Chapter 5

Summary and Conclusion

Human population growth is the most interesting event ever to occur in the human history. The number of people added each day to the world is unequalled in its consequences. Birth rates almost never go down in tandem with the decline in the death rates, and the result is rapid population growth. This increase in the population is a fuel for both environmental damage and social commotion. Demography, the science of population is concerned with virtually everything that influences or can be influenced by the population size, distribution, processes, structure or characteristics (Weeks, 2002). It not only studies population growth and changes but also the causes and the consequences of the changes in the population size (growth or decline), composition and distribution.

The momentum created by the unparalleled population growth is acute in developing countries. The population of less developed regions is increasing at a rate, which is double than that of more developed regions (World Population Data Sheet, 2004). The differentials in growth of a country vary by its culture, level of economic development and other factors. More developed countries like Sweden have completed the demographic transition, where fertility and mortality are at low levels and natural increase adds little. Many less developed countries are in an intermediate stage, in which mortality and fertility are falling at varying rates but are still high relative to the levels in Europe and more developed regions (Gelbard et al., 1999).

The keystones of population studies are the processes of mortality, fertility and migration. The relationship between the composition of a population and its mortality, fertility and net migration is complementary i.e., composition affects the demographic processes, and these processes in turn affect the composition by determining the age and sex structure of the population. As population change is one of the prime forces
behind social and technological change all over the world, demographic studies have consequently assumed an important role in the scale of events. Besides this, assessment of health and quality of life particularly, reproductive and child health have received increased attention. The protection of the health of the expectant mothers and children is of prime importance for building of a sound and healthy nation. Reproductive and child health not only constitute a large group but also a vulnerable or special risk group. Thus inculcating proper health practices and desirable health attitudes among women is of immediate concerns, besides proper implementation of various health programmes.

Human populations show differences in demographic profile as well as reproductive and child health status. Numerous bio-social factors such as age, education, income and occupation influence demographic aspects and health status of a population. Knowledge about demographic profile in addition to reproductive and child health status of a community in order to evaluate and properly administer the various population welfare programmes is of importance. Also the comprehensive small scale population dynamics studies among specific population groups prove to be academically important in interpreting convolutions of population change and may help in formulating plans and policies in specific regions, which need special intervention.

The present study was designed to evaluate the reproductive and child health status among Chiru of Manipur along with their demographic profile. Chiru is one of the small tribal groups of Manipur. Their population size is 5487 (2001 census). They are distributed in three districts of Manipur.

For the present study, the demographic data along with reproductive and child health profile were drawn from six villages of Senapati district of Manipur. Information were collected from a sample of 614 Chiru households and 647 ever married women in the age group 15-49 years.

The distribution of different age and gender categories among 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. The population pyramid of Chiru is triangular in shape with broad base and tapering at the apex indicating expanding population or young population. Dependency ratio is 80.27 with median age 22.57 years. The sex ratio (978.82) is lower than overall Manipur sex ratio (987: provisional census report Manipur, 2011) but higher than the all India sex ratio (940: provisional census report, 2011).

A look at the marital status suggests that by age of 29 years, most of the females and males have ever been married. 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 (21.42years) is well within the legal age at marriage.

Literacy rate among Chiru is 95.64%, which is slightly higher among males (97.12%) as compared to females (94.2%). However, percentage of higher 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 economically active. Among Chiru male 45.71% are economically active with about 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%) type as compared to joint family (26.38%) with 53.58% of ≤ 5 family size.

5.1.1 Fertility

A look at the current fertility levels indicates that the crude birth rate for Chiru is 20.51 births per 1000 population, which is higher than that of all Manipur population (15.8, SRS, 2009). General fertility rate is estimated at 89.64 births per 1000 women. The value for total fertility rate is 5.26 births per women while the gross reproduction rate is 1.55 female births per woman. The estimates of age specific fertility rates show that majority of total fertility rate is concentrated in the prime childbearing ages of 15-19 years followed by 20-24 years.
The reproductive performance of the presently studied population has revealed that the mean number of conception, live births and surviving children are 3.67, 3.17 and 3.14, respectively, and the reproductive span for the Chiru women is 31.94 years.

