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ORIGINAL RESEARCH

A Cross-sectional Analysis of Infant Mortality and Infant Care Practices Among Rural Population

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ABSTRACT

Background:Infant mortality, which refers to the unfortunate death of a child during the initial year of life, stands as a crucial yardstick for assessing the general health and welfare of a population. This study was conducted to assess infant mortality in rural area.

Materials and Methods: This study comprised of 50 infants. The parents of the infants were informed about the procedure and were asked to give consent. The parents who were willing to give consent on behalf of their infants had been included in the study while others were excluded. The infant mortality rate was measured. Statistical analysis was conducted using SPSS software.

Results:A total of 1250 subjects were screened during the study period. 50 deliveries took place during the study period. Among these 50 deliveries, infant mortality was seen in 16 percent of the patients. Infant mortality was seen as a complication of preterm birth, because of infection and because of neonatal encephalopathy in 2, 3 and 2 patients respectively.

Conclusion: Infections was the most common cause of infant mortality. The infant mortality rate in this study was 16%.

Keywords: Infant Mortality Rate, Live Births.

INTRODUCTION

Infant mortality, which refers to the unfortunate death of a child during the initial year of life, stands as a crucial yardstick for assessing the general health and welfare of a population. The global drive to curtail infant mortality rates has been a central objective of public health campaigns spanning the globe. In order to design effective strategies for intervention and shape policies, it is imperative to grasp the trends and determinants associated with mortality rates linked to the primary causes of infant fatalities.[1,2] In the year 2020 alone, approximately 2.4 million newborns faced mortality worldwide within their first month. This distressing statistic translates to a daily toll of roughly 6,700 newborn deaths, a number that constitutes a staggering 47% of the overall under-five child fatality count, a stark increase from the 40% recorded in 1990. Encouraging progress has materialized since 1990, evident in the reduction of neonatal fatalities from 5 million to 2.4 million by the year 2020.[3]

In 2020, the United States reported the highest infant mortality rate, recording 5.4 deaths for every 1,000 live births, which was significantly greater than Norway's rate, which reported the lowest mortality rate at 1.6 deaths per 1,000 live births.[4] Adding to this disconcerting picture, the maternal mortality rate in the United States for the same year surpassed that of

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most high-income countries by more than threefold, reaching an alarming 23.8 maternal deaths per 100,000 live births.[3,4]

There is a need to meticulously analyze the three primary causes that prominently underlie infant mortality: "congenital malformations, deformations, and chromosomal abnormalities," "disorders related to short gestation and low birth weight, not elsewhere classified," and "sudden infant death syndrome (SIDS)." These factors contribute significantly to the rates of infant mortality and have garnered considerable attention from a spectrum of stakeholders, including researchers, healthcare professionals, and policymakers.[5]This study was conducted to assess infant mortality in rural area.

MATERIALS AND METHODS

This study comprised of 50 infants.The present study was conducted for assessing infant mortality among rural population. A primarily survey was conducted, and rural population was selected. Clustered sampling was done.A total of 1250 female subjects were screened. Among them, 50 subjects were found to be pregnant and were followed up. Following enumeration of all households in the selected cluster, trained interviewers obtained verbal consent from the respondents and then conducted interviews. The calculation of mortality rates was based on infant deaths and live births recorded among these subjects. The parents of the infants were informed about the procedure and were asked to give consent. The parents who were willing to give consent on behalf of their infants had been included in the study while others were excluded. The infant mortality rate was measured. Statistical analysis was conducted using SPSS software.

RESULTS

A total of 1250 subjects were screened during the study period. 50 deliveries took place during the study period. Among these 50 deliveries, infant mortality was seen in 16 percent of the patients. Infant mortality was seen as a complication of preterm birth, because of infection and because of neonatal encephalopathy in 2, 3 and 2 patients respectively.

