

# Status of Child Health in Uttarakhand: A Comparative Study of NFHS-4 and 5

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## ABSTRACT

The National Family Health Survey IV and V provide a gloomy picture of the status of child health indicators in Uttarakhand. The state has witnessed a higher rate of infant and under-five child mortality rates than the national average and higher among other Himalayan states. The nutritional status of children also varies across regions and social groups. In the present article, the author has analysed the NFHS data on child mortality and the nutritional status of Children across districts of Uttarakhand. The data analysis has revealed that the state still has higher infant and under-five mortality rates, and child mortality varies across the districts. The nutritional status of children and vaccination percentage also varies across the state. There is a lack of awareness regarding the utilisation of child healthcare services especially in remote areas.

**Key Words :** Child vaccination, Child stunting, Child wasting, Child immunisation, Healthcare status child mortality

## INTRODUCTION

The child population of any society is its potential wealth, and every region or society must try to have healthier children to make progress. Children's health is governed by several factors, broadly social, cultural, economic, and environmental. Child health status can provide important indications of society's development and well-being. Health in childhood is one of the most important factors predicting health and productivity in adult life, and health in adults will, in turn, affect the health of the next generation of children. Child health is considered an important investment since it stimulates economic productivity and growth. It is cost-effective because essential health care prevents illness and disability, saving billions of dollars in treatment. By failing to address undernutrition, a country may have a 2% lower GDP than it otherwise would; investing in children's health leads to high economic returns and offers the best guarantee of a productive workforce in future (United Nations 2010). The children, the most vulnerable segment of any society, suffer the most from all the modern world's

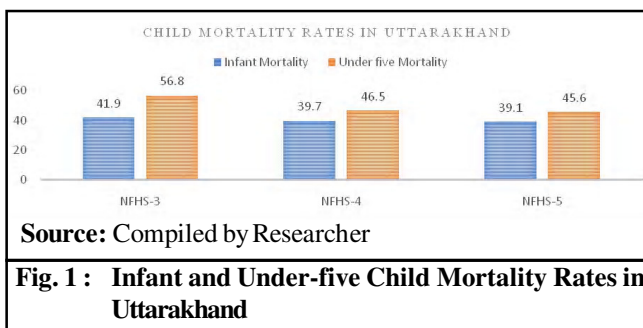
crises, abuses, moral decay and poverty. Various international conferences have expressed their commitment to children's health, development and rights irrespective of race, nationality and creed.

According to the census of 2011, an estimated 26 million children are born every year. The share of children (0-6 years) account for 13 % of the total population in the country. The child health programme under the National Health Mission (NHM) comprehensively integrates interventions that improve child survival and addresses factors contributing to infant and under-five mortality. It is now well-recognised that child survival cannot be addressed in isolation as it is intricately linked to the health of the mother, which is further determined by her health and development as an adolescent. Therefore, the concept of a continuum of care, which emphasizes care during critical life stages to improve child survival, is being followed under the national programme.

Despite remarkable progress in the past few decades India's current maternal and child mortality levels fall significantly short of attaining many of the targets of MDGs. The variation in child healthcare

attainment across and within regions has always been a crucial dimension of Indian concerns. The article takes into account the spatial variation of maternal and child healthcare status in India by analysing a set of constituent indicators that are instrumental in nature and result in debilitating outcomes for women and their newborns (Santanu Ray, 2013).

Access to healthcare in the rural parts of the mountain districts of Uttarakhand is challenging. Given the constraints of terrain and topography and the small and scattered nature of the rural settlement, increasing access poses a major challenge. Uttarakhand has a population of 1.01 crore, and most reside in rural areas. There is a relatively high concentration of population in the middle and foothills. At the same time, the upper Himalayan districts are scarcely populated with rugged terrain and, therefore, need more human resources for health. According to SRS Bulletin in September 2017, the Infant mortality rate of Uttarakhand increased from 36 per 1000 live births in 2015 to 38 per live births in 2016. The reports also show a continuous increase in the infant mortality rates from 2012 to 2016, which increased from 32 per 1,000 live births in 2012 to 38 per 1,000 live births in 2017. The National Family Health Survey data on child mortality is presented in Figure below, and it shows that infant and under-five mortality rates in Uttarakhand decreased from 41.9 to 39.1 and 56.8 to 45.6 per cent, respectively. The improvement in child mortality rates was good between NFHS 3 and 4, while during NFHS 4, and 5 a marginal improvement was recorded in child mortality rates in the state.



