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SOCIO-DEMOGRAPHIC FACTORS AFFECTING INFANT MORTALITY RATE IN KARNATAKA

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I.I Abstract

Infant mortality is the most sensitive index to measure socio-economic development and the quality of life. "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."1 Symbolically, the death rate for infants (i.e., children under 1 year of age) is defined as

IMR. = (D0/B) X 1000

Where D0 = Number of deaths among children of age 0 l. b. d. (last birth day).

B = Number of live births.

The age-specific death rate (ASDR) for age 0 l. b. d., which has the same numerator, has for its denominator the number of infants. It is known that infants are grossly under-enumerated in a population census. As such, the ASDR tends to the highly overstated. Moreover, estimates of population by age are seldom obtainable annually. The IMR is generally used, in lieu of the ASDR , as the measure of infant mortality. The IMR can be computed for any population and for any time period, provided only the number of infant deaths and the numbers of live births are available. The same cannot be said to the corresponding ASDR, for in the case of a small area and estimate of the population of age 0 lb. d. may not be found. The IMR has been called the most sensitive of all measures of mortality. For in most countries the great risk of death under one year of age is not equalled at any other part of the live span, except at very old age. But unlike deaths at very old age, infant deaths are highly responsive to improvements in environmental and medical conditions. The IMR serves as an excellent index of the general healthiness of the community.

Key Words: IMR., Socio-economic development, ADSR, Demography

Introduction

The infant mortality rate is generally computed as a ratio of infant deaths (deaths of children under one year of age) registered in a calendar year to the total number of live birth registered in the same year. This rate is only an approximate measure of the true risk of death between the birth of the baby and its first birthday, for no adjustment is made for the fact that some of the infants, who died in the year considered, were born in the preceding year. The infant mortality rate is specially important in the analysis of mortality because infant deaths account for a substantial number of all deaths, especially in those countries where health conditions are poor. The study of infant mortality gains importance, especially because mortality during the first year of life is invariably high for all countries, irrespective of whether the overall levels of mortality are high or low. Infant mortality is commonly used for monitoring an evolution of population and health programmes and policies.

1.2 Aims and objectives of the study:

Following are the three objectives in our study:

1. To high-light the trend of infant mortality rate in Karnataka.
2. To study the socio-demographic factors affecting infant mortality rate in Karnataka.
3. To know the main reasons for Infant Mortality in India and the key steps taken by the central and state government to accelerate the pace of decline in infant mortality.

1.3 Methodology:

The present paper will be carried on by using secondary data

Secondary data: Various sources like journals, government reports, books, magazines, and Internet are explored to collect secondary data and same has been used to support the objectives whenever it needed.

A. Factors Affecting Infant Mortality:

A variety of factors affecting infant mortality are customarily classified as biological and socio-economic or environmental factors, though these two categories should not be treated as water tight compartments, for there is a great deal of interaction between the two. The reduction in mortality was considerably greater in the younger age groups than in the older age groups. In general, it may be said the low level of infant mortality appears to be associated with the low level of general mortality.

The level of mortality is very high in the first few hours, days and weeks of life. The reasons for infant deaths at the earlier and later stage of infancy differ to a certain extent. Hence in a study of infant mortality, infant deaths are carefully grouped into two categories according to the age at death. The first category consists of those infants who dye before they complete four weeks of life. The other category consists of those infants who dye between 28 days and 365 days of their life. The rate based on the first period is known as the neo-natal mortality rate, while that on the second period is referred to as the post-neo-natal mortality rate. Factors, which affect fatal and neo-natal deaths, are primarily indigenous, while those which affect post-neo-natal deaths are primarily exogenous.

i) Endogenous Factors:

The endogenous factors are biological factors related to the formation of the foetus in the womb. Among the biological factors affecting foetal and neo-natal infant mortality rates, the important ones are the age of the mother, the birth, prematurely, weight at birth and the fact of multiple births. It has been observed that foetal and neo-natal mortality rates are higher at the younger age of the mother (below 19), at first parity and for the first birth order. Up to the age of 29 of the mother these mortality rates declined and increase after it. The maturity of an infant is an important factor affecting neo-natal and infant mortality rates.

The still birth rate and the neo-natal mortality rate are both very high in the case of multiple births. Endogenous factors are also known as genetic factors.

ii) Exogenous Factors:

These include social, cultural, economic and environmental factors affecting infant mortality particularly during the post neo-natal period. One of the causes of high infant mortality in some countries is the lack of availability of medicine. Most of the post-neo-natal deaths are due to communicable diseases of digestive and respiratory system such as Diarrhea and Pneumonia, etc. the adverse environmental factors including congestion, insanitation, lack of sufficient sun shine and fresh air. Illegitimacy is also an important factor contributing to a high infant mortality rate. The difference between infant mortality rates of legitimate and illegitimate birth is usually found to be quite marked. A child conceived and corn out of wedlock is generally unwanted both by the mother as well as society.

