

The Universality of Inadequate Diet among Children in India: Can *Poshan Abhiyaan* be the *Setu* between IYCF Policy and Practice?

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ABSTRACT

Appropriate complementary feeding practices for infants and young children after 6 months play a pivotal role in determining the child's health and nutritional status. The National Family Health Survey (NFHS-4) data on three core indicators of complementary feeding, minimum meal frequency (MMF), minimum dietary diversity (MDD), minimum adequate diet (MAD) showed that MMF, MDD, and MAD are poor across all the states. The national average remained quite low with only 9.6 % of the children achieving MAD.

Although national technical guidance on Infant and young child feeding (IYCF) practices exists but policy and program actions have remained weak over the years. Can the Home-based Care for Young Child (HBYC) component of the Poshan Abhiyaan, address the barriers observed in the delivery and practice of IYCF recommendations and thus lead to improvement of the nutritional status of children which is crucial to achieving the sustainable development goals and targets.

Keywords: Home-based Care for Young Child (HBYC); National family health survey (NFHS); Minimum adequate diet (MAD); Sustainable development goals (SDG).

Nutrition during the first two years of life

Mother's milk is the optimal source of nutrition for an infant for the first six months of life ^[1]. But as an infant completes 6 months of age, the mother's milk is no longer sufficient to meet the child's increasing nutritional needs. Therefore, the timely introduction of hygienically prepared and nutritionally rich foods (complementary feeding) in addition to breastfeeding at about 6 months of age should be provided to infants ^[2].

The World Health Organization (WHO) has formulated indicators for assessing the infant and young child feeding practices (IYCF) practices within and across countries. Among the eight core indicators, the indicators of Minimum dietary diversity (MDD), Minimum meal frequency (MMF),

address the energy density and nutrient adequacy respectively and Minimum acceptable diet (MAD) assesses the overall adequacy of the diet ^[3].

The current state of MDD, MFF, and MAD in India

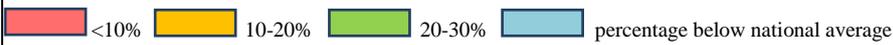
Table 1 shows the percentage of children 6-23 months achieving MMF, MAD, and MDD in 29 states of India as per the recent National Family Health Survey (NFHS-4) survey data ^[4]. The states were categorized into groups according to their geographic location and one group included the empowered action group (EAG) states. EAG states are the ones that have low development indicators.

The data showed that the national average for the three indicators remained

quite low with only 31 %, 20 %, and 9.6 % of the children achieving MMF, MDD, and MAD respectively.

For MMF and MDD seven and 10 states respectively had percentages lower

than the national average. In the case of MAD, 16 states had MAD less than 10%, eight states had values between 10-20% and five states had percentages between 20-30%.

Table 1 Complementary feeding indicators-MMF, MDD, and MAD among 6-23 months children in different states of India (NFHS 2015-16)			
	MMF (%)	MDD (%)	MAD* (%)
INDIA	31	20	9.6
Northern			
Haryana (HR)	32.9	18.3	7.5
Himachal Pradesh (HP)	49.0	27.6	10.9
Jammu & Kashmir (JK)	43	45	24
Punjab (PB)	35.1	17.7	5.9
West Bengal (WB)	38.1	37.8	19.6
Southern			
Andhra Pradesh (AP)	32.4	22.9	7.6
Karnataka (KA)	27.5	22.5	8.2
Kerala (KL)	44.0	38.4	21.4
Tamil Nadu (TN)	52.3	57.3	30.7
Telangana (TL)	30.0	26.6	9.9
Western			
Goa (GA)	-	-	10.5
Gujarat (GJ)	33.8	15.3	5.2
Maharashtra (MH)	21.6	28.7	6.5
EAG			
Bihar (BR)	30.0	18.2	7.5
Chhattisgarh (CT)	56.7	18.9	10.9
Jharkhand (JH)	40.2	14.6	7.2
Madhya Pradesh (MP)	35.7	15.6	6.6
Uttar Pradesh (UP)	38.3	11.1	5.3
Uttarakhand (UR)	41.9	21.2	8.5
Odisha (OD)	39.1	22.2	8.5
Rajasthan (RJ)	33.6	9.7	3.4
North-east			
Arunachal Pradesh (AR)	29.4	35.8	13.9
Assam (AS)	26.6	27.8	8.9
Manipur (MN)	53.2	37.1	18.8
Meghalaya (ML)	49.6	48.8	23.5
Mizoram (MZ)	34.9	43.0	14.6
Nagaland (NL)	49.3	38.9	18.6
Sikkim (SK)	42.3	49.1	23.1
Tripura (TP)	22.4	16.1	5.9
Data not available			
*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); MMF-Minimum meal frequency; MDD-Minimum dietary diversity; MAD-Minimum acceptable diet MAD range 			

