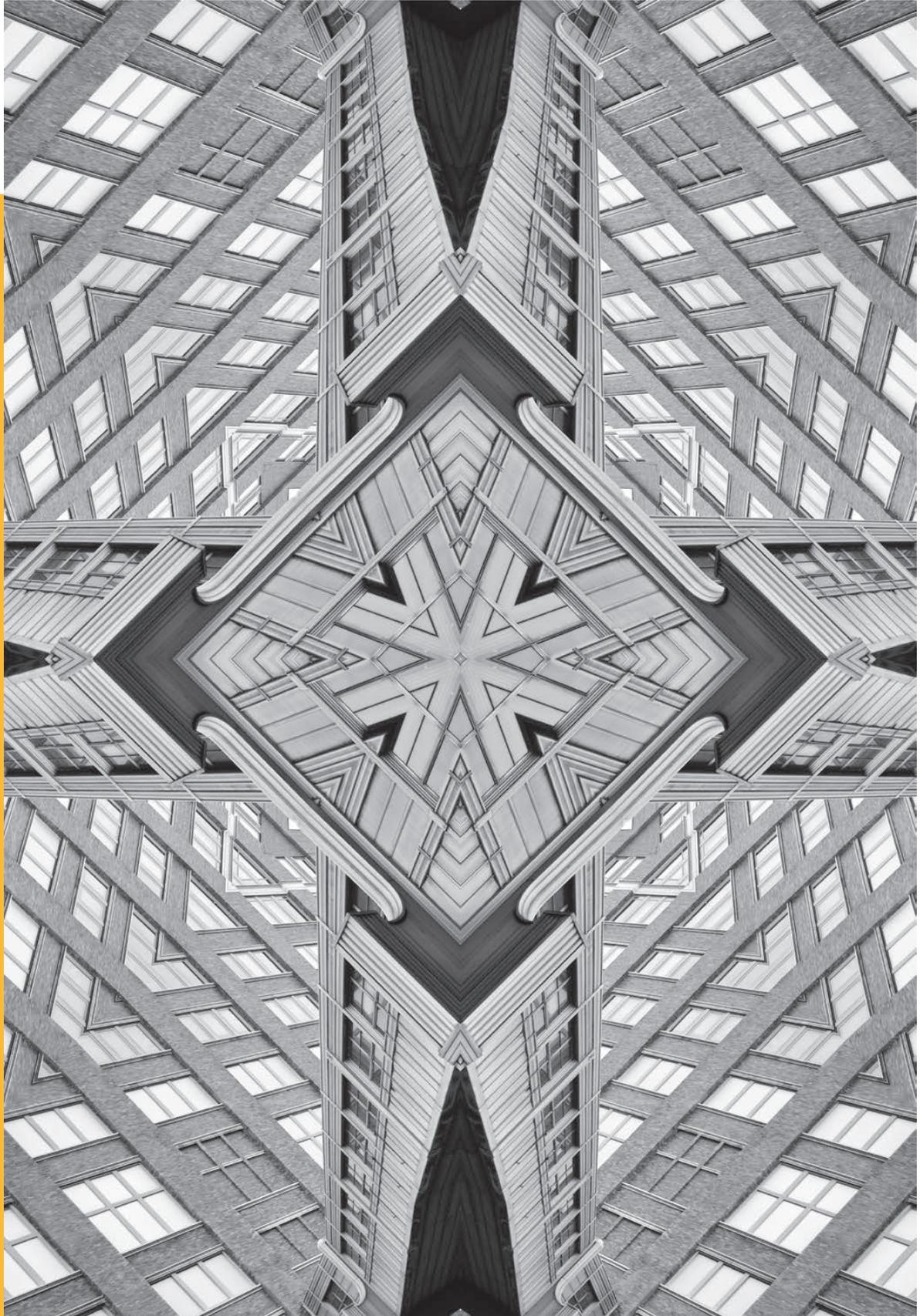


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The 5th National Family Health Survey of India: A Sub-National Analysis of Child Nutrition

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Abstract

In December 2020, the government released the results of the National Family Health Survey (NFHS) 5 for 2019-20, covering 22 states and Union Territories (UTs). Contrary to expectations, NFHS5 found an increase in the percentage of stunted children in 13 states and UTs, compared to the results of NFHS4. This paper analyses such reversal of the three-decadal progress that India had previously made in reducing stunting in children. It analyses the determinants of such a regression and proposes measures that need urgent attention. The paper notes a percentage-point increase in the coverage of nutrition-sensitive interventions that address the underlying determinants of child undernutrition, including improvement in women's status and the provision of maternal health services, as well as child health services. It argues for positioning the reduction of child undernutrition high in the national development agenda and addressing the immediate determinant of undernutrition by strengthening the complementary-feeding component of the national nutrition mission.

Global evidence has established the serious implications of malnutrition^a on a child’s physical and brain development; in turn, this has an adverse impact on cognitive development, and the overall productivity and economic development of a nation. The World Bank states, “A 1% loss in adult height due to childhood stunting is associated with a 1.4% loss in economic productivity.”¹ It is estimated that undernourished children, as adults, have a reduced earning potential of at least 10 percent of their lifetime earnings, while every additional centimetre gain of adult height is associated with a 4.5-percent increase in wage rates.^{2,3} The adverse impact of undernutrition on brain structure and development cannot be corrected later in life and can lead to cognitive deficits and compromised learning abilities.^{4,5} Undernourished children are at a disadvantage from the start and are more likely to be enrolled in school late; they have higher chances of repeating a grade or dropping out of school altogether.^{6,7,8} This is supported by studies which report that adults who have a history of being stunted at age two, end up completing one less year of schooling.^{9,10,11}

At the national level, the impact of undernutrition on persistent poverty, reduction in human capital, and lower gross domestic product (GDP) is well-documented.^{12,13,14,15,16} Experts have established that malnutrition influences the lack of progress in 14 of the 17 Sustainable Development Goals (SDGs).¹⁷ Globally, the cost of malnutrition is pegged at US\$3.5 trillion per year, or US\$500 per person.¹⁸

Indeed, stunting has lasting effects on future generations. Moreover, the high rate of anaemia¹⁹ amongst women results in entering pregnancy in an anaemic stage—this has well-documented negative impacts on fetal growth and birthweight, as well as on the health status of the mother. After they are born, and these infants do not receive adequate nutrients especially in the first 24 months of their life, their malnutrition and ill health worsens. A 2020 report in the *Lancet* highlights the fact that about 68 percent of under-five child mortality in India is associated with malnutrition.²⁰

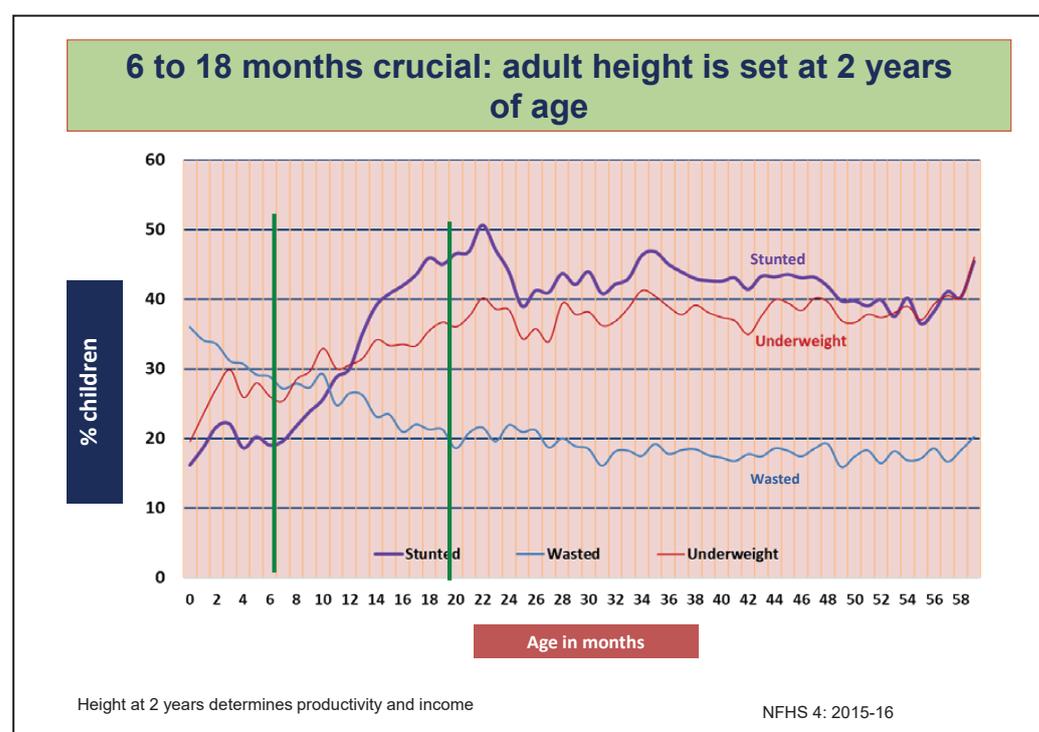
Findings from low- and middle-income countries have established that the first 1,000 days of life is the opportune window for investing in child nutrition.²¹ The return on investment in reducing stunting and wasting in children is almost sixteen-fold (US\$16) on every US\$1 invested.²²

A study of Uttar Pradesh (UP) as early as in 1998, and the subsequent National Family Health Survey 3 (NFHS 3) and NFHS 4 in 2015-16,²³ also concur with the age-wise trend in increase in undernutrition (stunting) rate in 0-24 months

^a Malnutrition is measured as stunting or underweight or wasting.

(See Figure 1). It is noted that undernutrition rates in young children increase sharply between 0-24 months of age, and then levels off.²⁴ Research has also found that the stunting that occurs in this early age of two years is largely irreversible.²⁵

Figure 1
Child undernutrition trends, by age (0-24 months)

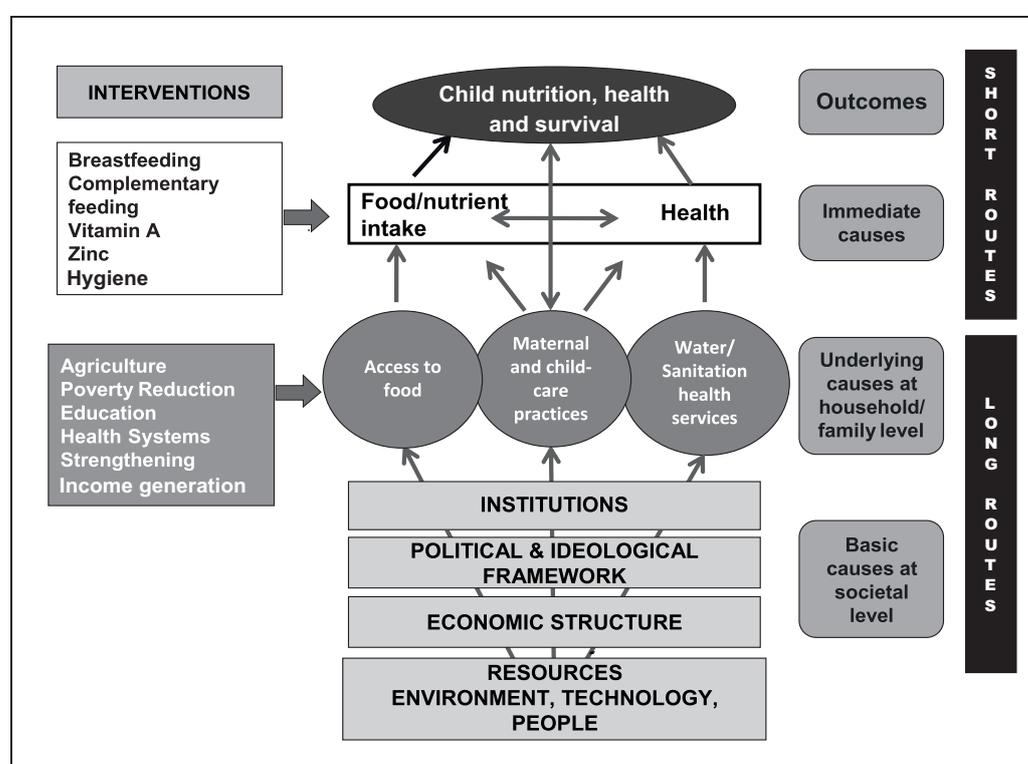


Source: National Family Health Survey 4, 2015-16²⁶

The NFHS surveys, particularly NFHS 3 onwards, have called on the country’s policymakers to address the immediate as well as the underlying determinants of undernutrition in children (See Figure 2). In 2008, global efforts led to a consensus on a set of evidence-based, direct essential nutrition interventions (ENIs) that needed special attention to address malnutrition. Five years later, in 2013, the *Lancet Nutrition* series stressed on the need to couple ENIs with nutrition-sensitive interventions.²⁷ Specific measures were initiated to promote early initiation of breastfeeding, exclusive breastfeeding

for the first six months, and other maternal and child health services. There was also an emphasis on the importance of breaking the cycle of infection/diseases/health and malnutrition, and the intergenerational cycle of malnutrition in women. This led to the concept of a multisectoral programme to address child undernutrition being built into the strategy of the National Nutrition Mission or POSHAN Abhiyaan.²⁸

