



A STUDY OF INFANT MORTALITY IN RURAL AND URBAN AREAS OF ASSAM WITH SPECIAL REFERENCE TO NAGAON DISTRICT OF ASSAM

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ABSTRACT :

Infant Mortality is one of the dark spots in our Indian Society. It can be defined as the death of an infant per thousand live births in a given area in a particular period of time. Globally, around nine million infants died in the 1990s, according to the WHO. India has 28 Infant Mortality Rate as per SRS data 2022. However, it is still counted in the category of the worst countries in the world in Infant deaths. In India, Assam ranked among the three worst states, namely Madhya Pradesh, Uttar Pradesh and Assam as per the data of SRS 2021.

As per the MMR and IMR survey report Assam (2009) conducted by the Regional Research Centre for Northeastern States, Nagaon was the worst in infant death that is 66, for which the study area is selected. This study is based on both qualitative and quantitative methods. This study scrutinised both primary and secondary data from direct observation, records in government offices, hospitals, different electronic databases regarding infant mortality and a vast review of the literature by other researchers. It contains the data for a period of five years.

This study was undertaken in Nagaon district to study the contributory factors related to infant mortality. The researcher was able to observe the practical difficulties due to the socio-economic factors related to infant death during this study. The vast review of related research helps the researcher to study and understand the infant mortality rate in Nagaon District of Assam. A high incidence of 82.28 per cent deaths belongs to rural areas, even though records show a huge number of deaths in the MCH Wing Mohkhuli residing in urban areas. Data on the death of infants displayed that most of the cases hailed from rural areas only. 27.42% of home deliveries were observed from the study results.

Keywords: Infant Mortality Rate (IMR), Maternal Mortality Ratio(MMR), Model Maternal and Child Health Wings (MCH Wings), Sample Research Bulletin (SRS)

I. Introduction:

The children are the most valuable asset of a nation, also called the future of a country. That's the reason they need to be protected and looked after well by us. It is quite disappointing that globally, around nine million infants died during the 1990s, as per the World Health



Organisation. This study mainly concentrated on the rural-urban scenario related to infant death. Infant and child mortality rates have frequently been regarded not only as a health indicator, but also as it shows of the degree of poverty and lack of awareness. Infant mortality is a common indicator used in developing and underdeveloped countries.

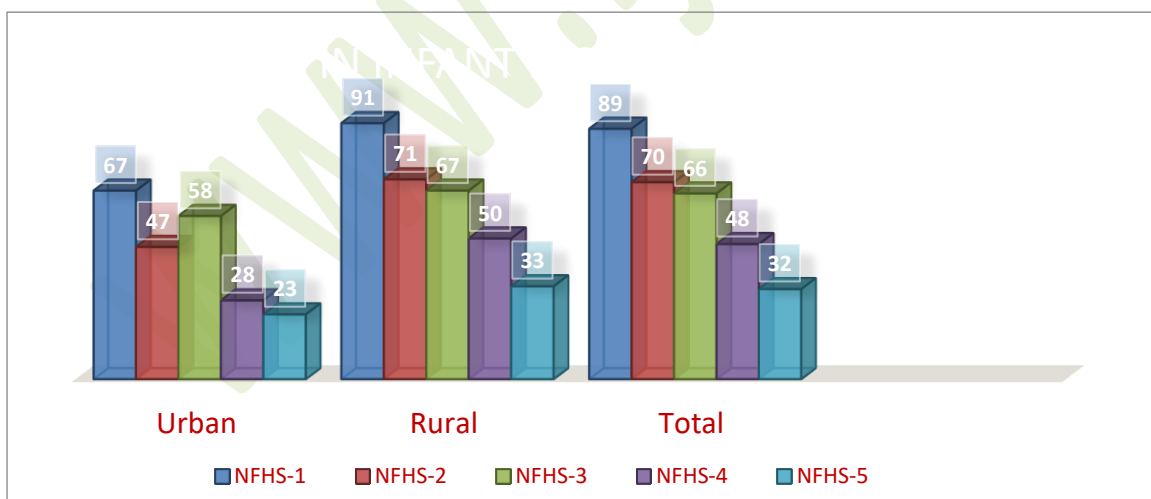
Infant mortality (IM) is an indicator of the health of a population and a measure of health inequalities within it. (Lau RS,2012)

The term infant means babies come under the age of 365 days or 1 year. The infant mortality rate can be defined as the number of child deaths under one year of age per 1000 live births.

$$\text{IMR} = \text{number of infant deaths} / 1000 \text{ live births}$$

Assam has 32 Infant Mortality Rate as per NFHS-5 (2019-2021). If we compare the data of all National Family Health Surveys, that is NFHS-1, NFHS-2, NFHS-3, NFHS-4, NFHS-5, we can see the decreasing trend in the Infant Mortality rate in Assam, but at a slow pace. From 1991 to 2021, it shows an improvement from 89 to 32.

