An Analysis Of Levels And Trends In Infant Mortality Rate In Punjab With Special Reference To Muktsar District (Pb.)

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Abstract:

The infant mortality rate (IMR) —probability of dying before one year of age expressed per 1000 live-births have been used as measures of children's well-being for many years. Infant mortality rates are considered as sensitive indicators of living and socioeconomic conditions of a country. This recognition has made the international organizations as well as National Governments to intensify their efforts to reduce infant mortality and improve child survival. As a result, there have been considerable improvements in the infant and mortality ratein the world as a whole in recent years. Punjab state's infant mortality rate has been recorded at 30 deaths (per thousand live births) while Neonatal Mortality rate is 25 (per thousand live births). Punjab's infant mortality rates and neonatal mortality rate are lower than the country's average of infant mortality rate at 44 (per 1000 live births) and Neonatal mortality rate 31 (per 1000 live births). As a positive indicator, The Punjab state's infant mortality rate (IMR) has witnessed two points dip from last year, reveals Sample Registration Report 2016 released by the central government.

Introduction:

The State of Punjab has been consistently performing better than the rest of the country in reproductive and child health. High per capita income, high literacy rate, community development enterprise together with healthcare programs have led to the attainment of impressive indicators of health in the State. As per the SRS data of 2012 (released in September 2013) Infant Mortality Rate (IMR) of Punjab is 28 per 1000 live births as against 42 at the national level. The State's total fertility rate (TFR) at 1.8 has already reached the replacement level. The Maternal Mortality Ratio (MMR) stands at 172 (per 100,000 live births) against the national average of 212.

Since 2005, the National Rural Health Mission has resulted in an unprecedented strengthening of the public health system with focus on health infrastructure, human resources, service delivery, program management, monitoring and communitization. Deployment of ASHAs across rural areas has changed the paradigm of the way services are delivered at doorstep of the people. The Government of Punjab has effectively harnessed the resources of NRHM and scaled up initiatives such as the Universal Immunization Programme, skilled care at birth, Emergency Obstetric Care, IMNCI (Integrated Management of Neonatal and Childhood Illnesses), NSSK (Navjat Shishu Suraksha Karyakram), FBNC (Facility Based Newborn Care), and referral transport services. Demand side financing initiatives such as the JSY (Janani Suraksha Yojna) and JSSK (Janani Shishu Suraksha Karyakaram) have helped in reducing out of pocket expenses on healthcare of women and children. Indeed, the Government of Punjab has gone beyond the provisions of NRHM for maternal and child health by introducing the MKKS (Mata Kaushalya Kalyan Scheme) and the free treatment of all girls up to the age of five years in public facilities.

In January this year, the Government of India brought various healthcare initiatives and programs for women, adolescents and children into one strategic framework.1 This strategy document on Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCH+A) has emerged as the master driver of accelerated action under NRHM, in particular during the XII Plan period up to 2017.

The Mother and Child Health Action Plan (2014-2017) is a comprehensive effort by the Government of Punjab to translate the National RMNCH+A strategy into a State level action plan for the women, adolescents and children. This document is the outcome of discussions with the key stakeholders to identify gaps and solutions in coverage, quality of care, and health systems components. In addition, there were intense internal deliberations to articulate actionable tasks and timelines. This has indeed been a unique undertaking in program analysis, target setting and in envisioning

a realistic work plan toward the avowed outcomes. The Action Plan is thus aspirational, yet deliverable.

Though the State of Punjab has better health indicators as compared to many other states of the country, this is not enough. The Government of Punjab is committed to raising the health status of the people of the State to the levels that prevail in the developed world in not so distant future. The Mother and Child Health Action Plan (2014-2017) is one cogent step in that direction. In India, evidence of child health inequalities exist along several dimensions. There are huge differentials across states and socio-economic groups in terms of health outcomes, access to health services and utilization of health services. Disparities in health outcomes are explained not only by disparities in utilization of services but also by the differential pace of economic and social development, differentials in the distribution of the benefits of development and the inadequacy of the public health care systems to deliver equitable health services.