Figure 2 A Conceptual Framework of Malnutrition



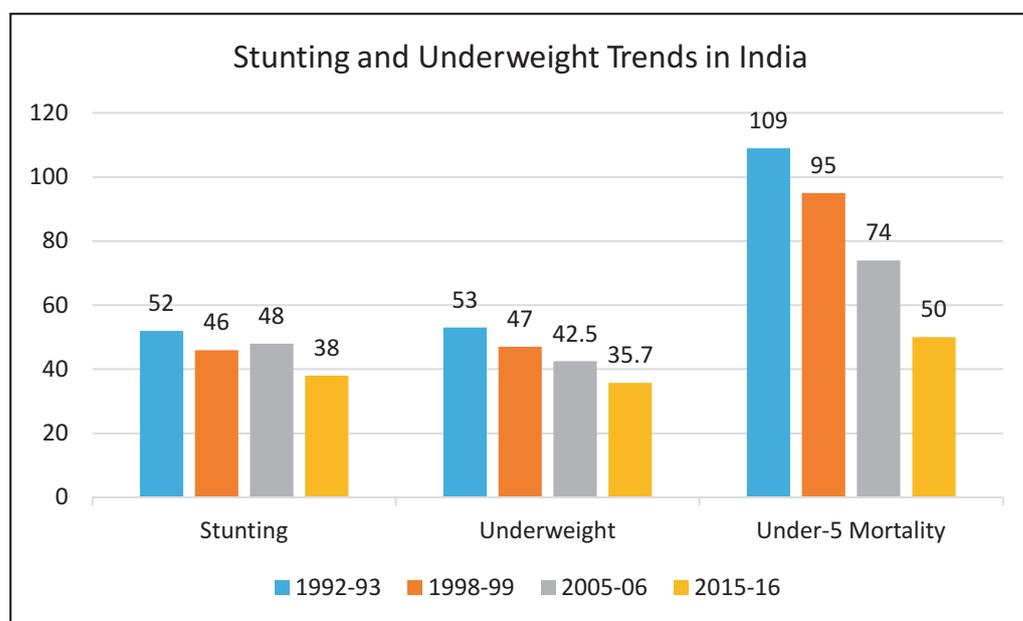
Source: UN Standing Committee on Nutrition 2008²⁹

Reversal of Previously Decreasing Trend in Child Undernutrition

Prior to the first National Family Health Survey (NFHS 1) in 1992, the only data available on undernutrition was limited to 10 states through the National Nutrition Monitoring Bureau (NNMB). Following the NFHS 1, four national surveys have been conducted: NFHS2 (1998-99),³⁰ NFHS 3 (2005-6),³¹ NFHS 4 (2015-16),³² and NFHS 5 (2019-20). The fifth survey³³ commenced in 2019 prior to the outbreak of COVID-19, and the phase 1 data for 22 states and UTs was released in December 2020.

As shown in Figure 3, there was a substantial drop nationally in the percentage of stunted and underweight young children between 1992 and 2015,³⁴ along with a corresponding decline in under-five mortality rate. In 2015-16, 38.4 percent of children below five years were stunted and 35.7 percent were underweight. In absolute numbers, however, India was still home to 46.6 million stunted children, or one-third of the world's 144 million under-five stunted children.³⁵

Figure 3
Stunting, underweight and under-five mortality trends (1992-2016)



Source: National Family Health Surveys³⁶

The latest NFHS data available for 22 states and UTs shows that the decrease in the rate of stunting has not been sustained. Indeed, in most of the 22 states and UTs covered by NFHS 5, there has been a reversal: the percentage of under-five children who are reported to be stunted has increased.

The findings of NFHS 5, especially the increase in incidence of stunting, have raised apprehensions among public health nutrition experts and development professionals. This paper presents the results of a rapid trend analysis of the findings of the 5th NFHS. The aim is to find ways by which timely actions can be planned and executed to accelerate improvement in India's goals for reducing stunting in children.

“The return on investment in reducing stunting and wasting in children is 16-fold, or US\$16 for every dollar invested.”

Rapid Trend Analysis on Child Stunting

The conceptual framework for this review comprises the determinants of child undernutrition and the evidence-based global interventions. As shown in Figure 2, the immediate determinants of child undernutrition are inadequate food and nutrient intake, and presence of ill health and diseases. This present analysis considers the following immediate determinants: infant and young child feeding practices, and child health services. Meanwhile, the underlying determining factors with reference to trends in the coverage of nutrition-sensitive interventions pertain to food and nutrition security, health and nutrition care of women, empowerment of women, appropriate water-sanitation-hygiene (WASH) practices, completion of at least 10 years or secondary education by girls, and delaying age of marriage of girls to over 18 years.

This analysis focuses on the nutrition-sensitive factors, as the underlying determinants of child stunting. A regression analysis of data from India, Nepal and Bangladesh, found that the five highest risk factors that contribute to child stunting were related to the situation of women in these countries. These factors include the decision-making power of women, maternal health services (antenatal services and institutional deliveries), percentage of mothers with height below 145 cm, education, domestic violence, sanitation, and hygiene environment (See Table 1). NFHS 5 data captures information on a number of these nutrition-sensitive indicators while some others are considered proxy indicators for women's economic and social status. These include information provided by NFHS 5 on women having bank accounts or mobile phones, and access to safe fuel.

Table 1
Highest Risk Factors for Stunting in young children: India, Nepal, and Bangladesh

India	Bangladesh	Nepal
No education of mothers	Domestic Violence	Maternal Height
Maternal Height	Decision making power	Water
Mothers with no Institutional Delivery	Maternal Height	Open Defecation
Households with low standard of living	Secondary Education	Born in Hospital
Households with no toilet facility	Wealth Quintile	ANCs visits
--	--	Maternal Education

Source: Adhikari Viret et al 2013,³⁷ Heady & Hoddinott 2015,³⁸ and Bhagowali et al 2021.³⁹

Rapid Trend Analysis on Child Stunting

Objectives of the Analysis

This preliminary analysis aims to understand the trends emerging from the NFHS 5 data covering 22 states and UTs of India, and to provide inputs regarding the overall directions that programmes on child nutrition need to take. The following are the objectives of this analysis:

1. To analyse state-wise trends in child stunting rates in NFHS 5 (2019-20) as compared to NFHS 4 (2015-16).
2. To undertake a state-wise comparison of NFHS 5 and NFHS 4 and analyse the emerging trends in progress as well as gaps in the context of conceptual framework comprising the immediate, underlying, and basic determinants of child undernutrition.
3. To analyse progress and gaps in the percentage coverage of trends of interventions dealing with the direct nutrition interventions as well as the nutrition-sensitive measures.
4. Based on the observational trend analysis, to identify the factors that may be contributing to the unexpected increase in the rate of child stunting.
5. To recommend measures that require urgent attention for reducing the rates of child stunting.

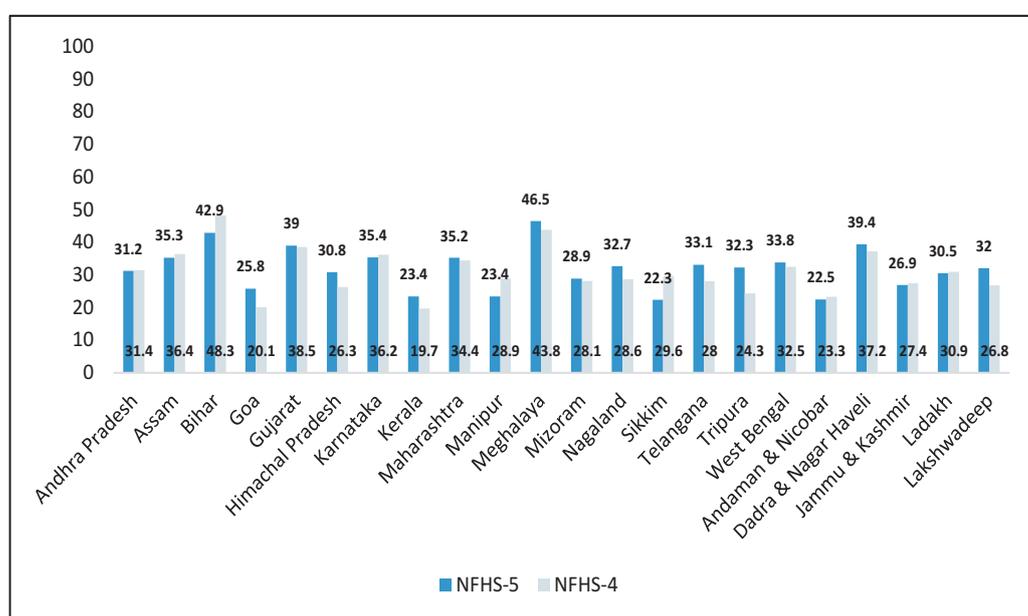
Findings

This section highlights the NFHS 5 findings (2019-20) as compared to NFHS 4 (2015-16) regarding malnutrition in children, as manifested in stunting. It presents information on the nutritional status of women and the coverage of various interventions that address the underlying and immediate determinants that impact child undernutrition (See Figure 2).

Figure 4 shows the state-wise patterns in childhood stunting rates for 22 states and UTs, as reported in NFHS 5. Stunting rate was highest in under-five children in Meghalaya (46.5 percent) and Bihar (42.9 percent); Sikkim was noted to have the lowest child stunting rate at 22.3 percent. A comparison of NFHS 4 with NFHS 5 findings revealed that there were only three states (Bihar, Manipur and Sikkim) that reported a decline in the rate of stunting by at least 3 percentage points, with Bihar declining from 48.3 percent in 2015-16 to 42.9 percent in 2019-20. Thirteen states and UTs showed a rise in the percentage of stunted children. Of these, six (Goa, Himachal Pradesh, Kerala, Nagaland, Meghalaya,

and Telangana) showed an increase in the rate of stunting in children by at least 3 percentage points. The two states that had the lowest stunting rates in children in 2015-16 (NFHS 4) but showed a substantial rise in stunting rate as per the NFHS 5 survey are Goa (from 20.1 percent to 25.8 percent) and Kerala (from 19.7 percent to 23.4 percent).

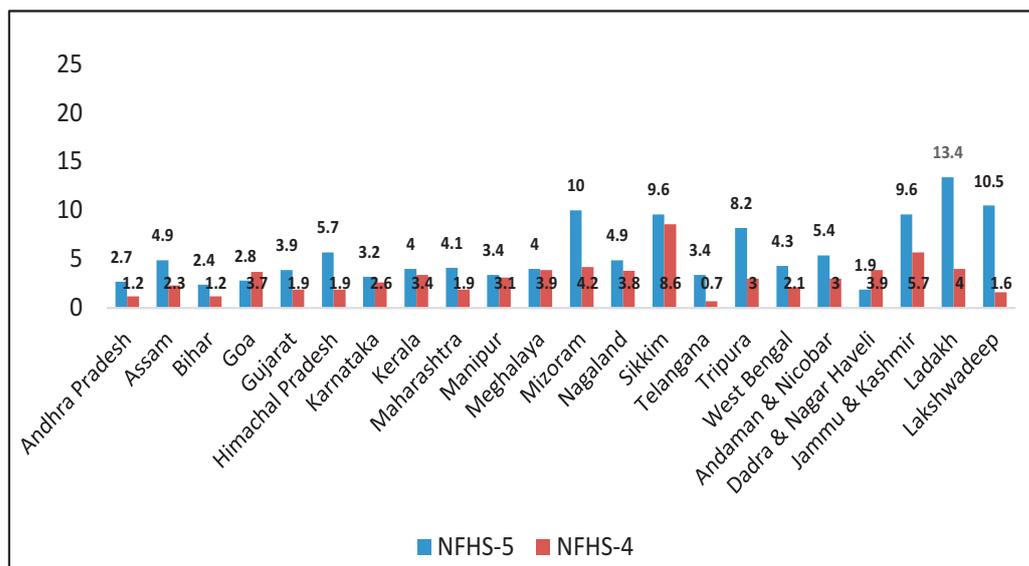
Figure 4
Stunting trends in 22 states and UTs



Source: National Family Health Survey 4 (2015-16)⁴⁰ and 5 (2019-20)⁴¹

As seen in Figure 5, there is an increasing trend in overweight prevalence in under-five children in all the 22 states and UTs. In one state (Sikkim) which recorded a decrease of over 3 percentage points in undernourished children, there was a 1-percent increase in the percentage of overweight children.

