International Journal of Inclusive Development
Citation: 5(2): 59-65, December 2019
DOI: 10.30954/2454-4132.2.2019.4


# Status of Child Health Care: A State Level Analysis

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**Received:** 10 Jul., 2019 **Revised:** 12 Oct., 2019 **Accepted:** 25 Nov., 2019

**Abstract**

Being healthy is crucial for every human being in the world. A person in bad health cannot really live life to the fullest. There is the risk of death and handicaps caused by the most common children's diseases namely Tuberculosis, Diphtheria, Tetanus, Leprosy, Polio, and Measles. The study proposes to compare rates of vaccination and prenatal care among children and women who use public care for curative services using NFHS 3rd and 4th round data. We observed that the facilities given by public health care during the period of childhood disease have increased over the decade. In 2015-16, the top five states having the highest percentage coverage of childhood disease treatment were Punjab, Meghalaya, Jammu & Kashmir, Uttarakhand and Goa. West Bengal's position was 6th in 2005-06 which reduced to 10th in 2015-16.

**Keywords:** Tuberculosis, Diphtheria, Tetanus, Leprosy, Polio, Measles

In-spite of variation among living beings, health is the most important commodity which is common to all. A person in bad health cannot really live life to the fullest. Vaccinations are efficient because they are relatively inexpensive and they protect children against the risk of death and handicaps caused by the most common children's diseases namely Tuberculosis, Diphtheria, Tetanus, Leprosy, Polio, and Measles. When children are free from diseases, they can grow into healthy adults and in this way, contribute to the development of dynamic and productive societies. Children require extra attention to enjoy the best possible health and this allows them to develop properly during their childhood and teenage years. At every step of their physical and mental development, children have specific needs and different health risks. Additionally, a newborn is more vulnerable and more exposed to certain diseases than a young child or teenager. The government in developing countries such as India spends a significant portion of their health care budgets on direct public provision of care. Though public services are offered free of cost, most patients, including those from the lowest income groups, give up these services due to unsatisfactory services provided. In recent years, governments and donor organizations have reassessed their traditional emphasis on the public sector.

Agnihotri (2001) advocated that for the development of a nationwide reduction in infant and child mortality levels are more important and gender gap in mortality is a superior index of discrimination against the girl-children. Further, they conveyed that the aim of the development policies and interventions should be to ensure development without discrimination and considered gender-based disaggregation. Borooah *et al.* (2014) presented econometric estimates regarding the relative strength of personal and household

circumstances in determining the likelihood of utilizing the programmer's services and suggested a trade-off between quality and utilization by hypothesizing that the poor quality of services leads upper-caste mothers to exit the ICDS market and seek these services elsewhere. Saikia *et al.* (2010) explained that the trend in mortality from the Sample Registration System (SRS) data shows a slowdown in improvements, particularly since the mid-1990s. Using age-specific death rates from the SRS,they constructed a new life table for the most recent period and showed lower levels of child mortality rates compared to those provided by the SRS. Ganotra (2016)argued that India losses its children by institutionalizing child labour in family-based occupations under the age of 14 years and permitting the employment of children in many hazardous occupations. Sinha (2006) explained that in a democracy, every child must be regarded as indispensable and the government must be accountable for the deaths of children and mothers. The process of ensuring that every child is taken care of as a matter of right involves societal pressure through public action and democratization of all public institutions.

In this brief background, the study proposes to compare the rates of vaccination and prenatal care among children and women who use public health care for curative services across states of India using the 3rd and 4th round National Family Health Survey (NFHS) data.

**Different types of treatment given in public health care are discussed as follows**

Oral rehydration therapy: Children with diarrhea are given increased fluids or a fluid made from a special packet of Oral Rehydration Salt (ORS) or gruel. Treatment of Acute Respiratory Infection (ARI). Symptoms: Children with ARI symptoms for which advice or treatment was sought. ARI symptoms consist of cough accompanied by (1) short, rapid breathing that is chest related, and/ or (2) difficult breathing that is chest related. Fever: Fever is a symptom of malaria, but it is also associated with other childhood illnesses that may contribute to high levels of malnutrition, morbidity, and mortality in young children. Treatment of fever Children with fever for whom advice or treatment was sought.

## MATERIALS AND METHODS

Although the paper is mainly descriptive but for ranking the states based on the treatment received by children across the states, Dimension Index was formed. Together with that, we have used the required statistical tools for effective analysis of the data.

