and Lamdangmei village of Tamenglong district.

Data analysis was done by applying simple statistical measure like averages, percentages and mean as well as through regression analysis such as stepwise multivariate regression analysis by using SPSS software.

**DEMOGRAPHIC PROFILE**

The population pyramid of the present study has a broad base with tapering apex representing young and youthful population with high fertility, typical of developing countries. The distribution of different age and gender categories among the Chiru suggest that more than one third of the population is below 15 years of age and only a marginal proportion is aged 60 years and above. Dependency ratio is 80.27 with median age 22.57 years. The sex ratio (978.82) is lower than the overall sex ratio of Manipur (987: provisional census report Manipur, 2011) but higher than the all India sex ratio (940: provisional census report, 2011).

Literacy rate among the Chiru is 95.64%, which is slightly higher among males (97.12%) as compared to females (94.2%). However, percentage of highly educated individuals is less among Chiru. Most of the females are literate upto secondary level of education.

The main occupation of Chiru males is cultivation while maximum numbers of women (13.70%) are housewives but the remaining women are active involved in other economic
spheres. Among Chiru male 45.71% are economically active with approximately 76.39% of the households falling below the PCAI less than ₹20,000/-. 

The type of family among Chiru society is more of nuclear (73.62%) as compared to joint family (26.38%) with 53.58% of ≤ 5 family size. Of the total population, 67.45% are currently married and 4.34% were ever married who comprise of divorcees, widowers and widows. The average age at marriage (21.42 years) is well within the legal age at marriage.

FERTILITY

The crude birth rate (CBR=20.51), total fertility rate ((TFR= 5.26) of the Chiru were found to be higher than that of Manipur state (CBR=15.8; TFR= 2.4) and general fertility rate and child women ratio (GFR = 89.64; CWR = 381.8) of the Chiru were found to be lower than that of Manipur state (GFR = 116; CWR = 448.8) and India (GFR = 144; CWR = 547.9).

The highest mean number of conceptions and live births are found among the women who attained the menarche at the age of 11 years, and the mean live births gradually decreased with an increase in the age at menarche. Chiru (73.1%) women attained menarche at the ages between 13-15 years with mean age being 14.06 years.

The highest frequency of age at marriage is found at the age cohort 20-24 years (47.6 %) followed by age group 15-19 years (35.08%) and, the mean number of conceptions (4.46) and live births (3.89) are found to be highest among the women who married at the ages 15-19 years. Both conceptions and live births gradually decrease with increase in age of marriage. About half of the total women (50%) had their first conception at the age cohort of 20-24 years. The mean number of conceptions (4.53) and live births (3.95) is found to be the highest at the age cohort 15-19 years and both mean number of conceptions and live births gradually decreased with the increase of age at first conception as expected, while, the mean number of conceptions and live births is increased with the increase of mother’s age. Hence, age of the mother plays an important role in the overall fertility status of the present population.

The impact of education is clearly seen on fertility as (5.2) average number of conception and (4.41) average number of live births are found to be higher among the illiterate women compared to the (3.57 and 3.13) average number of conceptions and average number of live births, found among literate women. The difference is also statistically significant with p value 0.00075.
64.76% of all ever-married women in the present population are working women. The average children born were highest (3.77) among the working women.

The mean live births is highest among women whose PCAI ranges from < ₹6,000/- and show a gradual decrease within the households with increasing per capita annual income from < ₹6,000/- to ≥ ₹36,000/-. A majority of Chiru women do not use the contraceptive methods. The highest mean number of conceptions (3.78) and live births (3.36) is observed among the users of BCM women as compared with non-users (3.57 and 3.07, respectively). The difference is statistically significant with p-value 0.01. Hence, it is clearly shows that BCM is also one of the factors which affect fertility.

Regression analysis shows that 60.00% of the fertility is explained by the demographic factors considered in the study. Remaining 40.00% may be explained by the other socio-cultural factors or genetic factors.

MORTALITY

In the present study crude death rate is found to be 3.86 which is lower as compared to the crude death rates of (5.0) Manipur and (7.4) India. Infant mortality rate is higher than Manipur but lower than that of India as a whole. Prenatal mortality or foetal death is found to be 146.67 per 1000 conceptions. Of all the prenatal mortality rates, 66.67, 53.33 and 26.67 are spontaneous, induced and still births cases per thousand conceptions, respectively.