Source: NFHS 2015-2016

Among all 29 states the states MMF was highest in CT (56.7%) and MDD and MAD was highest TN (57.3% and 30.7% respectively). The state which had the lowest percentage of children achieving MMF was MH (21.6%) and MDD and MAD were lowest in RJ (9.7 % and 3.4 % respectively).

Among the northern states, HP had the highest (about 50%) percentage of children receiving MMF. For the rest of the states, the values ranged between 32-43%. MDD and MAD were highest in JK (45 % and 24 % respectively) and lowest in PB (17.7 % and 5.9 % respectively).

In the southern states, TN performed quite well on the indicators while KA had the lowest values for MMF and MDD (27.5 % and 22.5 % respectively).

Among the EAG states CT had the highest percentage of MMF and BR had the lowest (30 %). The state of OD (22.2 %) had the highest MDD while RJ had the lowest values for both MDD and MAD. It was seen that six states had about half of the children achieving MMF while for MAD seven states had percentages below 10 percent in the EAG group.

Among the northeast states, MN had the highest and TP had the lowest (22.4 %) percentage of children receiving MMF (53.2 %). In the Northeastern states, MAD was relatively better than other groups of states. TP remained a low performing state on all three indicators.

Among all the states AS, JK, ML, TN, and WB had comparable MMF and MDD whereas for rest of the states the difference between the percentages of children achieving MMF and MDD was quite large especially in the EAG states where MDD was quite poor as compared to MMF (difference of more than 35 % for some states).

The MDD, MFF, and MAD data in different states of India point out very clearly that the diet of children below two years of age is still suboptimal and the problem is universal in the country and is a matter of great concern. Examination of data from 11 recent Demographic and Health Surveys (DHS) showed that dietary diversity was associated with stunting in 9 countries^[5]. Also, poor dietary diversity has been associated with anemia among children^[6].

Program and policies and global targets

The National guidelines on IYCF have been formulated by the Ministry of Women and Child Development, Government of India. These were recently amended and updated in 2015 by a group of experts at the National level based on the recent set of evidence and advances^[7].

Though guidelines have been formulated their implementation is not taking place at the ground level. However, until 2018, there was no advance on creating program systems that could monitor IYCF indicators and there was not a clear plan of concerted actions to address all aspects of complementary feeding.

The major program addressing the needs of children aged below two years is the Integrated Child Development Services (ICDS). Even though ICDS is the oldest and the largest of the food supplementation programs in the world for improving the nutritional status of vulnerable groups, still the impact of this program in terms of improvement in nutritional status of the vulnerable groups has been suboptimal. With regard to the objective of imparting nutrition education in the ICDS the focus of the training of the frontline workers with regard to IYCF has been disproportionately on breastfeeding than age-appropriate complementary feeding.

