SUMMARY AND IMPLICATIONS

Adolescent Child-bearing is emerging as a serious problem in most of the countries including the developed and developing countries. It is currently a major threat to the health and life of adolescent girls in the developed countries and is emerging as a future threat to the girls in the developing countries. In the context of AIDS emerging as a major global epidemic, control of teenage pregnancy assumes far greater importance, because emotionally charged, ill-experienced and ignorant teenage mothers can become easy victims. Already teenage pregnancy has established several health hazards for teenagers as well as their pregnancies. When their status is very low in society and their socio-economic background is poorly developed, adolescent pregnancy may create serious problems for them and pose a threat to their existence itself. This problem is all the more grave in India where teenage marriages have been taking place on a large scale in most rural areas. It is time, however, that it varies significantly, across different castes and religions and communities within a given state. On all these aspects there is not enough data in India today, since this problem of teenage pregnancy and its outcome has not been given serious attention. Under these circumstances, the present study assumes very great
significance particularly to promote better quality of teenage mothers and to help their survival.

The concept of adolescence, as applicable to the Indian context, is the transitional phase from childhood to adult period. Although the duration of this period differs among the several developed as well as developing countries, the core period remains the same everywhere. The period of adolescence relevant to India, is considered from 12 to 19 years. Adulthood of course begins from 20 years and beyond. Therefore conceptually different age period has been assigned to adolescent and adult mothers in the present study. Adolescent mothers form the experimental group of the present study and adult mothers remain as the control group.

The methodology followed in the present study was a retrospective survey approach. The major objectives were to study the important determinants of foetal loss, which formed the dependent variable of the study. Altogether 8 major hypotheses were formulated for the present study in addition to testing a few more in the chapters concerned, the status of adolescence and adulthood was conceptualised as a control variable. Several independent variables like family type, age at marriage, anaemia, antenatal visits, socio-economic status, weight of mothers, weight of foetus, etc., were considered for studying their relative importance in explaining the foetal loss of both adolescent and adult mothers. In addition to the survey approach, a few case studies were also developed using in-depth anthropological methods. Of course, for medical examination, physical verification check up and
Summary and Implications

Laboratory analysis of blood, and other investigations, were carried out. Since the study was extended for a long period of two years, the entire clients were studied out of this universe and hence there was no need for taking further samples from the universe. This study was conducted in two major hospitals in the Pondicherry Town. All the adolescent expectant mothers who registered in these two hospitals during the last two years were covered for the present study. However, the respondents belonged to a wider region including parts of Tamil Nadu and the Union Territory of Pondicherry. Therefore, it is a representative study of these regions. This thesis has been presented in ten chapters. It begins with a review of literature followed by a chapter on methodology. The empirical part of the thesis has been presented in eight chapters, of which five chapters deal independently with major endogenous and exogenous factors which influence foetal loss in adult and adolescent mothers. In order to ascertain the individual influence, direct and indirect effect, of independent variables Path analysis was carried out and presented in another chapter. In addition to give a holistic and qualitative dimensions to this thesis, few representative case studies have been developed focusing on crucial determinants. In the pages that follow a salient summary of each chapter has been presented.

In the third chapter two important aspects of marriage viz., age at marriage and type of relationship before marriage and age of first pregnancy have been correlated with foetal loss. Although mean age of marriage of girls was around 20.5 years in the study area during the census period (1981)
which would have perhaps crossed 19 years at the time of study, according to the present study the mean age at marriage of adolescents was only 16.9 years as against 19.5 years among the adults. This lower mean age at marriage is due to the fact that respondents aged up to 24 years were selected for the study. For these respondents more than half of marriages took place among non-relatives (54%) and the rest were arranged marriages between maternal cousins, paternal cousins and just a few between uncles and nieces. The hypothesis confirmed here is that there is a definite negative association between age at marriage and foetal loss. It is true with respect to adolescent as well as adult marriages. However, the magnitude of such foetal loss is very great for adolescent mothers.

In the fourth chapter certain endogenous factors have been presented. The three morbidity conditions examined here are: status of anaemia, perinatal complications, and delivery risk factors. Together as well as individually, they have shown significantly greater adverse influence among adolescents than adult women on foetal loss. Their order of importance in the risk of foetal loss is that anaemia, comes first, followed by other antenatal complication risks involved in the mode of delivery, both operative and non-operative. While the former factor is an extension of growth of the adolescent woman, the latter two are clinical factors reflecting the efficiency and care or otherwise given at the clinics. Therefore the type of service rendered at the clinic also contributed to the loss of foetus, significantly more among the adolescent than the adult women because
these complications are at higher risk for them in the context of their inadequate growth.