**Dimension Index**

It has been used extensively in human development studies. Dimensional Index is calculated for each Sub indicator of Corresponding dimensions and then the arithmetic mean of all DI of a corresponding Indicator are taken as GDI. To calculate the Dimensional Index minimum and maximum values have been selected for each indicator from all states of India. Performance in each dimension is expressed as a value between 0 and 1 by applying the following general formula:

Dimensional Index (DI), of each indicator calculated as –

$$DI = \frac{Actual\ \ value\ - Minimum\ \ Value}{Maximum\ \ value\ - Minimum\ \ Value}$$

Group Dimensional Index (GDI) =

$$\Sigma \frac{\text{Sum of DI'S}}{\text{No of sub indicator}}$$

**Treatment of diarrhea for children under five Years age**

The percentage of children who received treatment for diarrhea during the years 2005-06 and 2015-16 is given in Table 1. In India, the facilities given by public health care increased from 9 percent in 2005-06to 9.2 percent in 2015-16. Across the states, this percentage varied from 0.3 percent to17.3 percent in urban areas whereas from 2.6 percent to 16.8 percent in rural areas in 2015-16. In 2005-06, Andhra Pradesh, Sikkim, Arunachal Pradesh, Jharkhand and Gujarat were earmarked for giving higher facility whereas Chhattisgarh, Tamil Nadu, Meghalaya, Nagaland and West Bengal were earmarked for giving lesser facility. While a decade later,Bihar, Meghalaya, Delhi, Uttar Pradesh, and Uttarakhand were earmarked for giving greater facility whereas Sikkim, Assam, Kerala, Goa and Karnataka were earmarked for giving lesser facility.

**Table 1:** Treatment of diarrhea for child under age Five Years across State in India, 2005-06 and 2015-16

| State | NFHS-4 (2015-16) | | | (2005-06) |
|---|---|---|---|---|
| | Urban | Rural | Total | Total |
| Andhra Pradesh | 5.7 | 6.9 | 6.6 | 26 |
| Arunachal Pradesh | 7 | 6.3 | 6.5 | 14.9 |
| Assam | 3.6 | 2.9 | 2.9 | 8.1 |
| Bihar | 8 | 10.7 | 10.4 | 10.7 |
| Chhattisgarh | 11.3 | 8.6 | 9.1 | 5.2 |
| Goa | 3 | 5.2 | 3.8 | 6.8 |
| Gujarat | 7.7 | 8.8 | 8.4 | 13.1 |
| Haryana | 7.6 | 7.7 | 7.7 | 10.3 |
| Himachal Pradesh | 10.5 | 6.3 | 6.6 | 7.7 |
| Jammu & Kashmir | 4.8 | 8.3 | 7.5 | 10.1 |
| Jharkhand | 6.1 | 7.1 | 6.9 | 13.3 |
| Karnataka | 4.8 | 4.3 | 4.5 | 8.6 |
| Kerala | 2.7 | 4 | 3.4 | 6.8 |
| Madhya Pradesh | 9.7 | 9.4 | 9.5 | 12.1 |
| Maharashtra | 6.8 | 9.9 | 8.5 | 8.1 |
| Manipur | 6.2 | 5.5 | 5.8 | 10 |
| Meghalaya | 8.6 | 10.9 | 10.6 | 5.7 |
| Mizoram | 7.6 | 7.6 | 7.6 | 11 |
| Nagaland | 5.3 | 4.9 | 5 | 6.4 |
| Odisha | 7.3 | 10.2 | 9.8 | 11.8 |
| Punjab | 7.6 | 5.9 | 6.6 | 7.8 |
| Rajasthan | 8.9 | 6.9 | 7.4 | 10.3 |
| Sikkim | 0.3 | 2.6 | 1.8 | 16.5 |
| Tamil Nadu | 8.2 | 7.8 | 8 | 5.4 |
| Tripura | 3.5 | 5.3 | 4.9 | 8.4 |
| Uttarakhand | 17.3 | 16.8 | 17 | 12.8 |
| Uttar Pradesh | 14.2 | 15.2 | 15 | 8.1 |
| West Bengal | 5.8 | 5.9 | 5.9 | 6.5 |
| India | 8.2 | 9.6 | 9.2 | 9 |
| Mean | 7.3 | 7 | 7.5 | 10 |
| SD | 3.5 | 4.4 | 3.3 | 4.2 |

