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A STUDY OF HEALTH STATUS IN RAJASTHAN

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ABSTRACT

Health status of any country or state is an important indicator of economic development. Strong positive correlation between health status and economic development of any region is studied by many researchers. According to world health organization health is considered as engine of economic growth and development. Rajasthan is a largest state of India in terms of its area which is 10.4% of total geographical area of India but due to various reasons its health indicators indicates that status of health is lower than others. Present study was done to know about health status of Rajasthan and change in it over the period of time. Source of data was secondary available through "Statistical abstract of Rajasthan", Directorate of economics and statistics of Rajasthan, Jaipur. Analysis revealed that health status in Rajasthan has improved over the time period. Average life expectancy has increased significantly and infant mortality rate and under five mortality rate both decreased significantly, which shows that social an economic condition in the state has increased significantly also people are in better position to access health care facilities and are accessing it. But as compared to other states, there is lot of scope for improvement. The maternal and child health indicators in Rajasthan are lower than the national average hence, it can be said that there is lot of scope for improvement of health status in Rajasthan.

Keywords: *Health Status, Life Expectancy, Under Five Mortality Rate, Infant Mortality Rate*.

Introduction

Importance of Health Definition

In economic perspectives, health status as robust predictor of economic development and positively correlates with it. According to World Health Organization health is considered as an engine of economic development and economic growth. Improvements in health may increase economic output not only through labour productivity, but also through the accumulation of capital (David E. Bloom, David Canning and Jaypee Sevilla 2001). As per WHO (2006) health contributes mainly in four ways to economic outcomes (at individual as well as at country level) like higher productivity, higher labour supply, higher skills as a result of more education and training, and more savings available for investment in physical and intellectual capital. A research paper by David E. Bloom, David Canning and Jaypee Sevilla (2001) concluded that health has a positive and statistically significant effect on economic growth. The relation between health and economic growth changes over the process of economic development and different dimensions of health (mortality vs. morbidity, children's and women's health, and health at older ages) may have different economic effects. The case for a positive effect of health on economic growth is strongest for less developed, but, in developed countries, improvement in health (reduction in disease burden or longevity) may increase economic growth, depends on economic condition, social security schemes and the potentially offsetting impacts of an extended working life (David E. Bloom, Michael Kuhn and Klaus Prettner 2018)

India is a mixed economy in many walks of life, particularly in the health sector (Baru, 1995). At the time of independence, the health situation in India was extremely dismal. But after independence, the country has achieved significant and remarkable progress in health sector through implementing many kinds of health policies, programmes, schemes etc. Up to Fifth Five Year Plan, the country has focused on health policies for control of communicable diseases, population control, self-efficiency in drug and equipment.

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Rajasthan comes under the group which is chosen as highly focused state under NRHM (National Rural Health Mission).

Rajasthan belongs to a group designated as High Focus States under the National Rural Health Mission (2005-12). Approximately 33% of population belongs to scheduled caste or scheduled tribe which has lower health indicators. Also, western part of Rajasthan in desert with low population density which makes delivery of healthcare facilities a challenging task (Sodani et al., 2017). Recent data on important health indicators like, MMR (maternal mortality rate) is 224 per 100,000 live births in 2011-13, IMR is 41 per 1000 live births and under five mortality rate 51 per 1000 live births suggests that state is far behind the target of sustainable development goals.

Review of Literature

Prahlad Rai Sodani (1997) carried out a study on "An Econometrics Analysis of Health Care in Rajasthan (With Special Reference of TSP Region of The State)". This study used three variables namely Duration, Visit & Distance and explained that the available health care facilities are not meet to expectation of the TSP people. It has concluded that the difference between rural and urban areas on the basis of health care and health expenditure in TSP region of Rajasthan is high which is needed to be resolved.

Abhijit Banerjee, Angus Deaton & Esther Duflo (2004), they studied on "Health Care Delivery in Rural Rajasthan" a survey conducted in rural Udaipur to gauge the delivery of health care and the impact on health status of the largely poor population of the region.The study shown that the Low-quality public facilities has also correlated with worse health controlling for age, gender, distance from a road and per capita monthly expenditures, lung capacity & body mass index are lower where the facilities are worse.

