



HEALTH AND HUMAN DEVELOPMENT IN ODISHA: TRENDS, PROSPECTIVES AND CHALLENGES

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Abstract

Health is conceived as a state of complete physical, mental, and social well-being and not merely the absence of diseases or infirmity. Sustained health conditions of people are intensely linked with level of income, poverty, food security, nutrition, heal care, infrastructure, education and awareness, access to health care system, delivery of services, health sector financing etc. Health care not only enhances human capabilities to work but also improves the human development index. The demographic and health sector indicators for Odisha exhibit a mixed trend a mixed trend of success and concerns particularly in last decade.

Human development denotes improved quality of life. HD outcome is a function of economic growth, social policies and poverty reduction. The cause and effect relationships among economic growth, human capital formation and poverty reduction at macro level have been well established. Acquisition of quality & enhanced education, knowledge & skills; a long & healthy life and rising standard of living are the basis of measuring human development Indices. Quality and adequate health care services lead to better learning ability, nutritional retention, capability enhancement and standard of living of people. It helps in limiting family size, improving basic amenities and reducing poverty significantly. Essentially three categories of health indicators like outcomes (Infant Mortality Rate etc.), process (institutional delivery etc.) and input (infrastructure, public expenditure, National Health Mission etc) describe the progress of health sector in the State.

1. Health and Human Development in Odisha

Health sector performance in Odisha exhibit sustained improvement over the years. The improvements have been the outcome of concerted and continued efforts of the Government of Odisha towards establishing more efficient systems through effective planning, financing, human resource management, infrastructure, supply chain management and e-governance. The State Government makes consistent initiatives to reduce the prevailing regional disparities and gaps in the access to safe drinking water, public and private health care infrastructure, rural health care infrastructure, access to preventive and medical care, public hygiene, information system on health care and nutrition, skilled manpower etc. The present paper is a evaluation of the different health indicator such as birth rate, death rate, infant mortality rate, life expectancy rate at birth and their trends, prospective and the challenges of the government of Odisha ahead. Some of the important demographic health indicator of Odisha are given in the following table.

Table: 1 Different Indicator and their rates

Sl. No	Indicator	Rate
1.	Birth Rate, 2017	19.4 per 1000 population
2.	Death Rate, 2017	7.3 per 1000 population
3.	IMR, 2017	39.1 per 1000 live birth
4.	Total Fertility Rate, 2017	2.43 children born/women
5.	Maternal Mortality Ratio, 2015	1.74 per 1000 live births
6.	Life Expectancy at Birth 2017	Male 67.6 year, Female 70.1 Years, Total 68.8 years

(Source: Economic Survey of Odisha 2017-18)

Key health indicators such as Infant Mortality Rate (IMR) and Life Expectancy at Birth (LEB) are shown an improved figure in recent years which will be more clear from the successive analysis of the paper. Recently, Odisha has made notable achievements in reducing IMR to 49 by the end of 2014 as per the SRS report



published in 2016. The SRS survey reveals that the rate of decline in IMR in both rural and urban areas in Odisha was better than the national averages and could be possible due to increase in institutional delivery and pre/post natal care as per recently published NFHS-4 Report, the IMR of Odisha reduced significantly from 49 in 2014 to 39 in 2017-18. It is quiet more important to analyse the above said indicators in details in order to estimate the trends and prospective of these over the years.

1. Infant Mortality Rate (IMR)

The Infant Mortality rate (IMR) is the number of deaths of infants under one year old per 1000 live births. Three factors explain a high level of IMR in Orissa:

- i) Poor availability of professional attendants at birth,
- ii) High percentage of low birth weight babies, and
- iii) Lack of professional pre- and post-natal care

The following table reveals an interstate comparison of the Infant Mortality Rate during the last three census year across the different states of the country.