In 2005 Government of India launched National Rural Health Mission (NRHM) to improve the availability and quality of accessible health care, especially for those residing in rural areas, including poor, women and children. The Major goals of the mission are to reduce the Infant Mortality Rate (IMR) and Maternal Mortality Rate (MMR), improve universal access to public health services such as women's health, child health, water, sanitation and hygiene, immunization and nutrition; and enhance the prevention and control of communicable and non-communicable diseases. Reproductive and Child Health (RCH) Programme -II was subsumed within NRHM.GOI has adopted ambitious targets related to children that are in line with, and at times more ambitious than, the MDGs. Centrally-sponsored schemes have increased public resources to key sectors, notably the Reproductive and Child Health Programme II, the National Rural Health Mission and the Integrated Child Development Services. The challenge remains to convert these commitments and resources into measurable results for all children, especially those belonging to socially disadvantaged and marginalized communities. According to census of 2001, Sri Muktsar Sahib District, which is located in South Western Zone of Punjab has total population of 7,77,493. The percentage of rural population to the total population is 74.46% . Sri Muktsar Sahib has population density of 297 persons per sq. Km compared to 484 persons per sq km of the Punjab, which is the lowest in Punjab. There are 891 women for every 1000 men in the district. The Scheduled Castes form 37.75% of the total population in this district. The population of Sri Muktsar Sahib District has increased at the rate of 18.80% from 1991 to 2001 against 20.10% for the whole state.

I was provoked to search about the infant mortality rate in my own state Punjab, the facts somewhat relieved. In Punjab, infant mortality rate has been reduced from time to time as 42 (per 1000 live births) in 2008 as compared to 102 in 1971(per 1000 live births), 98 in 1975, 53 in 1991, 48(per 1000 live births) in 2004, 44 in 2006 and decreases 28 in 2012, 26 in 2013. This shows that infant mortality has actually reduced as compared to previous times, but still complete overhaul of this menace is must. Now Punjab state's infant mortality rate has been recorded at 30 deaths (per thousand live births) while Neonatal Mortality rate is 25 (per thousand live births). Punjab's infant mortality rates and neonatal mortality rate are lower than the country's average of infant mortality rate at 44 (per 1000 live births) and Neonatal mortality rate 31 (per 1000 live birth).

As a positive indicator, The Punjab state's infant mortality rate (IMR) has witnessed two points dip from last year, reveals Sample Registration Report 2016 released by the central government.According to the report , IMR has dropped from 23 per 1,000 births in 2015 to 21 per 1,000 births in 2016. The same figure was 24 per 1,000 births in 2014 and 26 deaths in 2013. The state health department has attributed the positive result to the efforts of building health facilities for infants, providing round the clock treatment, and regular follow-up of cases by ground staff including auxiliary nurse midwife (ANM) and accredited social health activist (ASHA).

Review Of Literature:

MONIKA DAS GUPTA(2010) The behavioral factors which make for continuing high levels of child mortality in rural Punjab, despite favorable conditions in terms of nutrition, income, women's literacy and health care facilities are

examined. A major factor is that inadequate attention has been paid to improved health care practices within the home. Women's autonomy, social class, and mothers' education significantly influence child survival. One of the pathways by which mothers' education affects child survival is through improved child care. In this society, a woman's autonomy is lowest during that part of her life-cycle which also contains her peak childbearing years: this perverse overlap raises child mortality. The risk of dying is distributed very unevenly amongst children, as the majority of child deaths are clustered amongst a small proportion of the families. The death-clustering variable remained significant even after several possible biological and socio-economic reasons for clustering had been controlled. It is argued that this clustering of deaths is partly due to the poor basic abilities of some mothers and other cares.

A.K. JAIN (2010) An analytical framework is specified for understanding the determinants of infant mortality. It distinguishes between factors at three levels – village, household & individual and arranges them in ascending order with respect to their proximity to infant mortality. Village and household-level factors are assumed to influence infant mortality indirectly by influencing at least one of the six individual-level factors. The analysis of the data aggregated at the state level clearly demonstrates the importance of both medical and non-medical factors for explaining the observed regional medical personnel and poverty that are the two important determinants of regional variations in neo-natal mortality and the two most important determinants of post neo-natal mortality are village-level availability of medical facilities and the extent of triple vaccination. The influence of adult women's literacy on infant mortality is explained by better medical care at birth, and preventive and curative medical care during the post-neo-natal period. Medical factors have been shown to be slightly more important than non-medical factors. The study further suggests that it might be possible to reduce the high level of infant mortality currently prevalent in many states in India by simple preventive medical interventions.