"State of Urban Health in Rajasthan" has reported **by Urban Health Resource Center (2006)**. The report has showed that the health conditions of the urban poor population in Rajasthan as in the rest of the country are worsened. The reasons for low impact of the schemes are inadequate allocation, poor targeting, and deficient utilization of resources. Rapid urbanization has impacted the primary health care infrastructure in urban areas making it woefully inadequate. The health vulnerability of the slum dwellers is further accentuated by the poor environmental conditions in which they reside.

Veena Bhasin (2007) carried out a study on "Health Status of Tribal of Rajasthan" which has deled with human settlements and amenities available among six tribal groups of Rajasthan in relation to its population structure and health status. The study at hand corroborated the theory that social development level and availability of various facilities leads to lower mortality rates. The study has shown that traditional medical practices as well as biomedicine co-exist. The state health programs are well intended but lack of anthropological consultation. The level of knowledge about causes of illness and its treatment is of low order among tribes.

According to **Human Development Report, Rajasthan (an update-2008),** the report had attempted to provide an update on changes in health sector development and concluded that there is need for promoting public investment in health (all sectors). As the present allocations are just not sufficient. It has showed that gaps between sanctioned, posts & other facilities and the actual availability need to be bridged. This is particularly true for tribal areas.

Sharad D. Iyengar (2008) in his paper on "Quality of Health Care in Rajasthan", have initiated a discourse on the relevance of a quality-of-care approach to the health sector in general, its relationship with governance and management of the health system in Rajasthan. He suggested a few key directions for institutionalizing quality assurance within the health system, in the context of health sector reform.

Fifth Common Review Mission (2011) that is organized by NRHM, Ministry of Health and Family Welfare and Govt. of India. This mission has shown that in Chittorgarh districts, the health infrastructure was found adequate and well maintained in most facilities. But the health facilities were poorly maintained especially in Barmer district. There is no system in place for safety inspection of old structures and demolition of abandoned infrastructure in both districts. Sufficient equipment was available in the health facilities visited. Sub Centre Majiwala in Barmer was a model Schedule Cast that had good infrastructure and equipment. It was needed to improve space management at health facilities especially in district hospitals.

Syed Naushad Ahmad and ZebaNisar (2012) have investigated on "Determinants of Health Deprivation in Rajasthan: A District Level Analysis" using factor analysis to find out its spatial variations among the districts of Rajasthan. The study has depicted that the large proportion of the population of the state has been deprived in terms of health status, safe water supply and housing. Asthma/chronic respiratory infection, arthritis, hypertension etc, are most prevalent diseases especially in the desert part of Rajasthan.

Objective

The objectives of present research paper are:

- To study overall Health Status of Rajasthan
- To study change in Health status over the period of time

Research Methodology

Rajasthan is the largest State in India with 342,240 Sq. Km constituting 10.4 percent of the total geographical area of India. It forms a corridor between the northern and the western states in the country. It is one of the desert regions of India. Rajasthan has a population of 6.86 crore (Census 2011). The state has at present 33 districts, but the study is confined to 25 districts which has existed since 1980. The main source of data for the present study as secondary data available through "Statistical abstract of Rajasthan" Directorate of economics and statistics of Rajasthan, Jaipur. The period of the study was from 1981 to 2011. The reason for data being taken up to 2011 only because district wise census data was consistently available for these years only. Variables chosen to study Health Status – Mainly three variables were taken to study health status of Rajasthan. These variables were Life expectancy, Infant mortality rate and under five mortality rate. The three variables are most prominent indicators that reveals health status of any area of region.

Life Expectancy at Birth

Life expectancy at birth reflects the overall mortality level of a population. It summarizes the mortality pattern that prevails across all age groups - children and adolescents, adults and the elderly. According to OECD definition Life expectancy at birth is defined as – how long a new born can expect to live. It is one of the most frequently used health status indicators. Increased life expectancy indicates rising living standard, improved life style, better education and greater access to health services. This indicator is measured in years.