Table: 2 Inter-State Comparisons of IMR, 1991–2011

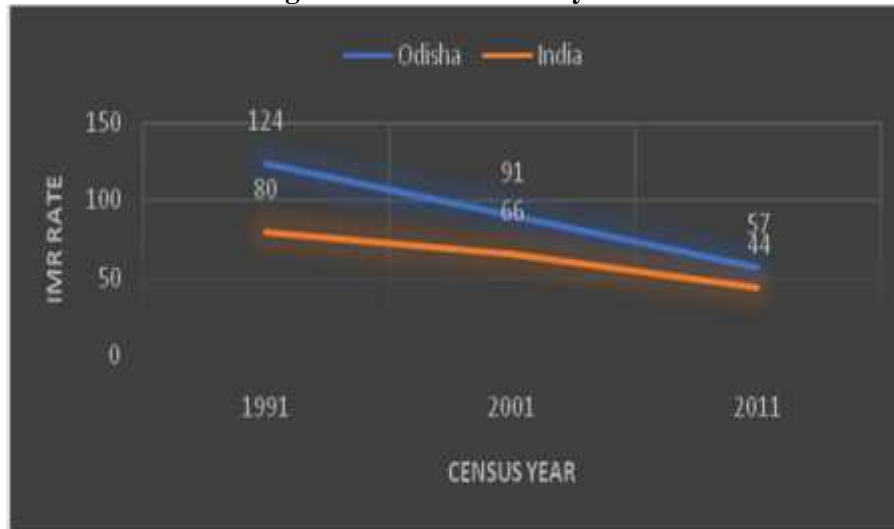
States	Infant Mortality Rate		
	1991	2001	2011
Andhra Pradesh	73	66	43
Assam	81	74	55
Bihar	69	62	44
Gujarat	69	60	41
Haryana	68	66	44
Karnataka	77	58	35
Kerala	16	11	12
Madhya Pradesh	117	86	59
Maharastra	60	45	25
Odisha	124	91	57
Punjab	53	52	30
Rajasthan	79	80	52
Tamilnadu	57	49	22
Uttar Pradesh	97	83	57
West Bengal	71	51	32
India	80	66	44

(Source: Economic Survey Report of Odisha 2001 to 2017)

The above table reveals a deteriorate picture about Infant Mortality rate in all the said census year for Odisha. It is clear that Odisha is on top in IMR in all the three census year with figures of 124 out of 1000 of birth in 1991 as compared to the national figure of 80 per 1000 of birth. Similarly, it is also quite evident that for the year 2001 the figure for the state was 91 per 1000 as against 66 per1000 of the national level and 57 per 1000 of birth while the national figure was 44 per 1000 birth for the year 2011. Kerela is the best performing state with figures of 16,11 and 12 per 1000 of birth during the same census years. The nation state comaparison of the IMR rate can be more clear from the following figure.



Figure 1: Infant Mortality Rate



But though the IMR is highest in Odisha one of the notable thing which is evident from the figure is that the IMR is decreasing over the census year which is a good sign for the development of health standard and human development of the state. Moreover, IMR has shown a considerable decline from 57 per 1,000 live births in 2011 to 49 in 2014, IMR in rural Odisha was 53 as compared to 38 in urban areas in 2013. At the national level, IMR stood at 39 and varied from 44 in rural areas to 27 in urban areas in 2013. As per recently published NFHS-4 Report the classification of districts of Odisha according to IMR for the year 2013 is presented in the following figure.

Table: 3 Classification of Districts According Infant Mortality Rate,2013

IMR Range	2013
Less than 50	Jharsuguda, Balasore, Mayurbhanj, Sambalpur, Sundargarh , Angul, Bhadrak, Jagatsinghpur, Jajpur, Koraput, Malkangiri, Nuapada, Sonepur and Nabarangpur
51 to 60	Keonjhar, Kalahandi, Cuttack, Gajapati, Ganjam, Boudh, Kendrapara, Rayagada, Bargarh, Deogarhand Nayagarh
61 to 70	Dhenkanal and Khordha
71 to above	Puri, Kandhamal and Bolangir

(Source: Economic Survey Report of Odisha 2017)

The decline in IMR in Odisha has been significant in recent years due to State Governments priority interventions on availability of professional attendance at birth and high rate of premature deliveries ; reduction in incidence of malaria, acute respiratory and tetanus infections and anemia among infants and women, particularly during pregnancy and on professional pre and postnatal care. About 69 percent of infant deaths are attributed to neonatal mortality. Premature deliveries cause 38.5 percent infant deaths. Pneumonia, respiratory infection, tetanus and diarrhea in new born account for 34.1 percent of infant deaths. Anemia, which is caused due to malnutrition suffered by both pregnant mothers and infants accounts for 8.1 percent infant deaths. Odisha has launched an Infant Mortality Reduction Mission with a view to reducing IMR at an accelerated rate.