### Selection of Indicators:

To measure the child's health status for the present study, child vaccination, immunisation, and nutritional health data are analysed.

### Child Vaccination:

Vaccinations are considered the most cost-effective

intervention that can improve the overall health of children. Vaccination ensures that children are immune to certain communicable diseases thus preventing them from contracting them or even suffering from the effects of it. In the occasion where they encounter an infected individual, the vaccinated child will not be affected by the serious effects or complications. All vaccinations must be given at the right stage and schedule approved by the doctors.

### Child Immunisation:

Child immunisation involves both getting a vaccine and developing immunity to a disease as a result.

### Child Nutritional Status:

Childhood under nutrition contributes to childhood diseases and is a major cause of child mortality in India. Child nutrition means essential dietary needs for healthy children. The purpose of this indicator is to measure long-term nutritional imbalance and malnutrition resulting in undernutrition assessed by underweight, stunting, and overweight.

## METHODOLOGY

To assess the child's health status, data on child immunisation, vaccination, and nutritional status, have been taken from National Family Health Survey 4 and 5.

## RESULTS AND DISCUSSION

The data analysis of National Family Health Survey-IV and V show a gloomy picture of child healthcare services in Uttarakhand. According to NFHS-4, data state has recorded the highest infant and under-five child mortality rates among the Himalayan states, while the NFHS-5 data shows that Uttarakhand has higher infant and under-five mortality rates than the national average. The rate of child mortality during the NFHS-4 and 5, decreases but, the rates of decreasing child mortality were slower in Uttarakhand with comparison to other selected Himalayan states (Table 1).

The data of NFHS shows higher infant and child mortality rates in Uttarakhand, the NFHS-4 data also shows that the percentage of underweight children was also highest 26.6, in Uttarakhand among the selected Himalayan states. While children with full immunisation were the lowest after Arunachal Pradesh.

The NFHS-5 data reveals some improvement in child

**Table 1 : Child Mortality and Immunisation Among the Himalayan States (NFHS-4)**

State Names	Infant Mortality	Under 5 Mortality	Percentage of Children Underweight	Percentage of Children Fully Immunized*
India	41	50	35.7	62
Uttarakhand	40	47	26.6	57.7
Himachal Pradesh	34	38	21.2	69.5
Jammu & Kashmir	32	38	16.6	75.1
Sikkim	29	32	14.2	83
Arunachal Pradesh	23	33	19.5	38.2

Source: Compiled by the Researcher

**Table 2 : Child Mortality and Immunisation Among the Himalayan States (NFHS-5)**

State Names	Infant Mortality	Under 5 Mortality	Percentage of Children Underweight	Percentage of Children Fully Immunized*
India	35.2	41.9	35.7	76.4
Uttarakhand	39.1	45.6	21	88.6
Himachal Pradesh	25.6	28.9	25.5	89.3
Jammu & Kashmir	16.3	18.5	21	86.2
Sikkim	11.2	11.2	13.1	80.6
Arunachal Pradesh	12.9	18.8	15.4	64.9

Source: Compiled by the Researcher

immunisation and underweight children in Uttarakhand with comparison to other Himalayan states. But child mortality in the state still is very high and even more than the national average. The major causes for higher child mortality in the state are higher deliveries still taking place outside of health institutions, lack of awareness, and lack of availability and continuity in the availability of human resources in rural areas (Table 2).

