



INFANT MORTALITY OF THE DEORIS OF ASSAM: ITS DETERMINANTS

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ABSTRACT The level of infant mortality has been described as a crucial test of the status of the health services and social progress of a population group. It refers to the probability of dying between birth and exactly one year of age expressed per thousand live births. A low infant mortality rate is an indication of better health and socio-economic condition of a population. Infant mortality rates are different among the regions, castes, tribes which may be due to the differences in the socio-cultural and healthcare status of the different population groups. So separate study for each tribe is important which it removes prejudice and reveals the truth. The present study is an attempt to examine the extent of infant mortality and relative importance of few selected determinants among the population of an indigenous tribe of Assam –The Deoris.

KEYWORDS : Infant Mortality, Deoris, Determinants, Health Care And Hygiene

0.0 INTRODUCTION:

The infant mortality rate (IMR) is considered to be a sensitive indicator for health status of a population. Infants are defined in demography as an exact age group, namely, age 'zero' or those children in the first year of life, who have not yet reached age one. Infant mortality is very important for any population because infants' life entirely depends on the care of others. A low infant mortality rate is an indication of better health and socio-economic condition of a population. Studies reflect the variations in infant mortality rates among the regions, castes, tribes which may be due to the variations in their socio-cultural, economic, healthcare, nutritional level etc.

The Deoris are one of the plains Schedule Tribes of Assam, who are likely to exhibit certain peculiar socio-cultural and demographic characteristics which are different from those of other tribes and non tribal population of Assam. Ethnically they are affiliated to the Indo-Mongoloid group. As per the 2011 census the total Deori population in Assam is 43,750 which constitute 1.13% of the total tribal population of the state.

0.1 OBJECTIVES:

The main objective of the paper is to examine the levels and determinants of infant mortality of the Deoris of Assam. Specifically the objectives of the paper are-

- To find out the extent of infant mortality among the Deoris.
- To study the relative importance of the selected determinants

0.2 METHODOLOGY AND SAMPLE DESIGN:

The study is based on the primary data collected through a multi-stages sampling technique. Three districts of Assam having very high to moderate concentration of Deori population have been purposively selected as sample districts. Districts are Lakhimpur, Sunitpur and Tinsukia. 21 Deori villages have been randomly selected from the districts as the sample villages. A village is said to be Deori village if the percentage of Deori households in the village is 50 or above. A total of 1077 households from the 21 sample Deori villages have been randomly selected for intensive study. Thus the study will be confined into 1077 sample (Deori) households. The reference period of data collection is 2009 – 2013 and collected in 2014 through door to door survey method. The collected data have been analysed by using appropriate statistical tools to assess the relative importance of the determinants on mortality.

1.1 DATA ANALYSIS:

As per 2001 census, IMR of Assam is 55 while the national average is 44 per 1,000 live births. The IMR in the state is considerably higher in rural areas than the urban areas. It is 58 in rural areas and 34 in urban areas. The infant mortality rate among the sample Deori population is found to be 63.95 (average annual infant died being 11 and average annual number of live birth is 172) per thousand live births. This rate is higher than the state average i.e. 55 in the year 2011. The table: 1.1 exhibits the year wise infant deaths of the surveyed Deori

Table: 1.1 Year wise infant deaths .

Years	2009	2010	2011	2012	2013	Total
Infant deaths	10	12	12	10	11	55

Source: Fieldwork data

1.2 DETERMINANTS OF INFANT MORTALITY:

Different socio-economic, biological and demographic factors are responsible for infant mortality. The present study is an attempt to examine the five selected determinants influencing infant mortality among the Deori of Assam. The determinants have been identified as - Ante- Natal Medical Care-(ANMC), Post- Natal Medical Care (PNMC), Place of Delivery (PD), Mother's Education (ME) and Type of Family (TF)

1.2.1 ANTE- NATAL MEDICAL CARE (ANMC):

Ante-natal medical care refers to pregnancy related health care provided by a doctor or a health worker in a medical station or at home. Ante-natal care can contribute significantly to the reduction of infant and maternal mortality. It is because the ante-natal care includes advice on required medicine like iron & folic acid tablets, diet and other related aspects of safe pregnancy. Hence, all women should receive the basic ante-natal medical care for safe motherhood.