The findings given in the chapter four confirm that the loss of foetus is significantly higher when pregnancy occurs during the adolescent period irrespective of all the other factors. The other endogenous factor found significant is inadequate height of the mother, which leads to loss of more foetuses, both among adolescent and adult mothers. In other words, a definite decline of foetal loss was observed among the women with a height of 150 cm and above. Women’s weight also was found to be yet another important endogenous variable that affects the foetus. The hypothesis confirmed is that the weight of mother shows a negative association with the foetal loss of adolescent women, but such a trend is not conspicuous among the adult women because of the paucity of cases. In fact the proportion of women with lower weight constitutes more among the adolescent women (1/5) than among the adult women (1/10). Therefore, adolescent women are deprived of attaining sufficient weight due to their childhood pregnancy.

Adolescent pregnancy also affects the progeny. More babies born to adolescent women have low birth weight compared to those of adult women. Thus the hypothesis confirmed here is that low birth weight babies are found significantly more among adolescent mothers. Similarly, low birth weight adversely affected foetal loss of both adolescent and adult women. Therefore height, weight and birth weight of babies are three important endogenous factors that determine the pregnancy outcome.
The implications arising out of the preceding two chapter and emerging out of these findings are:

1. In order to avoid pre-mature adolescent mortality of mothers and their pregnancies, Child marriages must be prevented through strict enforcement of the existing legislation on age at marriage. For this purpose marriage registration must be made compulsory and enforced strictly. In addition, appropriate incentives may be offered particularly to scheduled castes and tribes and minority populations who are marrying at younger ages, to postpone their marriages to 20 years and beyond.

2. Inadequate weight and height of mother forms a major risk of foetal loss. Therefore, peripheral workers should give priority to such mothers in their antenatal visits, encourage hospital deliveries and so on.

3. Adolescent mothers and their progenies are vulnerable to the morbidity risk. Therefore it is important that special care must be taken to immunise them against communicable diseases, and supplementary nutrition must be given to them, particularly to this vulnerable category of the population.

Morbidity conditions of teenage and adult mothers noteworthily vary during their pregnancies. Of course it is influenced by the extent of the antenatal care they receive. In both adolescent and adult women
respondents who had no antenatal care, the foetal loss was as high as 12.5% and 9.5% respectively. On the other hand, in those who had received antenatal care, it was reduced to 7.4% and 8.3% respectively. Increasing the number of antenatal care beyond the optimal number, however, did not benefit the mother, but on the contrary it only diluted the antenatal care itself. Although 83% of the adolescent girls and 87% of the adult women had no major morbidity complications, significantly more adolescent women (7.7) than adult women (1.3), had the experience of foetal loss. Regarding the types of morbidity noticed amongst these mothers, they included PIH, IUGR, preterm labour and premature rupture of membranes causing preterm labour. Increased number of operation deliveries was found to be more among adolescent girls than adult women. These were some of the major morbidity complications noticed on a differential basis between adolescent and adult mothers. However anaemic condition remained more or less similar between these categories of mothers. Consequently a similar deficiency of Hb also found among them.

Another difference noticed is that the incidence of abdominal deliveries (Operation) is strikingly higher in the adolescent group (12.72) than in the adult group (2%). Thus, the three morbidity conditions examined in this chapter viz. Status of anaemia, perinatal complication, and delivery risk factors show together as well as individually greater adverse influence on foetal loss among adolescent than adult women.
On the basis of the three major morbidity and health hazards, differentially noticed among the teenage and adult mothers, a few high priority interventions are recommended here:

1. Appropriate and effective ANC should be given in time according to the real need of the clients so that the foetal loss may be minimised. In fact it has been confirmed in chapters V and VIII that antenatal care is a major determinant of foetal loss. Since teenage mothers, in particular, require intensive antenatal care for obvious reasons, peripheral workers have to be trained accordingly to be equal to that responsibility.

2. In order to reduce the types of morbidity mentioned above, supplementary nutrition, provision of iron and folic acid to the expectant mothers, proper antenatal care involving 'at risk approach', and proper timely referral system to avoid unnecessary operative deliveries have to be implemented. Successful implementation of this requires training and reorientation of not only paramedical personal but also of doctors.