Keeping in view the health consequences of undernutrition, the World Health Assembly (WHA) in the year 2012, adopted the 2025 Global nutrition targets, to which India is a signatory. These targets are aimed to achieve: (i) Increase in the rate of exclusive breastfeeding in the first 6 months up to at least 50% (Target V) (ii) 40% reduction in the number of under 5 who are stunted (Target I) (iii) Reduction and maintenance in childhood wasting to less than 5% (Target VI)^[8]. These targets were further endorsed as part of the Sustainable Development Goals (SDGs) in 2015. In his 2017 peace proposal submitted to the UN assembly, Dr. Ikeda states “The SDGs seek to generate virtuous cycles in which progress made toward one goal enables progress on multiple other fronts”^[9]. By taking earnest action to achieve one SDG progress can be achieved in meeting other targets too. Inadequate nutrition impedes achieving the SDGs and these goals cannot be achieved without improving maternal and child nutrition^[10].

POSHAN ABHIYAN- The *setu* between IYCF Policy and Practice

POSHAN Abhiyaan-PM's Overarching Scheme for Holistic Nourishment, which is the flagship program of the Ministry of women and child development was launched in the year 2018. The specific targets are to achieve a reduction in stunting, undernutrition, anemia (among young children, women, and adolescent girls) and reduce low birth weight by 2%, 2%, 3%, and 2% per annum respectively^[11].

Home-based care for young children (HBYC)- a crucial component of the POSHAN Abhiyaan

IYCF practices have remained suboptimal throughout the country, as reflected by the recent NFHS-4 data and discussed above in detail. And it can be attributed to poor awareness of feeding practices and inadequate knowledge of appropriate complementary feeding along with other barriers that exist.

Under the HBYC, series of structured home visits by ASHA workers supported by AWW to homes of children 3 months to 15 months of age has been proposed with the purpose to counsel them on appropriate IYCF practices and create awareness regarding early child development (ECD). The four key domains under HBYC include nutrition, health, child development, and WASH^[12].

Under the existing Home Based Newborn Care (HBNC) the ASHA workers provide home-based care through several structured visits until 42 days after the birth of the child. Beyond this, ASHAs visits households only to mobilize children for immunization or in case when the child needs healthcare services for the management of illnesses or malnutrition. Other than these visits there is no contact of the ASHAs with the child's family. Although mothers are encouraged to follow optimal breastfeeding practices such as exclusive breastfeeding during these visits, there is no specific counseling about

complementary feeding such as which foods to start with, the minimum number of times solid, semi-solid foods to be given as per age, food consistency according to age, right quantity, dietary diversity, feeding during illness, responsive feeding, etc.

The HBYC addressed this gap by introducing 5 additional quarterly home visits during the early childhood period at 3rd, 6th, 9th, 12th, and 15th month. There is a narrow window of opportunity between 6 months and 2 years to prevent malnutrition in children and the HBYC promotes evidence-based age-appropriate interventions during this period by the ASHAs with support from Anganwadi workers. Figure 1 show the proposed visits under HBYC between 3 to 15 months and also the age-appropriate interventions to be promoted during these visits^[12].

Under the HBYC the government has decided to provide an additional financial incentive for ASHA who will be entitled to a sum of total INR 250 for completion of 5 additional home visits for each young child as per the recommended schedule.

To ensure that the frontline workers have the required expertise to be able to deliver the interventions outlined in the HBYC component additional training session have been planned. In addition to that periodic refresher training has been proposed to ensure knowledge and skill retention. Also, joint training of ASHAs, ANMs, and AWWs will be conducted to bring about clarity of roles and responsibilities and build a synergy of actions.

The progress of HBYC will be reviewed by the National Nutrition Council on India's Nutritional Challenges set up under POSHAN Abhiyaan. Similar committees at the state and district level with the involvement of all stakeholders would also be constituted.

Improving complementary feeding has been regarded as a major contributor to reducing anemia as well as stunting^[13], suggesting that desired progress in a child's

health and nutrition can be achieved if efforts are directed towards strengthening these practices.

The HBYC seeks to strengthen the mother's knowledge and capacity to provide timely, adequate, appropriate, and safe diet to ensure optimal nutrition.