Under Five Mortality Rate

Under Five Mortality Rate is the probability of a child born in a specific year dying before reaching age of five. It is expressed in rate per 1000 live births. The rationale behind using this indicator being that – it reflects social, economic and environmental conditions in which children and other people live. Mortality rates are often used to identify vulnerable populations.

Infant Mortality Rates

Infant mortality rate is defined as number of deaths per 1000 live births of children under one year of age. Calculated as number of children dying under one year of age divided by number of live births during that period multiplied by 1000. Infant mortality rates measure child survival and reflect social, economic and environmental conditions in which children in which children live. Infant mortality rate is an MDG indicator. This rate is an important key indicator for a country's health and standard of living; a low infant mortality rate indicates a high standard of healthcare. For analysis various formulas like mean, standard deviation, coefficient of variation, growth rate etc. were used.

Data Analysis Results

Life Expectancy at Birth

Table 1: Life Expectancy at Birth

	1981	**1991**	**2001**
N	25	25	25
Mean	53.91	62.70	62.52
SD	5.26	3.73	2.97
Minimum	45.43	57.50	58.00
Maximum	65.09	70.10	70.00
CV	9.76	5.94	4.76
Growth Rate =	16.79		

Table 1 depict life expectancy at birth in three decades viz. 1981, 1991, and 2001. The statistic shown in the table are calculated by researcher based on the data of 25 districts of Rajasthan. It can be observed that Life expectancy at birth has increased from 1981 to 1991, and 2001. Although there was not much and significant difference in life expectancy at birth between 2001 and 2011 but definitely there was significant increase in life expectancy from 1981 to 2001. The average growth rate in Life expectancy from 1981 to 2011 for 25 districts of Rajasthan was 16.79%. It can also be observed that coefficient of variation is also decreasing which indicates that disparity or variation in life expectancy of different districts of Rajasthan is also decreasing.

Infant Mortality Rate

Table 2: Infant Mortality Rate

	1981	1991	2001	2011
N	25	25	25	25
Mean	144.48	88.60	67.20	57.40
SD	33.63	20.29	15.09	7.88
Minimum	69.00	54.00	30.00	35.00
Maximum	197.00	123.00	92.00	74.00
CV	23.27	22.90	22.46	13.74
Growth Rate =	**-58.14**			

Table 2 shows statics related to infant mortality rates calculated on the basis of data of 25 districts of Rajasthan from 1981 to 2011. Statistics reveals that the average infant mortality rate is continuously decreasing from 1981 to 2011. In 1981 it was 144.48 per 1000 live births which was decreased to 88.60 in 1991, in 2001 it was further decreased to 67.20 and finally in 2011 it came down to 57.40. Thus, average negative growth rate from 1981 to 2011 was 58.14%. Although infant mortality rate is decreasing continuously in these decades but it is compared with all over India results the average infant mortality rate was 43 in 2011 and in 2019 it was 28.3 which shows that there is lot of scope for improvement in Rajasthan.

Under Five Mortality Rate

Table 3: Under Five Mortality Rate

	1981	1991	2001	2011
N	25	25	25	25
Mean	176.88	121.20	114.04	77.08
SD	39.18	25.39	27.73	10.01
Minimum	89	73	70	44
Maximum	236	156	161	96
CV	**22.15**	**20.95**	**24.32**	**12.98**
Growth Rate =	**-54.23**			

Table 3 depicts statistics related to under five mortality rates in Rajasthan from 1981 to 2011, calculated on the basis of data of 25 districts of Rajasthan. Statistics shows that the average under five mortality rates of 25 districts of Rajasthan is decreasing significantly over the period from 1981 to 2011. It was 176.88 per 1000 live births in 1981, in 1991 it came down to 121.20, which further declined to 114.04 and in 2011 it further declined to 77.08. also, coefficient of variation data shows that compared to previous years in 2011 it was minimum showing consistency in under five mortality rates in different district of Rajasthan. Thus, it can be concluded that under five mortality rates in Rajasthan has decreased significantly over the years but compared to India under five mortality rates was 88.2 in 2001, 55.1 in 2011 and in 34.3 in 2019, which shows that Rajasthan in far behind other parts of India reflecting lot of scope for Improvement.