Among the factors influencing fertility, factors like age of mother, age at marriage, PCAI, type of family, occupation, birth control measures and age at first conception have significantly influenced on fertility. The number of live births decreases with the increase in age at marriage and age at first conception of mothers. But the number of live births increases with the increase in the mother’s age. The fertility is higher among illiterate as compared to literate mothers. To the present study, the mean number of conceptions and live births show gradual decrease within households with increasing PCAI. And mean number of live births is higher among housewives than the working women; the difference is also statistically significant. Majority of the mother do not use BCM. The permanent BCM users only avail the facility after completing their respective family sizes whereas the temporary users utilize them for birth spacing. Among the temporary users pills and IUDs are seen to be higher among Chiru women. And the fertility difference is also statistically significant with p value 0.01. Hence, it shows that the BCM is also one of the factors which affect fertility. Factors like age at menarche and age at menopause do not have much influence on fertility.

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

### 5.1.2 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 concepts, respectively. And mortality differential of Chiru is observed
that 75% of all the prenatal mortality occurred as spontaneous abortion, 25% as induced abortion and 5% as still births. The highest spontaneous abortion is found among the mother’s age of 44+ years indicating that spontaneous abortion was higher at earlier time as compared to recent. Among the postnatal deaths, neonatal deaths form the major proportion.

Like fertility mortality is also influenced by a group of factors both socio-economic as well as biological. Prenatal mortality decreases with the increase of age at first conception of mother. Prenatal mortality is highest among the mother’s age at first conception 20-24 years where the highest number of conceptions occurred. Neonatal mortality is highest among all post natal deaths. Further highest postnatal mortality is found to be among 15-19 years cohort of first conception mothers. The highest proportion of prenatal mortality is highest among housewives as compared to working women. But, the difference between prenatal mortality among the housewives and working women is not statistically significant. Of all the post natal mortality, neonatal and early childhood mortality is also found to be higher among housewives. But, not a single case of infant and late childhood mortality is found in housewives indicating that mother’s occupation has no relation with mortality.

Of all the total prenatal mortality, prenatal mortality is highest among illiterate mothers as compared to literate mothers. However, induced abortion is seen to be higher among literate mothers. And the difference between prenatal mortality among illiterate and literate mothers is statistically significant. So, the education of mother is one of the factors that influencing mortality.

Postnatal deaths among Chiru decreases with the increase in educational level of women. Thus, an inverse relationship between educational status of mother and postnatal deaths is evident in the present study. However, the difference in postnatal deaths between literate and illiterate women is statistically not significant. The prenatal mortality is somehow increasing with the increase in PCAI. But, postnatal deaths vary in different PCAI groups. It is observed that economic status has no effect on postnatal mortality.
Regression analysis shows that 39.4% of prenatal mortality is explainable with the aid of demographic parameters that have been considered in the present study. But the regression analysis of postnatal mortality does not seem to be influenced by parameters taken in the present study. This may be due to lack exact figure in the study year. So, the regression analysis of postnatal mortality is not shown in the present study.

5.1.3 Selection intensity

The proportion of survival up to reproductive age and death before this age is found as 0.993 and 0.007 respectively. Prenatal component (Ime = 0.114) of Johnston and Kensinger’s selection intensity index is higher than the postnatal component (Im = 0.007). Johnston and Kensinger’s index is higher than that of Crow’s index. The fertility and mortality component of Crow’s selection intensity are within the range of northeast India. Both Crow’s and Johnston and Kensinger’s selection indices lay towards the lower limits of reported range. The fertility component has more percentage contribution to both Crow’s and Johnston and Kensinger’s index. Similar trend is also observed among 27 population groups of north east India.

5.1.4 Reproductive and Child health status

In the present study, 67.8% of the births received antenatal check-ups. All of them have received antenatal check-ups outside home in health institutions. Majority of mother, who did not have any antenatal check-up had reported that antenatal check-up were not necessary. The highest percentage of mothers consists of those who received 1-2 antenatal check-ups during second trimester.

Excessive fatigue, swelling of the body and eclampsia are most reported problems during pregnancy. The majority of mothers received tetanus toxoid injections during pregnancy. Out of those who received injections, majority of them i.e., 43.30% of mothers received one dose of tetanus toxoid injection during their pregnancies. Tetanus toxoid injection received is higher among literate mothers than the illiterate
mothers and tetanus toxoid injection coverage increases with an increasing standard of educational status.