*Sources: NFHS-3 (2005-06) and NFHS-4 (2015-16).*

The proportion of children who suffered from diarrhea and received fluid from ORS packets increased from 26 percent in 2005-06 to 50.6 percent in 2015-16. In 2015-16, urban children with diarrhea are more likely greater than rural children to receive fluid from an ORS packet (Table 2). The use of ORS packets for the treatment of diarrhea among the states ranges from 37.9 percent in Uttar Pradesh to 77.5 percent in Meghalaya whereas in 2005-06, this ranges from 65.1 percent to 12 percent. In the year 2015-16, Chhattisgarh, Odisha, Meghalaya, Mizoram and Jammu & Kashmir were registered as the top five states whereas Uttar Pradesh, Nagaland, Gujarat, Bihar and Jharkhand were registered in the bottom five categories for giving ORS to the children at the time of treatment of diarrhea. In the year 2005-06,top five states in terms of giving ORS to the children at their time of treatment of diarrhea were Mizoram, Goa, Himachal Pradesh, Tripura and Meghalaya whereas the bottom five states were Uttar Pradesh, Assam, Nagaland, Rajasthan and Jharkhand.

**Table 2:** Percentage of Children suffering from diarrhea who received ORS across State in India, 2005-06 & 2015-16

| State | NFHS-4 (2015-16) | | | NFHS-3 (2005-06) |
|---|---|---|---|---|
| | Urban | Rural | Total | Total |
| Andhra Pradesh | 54.9 | 45.3 | 47.6 | 37 |
| Arunachal Pradesh | 76.6 | 62.8 | 66.1 | 31.7 |
| Assam | 58.7 | 50.9 | 51.9 | 14.5 |
| Bihar | 62.1 | 43.8 | 45.2 | 20.9 |
| Chhattisgarh | 68.3 | 67.8 | 67.9 | 40 |
| Goa | NA | NA | 60.2 | 50.6 |
| Gujarat | 49.7 | 44 | 46.2 | 26.3 |
| Haryana | 67 | 57.1 | 60.6 | 24.3 |
| Himachal Pradesh | NA | 64.2 | 62.7 | 56.3 |
| Jammu & Kashmir | 68.4 | 69.3 | 69.1 | 40.6 |
| Jharkhand | 49.1 | 44 | 44.8 | 17.4 |
| Karnataka | 44.9 | 58.7 | 52.8 | 31.9 |
| Kerala | 40.5 | 54.9 | 49.4 | 32.4 |
| Madhya Pradesh | 62.8 | 52.5 | 55.2 | 29.8 |
| Maharashtra | 63.8 | 58.8 | 60.5 | 38.5 |
| Manipur | 60.4 | 60.1 | 60.2 | 36.2 |
| Meghalaya | 77.6 | 77.4 | 77.5 | 65.1 |
| Mizoram | 76.3 | 62.8 | 69.9 | 48.3 |
| Nagaland | 43.5 | 39.7 | 40.8 | 16.5 |
| Odisha | 68.6 | 68.6 | 68.6 | 39.8 |
| Punjab | 64.9 | 67.3 | 66.2 | 34.1 |
| Rajasthan | 64.6 | 53.2 | 56.2 | 16.5 |
| Sikkim | NA | NA | 65.6 | 33.2 |
| Tamil Nadu | 65 | 58.7 | 61.8 | 32.2 |
| Tripura | NA | 46.4 | 46.3 | 58.1 |
| Uttarakhand | 63.8 | 52.4 | 56.1 | 33.1 |
| UttarPradesh | 47.4 | 35.6 | 37.9 | 12.5 |
| West Bengal | 69.7 | 62.8 | 64.7 | 42.3 |
| India | 58.5 | 47.9 | 50.6 | 26 |
| Mean | 48.9 | 56.1 | 57.3 | 34.1 |
| SD | 40 | 20 | 17.7 | 13.2 |

*Sources: NFHS-3 (2005-06) and NFHS-4 (2015-16).*

Percentage of Children who received zinc for the disease of diarrhea during 2005-06 and 2015-16 is given in Table 3. In India, the facilities given by public health care increased from 0.3 percent in 2005-06 to 20.3percent in 2015-16. Across the state, this percentage varied from 0.5 percent to 54.5 percent in urban areas while from 11.8 percent to 58.4 percent in rural areas in 2015-16. In 2005-06, Andhra Pradesh, Karnataka, Mizoram, Punjab and Kerala provided more facilities whereas Uttar Pradesh, Jharkhand, Uttarakhand and Maharashtra were registered to provide least facilities. On the other hand, in 2015-16, Karnataka, Arunachal Pradesh, Jammu & Kashmir, Tamil Nadu and Meghalaya were registered for giving more facility, whereas Uttar Pradesh, Maharashtra, Kerala, Manipur, Himachal Pradesh werer egistered for giving lesser facility.

