

# INFANT AND YOUNG CHILD FEEDING : KEY TO INFANT SURVIVAL AND GROWTH

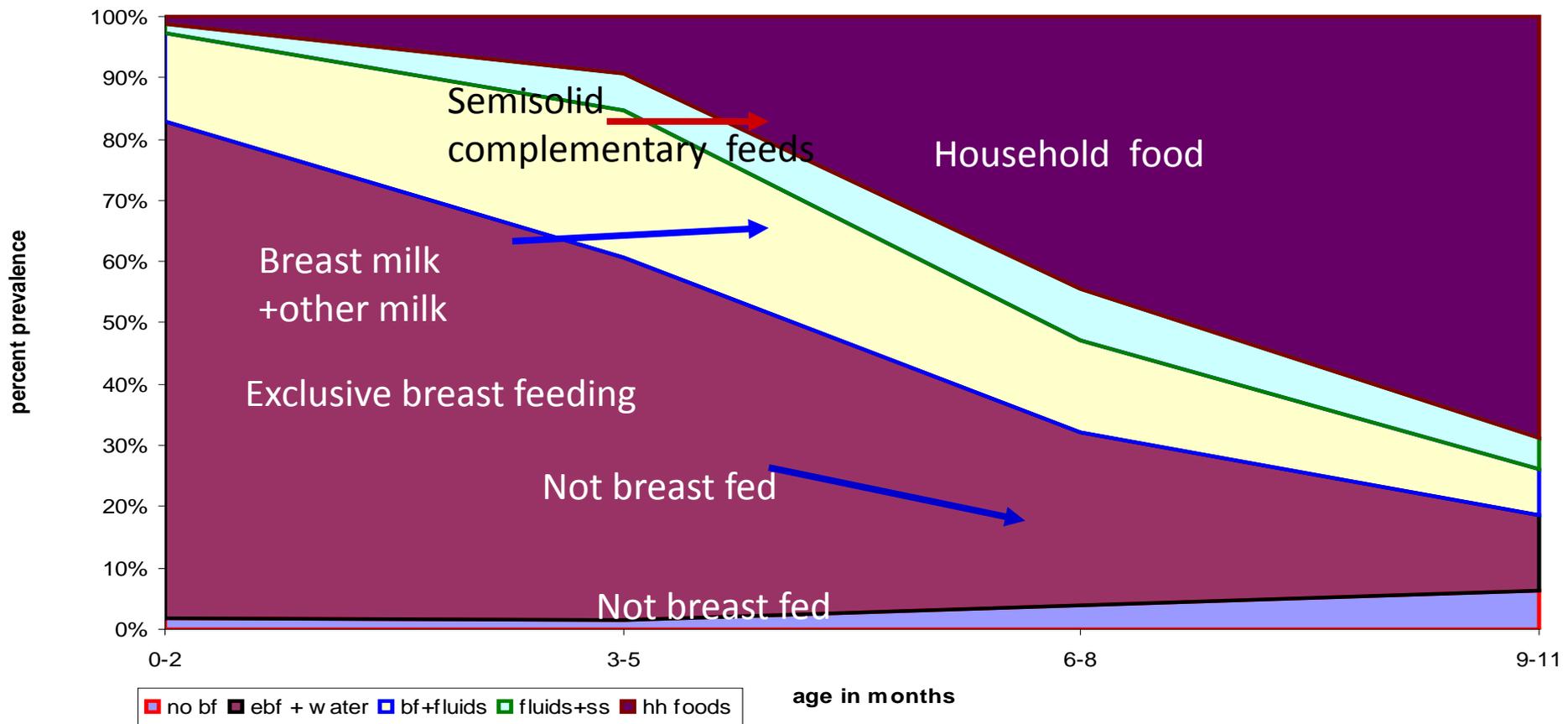


**DIRECTOR, NUTRITION FOUNDATION OF INDIA**

## **IYCF RECOMMENDATIONS**

- **Exclusive breast feeding for six months**
- **Introduce complementary feeding at 6 months and continue breast feeding**
- **Introduce family food from first year and continue to breast feed upto 2 years.**