AlakaMalwadeBasu and KaushikBasu(1991) The study provides evidence that women's employment, in spite of its other benefits, probably has one crucial adverse consequence: a higher level of child mortality than is found among women who do not work. The present study examines various intermediate mechanisms for this relationship and conclude that a shortage of time is one of the major reasons for this negative relation between maternal employment and child survival. However, even in the area of child survival, there is one aspect which is positively affected by female employment: the disadvantage to girls in survival which is characteristic of South Asia seems to be smaller among working mothers. This is in contrast to the effect of maternal education which may often have no clear relation to the sex ratio of childhood mortality even though absolute levels of child mortality are lower for educated mothers.

Objectives:

1. To analyze the levels and trends of IMR in Punjab with special reference to Muktsar district.
2. To identify the major hurdles affecting the IMR in concerned area of Punjab and try to find an association of socioeconomic factors &highlight the trends of IMR.

Methodology:

Sampling Plan:

The research had covered all three Tehsils of Muktsar district. Total 300 samples were used in the study. 10 villages were selected from each Tehsil on the basis if highest IMR& 5 samples from each village, in other words, total 150 samples were selected from villages & 150 samples from cities, 50 samples from each city, which includes all the areas of thatcity.

Statistical Analysis:

Categorical variables were presented in number and percentage (%). Qualitative variables were correlated using Chi-Square test. A p value of <0.05 was considered statistically significant. The data was entered in MS Excel spreadsheet and analysis was done using statistical package for Social Sciences (SPSS) version 21.0.

Results:

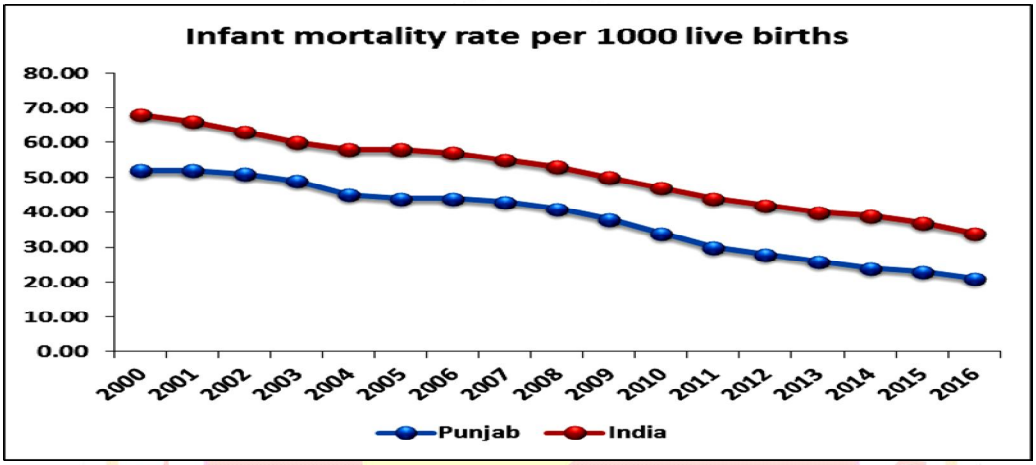
Several indicators of infant mortality are used to measure levels and trends, including the neonatal and post neonatal mortality rates. Infant

Mortality Rate is the rate which refers to number of deaths of children less than one year of age in a given year per 1000 live births in that year. The present Infant mortality rate stands at 21 per 1000 live births in 2016. Since 1991, IMR has declined from 52 in 2000, to 21 in 2013. It has seen a steady decline of 2-3 points every year since 2000 as shown in the following table.