**Table 3:** Percentage of children suffering from diarrhea and have received zinc across State in India

| States | NFHS-4 (2015-16) | | | NFHS-3 (2005-06) |
|---|---|---|---|---|
| | Urban | Rural | Total | Total |
| Andhra Pradesh | 33.5 | 29.1 | 30.1 | 1.1 |
| Arunachal Pradesh | 45.8 | 32.7 | 35.8 | 0 |
| Assam | 26.9 | 21.3 | 22 | 0 |
| Bihar | 27.2 | 19.5 | 20.1 | 0 |
| Chhattisgarh | 26.8 | 29.7 | 28.9 | 0 |
| Goa | NA | NA | 53.2 | 0 |
| Gujarat | 13.2 | 19.9 | 17.4 | 0 |
| Haryana | 19.5 | 23.3 | 21.9 | 0 |
| Himachal Pradesh | NA | 16.5 | 15 | 0 |
| Jammu & Kashmir | 26.5 | 41.4 | 39.1 | 0 |
| Jharkhand | 18 | 19.3 | 19.1 | 0.6 |
| Karnataka | 29.1 | 38.1 | 34.3 | 1.1 |
| Kerala | 5.4 | 19.4 | 14.1 | 2.9 |
| Madhya Pradesh | 26.1 | 26.8 | 26.6 | 0 |
| Maharashtra | 15.2 | 11.9 | 13 | 1 |
| Manipur | 15.2 | 13.4 | 14.1 | 0 |
| Meghalaya | 54.5 | 58.4 | 58 | 0 |
| Mizoram | 31.7 | 26.5 | 29.3 | 1.1 |
| Nagaland | 18.7 | 15.4 | 16.3 | 0 |
| Odisha | 13.5 | 17.5 | 17 | 0 |
| Punjab | 28.1 | 25.5 | 26.7 | 1.1 |
| Rajasthan | 18.9 | 17 | 17.5 | 0 |
| Sikkim | NA | NA | 1.8 | 0 |
| Tamil Nadu | 46.6 | 36.3 | 41.3 | 0 |
| Tripura | NA | 19.1 | 19.1 | 0 |
| Uttarakhand | 37.9 | 26.7 | 30.4 | 0.7 |
| Uttar Pradesh | 15.8 | 11.8 | 12.6 | 0.5 |
| West Bengal | 25.6 | 19 | 20.8 | 0 |
| India | 23.7 | 19.1 | 20.3 | 0.3 |
| Mean | 20.6 | 24.4 | 24.7 | 0.3 |
| SD | 19.6 | 12.5 | 12 | 0.7 |

*Sources: NFHS-3 (2005-06) and NFHS-4 (2015-16).*

The percentage of children taken to a health facility for curing the disease of diarrhea during 2005-06 and 2015-16 is given in table 4. In India, the facilities given by public health care increased from 61.3 percent in 2005-06 to 67.9 percent in 2015-16. Across the state, this percentage variedfrom33.8 percent to 86.2 percent in urban areas and 17.1 percent to 88.1 percent in rural areas in 2015-16. In 2005-06, across the states Meghalaya, Punjab, Maharashtra and Haryana have registered for giving higher facilities whereas Nagaland, Mizoram, Sikkim, Assam and Arunachal Pradesh were registered for giving lesser facility. In 2015-16, Haryana, Maharashtra, Delhi, Punjab, Goa have registered for giving greater facility whereas Nagaland, Manipur, Mizoram, Arunachal Pradesh, and Sikkim were nationwide for giving lesser facility.