Figure 5
Overweight trends in under-five children in 22 States and UTs



Source: NFHS4 (2015-16)⁴² and NFHS5 (2019-20)⁴³

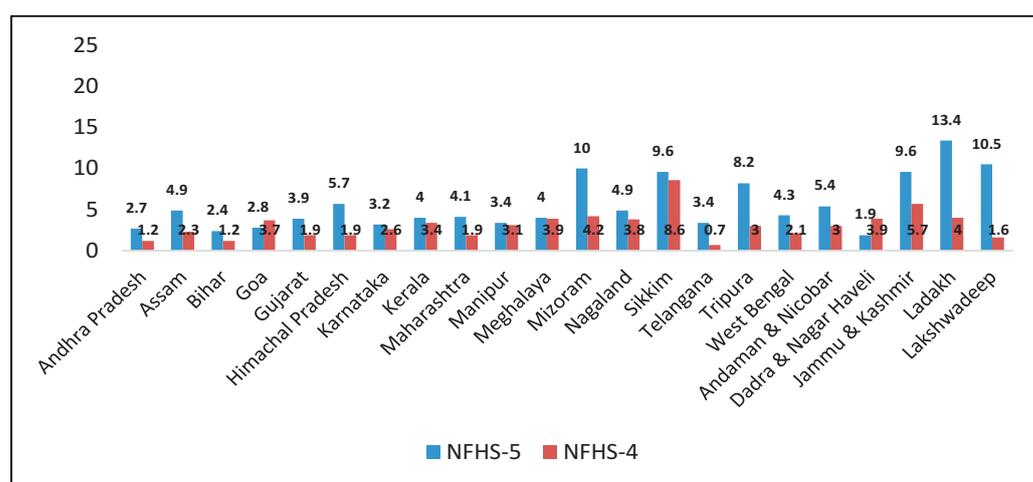
Coverage of Interventions: The Underlying Determinants of Child Undernutrition

Data from the 4th and 5th NFHS were compared to analyse patterns in three underlying factors for child undernutrition: poor access to food, poor women’s health and child care practices, and poor health and environment. These are commonly accepted as the underlying determinants of undernutrition, which in turn impact the immediate determinants of child undernutrition (See Figure 2).

Women’s overall status

As shown in Figure 2, women’s nutritional, socio-economic status including their ‘empowerment’ status, as well as their access to maternal and child health services, are fundamental underlying factors that impact their child’s nutrition. As presented in Figures 6 to 9 and Table 2a, disaggregated by state, the results of NFHS 4 and NFHS 5 were compared with reference to the following indicators: women’s nutrition, age of marriage, age of conception, mothers with minimum ten years of education, and women empowerment with reference to decision-making and their socio-economic situation. Data on women possessing mobile phones, and women having their own bank accounts, are studied as proxy indicators of empowerment. No data on direct indicators that measured decision-making power or economic situation was available in the past or latest NFHS.

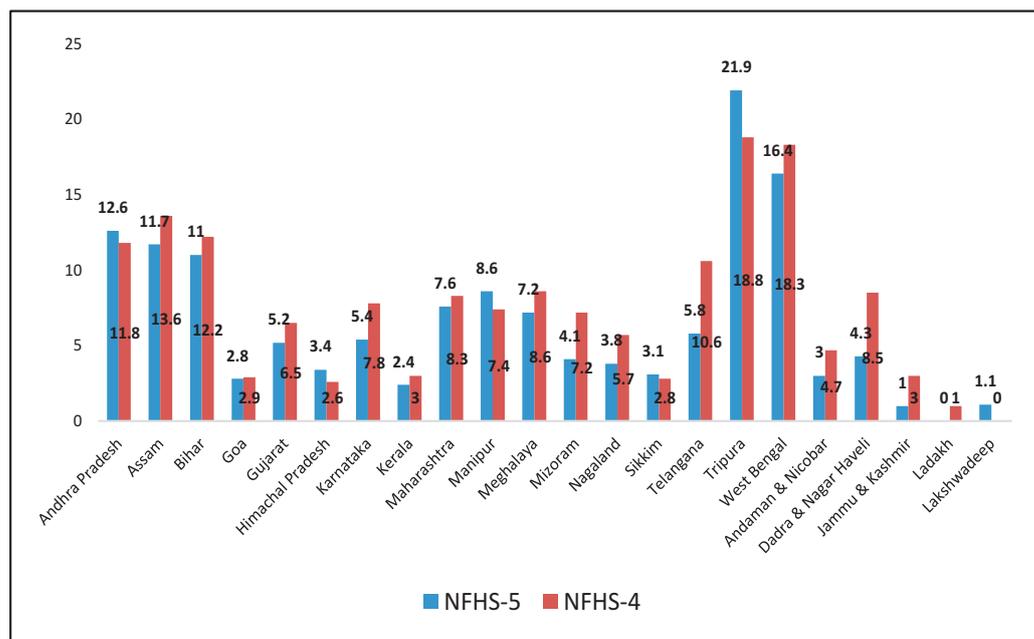
Figure 6
Prevalence of girls married below 18 years in 22 states & UTs (%)



Sources: National Family Health Survey- 4 (2015-16)⁴⁴ and 5 (2019-20)⁴⁵

Coverage of Interventions: The Underlying Determinants of Child Undernutrition

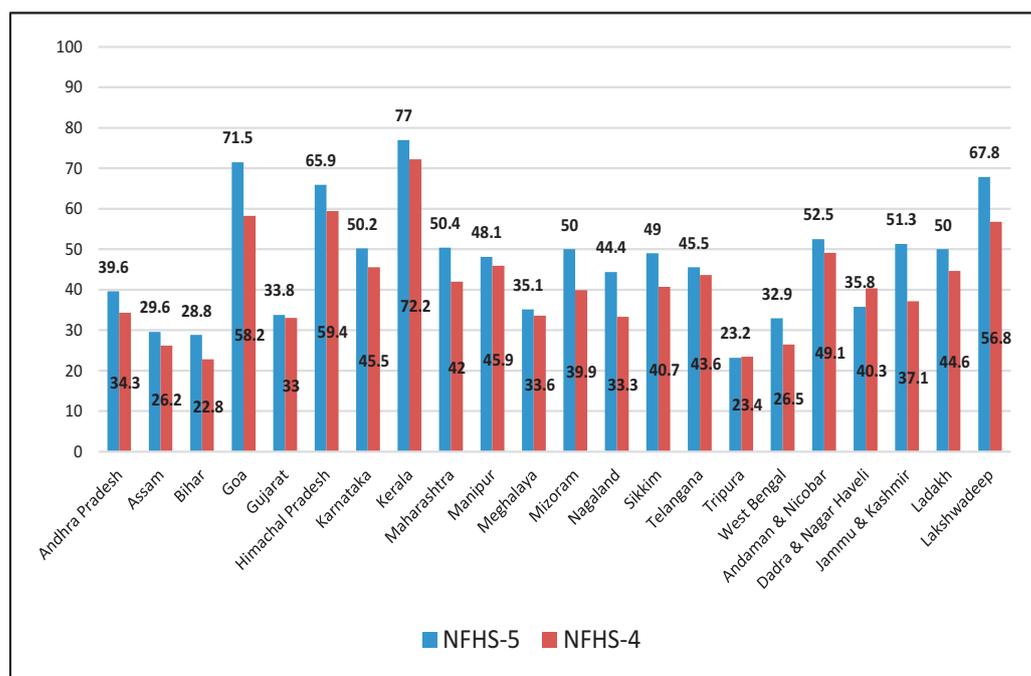
Figure 7
Prevalence of teenage pregnancies in adolescent girls (15-19 years) in 22 states & UTs (%)



Sources: National Family Health Survey- 4 (2015-16)⁴⁶ and 5 (2019-20)⁴⁷

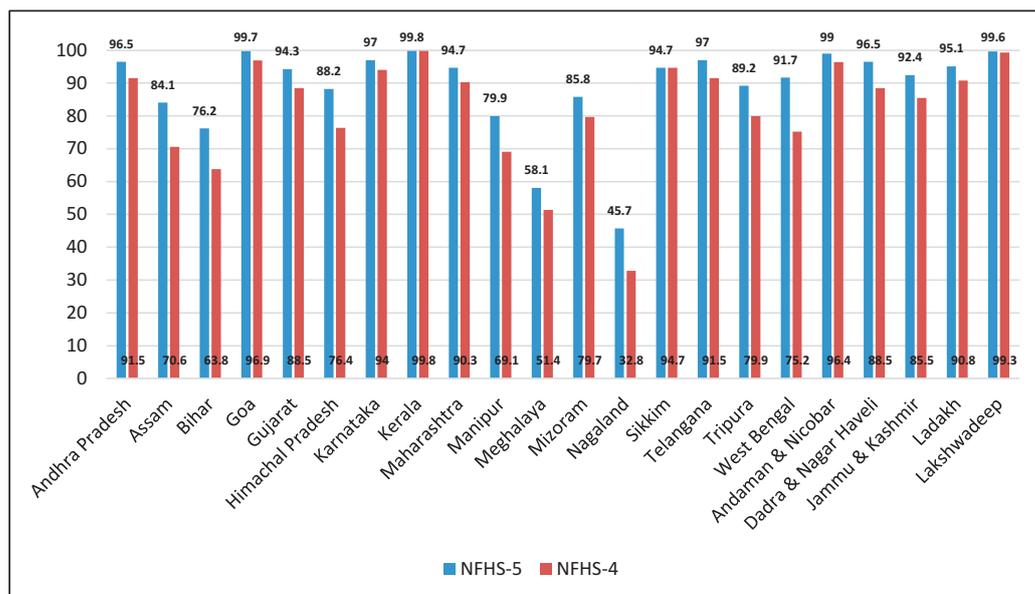
Coverage of Interventions: The Underlying Determinants of Child Undernutrition

Figure 8
Women having completed 10 years or more of schooling in 22 states & UTs (%)



Sources: National Family Health Survey- 4 (2015-16)⁴⁸ and 5 (2019-20)⁴⁹

Figure 9
Women who reported delivery in institutional setup in the 22 states & UTs (%)



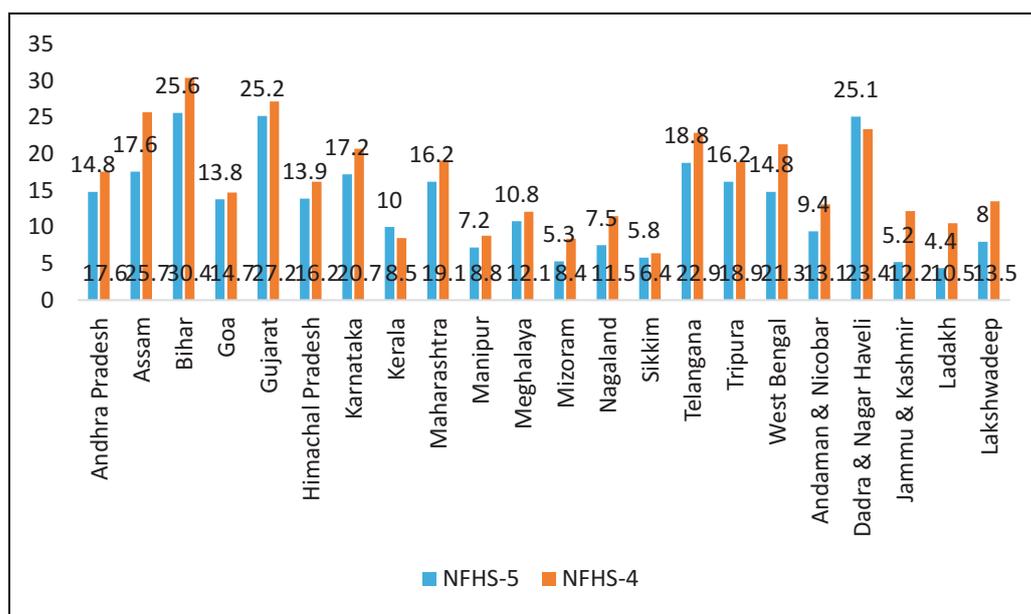
Sources: National Family Health Survey- 4 (2015-16)⁵⁰ and 5 (2019-20)⁵¹

Nutritional status of women (15-49 years)

Women’s poor nutrition is one of the most important determinants of childhood stunting (See Table 1). As seen in Figure 10, the prevalence of thinness in women has declined since NFHS4, except for Kerala and Dadra and Nagar Haveli which show an increase of 1.5 and 1.7 percentage points, respectively. According to the World Health Organization (WHO), a prevalence rate of over 20 percent of women with low BMI (<18.5) shows that women are undernourished and require special care and attention. In India, most of the states show a prevalence rate of undernourished women of less than 20 percent, with the exception of Bihar (25.6 percent), Gujarat (24.2 percent), and Dadra & Nagra Haveli (25.1 percent). The lowest percentage of undernourished women is reported in Ladakh at 4.4 percent.