Of all the total 189 spontaneous abortion recorded in this study, 20.11% were found at the mothers’ age 25-29 years and highest spontaneous abortion (27.51%) is found among the mothers’ age 44+ years indicating that spontaneous abortion was higher at earlier time as compared to recent. The maximum number of induced abortion is found at ages 25-29 years (44.00%) while the still birth is observed at ages 25-29 years and 40-44 years (30.77% each).

Usually most cases of post natal mortality occur during the neonatal stage. In the present study too, neonatal mortality (0.34%) is highest among all post natal deaths. The majority of postnatal deaths are recorded among the mothers of the age group 35-39 years (35.29%) followed by age group 25-29 years (23.53%).

The highest proportions of spontaneous abortions are observed among the mothers who are engaged in business (small scale business) (13.04%) followed by self-employed (8.40%), daily wagers/ labourers and cultivators (7.43% each). The percentage of induced abortion is found to be highest among the mothers who are engaged in private jobs (11.11%). And the
proportions of stillbirths are also observed higher among the private jobs (3.17%) whereas, the highest number of postnatal deaths is found among the housewives. Hence, no definite pattern of influence of women’s occupation on mortality is observed.

Both prenatal and postnatal mortality are seen to be the highest among the illiterate women as compared to the literate women. However, induced abortion is reported highest among the literate women while spontaneous abortion is found to be highest among illiterate women.

It can be inferred that upto 39.4% of the prenatal mortality is affected by parameters taken in the present study. The parameters are number of conceptions (31.2%), PCAI (3.6%), types of family (2.5%), age at menopause 0.6%, BCM (0.5%), occupation (0.4%), education of mother (0.3%), age at menarche (0.1%) and age at first conception (0.1%)

**SELECTION INTENSITY**

Crow’s total selection intensity index was calculated as 0.173. Its two components: due to fertility (I_f) and due to pre-reproductive mortality (I_m) were found to be 0.165 and 0.007, respectively. Johnston and Kensinger’s index for selection intensity was calculated as 0.307, which is higher than that of Crow’s index. This might be because of the addition of prenatal mortality (I_me) factor which is calculated as 0.114.

The fertility and mortality components of Crow’s selection intensity in the present study are well within the reported range of northeast India (0.07 to 0.406 and 0.006 to 0.471, respectively) inclining toward the lower limits. Both Crow’s and Johnston and Kensinger’s selection indices also lie towards the lower limits of the reported range. This is an indication of a relaxed selection pressure among these populations because of the decline of embryonic and pre reproductive mortality component as compared to those who are at the upper margin of the range.

**REPRODUCTIVE AND CHILD HEALTH**

Among the Chiru mothers, 67.8% of the births during four years preceding the study received antenatal check-ups. The highest frequency of mothers (48%) who received antenatal
check-up is found in 1-2 visits during second trimester and the least is found (12.5%) in 4 or more visits during third trimester.

Excessive fatigue, swelling of the legs, body or face and eclampsia are the most common reported problems during pregnancy among the Chiru women. About 40% of women reported at least one or more problems during pregnancy.

Improper intake of IFA supplements among the Chiru women is probably due to the lack of awareness of the benefits of dietary supplements. 34% of the Chiru women reported regular intake of IFA tablets during pregnancy. The proportion of births occurred at home is higher among illiterate mothers than the literate. Institutional deliveries increase sharply with the increase of mother’s educational level and the proportion of delivery assisted by doctors also increases sharply with mother’s education. Thus, place of delivery and birth attendance is influenced by mother’s education.

37.38% of mother received at least one post natal check-up after delivery. Births (delivery) at home are rarely followed by a postnatal check-up. 16.19% of mothers were having postpartum problems at any time during the two months after delivery.

Out of 647 ever married women, 31.67% reported symptoms of any reproductive tract infections and a majority of women (62.68%) who reported any reproductive tract infection did not receive any treatment. And, only 28.32% of women sought treatment from any medical sector.