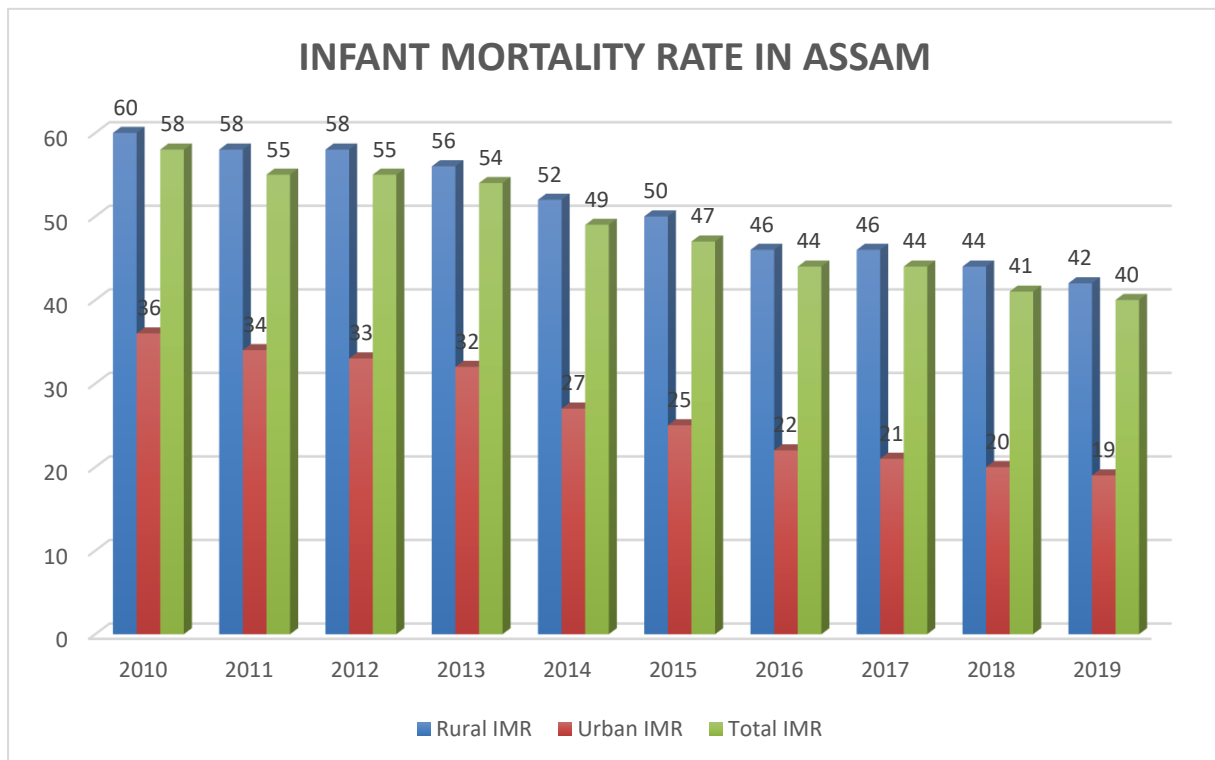
Chart 1:
Urban, Rural, Total Infant Mortality Rate as per NFHS -1, 2, 3, 4, 5.



Source: NFHS-5 INDIA, ASSAM 2021 April



Chart 2:
Rural, Urban and Total IMR as per Statistical Handbook Assam 2021



Source: Statistical Handbook of Assam-2021

Infant Mortality Rate in Assam fell gradually from 58 to 40 per 1000 live births in the years 2010 to 2019, respectively. Still higher than the country's average rate of 30.