Coverage of Interventions: The Underlying Determinants of Child Undernutrition

Figure 10
Prevalence of women with low BMI/ thinness in 22 states & UTs

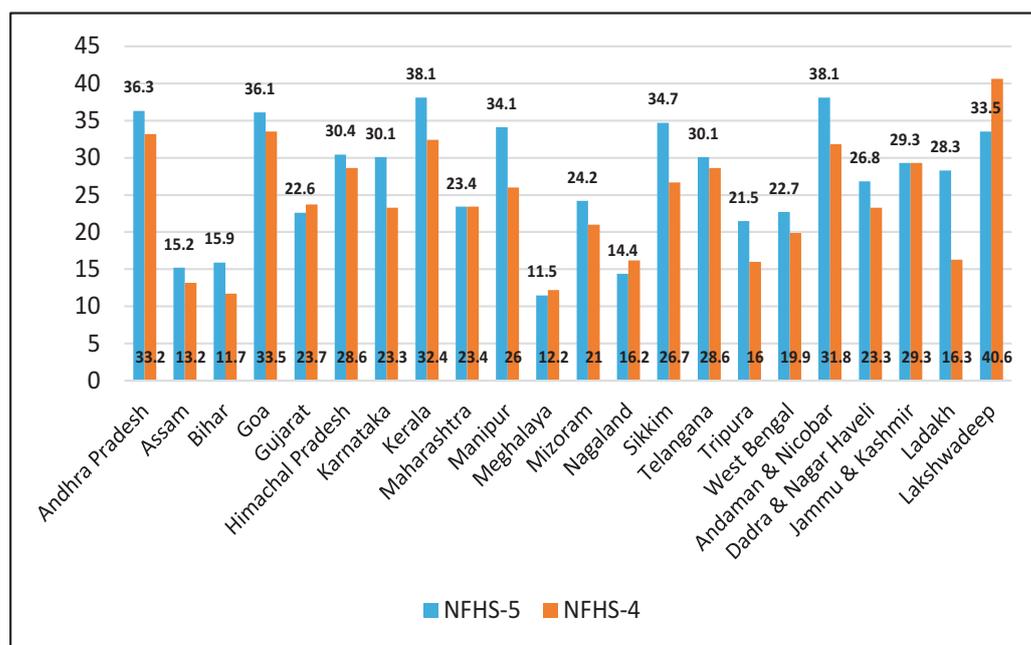


Sources: National Family Health Survey- 4 (2015-16)⁵² and 5 (2019-20)⁵³

Besides undernutrition, overweight and obesity in mothers also contribute to birth of babies who are either small for gestation age (SGA) or have a low birth weight (LBW). The trends in obesity/overweight in women (15-49 years) shows a sharp increase in 16 of the 22 states and UTs. The maximum increase is observed in Karnataka by 6.8 percentage points. Though NFHS5 does not present data on access to food, a rising trend in percentage of overweight women in most of the states (see Figure 11) shows that there might be an overall higher intake of food, but not necessarily the right type of food items or with the right food diversity.

Coverage of Interventions: The Underlying Determinants of Child Undernutrition

Figure 11
Obesity/overweight trends in women (15-49 years) in 22 states & UTs



Sources: National Family Health Survey- 4 (2015-16)³⁴ and 5 (2019-20)³⁵

Anaemia in women is a well-known cause of poor fetal growth and low birth weight. However, the percentage rate of anaemia in adolescent girls and women of reproductive age (15-49 years) shows an increasing trend in 16 states and UTs; the highest rise is in Assam (19 percentage points), followed by Jammu & Kashmir (17 percentage points), and Ladakh (14.4 percentage points). A similar trend in prevalence percentage rate of anaemia is noted in adolescent girls (15-19 years), with 16 states and UTs showing an increase.

Coverage of Interventions: The Underlying Determinants of Child Undernutrition

Age of marriage and Educational attainment

The data reveals a positive trend towards the lowering of incidence of girls being married below 18 years. (See Figure 6) The exceptions are three north-eastern states—Assam, Tripura, and Manipur. However, the percentage of adolescent girls married remains high but stable in Karnataka, Meghalaya, West Bengal and the two UTs (Andaman & Nicobar and Dadra & Nagar-Haveli). In five states, including West Bengal and Tripura, almost one in ten adolescent girls is reported to be pregnant at the time of the surveys (See Figure 7).

It is well-established that girls completing school education is a crucial factor in lowering the incidence of teenage marriage or pregnancy.⁵⁶ Moreover, as shown in Table 1, women completing at least 10 years of education is an important factor contributing to lowering the prevalence of child stunting.⁵⁷ Unfortunately, there was rather slow progress in raising the percentage of girls completing 10 years of education or more, between 2015-16 and 2018-19. The overall trend indicates an improvement in all the states, except Tripura where the girls falling in this category of education remains almost stagnant at about a quarter of women. There are only three states and one UT (See Figure 10) with over two thirds of women having completed 10 years of education at least: Kerala (77 percent), Goa (71 percent), Lakshadweep (67.8 percent) and Himachal Pradesh (65.9 percent).

Women's empowerment

Table 2 a & b gives an overview of the state-wise coverage of some of the nutrition-sensitive interventions, besides school education, that impact women empowerment. The data shows an increase in the percentage points of women having a mobile phone for their use as well as a bank or savings account, and access to clean fuel. These improvements could be considered proxy indicators of improvement in women empowerment.

“Women's poor nutrition has been found to be one of the most important determinants of stunting in their children.”

Table 2a
**Coverage of nutrition-sensitive interventions in women, by 22 States/
 UTs, NFHS 4 and NFHS 5**

States/UTs	HH using clean fuel for cooking		Women having a bank or savings account		Women having mobile phone		Women facing spousal violence		Mothers had 4 ANC visits		Mothers consumed IFA for 180 days or more		Women with low BMI (< 18.5 kg/m ²)	
	NFHS 5	% (+/-)	NFHS 4	% (+/-)	NFHS 5	% (+/-)	NFHS 4	% (+/-)	NFHS 4	% (+/-)	NFHS 5	% (+/-)	NFHS 4	% (+/-)
Andhra Pradesh	83.6	+21.6	81.8	+15.5	48.9	+12.7	30.0	-13.4	67.5	-8.8	41.1	+10.5	14.8	-2.8
Assam	42.1	+17	78.5	+33.1	57.2	+11.2	32.0	+7.5	50.7	+4.3	18.5	+12.9	17.6	-8.1
Bihar	37.8	+20	76.7	+50.3	51.4	+10.5	40.0	-3.7	25.2	+10.8	9.3	+7.0	25.6	-4.8
Goa	96.5	+12.4	88.3	+5.5	91	+10.1	8.3	-4.6	93	+4.0	65	+12.2	13.8	-0.9
Gujarat	66.9	+14.3	70	+21.4	48.8	+0.9	13.0	-7.2	76.9	+6.4	43.2	+24.7	25.2	-2.0
Himachal Pradesh	51.7	+15	83.1	+14.3	79.5	+6	8.3	+2.4	70.3	+1.2	43	+20.3	13.9	-2.3
Karnataka	79.7	+25	88.7	+29.3	61.8	+14.7	44.4	+23.8	70.9	+0.8	26.7	-5.9	17.2	-3.5
Kerala	72.1	+14.7	78.5	+7.9	86.6	+5.4	9.9	-4.4	78.6	-11.5	67	+19.6	10.1	+0.4
Maharashtra	79.7	+19.8	72.8	+27.5	54.8	+9.2	25.2	+3.9	70.3	-1.9	30.9	+2.9	20.8	-2.7
Manipur	70.4	+28.3	74	+39.2	72.2	+9.1	39.6	-13.6	79.4	+10.4	30.3	+14.0	7.2	-1.6
Meghalaya	33.1	+11.3	70.4	+16	67.5	+3.2	16.0	-12.8	52.2	+2.2	20.6	+7.6	10.8	-1.3
Mizoram	83.8	+17.7	80.7	+23.6	82.3	+5.3	10.9	-6.2	58	-3.4	10.5	+7.8	5.3	-3.1
Nagaland	43	+10.2	63.7	+24.9	82.5	+12.1	6.4	-6.7	20.7	+5.7	4.1	+1.9	11.1	-1.2
Sikkim	78.4	+19.3	76.4	+12.9	88.6	+8.8	12.1	+9.5	58.4	-16.3	31.5	+4.7	5.8	-0.6
Telangana	91.8	+24.5	84.4	+24.9	60	+12.6	36.9	-6.0	70.4	-4.5	34.4	+5.6	18.8	-4.1
Tripura	45.3	+13.4	76.9	+17.7	53.1	+9.2	20.7	-7.4	52.7	-11.6	8.9	+7.3	16.2	-2.7
West Bengal	40.2	+12.4	76.5	+33	50.1	+8.3	27.0	-6.1	75.8	-0.6	30.8	+24.8	14.8	-6.5
Andaman & Nicobar Islands	79.8	+16.3	89.2	+7.4	80.8	+13.9	17.2	-1.2	83.4	-8.7	52.1	+18.4	9.4	-3.7
Dadra & Nagar Haveli and Daman & Diu	79.9	+16.8	83.6	+37.1	60.5	+14.5	16.8	-13.2	86.2	+14.3	36.2	+10.0	25.1	+1.7
Jammu & Kashmir	69.2	+11.7	84.9	+24.9	75.2	+21.3	9.6	+0.2	80.9	-0.3	15.9	-0.8	5.2	-7.0
Lakshadweep	59.4	+27.6	88.4	+12.5	81.2	+10	1.3	-7.6	78.4	-9.1	7.3	-2.5	4.4	-6.1
Ladakh	76.3	+8.7	69.9	-4.5	84	+19.1	18.1	+9.6	88.3	+6.0	61.7	+2.6	8	-5.5

Table 2b
Coverage of nutrition-sensitive interventions in children,
by 22 States/UTs, NFHS 4 and NFHS 5

States/UTs	Children with diarrhoea received Zinc		Exclusive Breastfeeding		Children (6-23 mo) receiving Adequate diet ^b			Stunting				
	NFHS 5	NFHS 4	% (+/-)	NFHS 5	NFHS 4	% (+/-)	NFHS 5	NFHS 4	% (+/-)			
Andhra Pradesh	41.8	30.1	+11.7	68	70.2	-2.2	9.3	7.6	+1.7	31.2	31.4	-0.2
Assam	28	22	+6.0	63.6	63.5	+0.1	8	8.9	-0.9	35.3	36.4	-1.1
Bihar	25.6	20.1	+5.5	58.9	53.4	+5.5	10.9	7.5	+3.4	42.9	48.3	-5.4
Goa	--	--	--	61.4	60.9	+0.5	21.5	10.4	+11.1	25.8	20.1	+5.7
Gujarat	35.4	17.4	+18.0	65	55.8	+9.2	5.9	5.2	+0.7	39	38.5	+1.5
Himachal Pradesh	19.5	15	+4.5	69.9	67.2	+2.7	19	10.9	+8.1	30.8	26.3	+4.5
Karnataka	45.5	34.3	+11.2	61	54.2	+6.8	12.8	8.2	+4.6	35.4	36.2	-0.8
Kerala	22.4	14.1	+8.3	55.5	53.3	+2.2	23.5	21.4	+2.1	23.4	19.7	+3.7
Maharashtra	27.3	13	+14.3	71	56.6	+14.4	9	6.5	+2.5	35.2	34.4	+0.8
Manipur	26.1	14.1	+12.0	70.7	73.6	-2.9	19.6	18.8	+0.8	23.4	28.9	-5.5
Meghalaya	40.5	57.8	-17.3	42.7	35.8	+6.9	29.8	23.5	+6.3	46.5	43.8	+2.7
Mizoram	29.8	29	+0.8	67.9	61.1	+6.8	13.4	14.5	-1.1	28.9	28.1	+0.8
Nagaland	9.1	16	-6.9	43.2	44.3	-1.1	14.5	18.8	-4.3	32.7	28.6	+4.1
Sikkim	50	--	--	28.3	54.6	-26.3	24.7	23.1	+1.6	22.3	29.6	-7.3
Telangana	38.5	31.6	+6.9	68.2	67	+1.2	9.2	10.1	-0.9	33.1	28	+5.1
Tripura	16.7	19.1	-2.4	62.1	70.7	-8.6	13.5	5.9	+7.6	32.3	24.3	+8.0
West Bengal	36	20.8	+15.2	53.3	52.3	+1.0	23.4	19.6	+3.8	33.8	32.5	+1.3
Andaman & Nicobar Islands	44.1	8.3	+35.8	73.3	66.8	+6.5	19.5	14.2	+5.3	22.5	23.3	-0.8
Dadra & Nagar Haveli and Daman & Diu	--	12.9	--	79.4	67.9	+11.5	10.2	2.1	+8.1	39.4	37.2	+2.2
Jammu & Kashmir	50.5	39.3	+11.2	62	65.4	-3.4	13.6	23.5	-9.9	26.9	27.4	-0.5
Lakshadweep	--	--	--	70.9	64.1	+6.8	24	23.9	+0.1	30.5	30.9	-0.4
Ladakh	54.5	--	--	67	54.8	+12.2	19	15.9	+3.1	30.5	30.9	-0.4

^b Breastfed children receiving 4 or more food groups and a minimum meal frequency, non-breastfed children fed with a minimum of 3 Infant and Young Child Feeding Practices (fed with other milk or milk products at least twice a day, a minimum meal frequency that is receiving solid or semi-solid food at least twice a day for breastfed infants 6-8 months and at least three times a day for breastfed children 9-23 months, and solid or semi-solid foods from at least four food groups not including the milk or milk products food group).