One interesting feature of the role of endogenous and exogenous factors in determining infant mortality rates is worth noting. In countries where infant mortality rates are very low, a higher proportion of infant deaths occur during the neo-natal stage, because, being developed, they have been successful in almost completely eliminating the environmental factors responsible for such deaths. The main causes of infant mortality in these countries are mainly genetic or biological in nature. In countries where infant mortality rates are high, the majority of infant deaths occurs after the neo-natal stage and is due mainly to environmental factors

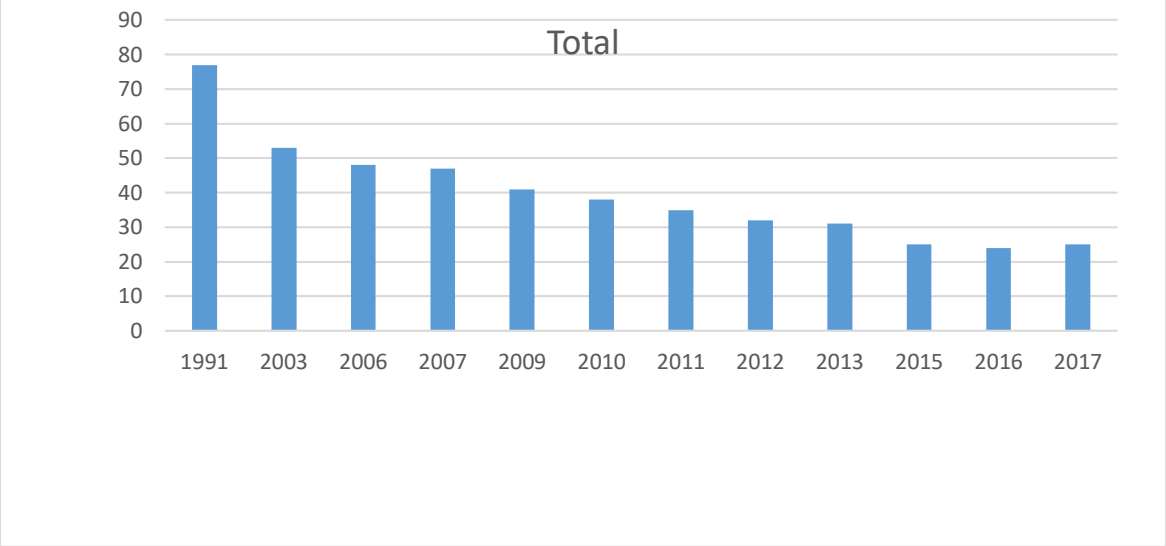
B. Trend of Infant Mortality Rate in Karnataka:

The Government of India has set up the target of infant mortality rate to 30 per thousand live births by 2016. The possibility of the target stated in NPP 2000 can be assessed from theavailable data estimated through Sample registration System (SRS) for the state of Karnataka.

The 15 years' trend may suggest that approachability of the target. Data presented in Table provides data on the possibility of the set target.

Table 1.1Infant Mortality Rate, Karnataka (per 1000 Livebirths)

Infant Mortality Rate, Karnataka												
Years	1991	2003	2006	2007	2009	2010	2011	2012	2013	2015	2016	2017
Total	77	53	48	47	41	38	35	32	31	25	24	25