NFHS-2 (1998-99)¹⁷ has estimated that in Assam only 60% pregnant women receive ante- natal check up during pregnancy, 52% receive check up from doctors and 8% from other health personnel. This percentage is higher in urban areas (88%) as compared to rural areas (58%).

The table: 1.2 shows the association between antenatal medical care and infant mortality of the sample Deori population of Assam

Table: 1.2 Pre-natal medical care and number of infant deaths (2013)

Ante-natal Check up	No. of Respondents	No. of infant deaths					Total	No. of infant death per 1000 respondent
		0	1	2	3	4		
Yes	472	468	3	1	-	4	8.47	
No	605	598	5	2	-	7	11.71	
Total	1077	1066	8	3	-	11	10.21	

Source: Fieldwork data

It is observed from the table : 1.2 that as many as 472 (43.83%) of the mothers have received any kind of antenatal medical care during their last pregnancy and remaining 605 (56.17%) mothers have not received antenatal medical care. The table also displays that the number of infant deaths is higher (11.71) among the mothers who have not received antenatal medical care than the mothers who have received antenatal medical care (i.e. 8.47). Thus an inverse relationship is observed between ante-natal medical care and infant mortality among the Deoris of Assam. The dominant factors for not having antenatal

medical care among the Deoris of Assam are lack of awareness (fell as not necessary) i.e. 47.77% and no knowledge about antennal medical care is 23.97%.

1.2.2 POST – NATAL MEDICAL CARE (PNMC):

Post natal medical care in the form of visit to the doctor for checking up of baby's and mother's health is helpful. It helps in averting the possible illness by providing proper treatment in time. Postnatal check-up within two months after delivery is very important particularly for the births that taken place in non- institutional setting.

The relationship between post-natal medical check up and infant death experience of the sample respondents is shown in table: 1.3

Table: 1.3 Post-natal medical care and infant mortality (2013)

Post-natal medical care	No. of Respondents	No. of infant deaths					No. of infant death per 1000 respondent
		0	1	2	3	Total	
Yes	428	426	1	1	-	2	4.67
No	649	641	7	2	-	9	13.87
Total	1077	1067	8	3	-	11	10.21

Source: Field work data

In the table: 1.3, it is clear that only 39.55% of the respondents have received post natal medical check-up and 60.45% have not received any medical check-up after delivery. The frequency of post –natal check up is also very low. No woman is found to have post-natal medical care more than once. It is also observed that the number of infant deaths is higher (13.87) among the mothers who have not received postnatal medical check-up than that of the mothers who have received antennal medical care i.e. 4.67. Various reasons have been found for not receiving postnatal medical care are- Lack of knowledge, Economic problems , Long distance to hospital, lack of awareness, inadequate accessible facilities etc.

1.2.3 PLACE OF DELIVERY (PD):

Place of delivery is another important factor responsible for high infant mortality rate in different areas. Deliveries under unhygienic condition increases infant mortality. In the rural areas, predominance of home delivery at unhygienic conditions is the main cause of high infant mortality. Many people are not aware of the immunization programme of the children and so, infant mortality increases. It is usually found that ante-natal check up and place of delivery have a positive relationship. The women who receive ante-natal check up are more likely to deliver in health centre.

In the present study it is found that 44.77% deliveries taken place at hospitals and remaining 55.23% are home deliveries. The association between place of birth and infant deaths of the sample population is shown in the following table: 1.4.

Table: 1.4 Place of delivery and infant deaths

Place of delivery	No. of live births	No. of infant died	
		Total	No. of infant death per 1000 live births
Hospital	77	3	38.96
Home & others	95	8	84.21
Total	172	11	63.95

Source: Field work data

It is observed from the table:1.4 that the number of infant death per 1000 women in much lower (38.96) in case of the institutional deliveries as compared to deliveries at home and other places i.e. 84.21. Thus a strong relationship between place of delivery and infant death is observed among the Deoris of Assam.

1.2.4 MOTHER'S EDUCATION (ME):

Mother's education is regarded as one of the most important determinants of infant mortality The practices of educated women are quite different from those of uneducated women with regard to pregnancy, childbirth, immunization and management of childhood diseases. They are more conscious about the health of their children, nutrition and may adopt appropriate steps for recovering from disease. Therefore, a higher level of maternal education results in improved child survival than those of little or no education.