Coverage of Interventions: The Underlying Determinants of Child Undernutrition

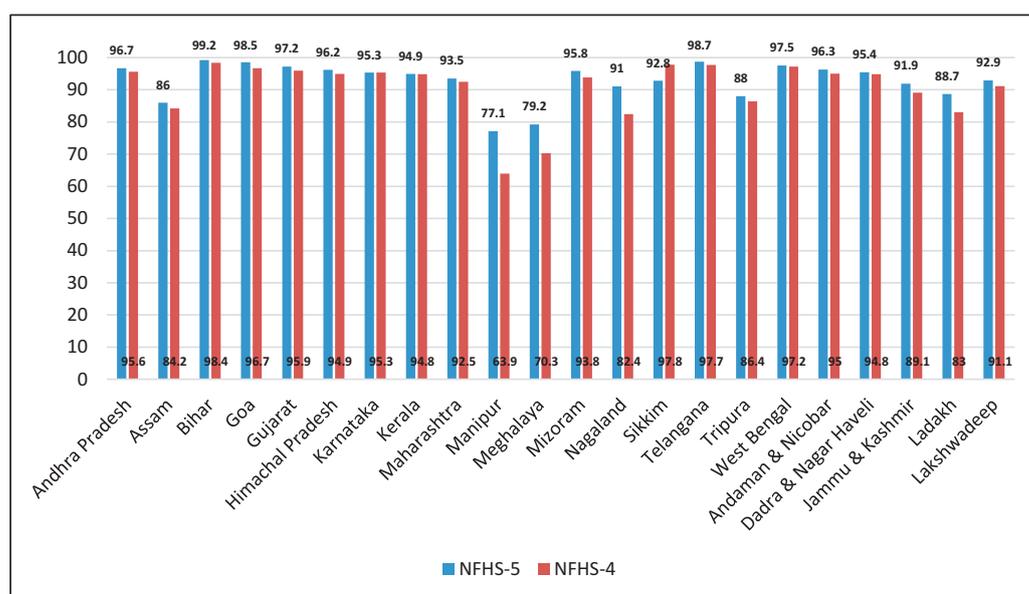
Maternal health services

Table 2a shows the coverage of the recommended minimum four contacts for antenatal care (ANC) services. The aim is to ensure at least 90 percent coverage. There is an improvement in this intervention across 11 states and UTs, with more significant change in Bihar, Manipur and Goa—the last of which is the highest in the country at 93 percent. Despite improvement in ANC coverage, there is a lack of corresponding increase in the percentage of pregnant mothers consuming the recommended 180 iron-folic acid (IFA) tablets and there is a wide variation across states: Kerala reported a coverage of 67 percent; Goa, 65 percent; and Nagaland, a minuscule 4.1 percent. The percentage of women who underwent institutional delivery of their infant has increased significantly. (See Figure 9.)

Household environment

There was a marked improvement in the use of improved drinking water source and sanitation facilities. Nearly all the states and UTs recorded an increase; the exception is Sikkim (See Figures 12 & 13).

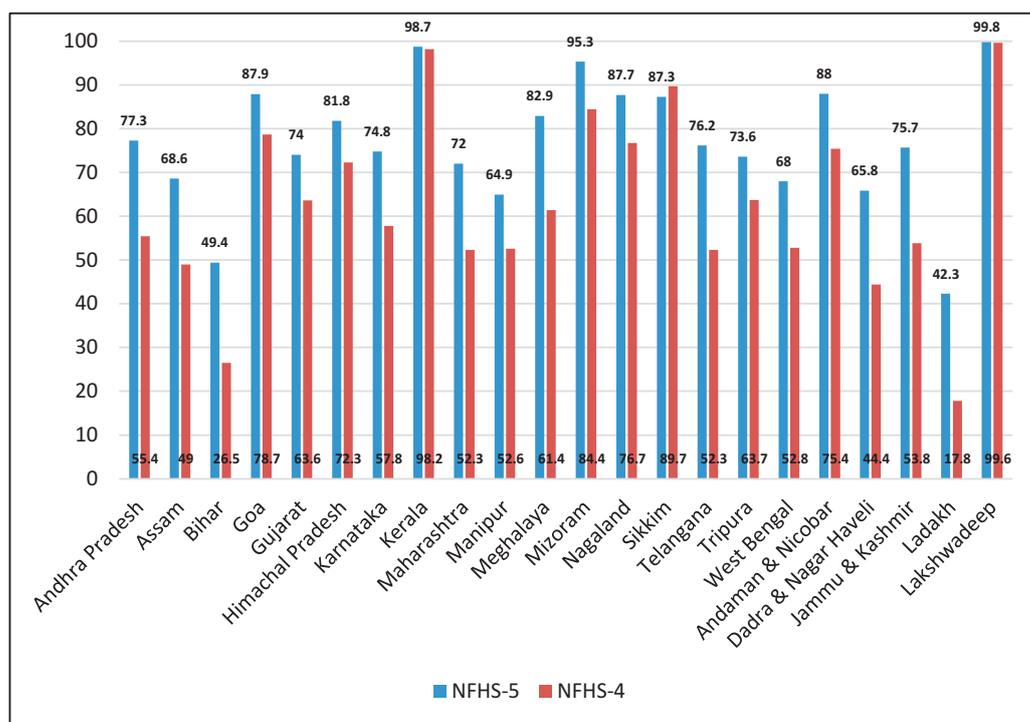
Figure 12
Households with improved water source in 22 states & UTs



Sources: National Family Health Survey- 4 (2015-16)⁵⁸ and 5 (2019-20)⁵⁹

Coverage of Interventions: The Underlying Determinants of Child Undernutrition

Figure 13
Households that use an improved sanitation facility in 22 states & UTs



Sources: National Family Health Survey- 4 (2015-16)⁶⁰ and 5 (2019-20)⁶¹

In summary: As illustrated in Table 2 a & b and Figures 6 to 9, the results of NFHS 5 indicate a substantial improvement in the percentage coverage of the nutrition-sensitive interventions that address the underlying determinants of child undernutrition:

- women empowerment status (proxy indicators: women having their own mobile phones, having a bank or savings account, married above 18 years, reduction in domestic violence);
- maternal health services (minimum of four ANC's, institutional delivery); and,
- improved household situation (access to sanitation facilities, safe clean fuel).

Coverage of Interventions: The Underlying Determinants of Child Undernutrition

These underlying factors are in turn influenced by existing government policies that are being rolled out in the past five or six years under a number of programmes for achieving universal sanitation, improving women's economic situation, and promoting education and care of girls. These underlying factors influence the immediate determinants that are discussed in the subsequent section of this paper.

“Between the 4th and 5th NFHS, there has been a substantial improvement in the percentage coverage of nutrition-sensitive interventions, including women empowerment and maternal health services.”

As presented in Figure 2, the two immediate determinants of child undernutrition are nutrient intake, and infection and ill-health.

Nutrient intake: Breastfeeding & Complementary Feeding

Nutrient intake in the first two years of life is governed by appropriate infant and young child feeding (IYCF) practices, which comprise breastfeeding and complementary feeding (CF).^c The fifth NFHS provides details on two indicators of breastfeeding practices (early initiation of breastfeeding, and exclusive breastfeeding for the first six months), and two indicators of appropriate CF (timely introduction of CF at six to eight months, and adequacy of CF).

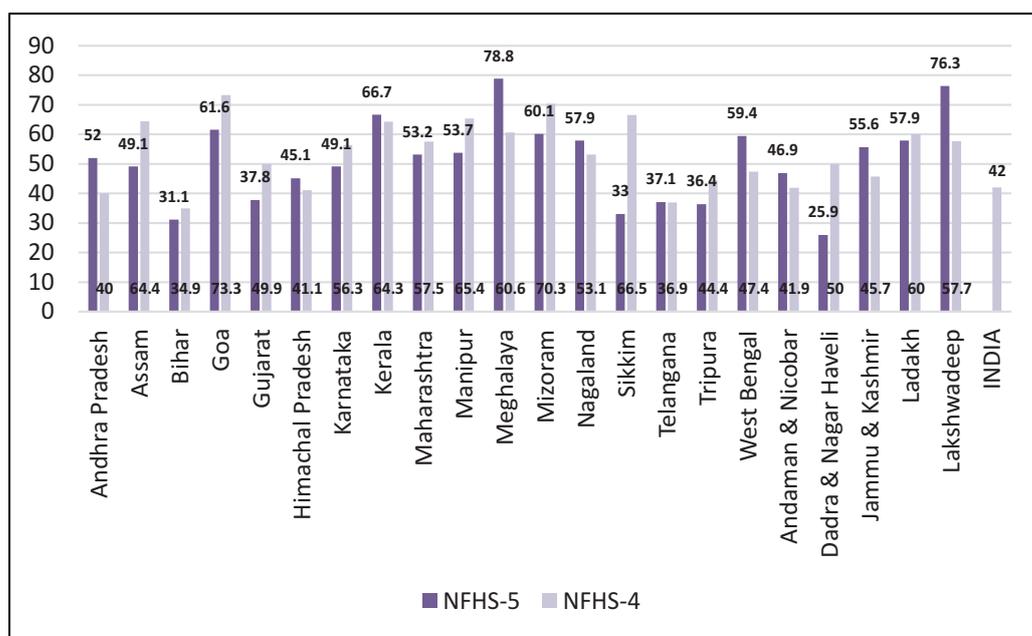
The results of NFHS 5 indicate that the percentage of mothers following the practice of early initiation of breastfeeding has declined in 12 states and UTs (See Figure 14). The maximum percentage points decline is observed in Sikkim (33.5 percent), Dadra and Nagar Haveli (24.1 percent), and Assam (15.3 percent). Meanwhile, a rise in the rates of early initiation of breastfeeding is observed in Lakshadweep, Meghalaya, and Andhra Pradesh. Moreover, as also noted in the NFHS 4 findings, in 10 states and UTs, there is a substantial gap in the percentage of mothers who had institutional delivery (See Figure 9) and in the mothers who followed the practice of early initiation of breastfeeding. The practice of exclusive breastfeeding (See Figure 15) shows only a marginal improvement. Since NFHS 4, there has been a steep decline of 26.3 percentage points in the practice of exclusive breastfeeding in Sikkim.

“There are substantial gaps in the percentage of mothers who had institutional delivery, as well as those who followed the practice of early initiation of breastfeeding.”