**Table 4:** Percentage of children suffering from diarrhea taken to health care across the State in India

| State | NFHS-4 (2015-16) | | | NFHS-3 (2005-06) |
|---|---|---|---|---|
| | Urban | Rural | Total | Total |
| Andhra Pradesh | 83.2 | 69.4 | 72.7 | 65 |
| Arunachal Pradesh | 57.1 | 41.1 | 44.9 | 35.5 |
| Assam | 57.8 | 49.8 | 50.8 | 32.3 |
| Bihar | 56.3 | 54.7 | 54.8 | 56.1 |
| Chhattisgarh | 77.9 | 69 | 71.3 | 66 |
| Goa | NA | NA | 96.8 | 72.1 |
| Gujarat | 72.1 | 61.3 | 65.4 | 60.9 |
| Haryana | 79.3 | 76.2 | 77.3 | 81.7 |
| Himachal Pradesh | NA | 66.7 | 67.7 | 68.9 |
| Jammu & Kashmir | 75.4 | 73.9 | 74.2 | 67 |
| Jharkhand | 61.4 | 55.7 | 56.7 | 45.7 |
| Karnataka | 64.2 | 73.8 | 69.7 | 67.2 |
| Kerala | 69.5 | 80.4 | 76.3 | 63.3 |
| Madhya Pradesh | 71.5 | 67 | 68.2 | 58.5 |

| | | | | |
|---|---|---|---|---|
| Maharashtra | 75.6 | 78.7 | 77.6 | 78 |
| Manipur | 37 | 28 | 31.2 | 37.8 |
| Meghalaya | 76 | 69.3 | 70 | 72.2 |
| Mizoram | 46.7 | 36.9 | 42 | 27.4 |
| Nagaland | 33.8 | 17.1 | 22 | 16.5 |
| Odisha | 65.8 | 68.9 | 68.6 | 56.2 |
| Punjab | 86.2 | 88.1 | 87.2 | 76.2 |
| Rajasthan | 82 | 71.2 | 73.9 | 56.6 |
| Sikkim | NA | NA | 50.7 | 32.2 |
| Tamil Nadu | 73.9 | 72.5 | 73.2 | 62 |
| Tripura | NA | 64 | 65.7 | 64.5 |
| Uttarakhand | 76.6 | 72.2 | 73.6 | 62.4 |
| Uttar Pradesh | 72.7 | 65.2 | 66.7 | 62.2 |
| West Bengal | 82.7 | 71.6 | 74.7 | 66.5 |
| India | 74.1 | 65.8 | 67.9 | 61.3 |
| Mean | 51.8 | 63.2 | 65.1 | 58.2 |
| SD | 48.1 | 25.1 | 22.3 | 16.5 |

*Sources: NFHS-3 (2005-06) and NFHS-4 (2015-16).*

**Table 5:** Percentage of children treated for ARI across State in India

| State | NFHS-4 (2015-16) | | | NFHS-3 (2005-06) |
|---|---|---|---|---|
| | Urban | Rural | Total | Total |
| Andhra Pradesh | 0.9 | 0.4 | 0.5 | 3.9 |
| Arunachal Pradesh | 1.2 | 2.4 | 2.1 | 6.8 |
| Assam | 0.5 | 1.1 | 1 | 7.3 |
| Bihar | 1.7 | 2.6 | 2.5 | 6.8 |
| Chhattisgarh | 2.3 | 2.2 | 2.2 | 4.4 |
| Goa | 0.9 | 2.4 | 1.4 | 3.6 |
| Gujarat | 1.5 | 1.4 | 1.4 | 4.7 |
| Haryana | 3.3 | 3.1 | 3.2 | 2.7 |
| Himachal Pradesh | 0.8 | 1.7 | 1.6 | 1.4 |
| Jammu & Kashmir | 3 | 6.2 | 5.4 | 7.6 |
| Jharkhand | 3.4 | 3.2 | 3.2 | 5.2 |
| Karnataka | 1 | 1.3 | 1.2 | 1.7 |
| Kerala | 0.6 | 1 | 0.8 | 2.7 |
| Madhya Pradesh | 1.3 | 2.4 | 2.1 | 3.7 |
| Maharashtra | 2.5 | 2.2 | 2.4 | 4.6 |
| Manipur | 1.8 | 1.7 | 1.7 | 4.7 |
| Meghalaya | 4.8 | 6 | 5.8 | 1.9 |
| Mizoram | 3 | 1.2 | 2.2 | 4.1 |
| Nagaland | 1.6 | 1.3 | 1.4 | 4.2 |
| Odisha | 1.9 | 2.5 | 2.4 | 2.8 |
| Punjab | 4.4 | 3.9 | 4.1 | 6.9 |
| Rajasthan | 1.8 | 2.1 | 2.1 | 6.9 |
| Sikkim | 0.4 | 0.2 | 0.3 | 5 |
| Tamil Nadu | 2.7 | 2.9 | 2.8 | 3.7 |
| Tripura | 2.1 | 2.8 | 2.6 | 14.2 |
| Uttarakhand | 4.1 | 4.8 | 4.6 | 4.3 |
| UttarPradesh | 3.7 | 4.9 | 4.7 | 7.1 |
| West Bengal | 2.3 | 3.7 | 3.3 | 13 |
| India | 2.3 | 2.9 | 2.7 | 5.8 |
| Mean | 2.1 | 2.4 | 2.5 | 5.3 |
| SD | 1.2 | 1.6 | 1.4 | 2.9 |