Among the Chiru, 55% of the mothers were those who had received iron and folic acid supplements but did not consume what they received, while only 11% of the mothers did not receive iron and folic acid supplements and only 34% of the mothers consumed all what they had received. This reflects there is a need to make mothers aware of the benefit and the necessity of iron and folic acid supplements for their betterment and the health of the baby. Consumption of the supply of IFA is positively related to mother’s education and birth orders. A majority of deliveries occur at home and most of the mothers are assisted by health professionals. The proportion of births occurring at home is higher among illiterate mothers (80%) than the literate (42.85%). Institutional deliveries, both in public and private institution increase sharply with the increase of mother’s educational level and the proportion of deliveries attended by doctors also increases sharply with mother’s education. Thus, place of delivery and birth attendance is influenced by mother’s education.

The health of a mother and her newborn child depends not only on the health care that mother receives during her pregnancy and delivery, but also on the care mother and the infant receive during the first few weeks after delivery. 37.38% of mother received at least one postnatal check-up after delivery. Among all the mothers who received at least one postnatal check-up, those received health check-up from health professionals after delivery. Births (delivery) at home are rarely followed by a postnatal check-up.

In the present study, 16.19% of mothers were having postpartum problems at any time during the two months after delivery. Among these women who reported postpartum problem, excessive vaginal bleeding is 4.98% of births and a very high fever is reported for 3.43% of births. Excessive vaginal bleeding is observed higher in the younger age of mothers and did not vary much by place of delivery and assistance during delivery but, it is observed higher in the normal deliveries (32.14%) than caesarean deliveries (29.17%).
Out of 647 ever married women, 31.67% reported symptoms of any reproductive tract infections. Among the women who reported having symptoms of anyone of RTIs, mucoid non-foul smelling discharge (42.79%) is highest among them followed by thick grey white foul smelling 30.35% and thick curdy white 26.87%, discharge with other conditions which include itching 37.81%, burning sensation 21.39%, severe lower abdomen pain 18.91%, ulcers with discharge 10.95%, fever 5.97% and itching and ulcers 4.98%. Overall, 28.32% of the women among who have reported any reproductive tract infection obtained advice or treatment from any medical sector. And, the higher proportion of women sought treatment from government doctor and private doctor. A majority of women did not seek any treatment. The prevalence of RTI is higher among those who had pregnancy wastage (56.02%) but the treatment seeking behaviour is also higher among them (18.98%) as compared to those who had no pregnancy wastage (7.89%). Contraceptive users also report much higher prevalence of anyone symptom (44.66%) than non-users (22.34%). The tendency to seek treatment is also seen higher among users (20.16%) than non-users (7.89%).

The prevalence of anyone of the symptom of RTI/STI is higher among the illiterate women and also none of them sought treatment. Among the illiterate, women with below middle school complete is reported higher prevalence of symptom of RTI/STI than the women with higher level of education. As the educational level increases the treatment seeking behaviour also increases. This indicates that education has positive relation with women health.

Those aware of RTI/STI reported less prevalence of symptoms (27.92%) than those who were not aware (48.48%). But the treatment seeking behaviour is higher among those who are aware of RTI/STI.

In present study, the higher prevalence of symptoms of RTI/STI is observed among the women who are engaged in daily wage/labourer than the other types of occupation. But the treatment seeking behaviour is higher among those women who are engaged in government job.
Out of 557 ever married women, 22.26% of them are undernourished, 57.27% normal, 16.52% overweight and 3.95% were obese. The prevalence of undernourished among Chiru women is higher than Manipur state (14.8%, NFHS-III) but lower than the national, India as a whole (35.6%, NFHS-III).

The percentage of women who are undernourished is seen higher among the young age group <20 years than the other older age groups. Among the age group 30 and above years the prevalence of overweight and obese women is observed. This indicates that age of women is a factor of nutritional status. One interesting observation is that the prevalence of overweight (22.89%) and obese (5.62%) are also seen higher among the women who had pregnancy wastage. This may be due to the fluctuation of hormonal changes among these women.