^c Complementary Feeding (CF) refers to feeding an infant, from six months onwards, semisolid food to complement breastfeed which by itself is inadequate to provide the increased requirements of nutrients for the rapidly growing infant

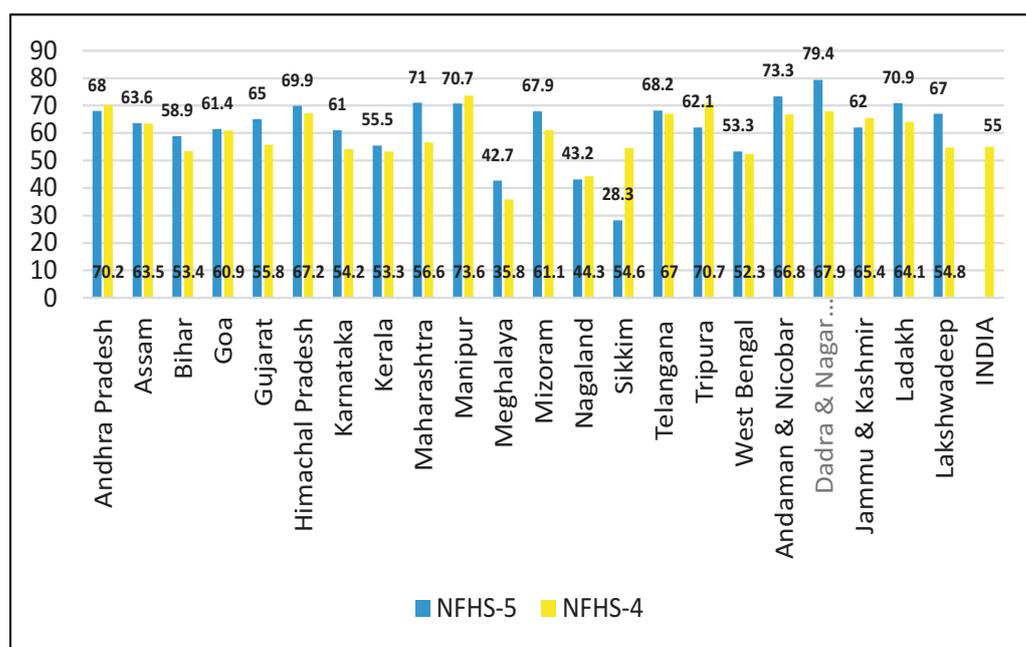
Immediate Determinants and Interventions

Figure 14
Early initiation of breastfeeding within an hour of birth in 22 states & UTs



Sources: National Family Health Survey- 4 (2015-16)⁶² and 5 (2019-20)⁶³

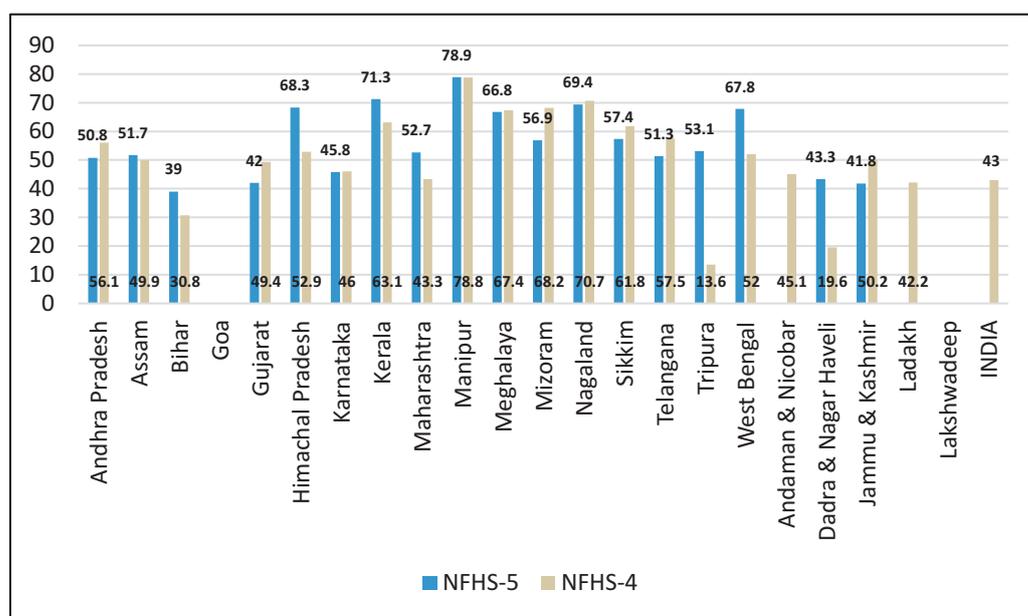
Figure 15
Exclusive breastfeeding for 6 months in 22 states & UTs



Sources: National Family Health Survey- 4 (2015-16)⁶⁴ and 5 (2019-20)⁶⁵

Timely introduction of complementary feeding (See Figure 16) at 6-8 months and diet adequacy are important indicators of young child feeding practices. In nine states and UTs, there has been a declining trend in adopting the practice of timely introduction of semisolid food to a child. Both Kerala and Himachal Pradesh, with over 3-percent increase in child undernutrition rate, show a substantial increase in the percentage of children who are introduced to complementary feeding on time. A wide variation is noted across the 22 states and UTs in following the recommended practice of timely introduction of complementary feeding, with Tripura showing an increase of 39.5 percentage points.

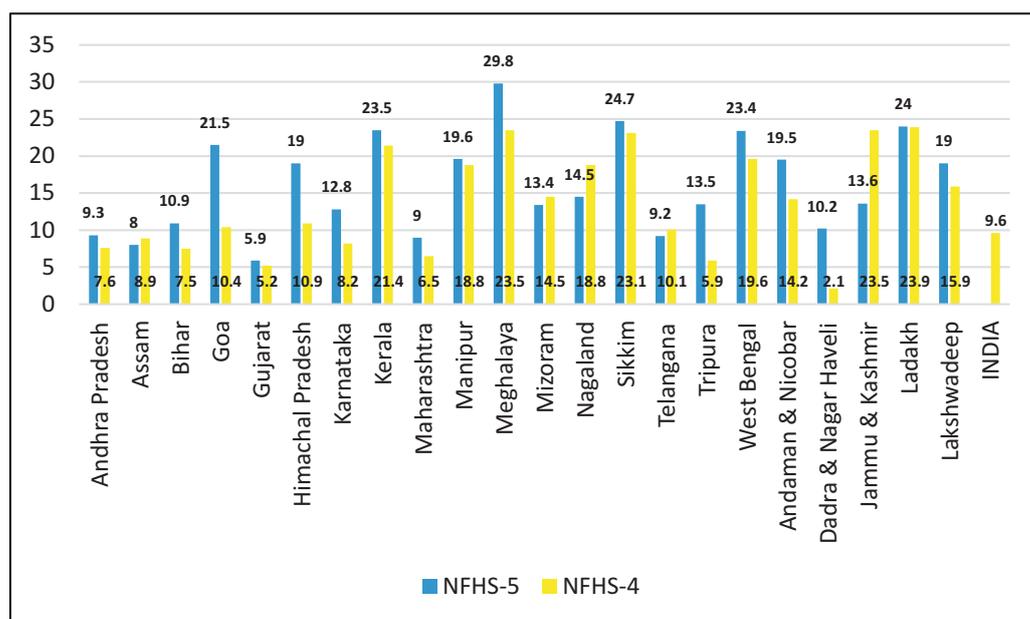
Figure 16
Introduction of complementary feeding (6-8 months) in 22 states & UTs⁶⁶



Sources: National Family Health Survey- 4 (2015-16)⁶⁷ and 5 (2019-20)⁶⁸

Minimum acceptable diet (or diet adequacy) is a composite indicator of diet diversity and frequency of feeding. Here, the percentage coverage is noted to have remained extremely low from the time of the fourth NFHS, to the fifth—at a range of 5.9 to 29.8 percent (See Figure 17). Only one state (i.e., Meghalaya) has percentage coverage of over 25 percent. In five states—namely, Assam, Mizoram, Nagaland, Telangana, Jammu and Kashmir—there has in fact been a decline in the percentage of young children being given adequate diet.

Figure 17
Children 6-23 months receiving a minimum acceptable diet in 22 states & UTs



Sources: National Family Health Survey- 4 (2015-16)⁶⁹ and 5 (2019-20)⁷⁰

The trend in CF practices in six (Goa, Himachal Pradesh, Kerala, Nagaland, Telangana, Tripura) of the 22 states and UTs where percentage rate of increase in stunting was 3 percentage points as compared to NFHS 4 was analysed. In three of the states (Goa, Himachal Pradesh, Kerala), the dietary adequacy remained almost stagnant despite the fact that overweight and obesity in women increased and maternal-child health services and women empowerment indicators continued to remain in the higher range (See Table 2). For example, in Himachal Pradesh, with 66 percent women having at least 10 years of education, there is at least a three-percent increase in undernutrition but almost a two-fold increase in overweight and obesity in children. In the other two states (Telangana and Nagaland), there is a decline in the complementary feeding practices either in terms of the timely introduction of CF between 6-8 months (Telangana) or in diet adequacy (Nagaland). In Tripura, there are unexpected changes in both breastfeeding and complementary feeding practices and an escalation in both childhood stunting and overweight.

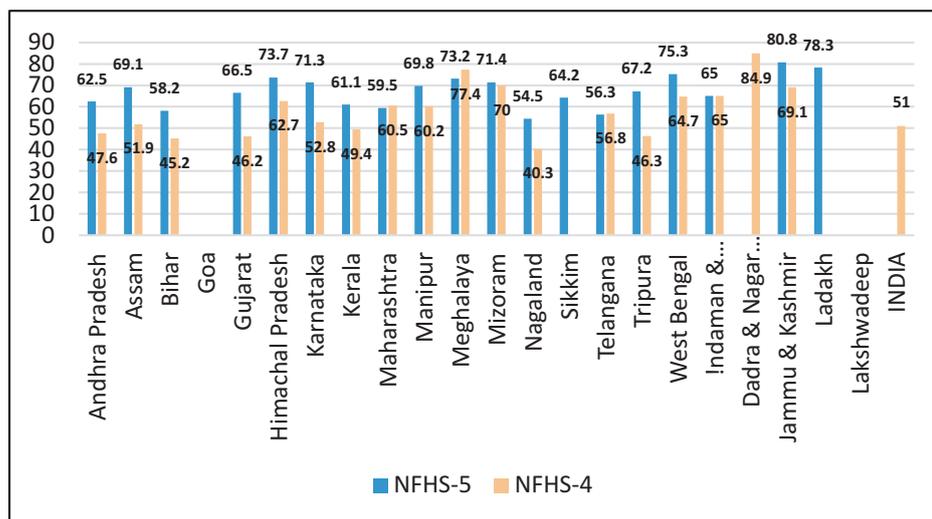
Immediate Determinants and Interventions

On the other hand, a substantial decreasing trend of 5 percent in stunting rate is noted in Bihar. As shown in Table 2, a significant percentage point increase in both the underlying and immediate determinants—including timely introduction of CF (30.8 to 39 percent)—is noted in Bihar. Similarly, the improving trend in child undernutrition in Manipur seems to be due to a combined impact of improvement in the nutrition-sensitive indicators (household profile, women empowerment, pregnancy and delivery care) and in adequacy of diet (increased from 14.0 to 22.0 percent) and access to food (proxy indicator being overweight in women, increased from 26.0 to 34.1 percent). The situation in Sikkim, however, is complex: the incidence of overweight and obesity in women has increased substantially—from 26.7 percent in NFHS 4 to 34.7 percent in NFHS 5, while the stunting rate in children also increased. However, adequacy of CF is almost stagnant (from 23.1 percent in NFHS 4 to 24.7 percent in NFHS 5) but there is an unusual increasing trend in the percentage of children given CF in the recommended age of 6-8 months. At the same time, this analysis notes a significant decline in exclusive breastfeeding practices (from 54.6 percent in NFHS 4 to 28.3 percent in NFHS 5). The situation in Sikkim is rather unique and needs to be further analysed using the district data.