2. Birth Rate

Birth rate is another most important health indicator. The birth rate is the total number of live births per 1000 of population in a year. The birth rate in the state as well as the national level decreases in a substantial rate over the years. The following figure states a comparative figure of the birth rate in Odisha and India.



Figure 2: Birth Rate (in Percentage)

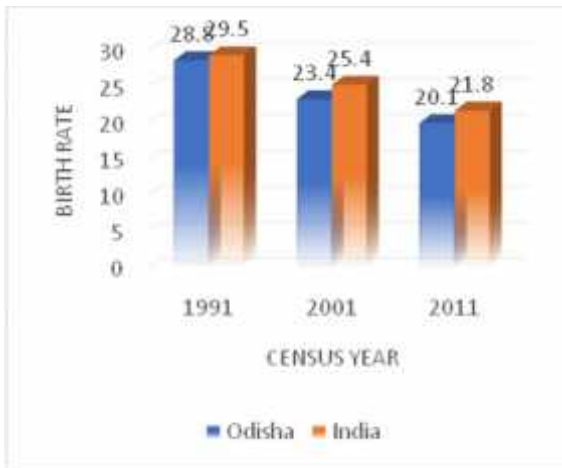
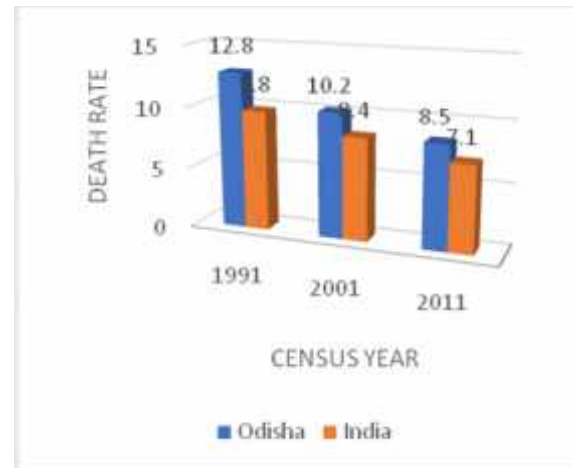


Figure 3: Death Rate (In percentage)



(Source: Economic Survey Report of Odisha 2017)

This figure shows a better comparative figure for the state than the nation. It is clear from the graph that in all the years the birth rate in the state is less than the national level. From the figure, it is clear that the birth rate which was 28.8 per 1000 of live births in the year 1991 has fallen to 23.4 per 1000 live births and to 20.1 per 1000 live births in the next two census years. The same trend also evacuated for the national level as well. The national figure decreases from 29.5 per 1000 live births to 21.8 per 1000 live births. Another most important phenomenon to be compared here is that the rate of decrease of birth rate for the state is 30.21 percentage which for the national level the same rate is 26.10 percentage.

3. Death Rate

Mortality rate or death rate is a measure of the number of deaths in a population, scaled to the size of that population per unit of time. Mortality rate is typically expressed in units of deaths per 1000 individuals per year. People of Odisha suffer from multiple diseases. Five major diseases of Odisha, also called “Panchavyadhi” are malaria, leprosy, scabies, acute respiratory infection and diarrhoeas, which account for more than 70 percent patient load. The single most important cause of death is senility (35.12 percent), followed by heart disease (9.6 percent) and paralysis (3.59 percent). The above diagram reveals the death rate in Odisha and India.

The mortality rate in Odisha for the senses year 1991 was 12.8 per 1000 population which decreases to 10.2 per 1000 of population and it further falls to 8.5 per 1000 population for the year 2001 and 2011 respectively. It is very much important to note here that the national level mortality rate is less than the state level rate in all the three-census year. Although the mortality rate in the state is high as compared to the national level but one of the good indicators is that the mortality rate is decreasing over the year which is good sign for the human development of the state as well as the nation. So far as the state is concerned the range of the mortality rate between the state and the national level is 3 in 1991 which falls to 1.4 in the last census year.