### Child Vaccination:

Vaccination is a crucial component of child immunisation and currently, it prevents 3.5-5 million deaths worldwide every year from diseases like diphtheria, tetanus, pertussis, influenza, and measles. Immunization is a key component of primary health care and an indisputable human right. The child immunisation data shows that almost every district of Uttarakhand had shown improvement in child vaccination, overall there was a 22 per cent increase in child vaccination between NFHS-4 and 5. The vaccination percentage was recorded higher in the hilly districts in comparison to the terai districts, this is due to the large child base population in the terai areas (Table 3).

The highest percentage of child vaccination was recorded in Pithoragarh, Champawat, and Rudraprayag, while Nainital, Haridwar, Dehradun and Pauri Garhwal have the lowest percentage of child vaccination. Pauri Garhwal among the hilly districts and Nainital in the Terai

**Table 3 : District-wise Percentage of Child Vaccination in Uttarakhand**

State/District's Name	NFHS-4	NFHS-5
Uttarakhand	57.6	80.8
Almora	60.6	85.1
Bageshwar	60.2	86.9
Chamoli	62.2	85
Champawat	68.4	91.9
Dehradun	60.7	76
Haridwar	55.3	76.5
Nainital	59	74.1
Pauri Garhwal	61.2	76
Pithoragarh	74.2	96
Rudraprayag	70.3	91.4
Tehri Garhwal	51.1	83
Udham Singh Nagar	47	83.2
Uttarkashi	72	81.8

Source: Compiled by the Researcher

region have recorded the lowest percentage of child vaccination. In the hilly region, Anganwadi centres working under the ICDS are playing a key role in child vaccination and raising the nutritional status of children. For child vaccination in both Terai and hilly regions, the public healthcare system is being used except in some cases in Terai regions. To maximise the child vaccination involvement of all stakeholders is needed. Under the various national and state-sponsored schemes child vaccination is free, therefore child vaccination can be maximised with increasing awareness among the people

at the village level.

### Child Nutritional Status:

Childhood malnutrition diminishes adult intellectual ability and work capacity, causing economic hardships for individuals and their families. Malnourished women tend to deliver premature or small babies who are more likely to die or suffer from suboptimal growth and development (Allen and Gillespie, 2001). Poor early nutrition leads to poor school readiness and performance, resulting in fewer years of schooling, reduced productivity, and earlier childbearing. Thus, poverty, undernutrition, and ill health are passed on from generation to generation. Undernutrition impedes economic progress in all developing countries. Child undernutrition contributes to child mortality and childhood diseases; it is one of the significant causes of child mortality not only in Uttarakhand but also in India. According to NFHS-5, twenty-seven per cent of children under age five years are stunted for their period, which indicates that they have been undernourished for some time. Thirteen per cent are wasted, which suggests that inadequate food intake or recent illness causes weight loss. Twenty-one per cent of children reported being underweight, accounting for chronic and acute undernutrition. Children's nutritional status in Uttarakhand has improved since NFHS-4 by all measures. The percentage of stunted children decreases from 34 per cent to 27 per cent in four years. The percentage of underweight children decreases from 27 per cent to 21 per cent, while the wasted children percentage decreases from 20 to 13 per cent.

Table 4, presents the district-wise percentage of stunted children in Uttarakhand. Stunting is defined as low height for age. It is the result of chronic or recurrent undernutrition, usually associated with poverty, poor maternal health and nutrition, frequent illness and/or inappropriate feeding and care in early life. Stunting prevents children from reaching their physical and cognitive potential. Child stunting refers to a child who is too short for his or her age and is the result of chronic or recurrent malnutrition. Stunting is a contributing risk factor to child mortality and is also a marker of inequalities in human development. A comparative study of data from NFHS shows that Uttarakhand Pauri Garhwal, Pithoragarh and Chamoli have shown an increase in the percentage of stunted children during this period. Except for these three districts, all other districts have shown a

declining trend in child-stunted status during the same period. Dehradun followed by Nainital, Bageshwar, Champawat, and Rudraprayag have the lowest percentage of stunted children during NFHS-5. While Chamoli and Uttarkashi followed by Haridwar and Pauri have recorded the highest percentage of stunted children during the same period.