Diseases/infections and Prevention

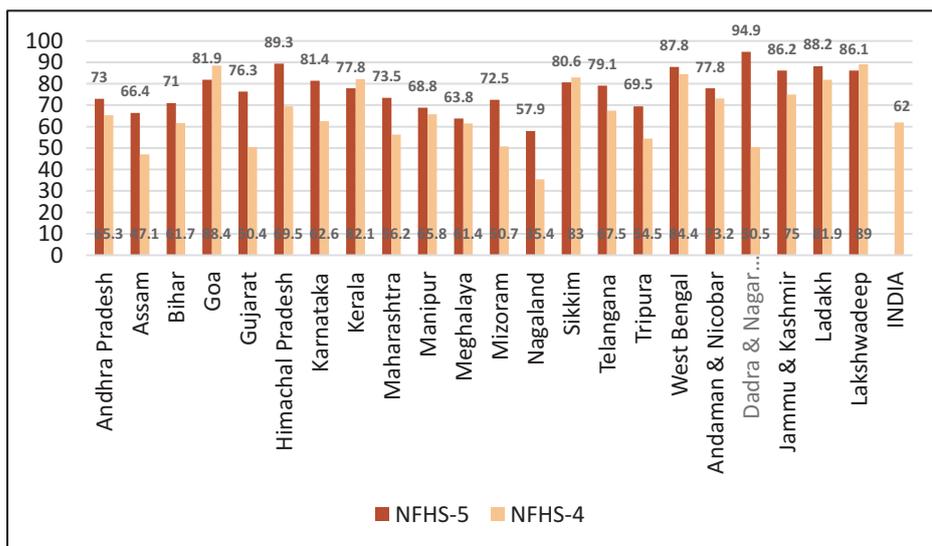
The other immediate determinant of child undernutrition is overall health, or the absence of diseases. Food consumed by a child will not be utilised well if a child also suffers from ill-health caused by frequent diseases and infections. The interventions therefore comprise measures that prevent frequent childhood diseases, infections and illnesses. The two NFHS indicators used in this study are: percentage of children fully immunised, and percentage who received oral rehydration solution (ORS) and ORS along with Zinc supplements (See Figure 18, Table 2 b). The NFHS 5 findings indicate a substantial improvement in the trend in all of these three indicators of health services. In the states and UTs of Goa, Himachal Pradesh, Karnataka, Sikkim, West Bengal, Jammu & Kashmir, Ladakh, and Lakshadweep—full immunisation coverage is over 80 percent while in Dadra & Nagar Haveli, the coverage has reached 90 percent (See Figure 19).

Figure 18
Children with diarrhoea receiving ORS in 20 states & UTs



Sources: National Family Health Survey- 4 (2015-16)⁷¹ and 5 (2019-20)⁷²

Figure 19
Children 12-23 months fully immunised in 22 states & UTs



Sources: National Family Health Survey- 4 (2015-16)⁷³ and 5 (2019-20)⁷⁴

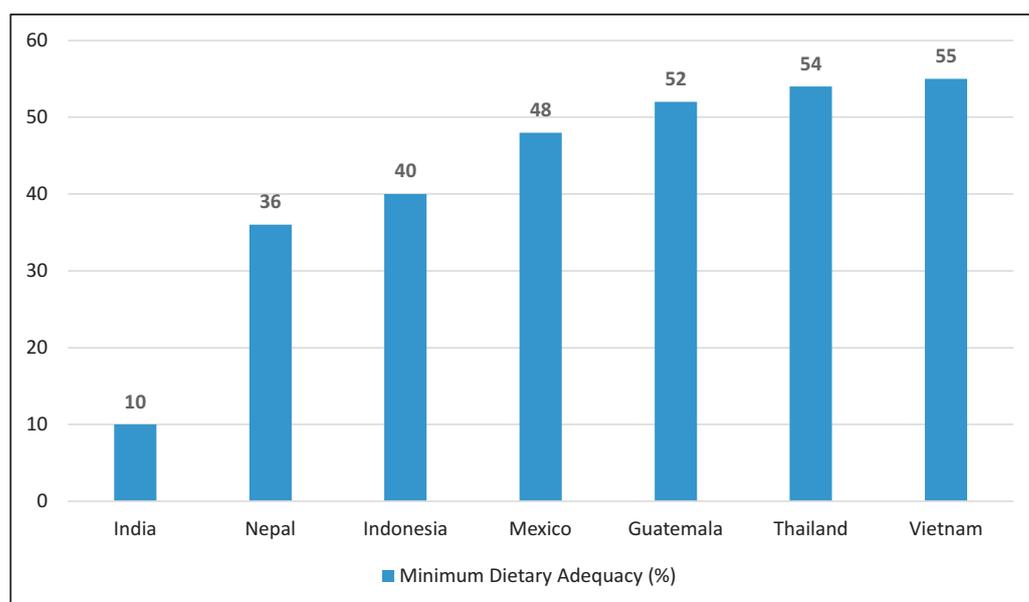
Trend Analysis: An Overview

As analysed in the earlier sections of this paper, NFHS 5 data in the last 4-5 years (the period between 2015/16 of NFHS 4 and 2019/20 NFHS 5), indicate a positive trend in percentage increase in the coverage of nutrition-sensitive interventions that address the underlying determinants of child undernutrition such as water-sanitation as well as the proxy indicators of women empowerment. These developments in the last three to four years could be attributed to a number of initiatives by the government. They have resulted in either the introduction of new policies or the effective roll-out of existing policies and programmes. These include accelerated coverage of national programmes such as Jan Dhan Yojana, Janani Suraksha Yojana (JSY), Swachh Bharat Abhiyaan, Ujjawala Scheme, PMMVY (Pradhan Mantri Matru Vandana Yojana), Mahila Kisan Sashaktikaran Karan Pariyojana (MKSP) under the National Health Mission, National Rural Livelihood Mission (NRLM), and Beti Bachao Beti Padhao mission.

With reference to the immediate determinants, there is an improvement in the interventions on maternal child health services such as immunisation and antenatal services. However, the other immediate determinants pertaining to intake of nutrients through appropriate IYCF practices are far from appropriate. The NFHS 5 findings confirm that the child feeding practices, particularly of CF, have remained extremely poor. The percentage of children who are reported to receive the benefit of diet adequacy of 20 percent or above is noted in only six states, with the highest diet adequacy reported from Meghalaya state (29 percent). This is very low compared to the other countries of Asia and South America, which have a much higher percentage of children in the category of diet adequacy (See Figure 20).

“NFHS5 has found that child feeding practices, particularly of complementary feeding, remain extremely poor.”

Figure 20
Complementary Feeding, Food adequacy situation in LMICs and India



Source: UNICEF IYCF global database⁷⁵

In progressive states such as Himachal Pradesh and Kerala where a higher percentage of women have completed secondary education, there is also a corresponding increase in the percentage of overweight and obese women, but also an unexpected increase in child stunting rates. These findings prove that poor purchasing power is possibly not the primary contributory factor. Child care, including feeding practices, are possibly getting adversely affected since there is a high chance that educated and empowered mothers are employed in tasks outside their homes and there is inadequate time to follow the recommended complementary feeding practices. Such a trend also indicates that caregivers are not paying attention to the appropriate selection of food items for family's daily diet. This possibly also shows that once there is increase in decision-making power, the daily family eating habits possibly shift—to indulging more in high-fat and refined carbohydrate diets. This observation is strengthened by field studies in Gujarat and MP which reported that parents—often the father—tend to spend 20 rupees or more per day to buy processed foods items for their children, such as biscuits, cookies, fried wafers, and salty and sweet snacks.⁷⁶ These food items are often high in saturated fats, trans fatty acids, sugar, and salt. Advertisement and intensive marketing of such food items are also critical

Trend Analysis: An Overview

driver which influences the selection of complementary food items. These findings concur with recent studies which found that intake of such unhealthy food items is on the rise even in low-income countries.^{77,78,79}

The fifth NFHS confirms that the complementary feeding (CF) practices being followed are poor and need urgent attention. It is well recognised that most of the growth faltering occurs during this critical period from six months to two years, when CF plays a significant role in addressing nutrition intake by a child. This period of growth faltering also coincides with the transition from exclusive breastfeeding to consuming a wide range of family foods while continuing to breastfeed.⁸⁰⁻⁸¹ Insufficient quantities and inadequate quality of complementary foods, together with poor feeding practices and increased rates of infection, contributes to such growth faltering.^{82,83,84,85,86} It is evident that adoption of appropriate complementary feeding practices requires behavioural changes with reference to making informed selection of appropriate food items and following recommended feeding practices. For influencing IYCF practices, a well-planned and effective social behavioural and communication (SBCC) strategy is essential since the behaviors are ingrained in society and in family traditions. The imperative is to reach mothers, caregivers, family members, and others in the extended circle of influencers.

Adoption of appropriate breastfeeding practices is also not limited to merely having the correct knowledge but influencing adoption of desirable skills and practices. Studies undertaken in Maharashtra and Gujarat, for example, have demonstrated that breastfeeding is largely “mother dependent” and introduction of appropriate techniques of proper “cradle” holding and actively discouraging “nipple suckling” for effective breastfeeding is feasible and contributes to improvement in ‘catch up’ growth even in low birth weight newborns and in preventing undernutrition.⁸⁷ The power of existing legislation, “The Infant Milk Substitutes, Feeding Bottles, and Infant Foods (Regulation of Production, Supply and Distribution) Act”, 1992 (IMS Act), and strengthening a number of programmes such as Home Based Care of Newborn, Home based Care of Young Children, Mother’s Absolute Affection (MAA) programme, Breastfeeding Friendly Hospital Initiative (BFHI), and establishment of Human Donor Milk Bank.⁸⁸ It is noteworthy that in India, unlike in many other countries, the Infant Milk Substitutes Act⁸⁹ also bans marketing and advertisements of complementary foods. However, many food items such as biscuits are smartly marketed for the general population and unfortunately replace home-cooked food and are used for feeding the young children.

Compared to breastfeeding promotion, convincing caregivers and community regarding adoption of appropriate complementary feeding practices, including access to diversified diet is complex. It requires context-specific and scientifically appropriate inputs.

This trend analysis of NFHS 5 data indicates a progressive trend in some of the nutrition-sensitive interventions which address the underlying determinants of malnutrition. However, efforts are required to continuously improve the coverage and meet the target of at least 90 percent coverage. At the same time, the findings reveal that the complementary feeding practices remain poor and therefore it is imperative to direct interventions towards the improvement of dietary adequacy for young children. The following actions are crucial.

Intensify advocacy to position investing in child nutrition high in the development agenda

At the level of family and community, there is little recognition of the “invisible” chronic undernutrition, measured as stunting or poor height for age. The predominant public perception of an undernourished child—severely wasted, without any visible fat and looking ill and famished—prevents a correct understanding of childhood undernutrition. Stunting may not be clearly visible but has serious adverse effects on optimum physical and brain development, immunity and health, cognitive development, and school performance; it also has serious implications in the incidence of adult onset non-communicable diseases.⁹⁰ A stunted child may in fact appear overweight or chubby, which is often incorrectly perceived as signs of being “healthy”. The policymakers, public, community and caregivers at large need to be made aware of the largely irreversible serious damage of child undernutrition not only on physical growth but on the development of the nervous system and brain in the first 1000 days of life—from the period of foetal growth in pregnancy to the time that the child is two years of age.⁹¹ There is an urgent need for policymakers to internalise that reversing of stunting and child growth deficits are difficult while cognitive deficits may be permanent after two years.⁹² Investing in improving child nutrition needs to be a national priority.

Converge nutrition-sensitive and direct nutrition actions at the level of families

Evidence gathered over nearly two decades confirms that a child’s first 1,000 days of life is the most opportune period for preventing undernutrition. Microplanning is important to reach mothers and children in this period: to identify and map families in a community with a pregnant woman, or a child 0-24 months, or a newly married woman in the preconception stage—and classify these households as at “high risk” of undernutrition and thus requiring urgent special attention to prevent young children slipping into undernutrition.