Infant mortality rate is one of the core indicators of the prevalent status of health and development of the socio-economic structure of a region. Child survival is basically affected by nutritional status, disease control through proper medical care, awareness of health and hygiene, etc., and high infant and child mortality rates will thus indicate a poor state of development in terms of these factors. If the IMR and CMR scenario of less developed nations is compared with those of more developed nations, the picture gets clearer. (Singha G, 2012)

IMR and CMR are also affected by the stage of development of a region. The state of development of a region not only reflects the availability of basic infrastructure in that region it



also reflects the socio-economic conditions of that region. Improvement in nutrition, housing and clothing, sanitation, water supply, cleanliness and individual hygiene practices played an important role in reducing mortality in industrialised nations (McKeown and Record, 1962; McKeown et al., 1972; Razzel, 1974). Studies have revealed that there are many health problems afflicting developing nations that are quite different from those of developed nations.

II.Objectives : The main objective in this paper is to analyze the infant mortality among rural and urban areas of Nagaon District.

III.Methodology:

The study will be based on both qualitative and quantitative methods.

Methods of data collection and analysis-

Secondary data collected from different sources like National Health and Family Survey 1, 2, 3, 4 and 5, Statistical Handbook of Assam 2021, different training modules, North Eastern Region District SDG index and Dashboard Baseline Report 2021-2022, SRS Bulletin 2020, NHM Assam, HMIS (Health Management Information System) data of last five years from the Office of Joint Director of Health Services, District Health Society, Nagaon. The validation of the data will be determined by the expert judgment of the superior.

SCOPE AND LIMITATION OF THE STUDY-

The study of infant mortality is quite a major problem in India, especially in Assam. As the district Nagaon has a higher infant mortality rate compared to other districts of upper Assam, it will be beneficial to study the infant mortality rate here.

It is restricted to a geographic area only.

IV.Result and Discussion:

As per the MMR and IMR Survey Report Assam 2009, conducted by the Regional Resource Centre for North-eastern States under the Ministry of Health and Family Welfare and Government of India, Nagaon was the worst in infant deaths. A total of 66 infant deaths occurred out of 1369 live births. However, if we calculate it for the Infant Mortality Rate, it will be 48.



From 2009 to 2021, the Infant Mortality Rate changed from 48 to 11.35, respectively. Although it is a good sign, many unreported infant deaths occur in remote areas, as well as many preventable deaths take place, especially in rural areas.

Table 1:
Urban and Rural Infant Deaths in Nagaon District in the last few years

Year	Urban Infant Death	Rural Infant Death
2020-2021	263	277
2019-2020	194	506
2018-2019	57	388
2017-2018	*NA	*NA
2016-2017	73	499
2015-2016	85	377
2014-2015	135	508
2013-2014	127	306
2012-2013	227	186
Total	1,161	2,997

Source: Author’s estimation from the HMIS Report of NHM Nagaon

***NA means data not available for that period in the HMIS Report.**

Urban infant death also shows a higher infant death rate in this table. When we go deeply into the addresses of Urban infant death, we find that most of the cases from rural areas referred or came by their own to the urban health institutions at a very delicate stage of their life. As a result, infant death occurs at urban institutions and is reported. In this table, urban infant death reports are not area-specific.



Table 2:

Institution-wise Urban Infant Death and Area Specific Death in Nagaon District 2020-21

Name of the health institution	Infant Death at the institution	Area Specific Infant Death
B P Civil Hospital	0	0
Urban FW Centre	4	3
Kapili Hospital and Research Centre	0	0
P & K Memorial Nursing Home	1	0
A J Hospital and Research Centre	2	0
Haiborgaon Nursing Home	3	0
Nagaon Nursing and Maternity Hospital	2	0
G D Hospital and Research Centre	1	0
Mercy Hospital	8	0
G D Nursing Home	1	0
Dhing Gate UHC	4	15
Mohkhuli UHC	3	13
Dewcare Nursing Home and Research Centre	5	0
MCH Wing	229	0
Total	263	31