*Sources: NFHS-3 (2005-06) and NFHS-4 (2015-16).*

Percentage of children treated for ARI for the diarrhea disease during 2005-06 and 2015-16 is given in table 5. In India, the facilities given by public health care increased from 5.8 percent in 2005-06 to 2.7 percent in 2015-16. Across the state, this percentage varied from 0.4 percent to 4.8 percent in urban areas and 0.2 percent to 6.2 percent in rural areas in 2015-16. In 2005-06, Uttar Pradesh, Assam, Jammu & Kashmir, West Bengal, and Tripura were registered for giving greater facility whereas Himachal Pradesh, Karnataka, Meghalaya, Kerala and Haryana were registered for giving lesser facility. In 2015-16, Punjab, Uttarakhand, Uttar Pradesh, Jammu & Kashmir and Meghalaya were registered for giving greater facility whereas Sikkim, Andhra Pradesh, Kerala, Assam, and Karnataka were registered for giving lesser facility.

**Table 6:** Percentage of children getting treatment for fever across the State in India

| States | NFHS-4 (2015-16) | | | NFHS-3 (2005-06) |
|---|---|---|---|---|
| | Urban | Rural | Total | Total |
| Andhra Pradesh | 73.9 | 78.6 | 77.3 | 60.2 |
| Arunachal Pradesh | 48.7 | 33.9 | 37.5 | 39.3 |
| Assam | 58 | 45.1 | 46.8 | 33 |
| Bihar | 57 | 60.1 | 59.8 | 61.9 |
| Chhattisgarh | 78.6 | 68.2 | 70.1 | 69.6 |
| Goa | 89.1 | 88.7 | 89 | 83.2 |
| Gujarat | 76.3 | 66.5 | 70.2 | 72.2 |
| Haryana | 80.2 | 80 | 80.1 | 88.9 |
| Himachal Pradesh | NA | 78.2 | 78.4 | 78.5 |
| Jammu & Kashmir | 85.7 | 77.1 | 78.5 | 75.2 |
| Jharkhand | 76 | 64.7 | 67.2 | 63 |
| Karnataka | 77.8 | 76.4 | 76.9 | 78.1 |
| Kerala | 90.2 | 89.9 | 90.1 | 80.7 |
| Madhya Pradesh | 79.6 | 68.3 | 70.9 | 65.1 |
| Maharashtra | 87 | 83 | 84.7 | 79.6 |
| Manipur | 45.6 | 35.6 | 39.1 | 43.2 |
| Meghalaya | 87.3 | 72.7 | 74.9 | 54.8 |

| | | | | |
|---|---|---|---|---|
| Mizoram | 62.8 | 29.7 | 50.4 | 50.2 |
| Nagaland | 41.4 | 26.1 | 31.3 | 24.4 |
| Odisha | 74.3 | 72.7 | 72.9 | 59.6 |
| Punjab | 89.7 | 90.7 | 90.3 | 85.1 |
| Rajasthan | 85.8 | 81.6 | 82.6 | 69.7 |
| Sikkim | NA | 58.5 | 63.8 | 49.7 |
| Tamil Nadu | 83.4 | 81.1 | 82.2 | 77.5 |
| Tripura | 79.5 | 70.8 | 73 | 66.7 |
| Uttarakhand | 86.5 | 74.9 | 78.9 | 65.4 |
| UttarPradesh | 77.6 | 69.7 | 71.3 | 72.7 |
| West Bengal | 78.2 | 72 | 73.5 | 69.7 |
| India | 80 | 70.8 | 73.2 | 69.6 |
| Mean | 62.8 | 57.2 | 66.1 | 65.8 |
| SD | 45.8 | 41.7 | 29.5 | 16.6 |

