CHAPTER - XIII

SUMMARY OF FINDINGS AND POLICY IMPLICATIONS

The objective of the present research is to study the determinants of infant mortality among the Scheduled Castes in rural areas of Tamil Nadu and to examine the impact of Tamil Nadu Integrated Nutrition Project (TINP) - health, nutrition and communication/education intervention on infant mortality after controlling relevant factors and also other high priority 'life-affecting variables'. This research adopted a quasi-experimental design. A retrospective survey methodology was used for the overall investigation. For the selection of infant survivors a simple random sampling procedure was adopted. Considering various aspects such as cost, time and tabular analysis, a sample of 300 infant survivors and 300 infant deaths for each of the experimental and control area was felt adequate for the present investigation. The infant survivors and infant deaths were selected from the births which had occurred during the last three years reference period, i.e., from 1st January 1986 to 31st December 1988. The broad categories of independent variables considered in this study are; ecological variables, familial variables, marital variables, parental variables, conception and pregnancy variables, cultural variables, perinatal variables, intervention variables, norms on child care and socialisation, morbidity pattern for infants and causes of death. These "life-affecting variables" and selected
factors for each variable are based on Mahadevan's (1986) conceptual model on mortality.

13.1 ECOLOGICAL VARIABLES AND INFANT MORTALITY

The housing conditions, viz., type of house, electrification of house, space of house and ventilation of house have adversely influenced infant mortality in both areas. Their influence on mortality risk during both neonatal and post-neonatal mortality is significant in both areas with the exception that ventilation of house has not been associated with post-neonatal mortality in the control area. The open-air defaecation of household members has increased the mortality risk in both areas. The composite index for natural call based on three variables, viz., defaecation adjoining the house, open-air defaecation along roadside and excreta disposal for children have been considered. They were found significantly associated with both neonatal and post-neonatal mortality in both areas.

The sanitation condition inside the house (fly nuisance) has shown significant adverse effect on neonatal mortality at 5 percent level and post-neonatal mortality at 1 percent level in the control area. Whereas in the experimental area, it has shown significant association only with neonatal mortality at 10 percent level. The sanitation index inside the house based on factors, viz., cleanliness in covering food, cleanliness of water storage,
extent of fly nuisance, ventilation of house, habit of washing hand before eating and habit of eating fallen food have been considered. They were found significantly associated with neonatal/infant mortality in the experimental area only. The sanitation index outside the house based on the factors, viz., refuse disposal, water stagnation, presence of cattle shed storage of animal dung and presence of hen/chicken/dog has shown significant association with post-neonatal and infant mortality only in the control area. Thus the findings indicate that whether factors on sanitation influence infant mortality either individually or collectively their effect might have been reduced by the intervention of health and nutrition programme in the experimental area and thereby confirming the hypothesis that better the sanitation lower the infant mortality.

The index constructed which is based on cleanliness of vessels used for cooking and eating food, and material used for cleaning water container has shown significant adverse association with neonatal mortality in the experimental area and with both neonatal and post-neonatal mortality in the control area. This is largely due to the impact of integrated nutrition, health and communication intervention in the experimental area.

The index for personal hygiene of mother based on two factors, viz., habit of cutting nails and accumulation of dust behind the nails which adversely and significantly influenced infant mortality both in the experimental and control areas.
Though both housing and sanitation/personal hygiene factors are influencing infant mortality, comparison of the experimental area with the control area reveals that sanitation/personal hygiene appear to be more influential on infant mortality. This implies that the reduction in infant mortality without any substantial improvements in the housing condition (an indicator of economic status) of the households can be achieved if the households keep their surroundings clean and follow hygienic practices. This finding has a great practical utility in developing countries, where without higher investment in building houses even socially backward parents can be educated on a cost-effective basis to adopt scientific life style on hygiene and health leading to fast and extensive reduction in infant mortality. The mortality rate is significantly lower in the experimental area than in the control area even after other housing and sanitation/personal hygiene factors are controlled. This implies that within the given housing condition (an indicator of economic status), the integrated health, nutrition and communication programme together can improve the environmental sanitation and personal hygiene and reduce infant mortality within reasonable period of time.

13.2. CULTURAL VARIABLES AND INFANT MORTALITY

Almost all the scheduled castes are non-vegetarian. The frequency of eating non-vegetarian food has shown significant negative relationship with infant mortality in both areas.
The duration of consuming special food viz., green leaves, vegetables, fruits and ragi by mothers during pregnancy is negatively related to infant mortality and its impact on infant mortality is significant both in the experimental and control areas. The duration of avoiding some nutritive foods, viz., ragi, papaya, green leaves and fruits by mothers during pregnancy is positively related to infant mortality and the relationship is strong in the control area only.

