Socio-economic differentials and determinants of infant and child mortality in assam: a case study of jorhat and dhubri districts

The study of infant mortality has been attracting nation wide attention because of considerable depletion of population during the stage of infancy, which has a major contribution on reducing life expectancy of population. Research on various aspects of infant mortality has been going on for quite sometime throughout the world, and many of the proximate variables that affect it have been identified in this study from the secondary sources.

Assam is a state with various social, religious and ethnic groups. Their living standards, food habits, literacy level, sanitary conditions, nutritional status, utilization of health services and the pattern of child bearing and rearing are rooted in their social values and norms. Although a lot of inputs have been given in health sector to reduce the high infant mortality, no significant achievements have been made till now. Since the Infant mortality rate is a pooled average value experienced by various cultural groups and communities, it is quite possible that there may be such areas and communities having high infant mortality rate, which may be keeping the overall infant mortality rate of a community at higher level. The infant mortality in Assam has declined from 139 to 76 from 1971 to 2003, but the rate of decline has been slow as compared to other states of India.

Objectives:

> ➢ To study the spatial and temporal trend of infant and child mortality in Assam.

> ➢ To find out the socio-economic differentials and determinants of infant and child mortality in the district of Dhubri and Jorhat. .

> ➢ To find out the factors which determine the medical care factors?

Methods and tools of data analysis:

Sampling Method:
Multi stage sampling techniques is applied for the study.

1st stage: Assam has been chosen on the basis of purposive sampling for the study because of the familiarity with the language, socio-economic and socio-cultural conditions of the people.

2nd stage: Jorhat and Dhubri districts are chosen on the basis of the highest and lowest infant as well as child mortality respectively.

3rd stage: For collecting primary data, one urban (the district headquarter) and six villages are selected randomly (three having health facility and the other three without health facility) from Dhubri and Jorhat districts (in case where the incidence of infant and child death are not enough, the field survey has been extended to the neighbouring villages).

4th stage: The households, where the infant and child deaths took place were selected on the basis of the registration of deaths by municipal committees in the urban areas and the Primary Health Centre/ Sub Centres in the rural areas and also on the basis of the statement of the village head.

Sample Size:
The total sample size is 240, 120 from each district. In each district 60 women are chosen, who have lost their children in the last 5 year period and 60 women are chosen who have live children under the age of 4 years. In Dhubri district 30 and from Jorhat 37 eligible women are chosen from the urban area i.e. the district head quarter. In Dhubri 90 and from Jorhat 83 eligible women are chosen from rural areas.

In this study, the women of reproductive age group are taken as the unit of analysis. The dependent and independent variables are categorical in nature. An attempt has been made to apply the best measures to analyse the data. *Chi-square test, Null Hypothesis and Binary Logistic Regression* have been used for the analysis.

Results:
The chance of survival increases with the improvement in housing condition. The infant and child death are highest in the kuchha houses followed by semi-pucca and are lowest in the pucca houses.

The infant and child mortality rate is negatively associated with the level of living and reflects a country's level of socio-economic development and quality of life. The Chi Sq. test confirms that there is a high degree of association between the child survival and standard of living. The chi sq. value 21.02 and 39.96 for both Dhubri and Jorhat respectively are highly significant. Therefore, it can conclude that the household standard of living and child mortality are significantly co-related.

In terms of the medical care, which includes place of delivery, went for delivery care, went for postpartum care, went for immunisation, went for antenatal care, given iron folic tablets during pregnancy, given tetanus injection during pregnancy, received BCG, received DPT, received Measles, and received polio, Jorhat district is far better than the Dhubri. This may be one of the major causes for the existing high gap in infant and child mortality in these two districts.

Higher exposure to mass media leads to lower infant and child deaths. The role of mass media is highly important in utilisation of different medical care facilities. As the exposure to mass media increases, the percentage of survival of the child also increases in both the districts. But when the number of exposure to the mass increases, it doesn't necessarily lead to increase to the child survival.

The binary logistic regression analysis shows that the type of place of residence is strongly linked to 'child is alive'. Type of House is also very significantly related to child survival. But semi-pucca house is not significantly associated with child survival. Educational level of the mother is very important for child survival. As level of education goes higher, the probability of survival also increases. But primary schooling does not show any correlation with child survival.

The general life style and living standard of the people by its various dimensions measured at the familial level and by a variety of environmental and social factors influence the infant mortality in a community. Factors exogenous to life-styles the availability and utilization of medical health facilities- are also very crucial in this regard.

The structural differences in the childbearing population and the pattern of childbearing are very important as immediate determinants of infant mortality. Such factors may be responsible to a certain extent in creating differentials in infant mortality rates between these two districts.

The delivery of immunization and maternal care services needs to given top priority in Dhubri district in order to improve the condition of infant and child. Maternal, infant and child mortality is influenced by a whole range of socio-economic factors, the status of women, which includes low level of education, economic dependency and lack of access to services. Jorhat district, which has relatively better socio-economic and education status, have lower infant and child mortality than the Dhubri district.

It was clear from the interview of the mothers in the Dhubri district that the existing health system has major problems of absence of links between communities, sub-centers and referral facilities; shortages of equipment and trained staff at referral facility; and a lack of emergency transport to adequately meet the needs of pregnant women particularly for the complications of pregnancy and obstetrical emergencies.

Conclusion:
As infant and child mortality rate in Dhubri is at high level, necessary policies and programme interventions have to be developed to tackle the factors which are responsible for high infant and child mortality in Assam. Health education programmes should be designed for the families who have experienced infant and child deaths so that the further risk of death may be substantially reduced. The effect of birth order and younger maternal age is mediated through short birth interval. Young mothers at high parity, those bearing children at short birth intervals, and mothers who had suffered child loss before are the vulnerable to excessive infant and child mortality. This may be used for future planning and policy decisions aimed at reducing infant and child mortality. Policies should be formulated with keeping in mind the factors like, age at marriage, timing of child bearing, delaying the first pregnancy, spacing, education and infrastructural facilities.