*Sources: NFHS-3 (2005-06) and NFHS-4 (2015-16).*

Percentage of children treated for fever for the disease of diarrhea during 2005-06 and 2015-16 is given in Table 6. In India, the facilities given by public health care increased from 69.6 percent in 2005-06 to 73.2 percent in 2015-16. Across the state, this percentage varied from 41.1 percent to 90.2 percent in urban areas and 26.1 percent to 90.7 percent in rural areas in 2015-16. In 2005-06, Kerala, Goa, Punjab, and Haryana have registered for giving greater facility whereas Nagaland, Assam, Arunachal Pradesh, Manipur and Sikkim were registered for giving lesser facility. In 2015-16, Rajasthan, Maharashtra, Goa, Kerala and Punjab have registered for giving greater facility whereas Sikkim, Nagaland, Arunachal Pradesh, Manipur and Assam were registered for giving lesser facility.

## Index of Childhood Treatment across states in India

**Table 7:** Group Dimension Index of Childhood Treatment and Relative Position of States, 2005-06 and 2015-16

| State | 2005-06 | | 2015-2016 | |
|---|---|---|---|---|
| | GDI | RANK | GDI | RANK |
| Andhra Pradesh | 0.56 | 2 | 0.45 | 20 |
| Arunachal Pradesh | 0.30 | 25 | 0.49 | 17 |
| Assam | 0.17 | 27 | 0.34 | 26 |
| Bihar | 0.34 | 22 | 0.45 | 19 |
| Chhattisgarh | 0.37 | 15 | 0.60 | 7 |
| Goa | 0.46 | 8 | 0.63 | 5 |
| Gujarat | 0.39 | 14 | 0.43 | 23 |
| Haryana | 0.43 | 10 | 0.59 | 8 |
| Himachal Pradesh | 0.43 | 9 | 0.49 | 16 |
| Jammu & Kashmir | 0.47 | 7 | 0.73 | 2 |
| Jharkhand | 0.34 | 23 | 0.44 | 21 |
| Karnataka | 0.42 | 12 | 0.47 | 18 |
| Kerala | 0.52 | 4 | 0.41 | 24 |
| Madhya Pradesh | 0.35 | 18 | 0.53 | 13 |
| Maharashtra | 0.50 | 5 | 0.55 | 12 |
| Manipur | 0.26 | 26 | 0.35 | 25 |
| Meghalaya | 0.40 | 13 | 0.85 | 1 |
| Mizoram | 0.35 | 17 | 0.51 | 15 |
| Nagaland | 0.06 | 28 | 0.23 | 27 |
| Odisha | 0.35 | 19 | 0.58 | 9 |
| Punjab | 0.53 | 3 | 0.67 | 4 |
| Rajasthan | 0.34 | 21 | 0.51 | 14 |
| Sikkim | 0.31 | 24 | 0.18 | 28 |
| Tamil Nadu | 0.35 | 20 | 0.63 | 6 |
| Tripura | 0.57 | 1 | 0.44 | 22 |
| Uttarakhand | 0.43 | 11 | 0.73 | 3 |
| Uttar Pradesh | 0.37 | 16 | 0.56 | 11 |
| West Bengal | 0.50 | 6 | 0.57 | 10 |

*Sources: NFHS-3 (2005-06) and NFHS-4 (2015-16).*

The Dimensional Index (DI) of each indicator of Childhood Treatment and Relative Position are calculated for the years 2005-06 and 2015-16. After taking the average of all DI of a particular dimension, we obtain Group Dimension Index (GDI). With the help of GDI value, we obtained the rank of the states in 2005-06 and 2015-16. Here, greater value of GDI implies that the states were having Greater Coverage for Childhood treatment in various diseases. Highest value corresponds to rank 1 (Table 7).

The ranking of States on the basis of the coverage of Childhood disease treatment for 2005-06 and 2015-16 are shown in Figs 1 & 2. In 2005-06, the five states having the highest percent coverage of childhood disease treatment were Tripura, Andhra Pradesh, Punjab, Kerala and Maharashtra. Among them only one State (Punjab) still remain in the list of top five states in 2015-16. Other four states were Meghalaya, Jammu & Kashmir, Uttarakhand and Goa. West Bengal's position was 6$^{th}$ in 2005-06 which reduced to 10$^{th}$ in 2015-16.