Mother's perception on the changes in infant deaths during the last five years has a weak association with their own experience of infant mortality. Desire for additional children and actually trying to have them due to fear of infant deaths are favourably related to mother's own experience of infant mortality.

The difference between the expected and actual sex of baby born to mothers has favourably influenced the infant mortality. Its impact is much more strong in the control area than in the experimental area. Though the practice of giving home treatment for sick infants has favourably influenced infant mortality, its impact is significant only in the control area and not in the experimental area. The preferential treatment in medical care, food, education and general affection towards sons has favourably influenced the infant mortality and its impact is stronger in the control area than in the experimental area. These findings indicate that the intervention programmes have nullified the effect of cultural
factors regarding son preference and treatment for sick infants on infant mortality in the experimental area.

A significantly higher infant mortality in the control area than in the experimental area after controlling the effect of all the cultural variables related to food practice and son preference discussed above indicate the negative impact of integrated health care, nutrition and communication programmes on infant mortality.

13.3. FAMILIAL/MARITAL VARIABLES AND INFANT MORTALITY

Type of family has shown a significant association with infant mortality in the control area but not in the experimental area. The size of land holding of household shows an inverted U-shaped significant relationship with infant mortality in the experimental area and U-shaped strong relationship in the control area. Per capita income-expenditure has shown positive and significant association with infant mortality in both areas. The indicators of economic status of household like type of house, size of land holding and per capita income-expenditure have shown inconsistent direction in the relationships with infant mortality. This indicates that the factors other than familial variables which are influencing infant mortality through economic status of household needs separate in-depth investigation.
The mortality risk is highest among children born to mothers whose bride grooms were from father's side. The intramural relationship between bride and grooms is strongly associated with neonatal mortality in both areas and with post-neonatal mortality in the experimental area.

Mortality risk during both neonatal and post-neonatal periods is significantly associated with age at marriage in the control area but not in the experimental area even after controlling the effect of marital duration. However, a uniform pattern in the direction of relationship between age at marriage of mothers and infant mortality among different groups of marital duration has not emerged. The different patterns of relationship may be due to the influence of other factors like parity on infant mortality for any given level of age at marriage of mothers.

13.4. PARENTAL VARIABLES AND INFANT MORTALITY

Though literate father and mother combination makes difference in mortality risk compared with other combinations of educational status of father and mother, educational status of mother irrespective of father's educational status has improved the survival prospects of child. Occupational mobility of both father and mother has shown an independent influence on infant mortality. Indeed the combined effect of occupational mobility of parents has also significantly reduced infant mortality. Non-agricultural
sectorwise occupation of parents has a significant adverse influence on infant mortality. Mother's working status outside home (labourers), irrespective of father's working status, has increased infant mortality. Among the social indicators, factors related to mothers are more important than those related to fathers.

Mother's age at birth of child has significant effect on infant mortality even after controlling the effect of parity. Better health of the mother during pregnancy has significant adverse effect on infant mortality in the experimental area which indicates the impact of TNP on mother's health during pregnancy and ultimately on mortality risk.

13.5 CONCEPTION AND PREGNANCY VARIABLES AND INFANT MORTALITY

Nutritional status of mother assessed by haemoglobin level, deficiencies of vitamins (Vitamin-A, Vitamin-B and Vitamin-C) and daily intake of calories and proteins appeared to be little better in the experimental area than in the control area. Hence better nutritional status of mother in the experimental area has improved the survival prospects of child. Its negative impact on infant mortality has been observed both in the experimental and control areas. But the overall influence is greater in the experimental area.

Hard physical work performance by mothers outside home during pregnancy has increased mortality risk during both neonatal
and post-neonatal periods, and it is strongly associated with infant mortality in both areas. Its adverse effect on post-neonatal mortality is significant at 1 percent level in the experimental area and on both neonatal and post-neonatal mortality at 10 percent level in the control area.

Previous bad obstetric history, viz., still births and abortions have significant adverse impact on child survival. Regarding the sex differences in mortality, higher male than female mortality is noticed during neonatal period than in post-neonatal period and it has significantly influenced neonatal mortality only in the control area.