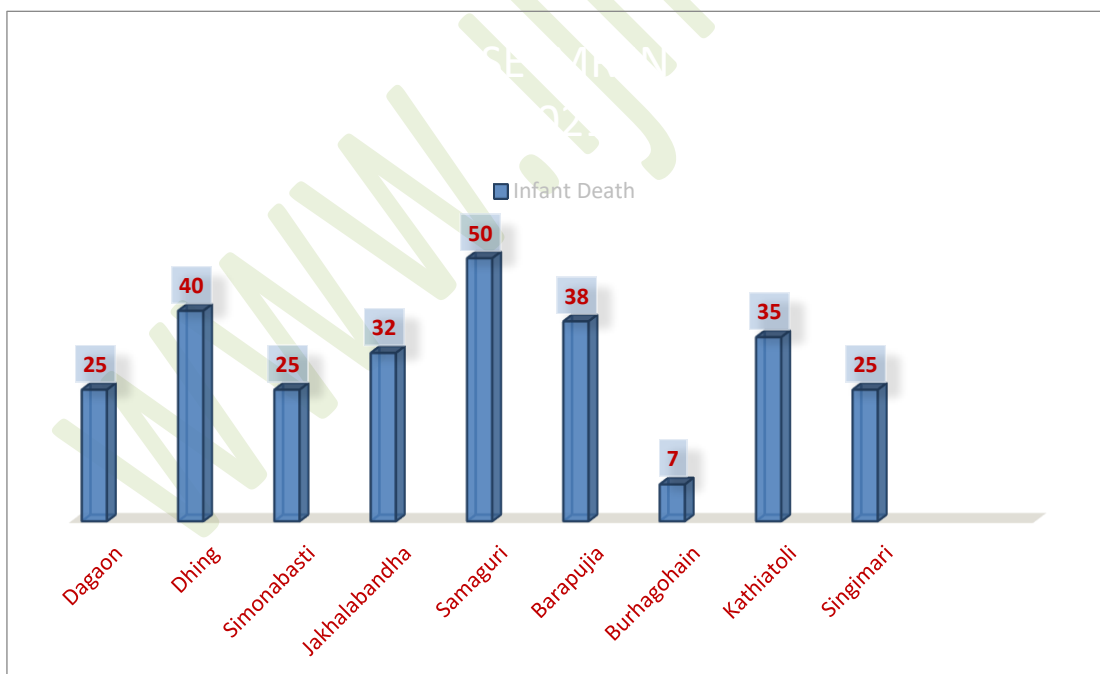
Source: Author's estimation from HMIS Report 2020-21, NHM Nagaon



In Table 8, we can see the vast difference between the urban infant death reports in urban institutions and their original area-specific death reports. In 2020-2021, it is reported that 263 Infant deaths occurred in urban areas, from which only 31 cases of Infant Death were originally from Urban areas.

As per the latest data collected from HMIS (Health Management Information System) data 2020-2021 of Nagaon District from the Office of Joint Director of Health Services (unpublished), the health block-wise data has been collected as in Graph 3. We can see that the highest death rate occurs in Samaguri health block as compared to other blocks in the year 2020-2021. These are the raw data reported by the respective data managers of different health institutions.

Chart 3:
Infant death of Nagaon District Block-wise as per HMIS report 2020-21



Source: HMIS Report 2020-21 from Office of Joint Director of Health Services, Nagaon (Unpublished)



Table 3:
Infant deaths for the last five years in Nagaon

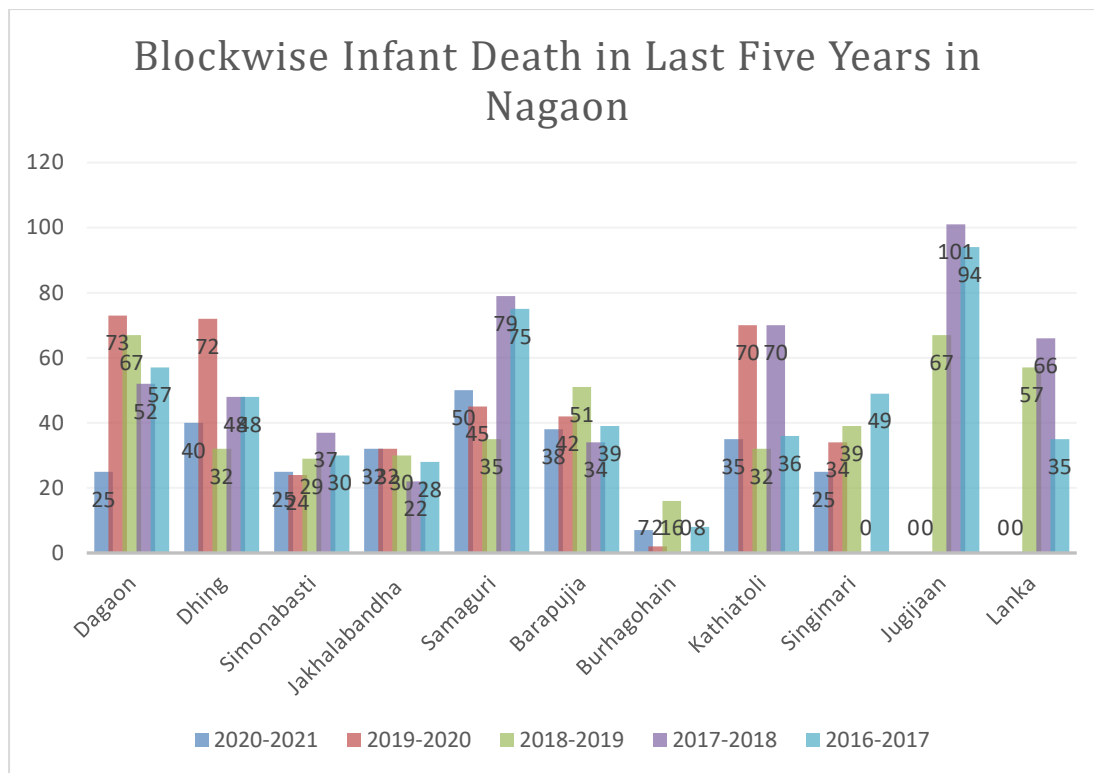
Name of the Health block	2020-2021	2019-2020	2018-2019	2017-2018	2016-2017
Dagaon	25	73	67	52	57
Dhing	40	72	32	48	48
Simonabasti	25	24	29	37	30
Jakhalabandha	32	32	30	22	28
Samaguri	50	45	35	79	75
Barapujia	38	42	51	34	39
Burhagohain	7	2	16	ND	8
Kathiatoli	35	70	32	70	36
Singimari	25	34	39	ND	49
Jugijaan	-	-	67	101	94
Lanka	-	-	57	66	35
URBAN	240	194	57	ND	73
Total	540	588	445	666	572