# INFANT FEEDING PRACTICES

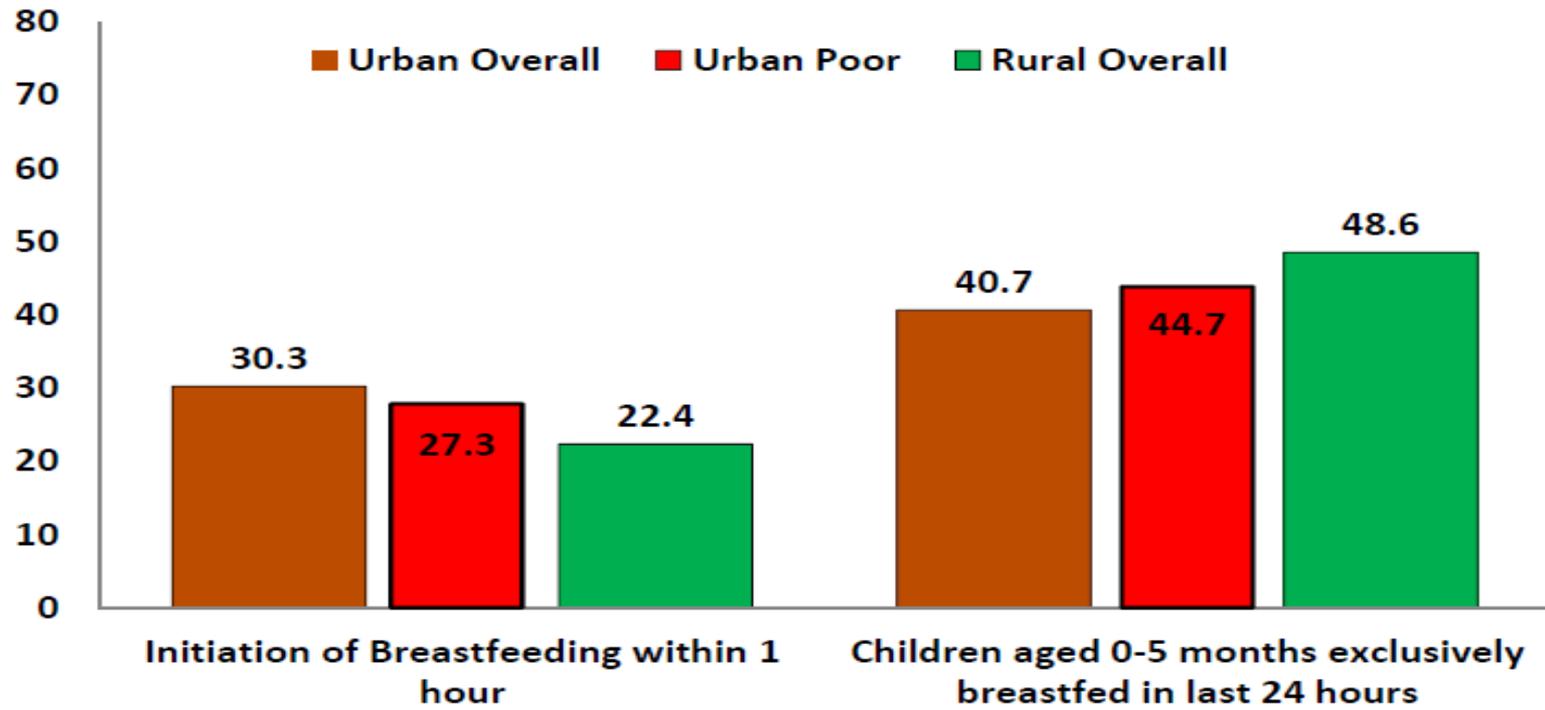


**Breast feeding is nearly universal; however less than 50 % of infants are exclusively breast fed upto six months**

**Very few receive semisolid complementary feeds at six months.**

**Majority of children receive household food along with breast feeding by 9-11 months**

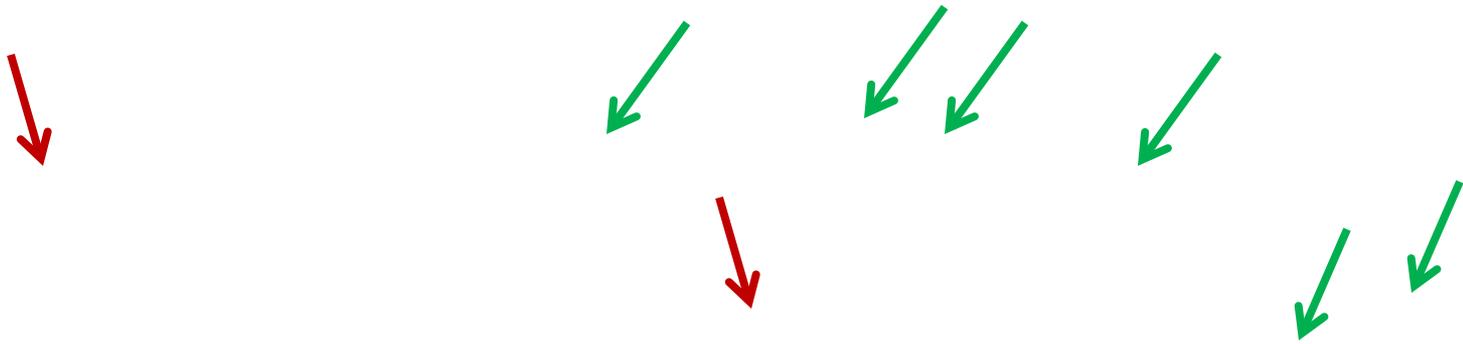
# EXCLUSIVE BREAST FEEDING



Source: NFHS-3 Re-analysis of urban by wealth index quartiles by UHRC