The association between the mothers' education (literate / illiterate) and infant death of the surveyed villages is shown in the table: 1.5

Table: 1.5 Mother's Educational status and number of infant deaths

Education attainment of mothers	No of respondents	No of live birth	No. of infant died				No. of infant death per 1000 live birth
			1	2	3	Total	
Illiterate	392	66	3	2	-	7	66.04
Literate	685	106	5	1	-	4	60.61
Total	1077	172	8	3	-	11	63.95

Source: Field work data

It is seen from the table: 1.5 that number of infant deaths per 1000 live births is higher among then illiterate mothers than those of literates. Thus relation is observed between literacy of the mothers and infant mortality among the Deoris of Assam.

1.2.5 TYPE OF FAMILY (TF):

Usually, families is divided into two types- Nuclear and Joint. Nuclear family refers to the households having a couple and their own unmarried children only. On the other hand Joint family refers to those households having two or more couples of any age. Type of family is also an influential factor for differential infant mortality. It is generally believed that in joint families, children are not taken proper care that immediately results into high mortality. Furthermore, in a joint family, the decision of the couples towards child care is not only influenced by their willingness but also to that of other senior family members.

In the sample villages, 61.75 % families are found to be nuclear while 38.25% belong to joint families. The association between family types and infant death experience of the surveyed households is shows in table: 1.6

Table: 1.6 Family type and number of infant deaths.

Type of family	No of Respondents	No. of infant died				No. of infant death per 1000 respondent
		1	2	3	Total	
Nuclear	665	4	1	-	5	7.52
Joint	412	4	2	-	6	14.56
Total	1077	8	3	-	11	10.21

Source: Field work data

It is found that the mothers living in the joint families have experienced higher infant deaths i.e.14.56 per 1000 respondents than those of the nuclear families (7.52). Thus a significant relation is emerged between the type of family and infant deaths in the present study.

1.3 REGRESSION ANALYSIS:

In the present study, an attempt has been made to examine the relative influence of various factors affecting infant mortality among the Deoris of Assam. On the basis of the observation, no conclusion can be drawn about the influence of the above mentioned variables on the infant mortality of the entire universe. For this purpose, appropriated statistical tool has to be used. Here the multiple regression model has been used for drawing conclusions. In the regression model, infant mortality (IM) has been considered as the dependent variable, which depends on the following 5 explanatory variables-

1. Ante- Natal Medical Care-(ANMC)
(Scored 1 for 'yes' and 0 for 'no')
2. Post- natal medical Check up (PNMC)
(Scored 1 for 'yes' and 0 for 'no')
3. Place of delivery (PD)
(Scored 1 for 'hospital' and 0 for 'others')
4. Mother's education (ME)
(Scored 1 for 'literate' and 0 for 'illiterate')
5. Type of Family (TF)
(Scored 1 for 'nuclear' and 0 for 'joint')

The result of the multiple Regression analysis are given in the table: 1.7.

**Table: 1.7 Mortality Determinants: Multiple Regression Results
Dependent Variables: Infant Mortality Rate (IMR)**

Regressors	Coefficient (β)	t-ratio	VIF
Constant	1.648	---	-----
ANMC	- 0.004	-0.065*	1.704
PNMC	- 0.201	-0.370	1.209
PD	- 0.204	-5.512*	1.567
ME	-1.291	-3.067*	1.204
TF	-0.861	-2.034*	1.790

$R^2=0.616$, Adjusted $R^2=0.573$

F= 230.490 (Significant at 5% level)

F= *Significant at 5%level.

Table: 1.7 reveals that antenatal medical care-(ANMC), post natal medical care (PNMC), place of delivery (PD), mother's education (ME), type of family (TF) have significant influence on infant mortality negatively. It means as the antenatal & past natal medical care increases, infant mortality decreases, higher the number of hospital deliveries lower will be infant mortality, higher the education attainment of the mother's lower will be infant mortality. Again it finds that in case of the nuclear families infant mortality is lower than the joint families though its impact is found not significant..

1.4 CONCLUSION:

Antenatal medical care, Post natal medical care, Place of delivery, Mother's education, Mother's age at birth have been found as the significant factors influencing on infant mortality among the Deoris of Assam. Hence, it is suggested that to reduce infant mortality among the Deoris special attention should be given to improve female education, institutional deliveries and antenatal & postnatal medical care. In this respect more awareness drive should be necessary and more rural health centres should be established providing adequate infrastructure and trained personnel.

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