Experience of morbidity condition of mothers during pregnancy, month of pregnancy in which morbidity occurred and duration of pregnancy with morbidity have their positive impact on infant mortality particularly more on neonatal mortality. Treatment for morbidity condition has an adverse impact on infant mortality. Use of medical care services during pregnancy is better in the experimental area than in the control area and it is negatively related to both the neonatal and post-neonatal mortality. The nature of delivery, whether normal or otherwise, has shown significant influence on neonatal mortality in both the experimental and control areas.
Both bio-social and pregnancy care factors are significantly related to infant mortality and their impact on mortality is more during neonatal period than post-neonatal period. Infant mortality is significantly higher in the control area than in the experimental area for each category of bio-social and pregnancy care factors in most of the cases.

13.6. PERINATAL VARIABLES AND INFANT MORTALITY

Under demographic variable, parity shows U-shaped relationship with infant mortality and neonatal mortality and inconsistent relationship with post-neonatal mortality in both areas. The mortality risk is lower for parity 2 or 3. Preceding birth interval has shown significant negative relationship with infant mortality in both areas. The optimum birth interval seems to be more than 2 years. It appears that both parity and birth interval exert more influence on mortality risk during neonatal period than post-neonatal period. Family size has shown significant negative relationship with infant mortality in both areas. The relationship is significant during both neonatal and post-neonatal periods in the experimental area and during neonatal period only in the control area. Previous child loss experience have significant positive association with infant mortality in both areas. These findings indicate that the high risk mothers are mothers with the following perinatal variables, viz., parity 1 and '4 or more', short birth interval of less than 2 years, nuclear family without support
from others for child care, previous child loss experience. Therefore, these vulnerable groups of mother should be given priority in the provision of MCH care and continuous monitoring their health during antenatal period.

Mothers' perceived birth weight of their baby is better in the experimental area than in the control area. It has significant adverse effect on infant mortality as well as on neonatal and post-neonatal mortality in both areas. Improvement in the health of mother during pregnancy and continuous care and monitoring the low birth weight babies are required to reduce the infant mortality.

Under delivery care variable, the factors, viz., birth attendant, instruments used for cutting the umbilical cord and material used for dressing the umbilical cord among home deliveries are important for consideration of their significant influence on infant mortality. Though the proportion of institutional deliveries and trained birth attendant among home deliveries is higher in the experimental area than in the control area, the practice of using improper instruments for cutting umbilical cord and applying unhygienic materials for dressing the umbilical cord among home deliveries is more or less the same in both the experimental and control areas. Majority of deliveries are home deliveries, 55 percent in the experimental area and 68 percent of infant survivors and 76 percent of infant deaths in the control area, and attended mostly by untrained professionals. There is an urgent need to
improve the natal care by organising training for untrained professionals in conducting aseptic delivery in rural areas. The present Dais training programme is not sufficient in terms of coverage, quality of training and follow up support and guidance (Ramanujam, 1992).

Among the factors considered under post-natal care variables, time of bathing the baby immediate to birth, confinement at home have adversely influenced infant mortality; whereas unhygienic feed, discarding colostrum, mother's work inside and outside home after delivery have favourably increased infant mortality. The practice of giving unhealthy prelacteal feeds is high in both the experimental and control areas. Though a higher proportion of mothers have discarded colostrum the practice of discarding colostrum is less in the experimental area than in the control area. This indicates that not only mothers but also other elders in the family should be educated on the importance of colostrum feeding. This effort should be strengthened further in TINP area. Majority of mothers are resuming household work within a month due to non-availability of support from others and resuming work outside home due to poverty which affects child care. Husbands should be educated either to make arrangement to look after the newborn baby or to stop the mother from doing work outside home at least for 3 months soon after delivery.
13.7. INTERVENTIONS AND INFANT MORTALITY

Though the availability of health care services is the same in both the experimental and control areas, the level of utilisation of services provided by PRC/Health Sub-centre and satisfaction in service utilisation during pregnancy, the coverage of immunisation for mother (T.T, iron folic acid tablets) and child (DPT, oral polio, BCG) and antenatal check-up are significantly better in the experimental area than in the control area. All these health care services are adversely related to mortality risk in both areas. The impact of antenatal services is more during neonatal period than during post-neonatal period in both areas and also more in the experimental area than in the control area. The variation in the quantity and quality of MCH services provided to the mothers made a significant variation in infant mortality in both areas.