Although several programmes of intervention are needed to reduce foetal loss, the most important input is antenatal care. According to the standard prescription of antenatal care, 4 to 6 visits between the first and the third trimester have been recommended by Government of India. In fact, anything less or more than 4 to 6 visits may dilute the efforts. According to the findings of the present study, antenatal visits were grossly inadequate.
irrespective of the category of mothers, and in fact among the respondents significantly less number of adolescent mothers (41%) received antenatal care than adult mothers (50%). It goes against the basic principles of antenatal care. It is obligatory that the highest priority is given to covering all teenage mothers with optimum antenatal visits. Since they face the greatest risk in their life compare to adult mothers, as a consequence more teenage mothers suffer loss of the foetus (12.5%) than adult mothers (9.5%). Equally important is the quality of antenatal visit. In the case the respondents, both adolescent and adult, it was as unsatisfactory as the antenatal care rendered to them. It is the optimum number of visits and the quality of care given are important rather than a mere mechanically increase in the number of visits. In addition, when pregnancy occurs during the adult period, the overall pregnancy loss will be reduced, irrespective of antenatal care. Therefore its necessary to strengthen educational intervention to ensure that family formation commences only after girls become adults.

According to the findings of the programme of interventions presented in Chapter Six, a few critical implications emerge. They relate to the qualitative and quantitative aspects of antenatal care.

1. First of all, the number of antenatal visits now in vogue is grossly inadequate and need standardisation.
2. As the quality of antenatal care given at present is not up to the standard, periodic in-service training have to be given to peripheral workers to overcome the deficiency.

3. Awareness of the MCH has to be created amongst the clients themselves through all the available mass media, particularly the TV (Doordarshan) whose coverage has to be extended to rural areas.

4. Since antenatal care has multiple implications on the health of mother, progeny, and their survival, a wide spectrum of integrated education coupled with immunisation and supplementary nutrition, may be given to all teenage mothers.

Although India has a fairly good health care infrastructure for achieving a sound referral system, with transport and equipment available to facilitate carrying out minor surgery and rendering primary care to those who are brought in a critical condition, unfortunately the transport facility is either misused or used mostly for family planning work to achieve the prescribed targets. Even if vehicles are available and the medical officer is willing to provide transport to the beneficiary, they are often unusable either because the fuel is not available or the vehicles are in disrepair and therefore cannot be operated. Thus, patients either have to depend on public transport or their own bullock carts to travel long distances, which invariably result in delays. As a consequence either referrals are delayed or the patients arrive...
belatedly at the higher levels of health care, resulting in high maternal and perinatal mortality and morbidity.

The overall socio-economic development of the study population is very low for several reasons. Because most of them belong to rural areas and joint families, their level of education is low and they fall below the poverty line. Among the developmental variables, only the family structure showed significant differences in explaining foetal loss. However education also showed a slight influence in explaining the difference in foetal loss. Other developmental variables did not explain any variations in the foetal loss. Hence the family dynamics particularly through elderly women relatives, plays an important role in reducing the risk of foetal loss.

An important implication emerging from the study is that peripheral workers have to be instructed to pay special attention to pregnant women belonging to all nuclear families, where the foetal loss is higher than in joint families.

As the education status of the mother in general is very low, high priority has to be given, and at once, to educate mothers through formal and non-formal programmes. Education seems the only permanent and long-term remedy for the problem of health for the mother and survival chances of the offspring. While imparting Health Education to mothers suitable ideas may be given to improve their life style.
In conclusion, the determinants of foetal loss in the order of their importance, can be summarised thus. The principal determinant of foetal loss is adolescent marriage which has both direct and indirect influence. The second determinant is the nature of antenatal visit which of course indirectly influences the anaemic condition of the mothers. The third is anaemia, per se, which has a differential influence on foetal loss and its particular and significant negative influence is found among adult women, rather than adolescent women. It also influences foetal loss indirectly through the weight of the foetus. In addition to these three major determinants of foetal loss, weight of mother and weight of foetus have differential influence on foetal loss among both adult and adolescent mothers. In fact, weight of foetus alone shows a positive influence among teenagers rather than among adult mothers. Weight of mothers also shows a significant influence on weight of foetus in the case of both categories of mothers. Since some of these endogenous factors as well as exogenous factors (perinatal care) have roots in the educational status of mothers and their lifestyle, highest priority must be given to maternal education and to improving through training the competence of health providers. Thus, these independent variables examined earlier show differential influence in explaining the foetal loss both among adult and adolescent mothers. But their influence is more serious and extensive among adolescent mothers than adult mothers. Therefore, differential service may also be adopted by providers among them.