**Table 4 : District-wise percentage of Stunted children in Uttarakhand**

State/District's Name	NFHS-4	NFHS-5
Uttarakhand	33.5	27
Almora	32.9	26
Bageshwar	25.1	23.6
Chamoli	33.7	34.1
Champawat	30.5	24.9
Dehradun	28.5	20.9
Haridwar	39.9	33.1
Nainital	32.1	23.2
Pauri Garhwal	22.9	30
Pithoragarh	25.6	30.6
Rudraprayag	29.9	25.2
Tehri Garhwal	30.1	29.3
Udham Singh Nagar	37.9	26.8
Uttarkashi	35.2	34.1

Source: Compiled by the Researcher

The data analysis of stunted children shows that Terai districts in comparison to hilly districts have a lower percentage of stunted children, as the base population of hilly districts are less than the terai districts. Anganwadi centres working under the ICDS have significantly contributed to increasing the nutritional status of children in remote areas of both hilly and the Terai districts.

Wasting is defined as low weight-for-height. It often indicates recent and severe weightloss, although it can also persist for a long time. It usually occurs when a person has not had food of adequate quality and quantity and/or they have had frequent or prolonged illnesses. Wasting in children is associated with a higher risk of death if not treated properly.

Table 5 presents the district-wise percentage of wasted children in Uttarakhand. The data shows that the overall percentage of wasted children declined during NFHS-4 and 5 from 19.5 to 13.2. Uttarkashi, Dehradun, Bageshwar, and Tehri Garhwal have shown the highest improvement in child wasting. Nainital is the only district that has recorded growth of wasted children percentage during the same period.

**Table 5 : District-wise Percentage of Wasted Children in Uttarakhand**

State/District's Name	NFHS-4	NFHS-5
Uttarakhand	19.5	13.2
Almora	17	14.4
Bageshwar	26.3	7.7
Chamoli	18	16.2
Champawat	17.4	12.4
Dehradun	30.1	10.1
Haridwar	12.3	16.4
Nainital	9	14
Pauri Garhwal	27.4	12
Pithoragarh	20.6	12.4
Rudraprayag	18.4	8
Tehri Garhwal	28.1	5.2
Udham Singh Nagar	12	12.4
Uttarkashi	39.4	10.6

Source: Compiled by the Researcher

Tehri Garhwal, Rudraprayag, Bageshwar, and Uttarkashi have recorded the lowest percentage of wasted children in NFHS-5, while Haridwar, Chamoli, and Almora have recorded the highest percentage of wasted children during the same period. Stunting shows short-term malnutrition among children this may be due to several socioeconomic reasons. The percentage of stunted children also varies among different social groups, it is generally high among the scheduled castes, and scheduled tribes while less among the general categories.

### Conclusion:

Child health status predicts the future growth of any region and society, as healthy children produce a healthy future for the region and society. The child mortality rate of Uttarakhand decreased during between both surveys, but it is still higher than other Himalayan states and even higher than the national average. The vaccination percentage in the state improved between the surveys. The districts have shown improvement in vaccination percentage, Anganwadi centres have been playing a crucial role in child vaccination and improving children's nutritional level, especially in rural parts of the state. The data on stunted and wasting children shows that the percentage of stunted and wasting children decreased almost in all districts. However, there are inter-district and intra-district variations. The percentage of stunted and wasting children also varies across social and economic groups, percentage of stunted and wasting

children also varies across the regions. Generally, households living near district headquarters have a lower percentage of stunted and wasting children compared to households living in backward and remote regions. To improve overall child health status in the state, the involvement of all stakeholders is key to maximising the utilisation of maternal and child healthcare services. child immunisation and vaccination are free and universally available, thus proper, and timely utilisation needs widespread awareness among the people, especially in remote areas.

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