A significant change in the pattern of delivery/birth attendant from pre-project period (of long period) to project period has been observed. This indicates the impact of TINP effort in the integration of health services and in the improvement of the natal services. However the extent of timely registration of antenatal mothers and regular follow-up services, natal services and post-natal services are not impressive due to priority given for achieving the target of family planning by health staff and ineffective supervision. This observation is also supported by another recent evaluation study conducted by Chidambaram (1989). The impact of TINP would have been more than the present level if
Health Delivery Systems are integrated with Nutrition Delivery Services to the desired level.

Mother's as well as child's participation in the supplementary feeding of TINP has significant favourable effect on their health and prospects of child survival. The practice of sharing the supplementary food received in the programme with others has an adverse effect on health and prospects of child survival. Therefore, care should be taken to discourage the sharing of supplementary food by making the beneficiaries consume the food at the feeding centre itself. Mother's participation in the health and nutrition education and demonstration sessions, and their practice at home have significantly influenced the prospects of child survival favourably. The coverage of mothers under health and nutrition education and demonstration through working women group is not impressive and this should be strengthened further in TINP. Mother’s positive opinion about TINP confirms the impact of TINP on prospects of child survival. However, there is a lapse on the part of workers in the selection of beneficiaries for the feeding programme. This should be corrected. Supplementary feeding can also be extended to pregnant women with preceding birth interval of less than 2 years as the infants born to these women are at higher risk of mortality. This is a serious omission in the TINP and can be considered in future.
Under the given socio-economic condition the integrated health care and nutrition intervention made significant positive impact on prospects of child survival.

13.8. NORMS ON CHILD CARE AND SOCIALISATION AND INFANT MORTALITY

The practices on breastfeeding, viz., early initiation, frequency, intensity, feeding during illness of child or close to death of infant, exclusive duration; initiation of liquid/solid food; hygienic method of cleaning and keeping the feeder; use of oral rehydration solution for treating diarrhoea; and washing clothes used for cradle are significantly better in the experimental area than in the control area indicating the impact of communication/education component evolved in TINP on norms on child care.

Among factors under breastfeeding early initiation of breastfeeding, sitting posture adopted for breastfeeding, intensity of breastfeeding, duration of exclusive breastfeeding, the practice of continuing breastfeeding even infant fell sick are significantly related in reducing infant mortality both in the experimental and control areas. Duration of breastfeeding has positively influenced the prospects of child survival. Mother's perception that decrease in the quantity of breast milk due to stress of work outside home has increased neonatal mortality in both areas but its effect is not significant. However, this aspect should be investigated in a prospective study for better understanding of the relationship
between mother's stress on work and quantity of breast-milk.

Among factors under supplementary feeding, the type of feeder used particularly 'tumbler' cleaning the feeder using either cold or warm water. Unhygienic material used for cleaning the feeder, practice of keeping the feeder without covering after every feed and the practice of giving left over liquid food to the infant are significantly related in increasing the infant mortality in both areas. In addition, the practice of not cleaning the feeder immediately after feeding has significantly increased the infant mortality risk in the control area only. This was not observed in the experimental area which may be due to the impact of TINP.

A significantly higher proportion of infants experienced diarrhoea after initiation of food which is higher in the control area than in the experimental area. Though experience of diarrhoea among infants is positively associated with infant mortality, the association is significant in the control area only. This finding confirms the success of diarrhoea prevention in the experimental area as against in the control area. The nature of treatment for diarrhoea experienced by infants during infancy, particularly oral rehydration solution, has significant impact in reducing both neonatal and post-neonatal mortality in the experimental area, indicating the impact of TINP effort on diarrhoea management.
Early initiation (2nd or 3rd month) of solid food is associated with high mortality risk. The age of infant at which solid food is given has shown significant variation in post-neonatal mortality in the control area only. Initiation of solid food begins at six to seven months in majority of cases. Early (before 4th month) as well as late (after 6th month) introduction of unhygienically prepared solid food may introduce infection as well as affect the health of infant. The health education on this must be strengthened among mothers particularly more in the control area.

The practice of giving daily bath and use of soap to infants and use of new cloth used for cradle are significantly related in reducing the infant mortality risk in both areas. The frequency of washing the cloth used for cradle shows significant negative effect on mortality risk at 10 percent level in the control area.

13.9. MORBIDITY AND CAUSES OF DEATH OF INFANTS

The water-borne disease (diarrhoea/dysentery), fever/rigors and air-borne diseases (measles and chickenpox) are important morbidity conditions found among infant survivors. In addition to these, feeding problems and fits are found among infant deaths. Though experience of morbidity favourably influenced mortality risk, its association with infant mortality is significant in the experimental area only. It appears that the nutrition
vention has not reduced the incidences of morbidity, although reduce infant mortality. The nature of treatment for morbidity shown adverse effect on infant mortality in both areas.