(Infant mortality rate 1000 per live births)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Punjab	52	52	51	49	45	44	44	43	41	38	34	30	28	26	24	23	21
India	68	66	63	60	58	58	57	55	53	50	47	44	42	40	39	37	34

(source: sample registration system)



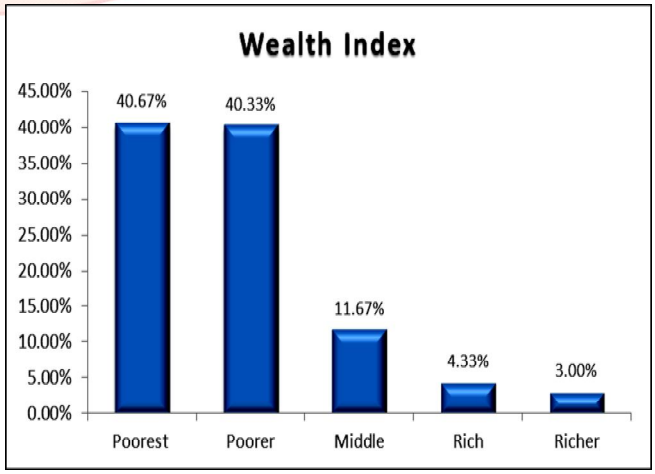
Although the rate of infant mortality may going on decreasing as compared to previous years as shown in above table and figure, it was 52 in 2000 and falls to 43 in 2007 , 34 in 2010, 30 in 2011, 28 in 2012, 26 in 2013 24 in 2014 and 23 in 2015 and 21 in 2016 which shows a positive indicator regarding fall in death rate among infants.

Discussion:

The main objective of the study is surveying the trends, problems and challenges of infant mortality rate and to identity the reasons behind declining IMR with special reference to Muktsar District (Punjab). To collect all the relevant information like wealth index of parents, mothers age at child birth, place of delivery regarding further improvements and to control mortality rate among infants survey method in which direct personal investigation method was adopted for the collection of the data. A self designed questionnaire was prepared for the collection of data through which required information is collected from the mothers of dead infants, to find out the basic reasons behind the infant mortality. After the collection and interpretation of data we could arrive at the following findings. These findings will help us to give proper suggestions regarding the improvement in IMR in future. (wealth index of infants)

Wealth Index	
	Percentage
Poorest	40.67%
Poorer	40.33%
Middle	11.67%
Rich	4.33%
Richer	3.00%
Total	100.00%

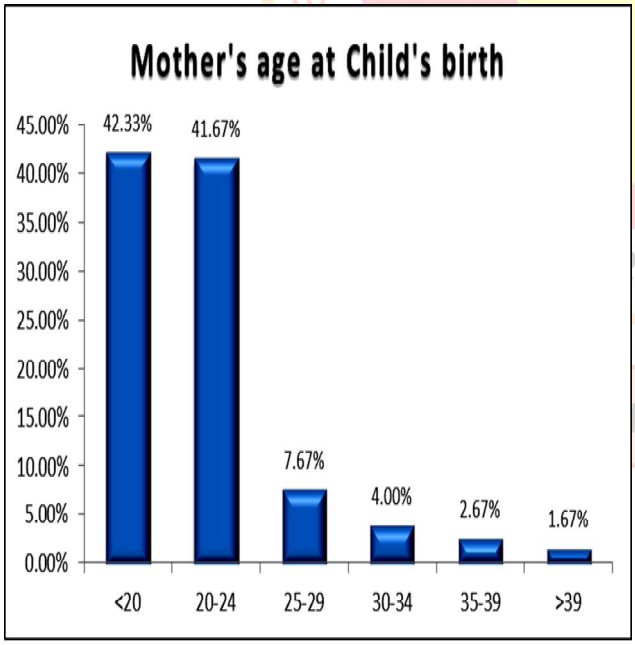
(source: primary collection)



According to interpretation major findings regarding infant mortality were found from poor wealth index as compare to rich wealth index. As shown in table and figure 40.67% were belongs to poorest class people, 40.33% from poorer class people, 11.67% from middle class people , 4.33% from rich class people and 3% belongs to rich class people which shows major death rate among infants were found from poor wealth index .