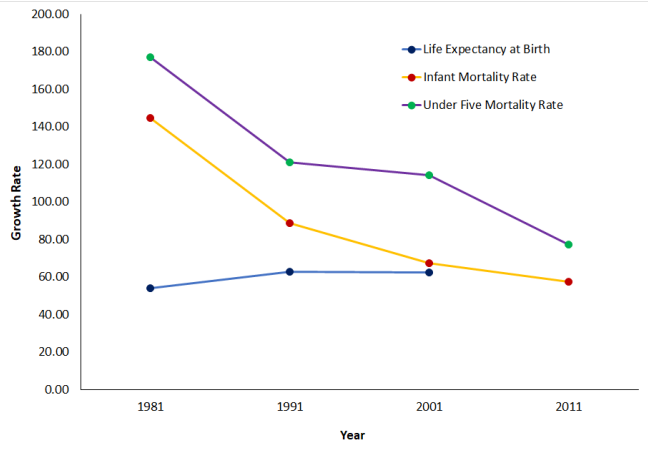

Fig. 1: Trend of Various Health Indicators over the Period

Districts of Rajasthan considered for analysis of health status are categorized in to four groups on the basis different health indicators considered for analysis. The criterion for dividation was quartiles. Tables shows that districts in which health status was very low as compared to other districts are Barmer, Bikaner, Ganganagar, Jaisalmer, Jodhpur, Nagaur and Sikar. District in which health status was low were - Banswara, Bundi, Jaipur, Jalore, Jhunjhunu and Sirohi.

Table 4: Categorization of Districts on the basis of Health Status

Health Status	District
Very Low	Barmer, Bikaner, Ganganagar, Jaisalmer, Jodhpur, Nagaur, Sikar
Low	Banswara, Bundi, Jaipur, Jalore, Jhunjhunu, Sirohi
High	Ajmer, Chittorgarh, Dungarpur, Jhalawar, Sawai Madhopur, Udaipur
Very High	Alwar, Bharatpur, Bhilwara, Kota, Pali, Tonk

District with comparatively high status are - Ajmer, Chittorgarh, Dungarpur, Jhalawar, Sawai Madhopur, Udaipur and the districts where health status was highest are - Alwar, Bharatpur, Bhilwara, Kota, Pali and Tonk. District whose health status was lowest was Bikaner where Life expectancy was lowest and IMR and under five mortality rate both highest among 25 districts. District with highest health status was Bharatpur where Life expectancy was highest and IMR and under five mortality rate both were on second position after Kota.

Conclusion

Thus, analysis revealed that Health status in Rajasthan has improved over the time period. Analysis of data from 1981 to 2011 revealed that on an average life expectancy has increased significantly and infant mortality rate and under five mortality rate both decreased significantly. Improved life expectancy and declining infant mortality rates and declining under five mortality rates indicating that social an economic condition in the state has increased significantly also people are in better position to access health care facilities and are accessing it. All this shows improved health status. But if position of state is compared with all over India, there is lot of scope for improvement for example under five mortality rate of Rajasthan in 2011 was 77.08 whereas it was 55.01 for India. IMR for Rajasthan in 2011 was 57.40 whereas for India it was 43 in the same year. Life expectancy of India in 2001 was 62.91 whereas for Rajasthan it was 62.52 little less than India. Complications during pregnancy and childbirth are the cause of 4,267 maternal and nearly 30,000 neonatal deaths per year in Rajasthan. The maternal and child health indicators in Rajasthan are lower than the national average therefore the state needs to redesign of its interventions to accelerate improvement in these indicators and address the issues of quality, access, and equity. Concludingly it can be said that there is lot of scope for improvement of health status in Rajasthan.

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