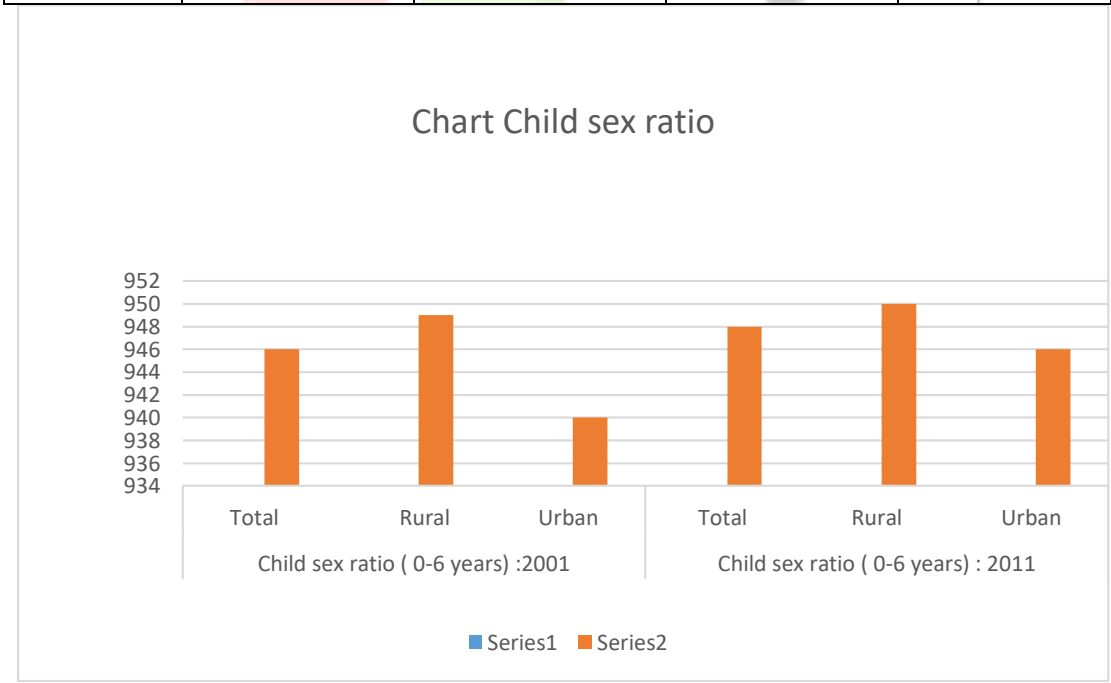


Source: Statistical Hand Book, Karnataka, 2015

From the above table it is observed that in Karnataka around 55 out of 1000 live births are bid good bye to their parents before completing one year of their life span in the year 2012. Likeall India, the state has achieved IMR from 76 in 1998 to 55 in 2012, thus reducing the rate by during these 15 years period. But it is big question whether the state will be able to achieve the NPP 2000 target, i.e., IMR of 30 per 1000 live births. The above table clearly shows that infant mortality rate reducing in Karnataka.

Table 1.2Child sex ratio (0-6 years) by residence: 2001-2011(Karnataka)

Child sex ratio (0-6 years) :2001			Child sex ratio (0-6 years) : 2011		
Total	Rural	Urban	Total	Rural	Urban
946	949	940	948	950	946



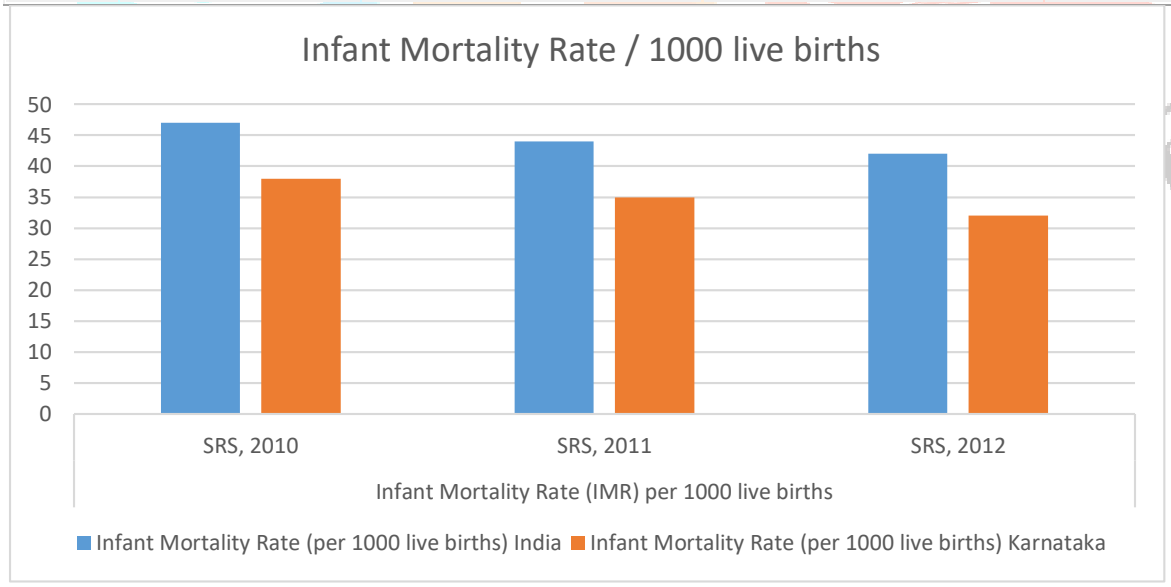
Source: census of India -2011 Data Highlights Karnataka

C. Reasons for Infant Mortality in India.

The main reasons for Infant Mortality in India as per the Registrar General of India (2001-03) are perinatal conditions (46%), respiratory infections (22%), diarrhoeal diseases (10%), other infectious and parasitic diseases (8%) and congenital anomalies (3.1%).Infant Mortality is also influenced by other determinants which include low literacy, lack of spacing between births, early age at marriage & child bearing, high parity, cultural misconceptions, economic dependency of women Mother's factors Father's factors Child factors Household factors etc.