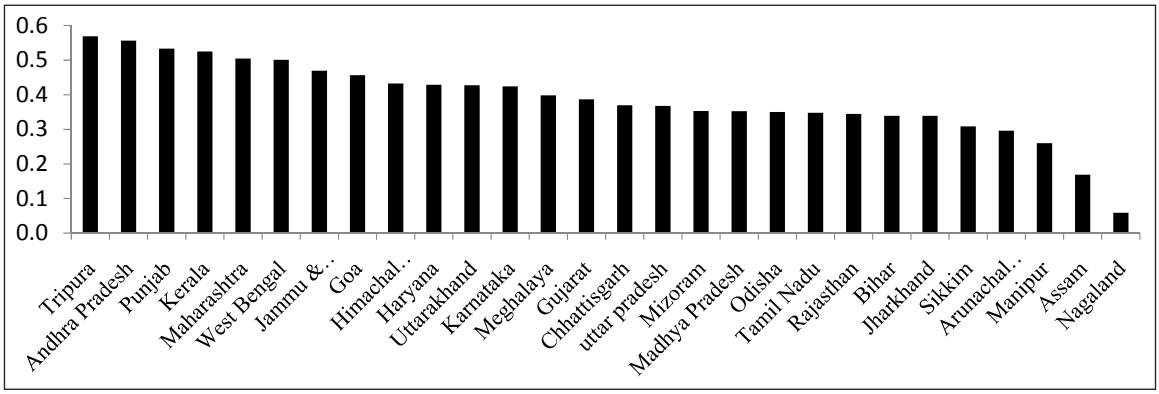


**Fig. 1:** Rank of the states based on Group Dimension Index (GDI), 2005-06

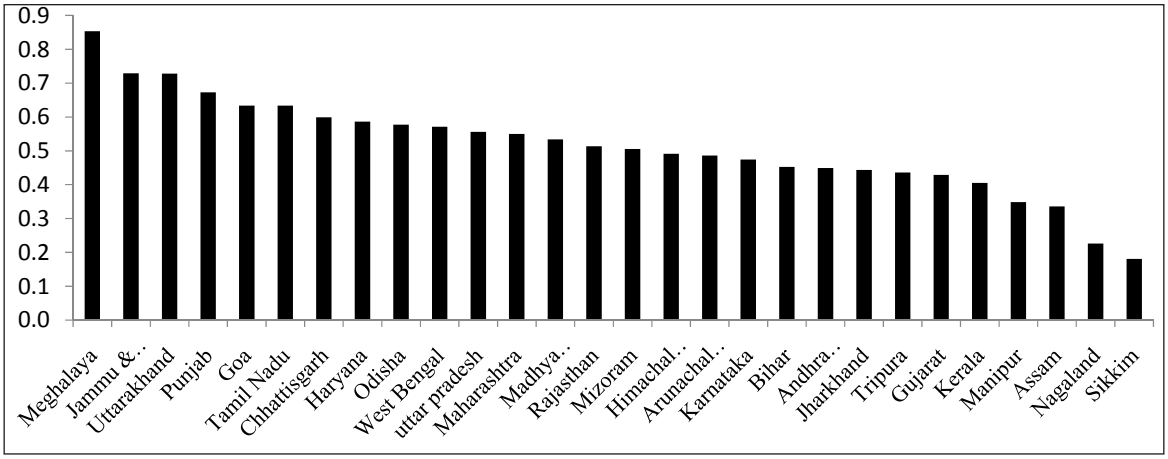


**Fig. 2:** Rank of the states based on Group Dimension Index (GDI), 2015-16

## CONCLUSION

In India, the facilities given by public health care during the period of childhood disease have increased from 9 percent in 2005-06 to 9.2 percent in 2015-16. The supplies of ORS packets to the children with diarrhea,children who received zinc for the disease of diarrhea,the facilities given by public health care and the percentage of children treated for ARI for the disease of diarrhea have significantly increased over the decade. From the Group dimension Index; we have ranked the states according to their relative positions on the basis of the treatment giving to the children during their suffering from diseases across the states of India. Here greater value of GDI implies that the states were giving better facility to the children and vice versa. In 2005-06, the top five states having the highest percent coverage of childhood disease treatment were Tripura, Andhra Pradesh, Punjab, Kerala and Maharashtra. Among them only one State (Punjab) still remain in the list of top five states in 2015-16. Other four states were Meghalaya, Jammu & Kashmir, Uttarakhand and Goa. West Bengal's position was 6$^{th}$ in 2005-06 which reduced to 10$^{th}$ in 2015-16.

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