Around two-fourth of infant deaths are early neonatal in both areas. Sex of child has not significantly differentiated the mortality risk. The pre-maturity/low birth and tetanus are the major causes of neonatal deaths in both areas. Gastroenteritis (diarrhoea and dysentery) is the major cause out-neonatal deaths in both areas. No significant difference in pattern of causes of death between these areas is observed.

Infanticide of 4 cases in the experimental area and 3 cases the control area due to social cause is found out. Around 40 cent of neonatal deaths in both areas, 80 percent of post-natal deaths in the experimental area and 87 percent of post-natal deaths in the control area are given treatment before th. The major source of treatment is allopathy. Considering the influences of biological, nutritional and health care delivery stices on infant mortality and causes of death, it appears that mortality is cause largely through “bio-familial factors”.

10. IMPACT OF TINF ON NUTRITIONAL STATUS OF MOTHER/CHILD AND INFANT MORTALITY

The comparison of nutritional status of surviving children between children born to mothers who participated and who did not participate in supplementary feeding programme, (ii) between infants
at the time of joining and leaving the feeding programme and (iii) between the experimental and the control area, reveals the significant positive impact of TINP on nutritional status of children. The clinical signs of malnutrition among children is significantly lower in the experimental area than in the control area. The nutritional status of mother who participated in the feeding programme has been improved significantly. These indicate the positive impact of TINP on the nutritional status of mother and child.

Mother's participation in the feeding programme of TINP has shown significant adverse impact on early neo-natal mortality even after controlling the effect of biological (age of mother, parity, nutritional status of mother) and MCH care factors (antenatal services, tetanus toxoid immunisation for mother, place of delivery/birth attendant, initiation of breastfeeding and feeding the colostrum). The adverse impact of supplementary feeding to mothers on mortality risk is strong among children born to mothers: aged 15-19 and '25 or more' years, parity 1 and '3 or more', frank anemia, not received antenatal services/TT immunisation untrained birth attendant, never initiated breast feeding and discarded colostrum.

In conclusion a significant fall in IMR from pre-project period to project period has been observed in the experimental area, and the reduction in IMR is significantly higher when compared to
The ecological factors are not given the due recognition in planning and implementing preventive measures against infant mortality. Within the given housing conditions (type of house, electrification of house, space of house and ventilation) improvement in sanitation inside (fly nuisance and cleanliness of vessels) and outside the house and personal hygiene of all family members through interpersonal and mass communication health education will control the infant mortality. Even the aspect of health education for better hygiene and environmental sanitation has not been seriously undertaken by peripheral workers. It is also to be noted with concern that environmental sanitation and personal hygiene do not find a place in discharging the delivery of health care services. For that matter there is no government department which deals directly with environmental sanitation particularly in the rural areas. The Government has, therefore seriously to consider what measures can be taken and through which department to improve the housing condition, environmental sanitation and personal hygiene.

The age old custom of inbreeding through intra familial marriages has been found in anthropological and genetic studies to have a harmful effect on the offsprings. The findings in this study are in line with the established fact. The Government have already recognised this and are doing their best to create an awareness among people particularly in socially weaker sections of community about the bad consequences of intrafamilial marriages.
Though being fully aware of the problem, the Government have enacted legislation specifying the correct age at marriage for boys and girls, it has been found not only in this study but in many other studies that marriages below the specified ages are still widely prevalent almost in all parts of the country. Creating awareness among the community about the hazards of early marriage and child birth is more important than legislation. It is education and other developmental measures like raising women’s status and gainful employment that have to be concentrated upon.

A substantial and relatively rapid decline in the infant mortality among scheduled castes is possible without a significant improvement in the level of economic development. The integrated health and nutrition intervention in Tamilnadu supported this hypothesis. This does not mean that the advancements in the level of economic development will not have any impact on the infant mortality rate; it simply means that attainment of higher level of economic development is not a prerequisite for reducing the infant mortality. Economic development along with other developments, however, will have more impact on infant mortality.

The role of social development as indicated by female education and female work participation is a crucial factor and is easily manipuluable in short period of time and important as far as its effect on infant mortality is concerned. Investment in the
promotion of female literacy through formal education as long term plan and informal education as short-term plan will enhance the effect of good mother/child care practices through the use of available health service for curative services. Mothers who are working in agriculture sector occupation during pregnancy as well as after delivery and also other family members should be educated on the importance of improving women’s health through nutrition education in choosing the locally available foods and preparing foods without loss of nutrients.