It can play a significant role in improving the complementary feeding indicators such as MMF, MDD, and MAD, given the rigorous implementation of this is ensured at the ground level in terms of:

- Proper training to ASHAs on complementary feeding of infants and young child
- The motivation of the frontline workers wherein they truly understand their

critical role as being the agents of change

- Proper utilization of the funds provided under the Poshan Abhiyaan for each of its components
- Reaching out to the most vulnerable
- And most importantly strong commitment on the part of the political and bureaucratic leadership for the success of all components of the program.

The HBYC will intensify health and nutrition services during the 1000 days and combined with other strategic components of the POSHAN *Abhiyaan* have the potential to improve the poor nutritional status of children in India.

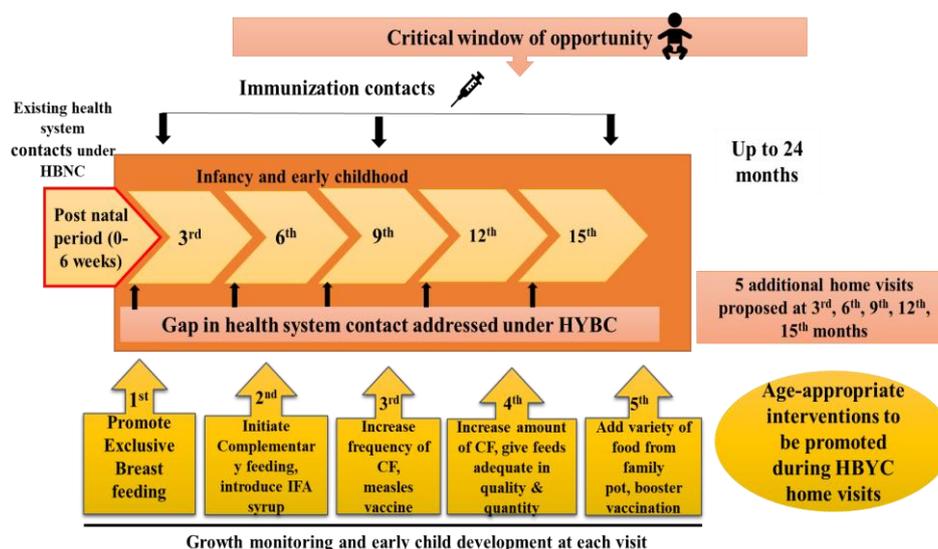


Figure 1: HBYC component of the POSHAN Abhiyaan

Source: Home Based Care for Young Child (HBYC), Strengthening of Health & Nutrition through Home Visits. Operational Guidelines. April 2018

Way Forward

There is an urgent need to explore the reasons for poor diet among children in India. The findings of a study in informal settlements in Mumbai showed that 62.6 % and 78.3 % of infants had consumed sugary foods (chocolates, sweets, candies, pastries) in the preceding 24 hours, in the age group of 6-11 months and 12-23 months respectively. Only 5% had consumed a minimal acceptable diet [14]. These findings suggest that the nutritious complementary foods were replaced by unhealthy snacks in

the diet of the children. Therefore, there is a need of further research to explore:

- Is the consumption of other snack products (locally available sugary, savory snacks and sweetened beverages) replacing the healthy complementary diets of these children?
- Marketing of commercial complementary foods and its consumption among children less than two years of age
- Factors needs to be explored in breast feeding as well as non-breast-feeding children separately

- Research should explore the impact of information on nutrition knowledge or exposure to counselling interventions
- Why few states have performed better than others, so that lessons can be learnt and similar strategies can be implemented in other states too

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Authors' Contribution

1. **Komal Rathi:** Conceptualization of the manuscript, Interpretation of data, Drafting of the manuscript, Final preparation of the manuscript
2. **Divya Tripathi:** Conceptualization of the manuscript, Critical revision of the manuscript, Final preparation of the manuscript

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