4. Life Expectancy

Life expectancy is a statistical measure of the average time an organism is expected to live, based on the year of its birth, its current age and other demographic factors including gender. The most commonly used measure of life expectancy is at birth. The life expectance of Odisha with a comparison of the national level is given in the following table.



Table 4: Life Expectancy

Years	Odisha		India	
	Male	Female	Male	Female
2002-06	59.5	59.6	62.6	64.2
2006-10	62.3	64.8	65.8	68.1
2011-15	64.3	67.3	67.3	69.6
2016-20	66.3	69.6	68.8	71.1
2021-25	67.8	71.6	69.8	72.3

(Source: Economic Survey Report of Odisha 2017)

Life expectancy at birth in the State has increased from 58.6 years for males and 58.7 years for females during 1999-2003 to 62.52 years and 63.9 years respectively during 2006-10. As per the report of the Technical Group on Population Projection, the projected level of life expectancy at birth in Odisha will be 67.8 years for males and 71.6 years for females during 2021-25 as against 69.8 for males and 72.3 years for females at the national level.

5. Maternal Health and Family Welfare

The Maternal Mortality Rate (MMR) is the annual number of female deaths per one lakh live births from any cause related to or aggravated by pregnancy or its management. In case of Odisha the decline in MMR from 346 per lakh in 1997-98 to 222 per lakh in 2011-13 is moderate compared to corresponding figures at all-India level of 398 in 1997-98 to 167 in 2011-13. Ante-natal and post-natal care is necessary for healthy motherhood and safe child birth. The number of women and infants who receive these health services has been increasing over the years. The pregnancy burden of women can be judged from the General Fertility Rate (GFR) and the order of deliveries of eligible women.

Table 5: Child Birth Status in Odisha

Year	GFR		TFR	
	Odisha	India	Odisha	India
2007	89.5	98.68	2.4	1.9
2008	79.3	88.0	2.4	1.9
2009	78.1	86.5	2.4	1.9
2010	83.9	75.3	2.3	1.8
2011	79.3	88.0	2.2	1.7
2012	71.2	80.3	2.1	1.7

Source: Department of Health and Family Welfare, Government of Odisha

General Fertility Rate (GFR) is the total number of births per 1000 women of reproductive age (15-49 years) in population per year. GFR in Odisha was less than the all India rate, and has declined marginally from 83.9 per lakh in 2010 to 71.2 per lakh in 2012. Higher birth orders indicate longer reproductive span and associated child-bearing problems. About one-fourth (23.9 percent) of deliveries in the State were of 3rd and higher orders in 2011 as against 28 percent at all India level. The proportion of such deliveries has recently declined from 34.8 percent in 2004 to 23.9 percent in 2011. Details of General Fertility Rate (GFR) and Total Fertility Rate (TFR) of Odisha and India are reported in Table 8.19.

The Total Fertility Rate is the average number of children that would be born per female of all females live to the end of their child bearing years and born children according to the age specific fertility rates for that area and period.



6. Child Health

The status of child health is indicated by the Infant Mortality, nutritional status of children and prevalence of diseases among them.

a) Child Malnutrition

Malnutrition is a major public health and nutrition challenge faced by many developing states including Odisha. Malnutrition is a consequence of several social and economic factors like i) lack of education, ii) inadequate health care services and iii) ill-informed cultural behavior and there are three indices, i) weight forage ii) height for age and iii) weight for height. The percentage of severely malnourished between the age group of 0-3 year's children was 5.32 percent of total children during 2011-2012, which declined to 1.29 percent during 2015-16. Similarly between 3-6 years the same percentage was declined from 3.76 during 2011-2012 to 0.86 during 2015-16.

b) Immunization

Six vital diseases, viz. poliomyelitis, diphtheria, pertussis, tetanus, tuberculosis and measles are major causes of child mortality, disabilities, morbidity and related malnutrition. In order to protect children (below 6 year) from these diseases and pregnant women against tetanus, an immunization programme has been implemented in the state as per national immunization schedule. The immunization programme has been further strengthened through ICDS. The National Pulse Polio programme has also been implemented throughout the State with the goal of making the state Polio free by immunizing infant and children aged 0-5 years. During 2015-16 (up to March, 2016), 5.91 lakh children have been immunized against DPT 6.08 lakh against Polio, 4.85 lakh against BCG and 6.34 lakh against measles. Besides, 5.99 lakh pregnant women have been covered under TT immunization.