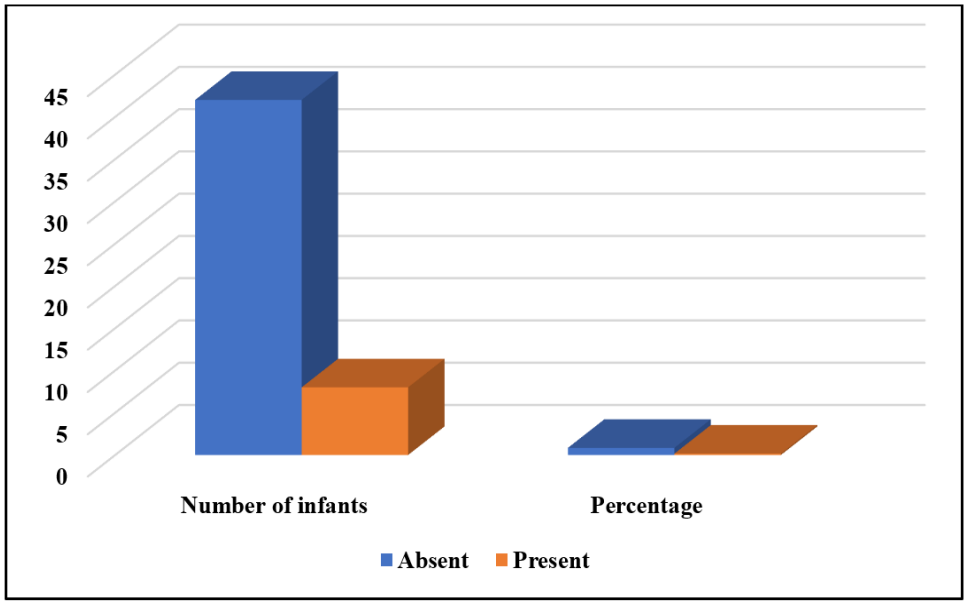
Table 1: Mortality rate

Infant mortality	Number of infants	Percentage
Absent	42	84%
Present	8	16%
Total	50	100%

Table 2: Causes of infant mortality

Cause	Number	Percentage
Complications of preterm birth	2	25
Infections	3	37.5
Neonatal encephalopathy	2	25
Unknown cause	1	12.5
Total	8	16

Graph 1: Mortality rate



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DISCUSSION

Social and economic development of a nation is often reflected by the existing infant and child mortality rates. India has made significant strides in reducing both infant mortality (40/1000 live births) and under-five mortality (52/1000 live births) but has been unable to achieve the Millennium Development Goal (MDG) by 2015.[6-9] Six States, namely, Kerala, Tamil Nadu, West Bengal, Maharashtra, Punjab and Himachal Pradesh are likely to achieve the goal.

However, it appears to be a challenge for the remaining States and Union Territories of India. Socio-economic, maternal health and environmental disparities have been associated with the variations across various States and social groups in India. Among the various social groups infant mortality has been observed to be higher among Scheduled Tribe families than the general population.[10]

This study was conducted to assess infant mortality in rural area. In this study, infant mortality was seen in 16 percent of the patients. The infant mortality rate was 16% Shah M et al (2011)[11] conducted a study to determine the mortality rate among neonates and infants, for identification of pattern of various factors in relation to infant mortality and to identify the causes of death in this age group. All the deaths in children under 12 months during July 2005 to June 2006 in Jawan block of district Aligarh, India were recorded. The cause of death was ascertained using the standard verbal autopsy procedure. In the study period, 446 live births and 37 deaths in children under one year of age were reported. The neonatal and infant mortality rates were 49.4 and 83.0 per thousand live births respectively. The main causes of infant deaths were birth asphyxia, diarrhoea, pneumonia, prematurity (including Low birth weight and malnutrition). Most of the death among infants are preventable, though promotion of institutional deliveries, strengthening of referral system, early recognition of danger signs and periodic retraining of health workers.

In the present study, among these 50 deliveries, infant mortality was seen in 16 percent of the patients. Infant mortality was seen as a complication of preterm birth, because of infection and because of neonatal encephalopathy in 2, 3 and 2 patients respectively. Sahu D et al (2015)[12] in their study examined levels, trends and socio-demographic factors associated with infant and child mortality among Scheduled Tribes in rural areas. Data from the three rounds of the National Family Health Survey (NFHS) of India from 1992 to 2006 were analysed to assess the levels and trends of infant and child mortality. Univariate and multivariate Cox proportional hazard model were used to understand the socio-economic and demographic factors associated with mortality during 1992–2006. Significant change was observed in infant and child mortality over the time period from 1992-2006 among Scheduled Tribes in rural areas. After controlling for other factors, birth interval, household wealth, and region were found to be significantly associated with infant and child mortality. Hazard of infant mortality was highest among births to mothers aged 30 yr or more (HR=1.3, 95% CI=1.1-1.7) as compared with births to the mother's aged 20-29 yr. Hazard of under-five mortality was 42 per cent (95% CI=1.3-1.6) higher among four or more birth order compared with the first birth order. The risk of infant dying was higher among male children (HR = 1.2, 95% CI=1.1-1.4) than among female children while male children were at 30 per cent (HR=0.7, 95% CI=0.6-0.7) less hazard of child mortality than female children. Literate women were at 40 per cent (HR=0.6, 95% CI=0.50-0.76) less hazard of child death than illiterate women. Mortality differentials by socio-demographic and economic factors were observed over the time period (1992-2006) among Scheduled Tribes (STs) in rural India. Findings support the need to focus on age at first birth and spacing between two births.

CONCLUSION

Infections was the most common cause of infant mortality. The infant mortality rate in this study was 16%.

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