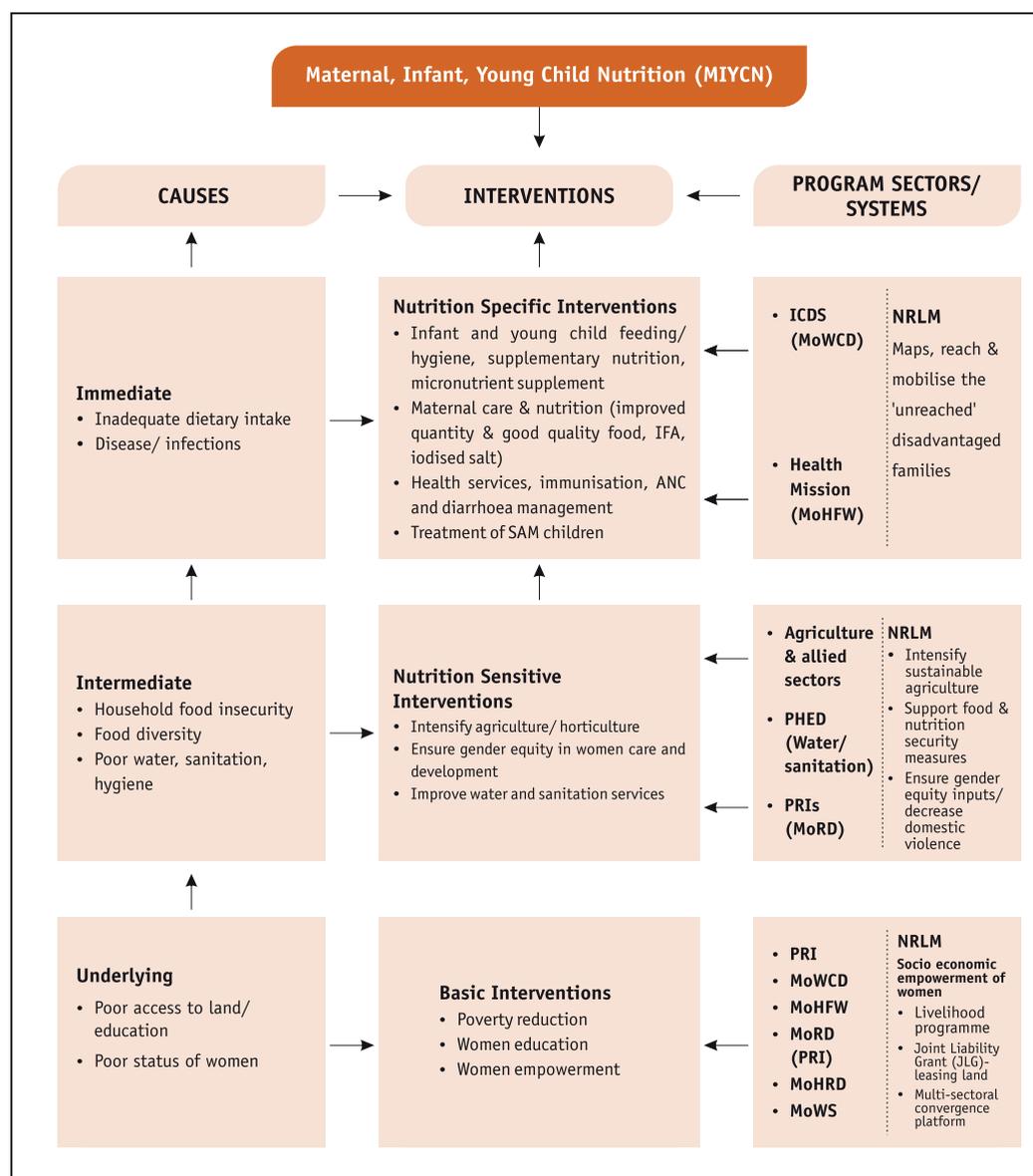
Recommendations and Conclusion

In a population of 1000, for example, with a total fertility rate of 2, it is estimated that there would be around 45 to 50 such ‘high risk’ households. Mapping and reaching these households is essential for effectively addressing both the feeding practices and the immediate and underlying determinants of child nutrition.⁹³ It is crucial to pay attention to the following: young child feeding and maternal nutrition practices; weight gain of pregnant women and children 0-24 months; timely provision of maternal and child health and family planning services; improving purchasing power; providing water-sanitation facilities; and preventing frequent pregnancies and domestic violence.

In turn, these tasks call for a multisystem design comprising Health, ICDS, National Rural Livelihood Mission (NRLM) and other systems dealing with homestead food production, water-sanitation programmes, and converging inputs in the identified “high risk” households. Unfortunately, however, the multisystem design of the POSHAN Abhiyaan or the National Nutrition Mission remains largely driven by the ICDS system or *anganwadi* services. Efforts should be directed that such multisector convergence takes place at the family level and is addressed through the plans of action of the panchayat and other micro-level village and urban wards. (See Figure 21)

“At the level of family and community, there is little recognition of the ‘invisible’ chronic undernutrition of many young children.”

Figure 21
Immediate, Intermediate and Underlying Causes: Nutrition-Specific and Nutrition-Sensitive Interventions



Source: Maternal, Infant, Young Child Nutrition (MIYCN)⁹⁴

Revisit and strengthen complementary feeding policy and action plan of POSHAN Abhiyaan

India has a policy in place to protect, promote, and support appropriate Infant and Young Child Feeding (IYCF) practices.⁹⁵ However, as compared to the promotion of breastfeeding, efforts to improve complementary feeding (CF) have lagged behind. Indeed, exclusive breastfeeding has gained much attention in India in recent years, more than the promotion of complementary feeding practices by both the ICDS and health sectors. This is because of the widespread appreciation for evidence that breastfeeding plays a critical role in reducing infant mortality rate (IMR) and under-5 mortality rate (U5MR). There is also growing evidence on the need to promote exclusive and effective breastfeeding to ensure ‘catch up growth’ in the first six months life.⁹⁶

Complementary feeding has an extremely critical role. Scientific evidence indicates that interventions that improve complementary feeding, including education on appropriate feeding practices, with or without provision of food supplements, are among the most effective measures to reduce stunting during the first two years of life.^{97,98,99} In most middle- and low-income countries, including India, much of the decline in height-for-age during the first two years of a child’s life occurs during the complementary feeding period—i.e., between six and 23 months of age.^{100,101} An analysis of two models of coverage of selected interventions found that appropriate complementary feeding would prevent about half of all stunting cases. Insufficient quantities and inadequate quality of complementary foods, together with poor young child feeding practices and increased rates of infection during this period, are direct risk factors for stunting.^{102,103} Adoption of appropriate CF is crucial since it is a period of transition where the baby gradually becomes accustomed to eating from the family pot while continuing to be breastfed. Eating patterns and habits developed during these early years of life usually continue till later years.

Appropriate CF practices comprise two components: food and feeding. Poor nutritional status in young children noted in this analysis is possibly associated with poor diet adequacy of CF. Studies have established the association between diet adequacy^d and preventing stunting.¹⁰⁴ Poor feeding practices cannot be solely attributed to a lack of purchasing power. Studies in India have reported that in families with cases of child undernutrition in the 1-3 age group, the percentage of children consuming adequate calories and protein (at least 70 percent of the recommended daily allowance or RDA) is much lower than the

d Diet adequacy is a composite indicator of appropriate diet diversity and feeding the child the right quantity of food, and with right frequency. Poor feeding practices cannot be solely attributed to a lack of purchasing power.

Recommendations and Conclusion

percentage of mothers with such level of RDA intake.¹⁰⁵ This is also evident from the analysis of NFHS 3 data of 2006 which showed that there were substantial differences in nutritional status between mother and under-five child in the same household.¹⁰⁶ A 2018 study in Delhi slums also found that while mothers are reported to be overweight, their children below two years are often undernourished or stunted.¹⁰⁷ Faulty CF practices also possibly contributes to the increasing trend in overweight that was noted in NFHS 5 in each and every state.

Besides poor purchasing power or poverty—which cannot be ignored and adversely influences access to quality diversified food—the primary reason for food inadequacy appears to be lack of knowledge regarding what to feed, how to feed, and how frequently to feed, as well as time availability with mothers and caregivers. Lack of correct information on appropriate young child feeding practices is possibly the primary reason resulting in poor CF practices. A study in the two northern Indian states—Uttar Pradesh (UP)¹⁰⁸ and Bihar—¹⁰⁹ reveals that mothers are generally not aware of the implications of undernutrition nor of the significance of appropriate child feeding practices. Studies¹¹⁰ undertaken by an NGO in Madhya Pradesh and Gujarat concurred that lack of financial resources per se is not the only cause of the lack of proper young child feeding practices. Families with young children are observed to be spending as high as INR 20 or more per day to purchase commercially produced packets of fried spicy or sugary snacks, rather than quality nutrient dense food items such eggs, milk and milk products, or pulses. This is also supported by data from NFHS 4,¹¹¹ which showed that 20 percent of children under five, even in the highest wealth index, were stunted.

Moreover, the current findings indicate a possible shift in the aspirations of caregivers who use their meagre resources to buy processed snacks and other items like mobile phones, rather than nutritionally dense food items like milk and milk products, eggs, fish, vegetables or fruits. A systematic study is required to probe this phenomenon, to determine if such decisions are made because processed food items that are attractively packaged, or accessories like mobile phones, are associated with a higher social status.

Appropriate CF practices need to combine the selection of suitable food items with the recommended feeding practices. CF therefore is not limited to interventions for ensuring access and availability of diversified quality food items in adequate quantity; it should be coupled with measures to ensure that caregivers adopt the appropriate feeding practices. The latter is measured by indicators such as timely introduction of CF at six to eight months, as well as ensuring a child is fed frequently as per the recommended frequency of two to four times a day. POSHAN Abhiyaan, launched in 2018, aims to promote

Recommendations and Conclusion

appropriate IYCF practices¹¹² as well as to enhance diet adequacy.^{113,114} The Social Behavior Change Communication (SBCC) strategy of POSHAN Abhiyaan includes guidelines on monthly celebration of “Annaprasan Diwas”¹¹⁵ and group counselling sessions on CF at the ICDS centers. Additionally, social mobilisation through biannual public campaign/Jan Andolan¹¹⁶ and conducting home visits is also built in the strategy. This current SBCC approach needs to be re-designed and implemented in conjunction with strong actions to improve access to affordable and diverse foods for all young children using the relevant delivery platforms.

For improving diet diversity of CF among the disadvantaged populations, POSHAN Abhiyaan is focusing attention on ensuring regular supply of ICDS supplementary food as Take Home Ration (THR), for six to 36-month-old children. However, there is no evidence that adequate supply of THR improves young child feeding practices and overall nutrient intake. There is a need for implementation research to understand the various dimensions of THR and child feeding.

With the objective of improving diet diversity, guidelines have been issued in the recent past by the ICDS,¹¹⁷ NRLM¹¹⁸ and the education sector¹¹⁹ for the establishment of kitchen gardens for homestead seasonal vegetable production. Through these systems, production of animal source food (ASF) items such as, eggs, dairy, fish and other flesh foods, if culturally acceptable, need to be promoted as important complementary feeds. ASF are the richest sources of iron and zinc and inclusion of ASF in the complementary feeding period is advised for reducing stunting.^{120,121,122,123,124} In low- and middle-income countries, feeding ASF to children is associated with better growth, cognitive performance, and motor development and activity.¹²⁵ There is a need to promote daily consumption of one full egg by a child from six months of age. Under the supplementary food component of ICDS, some states¹²⁶ such as Odisha, Jharkhand, Tamil Nadu, Telangana, Karnataka, Andhra Pradesh, West Bengal, Tripura and Bihar supply boiled eggs to children daily or on alternate days. It is important to undertake a systematic study on the impact of provision of eggs on CF practices and prevention of undernutrition in under twos. Based on current experience, there is a need for examining inclusion of supply of eggs in the food supplement component of the ICDS program in the other states.

UNICEF (2020)¹²⁷ has proposed an “Action Framework”—a tool for facilitating programming to improve the diet of children aged six to 23 months. It proposes that the strategic actions are delivered through the following systems—Food, Health, WASH, and Social Protection. It also stresses that improving young children’s feeding should be appreciated as “a critical opportunity to prevent all forms of childhood malnutrition, including stunting, wasting, micronutrient

Recommendations and Conclusion

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deficiencies, overweight and obesity and diet related non communicable diseases.” In the context of new evidence and revised CF program framework, the social behavioral change and communication (SBCC) strategy of POSHAN Abhiyaan needs to be re-visited and possibly repositioned, with emphasis on serious implications of poor IYCF on child undernutrition as well as brain and cognitive development.¹²⁸ It is time that the SBCC strategy of group discussion and interpersonal counselling during home visits also includes extensive use of digital media for disseminating information on improving child feeding and family eating practices to community at large and care givers belonging to various socio-economic groups. Indeed, a mass campaign for promoting appropriate young child feeding practices needs special attention. The poor CF practices deserve attention across all socio-economic groups and urgent actions are also required to prevent the rapidly growing problem of overweight as well as non-communicable diseases.¹²⁹ Moreover, political priority and leadership as well as financing, partnerships, and logistics support are essential to support and intensify large-scale implementation of the IYCF program intervention package in diverse service delivery environments.¹³⁰ Besides ICDS, various program systems such as Health, NRLM, Horticulture and Education sectors present enabling program systems and a wide range of platforms for implementing measures for improving complementary feeding practices which is critical for reducing stunting in India. Since the dietary habits vary widely, context specific state, preferably district level, plan of actions are required for comprehensive and effective CF strategy which take into consideration local food practices as well as the access and the non-affordability barriers.

It is important to recognise that “improving children’s diet is central to addressing three of the six World Health Assembly targets for reducing stunting, wasting and childhood overweight by 2025.”¹³¹ The findings of NFHS 5 call on India to seize the current opportunity of the current national efforts of the National Nutrition Mission or the POSHAN Abhiyaan as well as the recently issued “Eat Right” policy to address the gaps in young child feeding inputs—the immediate determinant of child undernutrition.¹³² With government support and setting accountabilities, complementary feeding in fact needs to be made a “Jan Andolan”, for ensuring timely and intensive public involvement in preventing stunting as well as overweight and micronutrient deficiencies in children. 

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