Table 6: Progress of Immunization Programme in Odisha

Programme	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
TT (PW)	7.83	7.67	7.73	7.14	7.55	7.32	7.30
DPT	8.10	7.17	7.27	7.58	7.01	7.23	7.33
POLIO	8.00	7.20	6.61	7.44	7.03	7.24	6.88
BCG	8.19	7.85	8.02	7.40	7.30	7.34	7.03
MEASLES	7.99	6.98	7.08	7.57	6.86	7.08	6.85
DT	9.27	5.68	5.53	6.39	6.19	6.24	6.46
TT (10Yrs)	8.77	8.74	7.62	7.78	6.78	6.78	6.50
TT(16(Yrs)	8.14	8.15	7.22	7.77	6.77	6.58	6.16

Source: Directorate of F and W, Bhubaneswar, Odisha

In Odisha, more than 78 percent of the total affected populations are in the age group of 25-49 years and 38 percent are female. There are 7 high vulnerable districts have been categorized as "A" and "B" according to HIV sentinel surveillance as follows.

"A" Category	Angul, Bolangir, Bhadrak and Ganjam
"B" Category	Balasore, Khordha and Koraput

More than 87 percent of infections are occurring through sexual transmission. District AIDS Prevention and Control Unit (DAPCU) are functioning in 7 high vulnerable districts. There are concentrated efforts across the State to facilitate people living with HIVs access to different social benefit schemes for (PLHIVs). Through Madhu Babu Pension Yojana (MBPY) for People Living with HIV/AIDS (PLHIVs), 22,160 beneficiaries have been covered. 252 have been benefited from Mo Kudia Yojana, 984 benefited from Antodaya Anna Yojana and 472 have been receiving free ration. Out of total allocation of Rs.3469.90 lakh, an amount of Rs.2981.40 lakh has been utilized for HIV / AIDS Control as on 31.03.2016.



7. Challenges Ahead

There are significant social, regional and gender disparities in accessing public health in Odisha. Interior regions in general and tribal districts in particular have poor physical and economic access to health services. Health conditions of women need substantial improvement. Institutional deliveries are lower in the case of tribal women. Post Natal Care (PNC) of mothers and infants need greater attention. There is, however, some improvement in recent years. Table 7.15 compares results of the reports of National Family Health Surveys - NFHS-I, NFHS-II and NFHS-III conducted by the International Institute for Population Sciences (IIPS) and shows that there has been remarkable improvement in all health indicators of the State from 1992-93 to 2005-06.

Table: 7 Comparison of Health Indicators: National Family Health Surveys, Odisha

Sl. No	Particulars	NFHS – I (1992-93)	NFHS – II (1998-99)	NFHS – III (2005-06)	NFHS – IV (2015-16)
1.	Total Fertility Rate (TFR)	2.92	2.45	2.4	2.1
2.	Current use of any method(%)	36.3	46.8	50.7	57.3
3.	Female Sterilisation (%)	28.3	33.9	33.1	28.3
4.	Male Sterilisation (%)	3.4	1.7	1.0	0.2
5.	Unmet need for Spacing (%)	12.7	8.7	6.6	4.7
6.	Institutional delivery (%)	14.1	22.9	35.6	85.4
7.	Children fully immunized(%)	36.1	43.7	51.8	78.6
8.	BCG (%)	63.3	84.7	83.6	94.1
9.	DPT (%)	56.3	61.9	67.9	89.2
10.	Polio (%)	56.7	68.4	65.1	82.8
11.	Measles (%)	40.2	54.0	66.5	87.9

8. Conclusions

1. There are significant social, regional and gender disparities in accessing public health in Orissa.
2. Interior regions in general and tribal districts in particular have poor physical and economic access to health services.
3. These regions also bear the brunt of a resource crunch both in terms of health budget deficit and neglected public health institutions.
4. Health conditions of women need substantial improvement. Institutional deliveries are lower in the case of tribal women.
5. Post-natal care of mothers and infants also needs greater attention.

9. References

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