Source: HMIS Report 2020-21 from Office of Joint Director of Health Services, Nagaon (Unpublished)

***NA means data not available for that period in the HMIS Report**



Chart 4:
Graphical Representation of Block-wise Infant Death in Nagaon, Assam



Source: HMIS Report of Nagaon District Health Society

‘0’ indicates the unavailability of data.

V. Conclusion:

This study was undertaken in Nagaon district to study the contributory factors related to infant mortality. Nagaon, being a district with a recorded high infant death rate during 2009, is where the researcher chose this area for the study. The researcher was able to observe the practical difficulties due to the socio-economic factors related to infant death during this study. The vast review of related research helps the researcher to study and understand the infant mortality rate in Nagaon District of Assam. A high incidence of 82.28 per cent deaths belongs to rural areas, even though records show a huge number of deaths in the MCH Wing Mohkhuli residing in Urban areas, data of the death infants displayed that most of the cases hailed from rural areas only. 27.42% of home deliveries were observed from the study results.



SUGGESTIONS-

Orientation of ASHA workers into the regular health care delivery system could improve the quality of care. Awareness regarding medical facilities and different health programs must be made effective to the people, especially those living in very backward places. Communication facilities for remote areas should be made more qualitative. Patient ratio to health care personnel, such as Doctors, Nurses, etc, in an area should be maintained as per the norms of the Medical and different regulatory bodies. An effort should be taken to upgrade the infrastructure in the existing healthcare delivery system. As seen in the study areas of Nagaon District, many rural areas have SHCs (Sub Health Centres) and HWCs Health and Wellness Centres also but due to the unavailability of proper equipment, the Quality of ANC are not possible. During antenatal check-up, mothers should be counselled for proper care of herself and for the upcoming child. HWCs and other health facilities like SDs, MPHCs should be equipped to conduct delivery on a 24/7 basis, and a pregnant mother should be kept under medical surveillance and counselled adequately. Family planning methods should be introduced to each eligible couple. Family planning methods should not be enforced made them cope and choose the methods as per their priority.

References:

- 1] Borkakoty, M. A study on infant and early childhood mortality among tea garden workers of Dibrugarh district, Assam, 2004
- 2] Das, U. A study of infant mortality in Kamrup district in Assam, 1993, pp. 1- 15
- 3] Park, K (2005). Parks' textbook of preventive and social medicine."18th edition, M/S Banaridas Bhanot publication, Jawalpur.
- 4] Infant mortality –Wikipedia
- 5] Retrieved from <https://en.m.wikipedia.org>
- 6] Mortality rate, infant (per 1000 live births) Retrieved from <https://data.worldbank.org>
- 7] MMR and IMR SURVEY REPORT, ASSAM,2009 Retrieved from www.rrcnes.gov.in