Since maternal, biological, nutritional and personal social factors have been identified as important determinants of neonatal mortality, action for improving the pregravid and pregnancy status of women and expectant women, therefore, needs to be accorded the highest priority for sustained benefits at community and Government level. A long term perspective in improving nutritional status of teenage girls before marriage through intensive education on equal treatment for females in provision of food and medical care is necessary. Nutrition Education on the need for adequate nutrition, correct choice of food items, and changing wrong beliefs responsible for avoiding nutritive foods during pregnancy must be strengthened.

The study has identified high risk approach—simple, easily recognisable maternal and fetal factors which can be taught to all levels of health functionaries and also followed while delivering
services. For instance, the high risk approach with special reference to age at marriage, age at conception, parity, preceding birth interval, previous bad obstetric history, anemia etc., are important. High risk cases should not deliver at home. The adoption of high risk approach would naturally necessitate the establishment of good referral system and linkages between domiciliary, health centre and hospital care. The Dais training programme should concentrate on high risk detection and referral and aseptic delivery.

At present the coverage and quality of MCH services are not impressive due to priority being given for achieving target of contraceptive methods. A positive effort for comprehensive maternal care with emphasis on early registration of pregnancy, repeated timely visits to antenatal clinics for identification of risk factors and their appropriate treatment including health and nutrition education, natal care and not merely on immunisation against tetanus is to be made.

This study further identified that the new born care is the most neglected part of the present health delivery system. The wide spread practice of discarding colostrum, unhealthy prelacteal feeds, late initiation of breast feeding and supplementation; preferential treatment to male child and neglect of child due to mother's work outside the home indicate the urgent need to educate not only mothers but also other elders in the family about the
positive and negative effects of such practices on the health of child. The major causes of death, pre-maturity/low birth weight during neonatal period and gastroenterities during post-neonatal period are preventable. The present health care delivery system is not monitoring the low birth weight babies. Provision of neonatal care from domiciliary care to hospital level appears to be the prime need for reduction in neonatal morbidity and mortality.

Another important intervention needed to control diarrhoeal diseases is to improve the environmental sanitation and supply of safe drinking water to infants. In addition to these, rigorous health education and method of preparing sugar and salt solution at home to all concerned may be given.

Besides ensuring adequate and appropriate MCH care and improving the access to services, there is a great need for the involvement of community at conception and subsequently in execution of health care plans. The health functionaries should be made accountable to the community so that a direct communication is established between users and providers. All important components of maternal and child care should be monitored.

The integration of health, nutrition and communication services will bring about a significant difference in infant mortality among the most socially and economically weaker sections of community. Supplementary feeding may also be given to pregnant
women with preceding birth interval of less than 2 years. Efforts may be taken to avoid sharing of the food given to the beneficiaries with others in the supplementary feeding programmes. Organising Women's Working Group in each village and disseminating the health and nutrition messages will yield better results. The results from TINP suggest strongly that this type of intervention can be extended to other parts of the country with appropriate modification based on the experiences gained through TINP.

13.12. CONCLUSION

The concluding section concentrates mainly on what needs to be done on priority basis to reduce infant mortality. In the previous sections a multitude of factors have been enumerated as direct and indirect causes of infant mortality. By further examining the degree of association of the various determinants with infant mortality, it is possible to arrive at a few selective factors which if attended to on a priority basis there is every chance of bringing down infant mortality considerably at a quick pace. Needless to say it is these issues which require immediate attention of the Government for priority action. These priority areas are mentioned below to enable the Government and voluntary agencies to take urgent remedial action.

i. Environmental sanitation and personal hygiene have a very strong adverse influence on infant mortality. They are on the one hand influenced by economic factors and on the other
by cultural and social factors. Improvement of sanitation and personal hygiene in the community requires the financial support of the Government through developmental programmes; and health education has to be intensively undertaken.

ii. The relationship between high risk pregnancy factors and high risk factors in newborns is found to be quite high. Therefore, a sound comprehensive Maternal and Child Health care with arrangements for timely identification of high risks and appropriate referral mechanisms has to be established.

iii. Under-nutrition of pregnant mothers as well as faulty nutrition of infants have been found to be strongly associated with infant mortality. The Government and voluntary agencies have to bear this fact in mind and ensure proper nutrition to pregnant and lactating mothers and to infants through applied nutrition programmes (including nutritional education and promotion of growing and rearing vegetables, foods, animals, fish etc).