Mother's age at Child's birth	
	Percentage
<20	42.33%
20-24	41.67%
25-29	7.67%
30-34	4.00%
35-39	2.67%
>39	1.67%
Total	100.00%

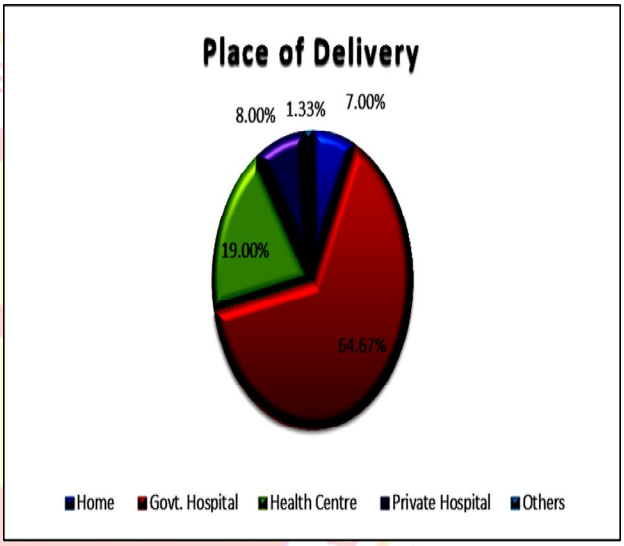
(source: primary collection)



According to interpretation Regarding mother's age during child birth it was found that most of infants mothers delivery their child having age >24 years while 7.67% of 25-29 years age, 6.67% of 30-39 years age and 1.6% were those who were <39 years of age. Which shows major findings were significant in case of low aged mothers.

Place of Delivery	
	Percentage
Home	7.00%
Govt. Hospital	64.67%
Health Centre	19.00%
Private Hospital	8.00%
Others	1.33%
Total	100.00%

(source: primary collection)



From the study it has been observed that out of total samples only 7% infants were delivered at home, 64.67% were delivered at government hospitals whereas 27% were delivered at healthcare centres and private hospitals.

Conclusion:

The aim of the study is to throw a light on the trends, problems and challenges of infant mortality rate and to identity the reasons behind declining IMR with special reference to Muktsar District (Punjab). For this purpose as a secondary data IMR (SRS) 2000-2016 were used and as a primary a self-designed questionnaire was used to find the reasons declining IMR. So, that we can analyze how we can control further the rate of IMR in future. Data includes birth histories of infants in rural as well as urban areas of concerned area.

From this study it is concluded that overall IMR should be declining. In this study firstly only the variables that are assumed to be exogenous are included. However in second specification variables that might depend to the choices of parents like birth

interval between infants, place of delivery, treatment during pregnancy of the mother, prenatal care received by mother etc. are also included.

By applying statistical tools we found that our results are significant on the basis of education level of mother. Percentage in case of illiterate mothers are found to be more as compare to literate mothers. According to the study it has been found that the percentage rate of IMR is found to be more for the mothers having child before the age 20 relative to the age between 24-29.

According to study an infants born in private hospital, in a private clinic are found to experience statistically significantly lower IMR than the infants born in Govt. hospitals. In terms of wealth index it is concluded that the people belongs to poorest and poorer index experiences statistically more infant mortality than rich and richer index. In case of proper diet of mothers during pregnancy most of the mothers get less nutritious diet.

From the study it has been concluded that the overall IMR should be declining which is a good indicator for society. A Govt. should try to provide more health facilities to the mothers during pregnancy as well as to the infants post-delivery. To reduce the rate of infant mortality in future govt. should provide some effective management in government hospitals. Child health care policies should be reviewed to sustain the achievements that have already been made, enhance quality and efficiency and address specific gaps in neonatal care. Existing child health programmes and strategies, including initiatives for the eradication of vaccine-preventable childhood diseases, and specific health and nutrition interventions, need to be examined in the context of socio-economic and state specific approaches. It is revealed from the above discussion that the economic status of the household is an important factor of the infant and mortality rate. To reduce IMR not only the health services, water and sanitation facilities be improved by proper implementation of the programmes but also the poverty elimination programmes should be implemented effectively.

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