Table 1.3. Infant Mortality Rate (per 1000 live births)

S.N.	State /UT	Infant Mortality Rate (IMR) per 1000 live births		
		SRS, 2010	SRS, 2011	SRS, 2012
	India	**47**	**44**	**42**
	Karnataka	38	35	32



(Source: RGI (SRS) 2010, 2011, 2012), Sample Registration System (SRS), Registrar General of India (RGI). Children In India-2018.

Current infant mortality rate in India

The current infant mortality rate for India in 2021 is 28.771 deaths per 1000 live births, a 3.61% decline from 2020.

- The infant mortality rate for India in 2020 was 29.848 deaths per 1000 live births, a 3.48% decline from 2019.
- The infant mortality rate for India in 2019 was 30.924 deaths per 1000 live births, a 3.36% decline from 2018.

- The infant mortality rate for India in 2018 was 32.000 deaths per 1000 live births, a 4.24% decline from 2017.

Under the National Health Mission (NHM), the key steps taken by the Government of India to accelerate the pace of decline in maternal & infant mortality are:

a. Demand promotion through Janani Suraksha Yojana (JSY), a conditional cash transfer scheme to promote institutional deliveries.
b. Providing resources for operationalization of sub-centers, Primary Health Centers, Community Health Centers and District Hospitals for providing 24x7 basic and comprehensive obstetric care, neonatal, infant and child care services.
c. Strengthening of Facility based newborn care by setting up Newborn care corners (NBCC) in all health facilities where deliveries take place; Special New Born Care Units (SNCUs) at District Hospitals and New Born Stabilization Units (NBSUs) at First Referral Units for the care of sick newborn.
d. Capacity building of health care providers through training programmes in basic and comprehensive obstetric care, skilled attendance at birth, Integrated Management of Neo-natal and Childhood Illness (IMNCI) and NavjaatShishu Suraksha Karyakaram (NSSK), facility & home based newborn care, etc.
e. Name Based web enabled tracking of pregnant women & children to ensure optimal antenatal, intranatal and postnatal care to pregnant women and care to new-borns, infants and children.
f. Under the National Iron+ Initiative, Iron and Folic Acid supplementation to pregnant, lactating women and to children and adolescents for prevention and treatment of anemia.
g. Identifying the severely anaemic cases in pregnant women and children at sub centers and PHCs for their timely management
h. To tackle the problem of anaemia due to malaria particularly in pregnant women and children, Long Lasting Insecticide Nets (LLINs) and Insecticide Treated Bed Nets (ITBNs) are being distributed in endemic areas.
i. Exclusive breastfeeding for first six months and promotion of appropriate infant and young child feeding practices
j. Engagement of more than 8.8 lakhs Accredited Social Health Activists (ASHAs) to generate demand and facilitate accessing of health care services by the community.
k. Home Based Newborn Care (HBNC) has been initiated through ASHA to improve new born care practices at the community level and for early detection and referral of sick new born babies.
l. Village Health and Nutrition Days in rural areas as an outreach activity, for provision of maternal and child health services and creating awareness on maternal and child care including health and nutrition education.
m. Universal Immunization Program (UIP) against seven diseases for all children. · Vitamin A supplementation for children aged 6 months to 5 years.

n. Janani Shishu Suraksha Karyakaram (JSSK) has been launched in 2011, which entitles all pregnant women delivering in public health institutions to absolutely free and no expense delivery including Caesarean section. The initiative stipulates free drugs, diagnostics, blood and diet, besides free transport from home to institution, between facilities in case of a referral and drop back home. Similar entitlements are available for sick newborns and infants accessing public health institutions for treatment.

Some Remedial measures and Humble Suggestions:

Some remedial measures and humble suggestions to be adopted to reduce the infant mortality rate have been mentioned below.

Firstly, there must be spread of education, especially among the women in the state of

Karnataka to reduce the infant mortality rate in the state as the educated women are more conscious regarding infant mortality. On the other hand, the field survey made the clearly reveals that the percentage of infant mortality rate among the illiterate mother is much higher than that of the literate mother.

Secondly, the level of income of the family must be increased to reduce the infant mortality rate in the society as one of the major causes of high infant mortality rate is poverty or low level of income of the family.

Thirdly, the status of women in our society is found to be too low and it is generally Considered that low status of women in the society is an important cause of high infant mortality rate. So, by lifting the status of women upward in the society, the rate of infant mortality can be reduced to a certain extent.

Conclusions

Infant and child mortality in India have declined substantially over the past 15–20 years. According to SRS and NFHS data, infant mortality declined by 35% over the past 15 years and under-five mortality by 25% between 1978–83 and 1988–93. The available data indicate that non-income factors, such as maternal and child health interventions, have played a significant role in lowering both infant mortality and under-5 mortality rates in India, although the data do not permit directly attributing the mortality decline to programme efforts.

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