The prevalence of RTI is higher among those who had pregnancy wastage, contraceptive methods users, and illiterate women among Chiru women. These are the factors which influenced Reproductive health of the Chiru tribe.

The distribution of BMI (Kg/m²) among Chiru women shows that 22.26% of women were undernourished (BMI< 18.49 kg/m²). Within undernourished women 12.57% cases suffered by mild thinness followed by 7.72% who showed moderate thinness and 1.97% is severe thinness. The prevalence of undernourished among Chiru women is higher than the state of Manipur (14.8%, NFHS-III) but lower than the national level of India record (35.6%, NFHS-III).

Of the 2940 persons, 16.77% reported sickness during the six months preceding the study. Of these sick persons, mothers comprised of more than one third i.e., 35.70% followed by
offspring 26.17%, other family members 20.08% and husbands comprised only 18.05%. it shows the very fact that the Chiru women were more prone to ill health than their husbands.

In order of preponderance, gastro-intestinal problem (21.59%), general weakness (17.61%), diarrhoea (16.48%), fever (15.36%), and URT problem (13.07%) were the main causes of health problems among the Chiru women.

Fever and diarrhoea comprise more than half of the causes of illness. In order of preponderance, fever (37.21%), diarrhoea (24.81%), ARI (18.60%), and miscellaneous (comprising eyes, ear, nose, skin infection, mumps, injuries) (7.39%) and the least is found in general weakness (7.75%). The most vulnerable for ARI were children between 0-11 months of age (37.50%). The educational level of mother and PCAI of the household seems to be positively related with child morbidity. The incidence of high prevalence of diarrhoea among Chiru children may be due to poor drinking water system (spring water is the only main source of drinking water in Chiru villages) and unhygienic sanitations.

Breastfeeding is universal among Chiru women, only 7.48% of children were not breastfed. Among breastfeeding children slightly more than half of the children begin breastfeed within one hour of birth (47.97%) and remaining 44.55% start breastfeeding within twenty-four the hours of childbirths. The postponement of initiation of breastfeeding is more common among illiterate women than literate and also majority of the children were not breastfed whose mothers are illiterate. Children among the Chiru have stopped breastfeeding by 24-29 months of age. Most of the Chiru children received breast milk along with supplements such as bottle milk, cow’s milk and other liquids in which supplementation generally begins relatively early.

More than 66% of children have received BCG, two doses of DPT and Polio. The DPT and Polio coverage rates are about the same by vaccination card, because these vaccines are normally administered simultaneously.

Nutritional status of Chiru children is classified by using the Wt/Age classification of Gomez et al. (1956), about 96% of the children showed some degree of malnutrition i.e., severe, moderate, mild malnourished, etc. The majority (49.69%) were only moderately malnourished. There were more normal boys than girls, and the percentage of moderately and mildly
malnourished boys was also higher than girls whereas, severely malnourished were seen higher in girls (24.00%) as compared to boys (8.14%) as expected. About 92% of the children displayed different degrees of stunting (1 SD or more below the reference median), as defined by Waterlow et al. (1977).

According to BMI classification, a majority of severe thinness (42%) is observed among girls, only 28.8% were normal and the remaining 14% and 12.67% were moderate and mild thinness, respectively. Girls are more malnourished than boys, severe thinness is found to be higher among girls (42%) as compared to boys (35.47%).

**CONCLUSION**

Fertility and mortality measures considered in the present study indicate an upward trend in fertility as most fertility indicators are higher than the state average while, CDR is lower than the later. Promoting the levels of education of the Chiru women would prolong their age at marriage and further facilitate attainment of an adequate and sustainable family size. Lack of economic resources underpins the morbidity of both women and child.

Economic status, occupation and educational status are the major socio-economic factors influencing fertility and mortality as well as poor health of reproductive and child health.

Accessibility, availability and utilization of health care services in the area are very poor. Reproductive and child health in the present population needs to be promoted for providing basic and essential health amenities especially, infrastructure for ANC and PNC. On the whole, there is an urgent need to improvise health facilities in the area along with promulgation of health awareness and importance of education to ensure elevation of overall living standard of the Chirus.