The proportion of ever-married women who are undernourished decreases in the order: PCAI > ₹10,000/- (28.48%) to ₹10,000-29,000 (6.25%) and ₹30,000/- above (4.17%). In the occupation categories, the highest percentage of different grades of undernourished (4.46% of severe, 14.29% of moderate and 25.89% of mild thinness) is found among the daily-wager or labourer. And the overweight is more often observed in the government and private employed women. So, educational status of women, occupation and PCAI are inversely related with BMI.

Chiru women were more prone to ill health than their husbands, 35.70% of women reported ill as compared to their husbands 18.05%. Among the illnesses, gastrointestinal problem, general weakness, diarrhoea, fever, and URT problem were the main causes of illness among Chiru women. And among those who reported ill, only 23.87% of women received any treatment for their illness. The reasons for not seeking any treatment are economic burden, lack of transportation and the belief that illness is natural and due to seasonal change.

Among Chiru, out of 424 children 129 were reported ill. Fever and diarrhoea are more than half of the causes of illness. The most vulnerable for ARI were children between 0-11months of age (37.50%) and majority is found among boys (54.17%) as compared to the girls (45.83%). The ARI seemed to be much not affected by mother’s
education. Children aged 24-35 months were somewhat more prone to fever. It is also more common in boys (54.17%) than girls (45.83%). The prevalence of fever varies irregularly by mother’s educational level and PCAI. No consistent relationship is observed between the prevalence of Child’s morbidity and mother’s education. But PCAI has positive impact on illness of children.

A majority of those who seek treatment get it from public medical sector as also the majority of children who are in miscellaneous category (comprising eyes ear, nose, skin infection, mumps, injuries). But a few turn to the private sector to seek treatment for all types of illnesses. This may be due to the less number of private health providers in the villages or due to shortage of money.

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 hours of births. 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 Chiru have stopped breastfeeding by 24-29 months of age. Most of the Chiru children start receiving early supplementation in the form bottle milk, cow’s milk, other liquids and along with breast milk.

Among the Chiru, more than halfs of the children were fully vaccinated (i.e., who received BCG, Measles, and three doses each of DPT and Polio excluding Polio 0) while one third of them were partially immunized and only a few of children were not immunized.

Over 69% of Chiru children aged 12-47 months received at least one dose of Vitamin-A. Among those who received at least one dose of vitamin-A show not much differentials between the gender categories. But mother’s education level does reflect in the vaccination of children. Immunization coverage is far from complete. Proportion of fully vaccinated children is low.
The incidence of stunting is substantially higher than wasting in the sample in both sexes. The prevalence of stunting is higher in the age of 5 years in boys whereas in girls stunting showed higher at the age of 6 years according to Gomez and Waterlow’s classification. As per BMI analysis, girls are more malnourished than boys; severe thinness is found to be higher among girls (42%) as compared to boys (35.47%).

5.2 Conclusion

The present study is an attempt to the advancement of knowledge and to provide information to the Chiru about their demographic and health behaviour and to highlight the importance of fertility and-mortality control, besides good health of mother and child. On the basis of the results of the present study, it may be suggested that there is a need to improve the level of education of Chiru women, although a good proportion of them are literate. Besides efforts to increase women’s employment are also needed. This may help in reducing their dependency as well as benefit the community development at large. Realization on the part of couples is needed regarding the necessity of limiting the family size early in life, so that they may adopt birth control measures and plan their family accordingly. Increased spousal communication is necessary with regard to increased contraceptive use. There is a need to shift from women centric approach to couple centric approach for family planning. Awareness of women about availability and benefits of antenatal and postnatal check-ups is a must. In addition to this, there is a need to make Chiru mothers aware of the benefits and necessity of iron and folic acid supplements and professional medical care during pregnancy, delivery and post-delivery, full immunization of children, regular supplementation of vitamin-A, morbidity of both mother and child, dietary habits, by giving proper and adequate information regarding these interventions.

Educating the women can be one of the important steps towards achieving this target for education can play a major role in shaping their attitude as well as their behaviour which will be beneficial to the community at large.
No doubt reproductive child health (RCH) services have been created, strengthened and expanded over the years yet, their output in terms of their utilisation is still limited particularly in the rural/interior region. So, it is also necessary that RCH promotional activities may be intensified and the benefits of these services be properly explained to women.

Finally, the results obtained from the present study may be utilised by the population planners of the region for evolving effective population welfare programme for the Chiru population.