**Only about a quarter of the urban poor initiate breastfeeding early**

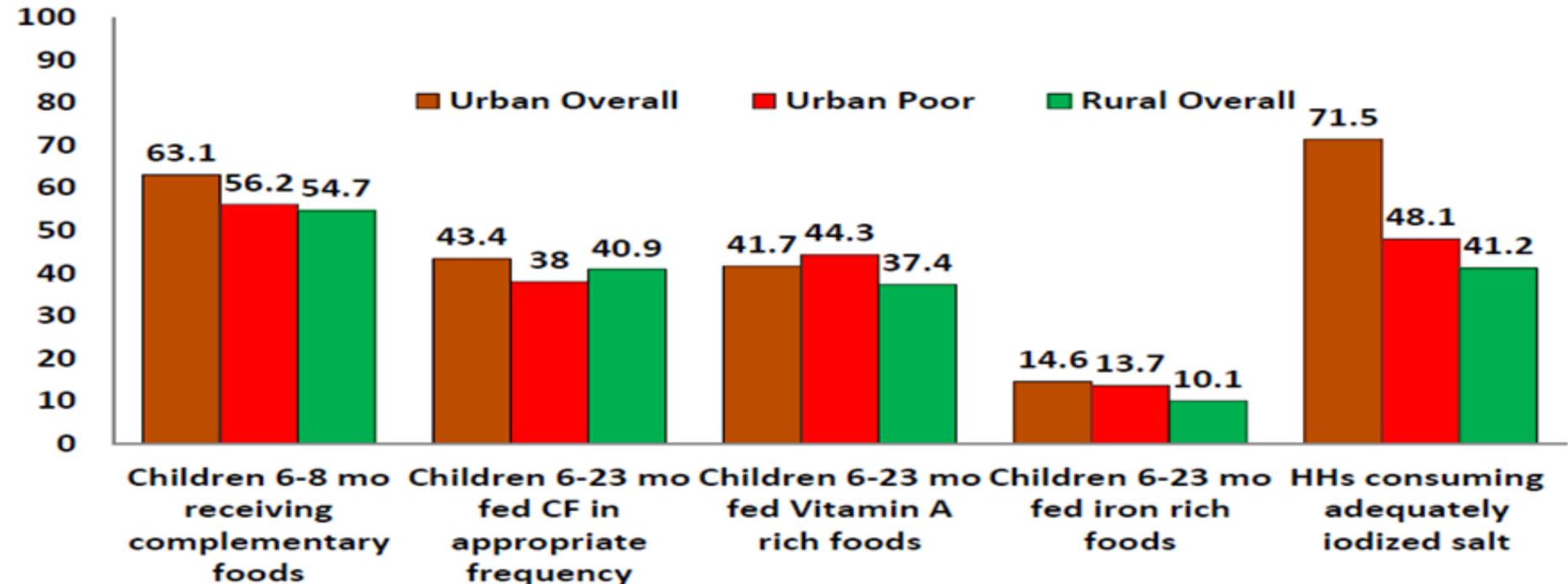
**Exclusive breast feeding rates at six months of age is lower in urban poor as compared to rural population**



**Between 1998- 2005 some states have shown improvement in exclusive breast feeding up to six months.**

**Why has MP deteriorated? Chattisgarh has improved. Mitani?  
Deterioration in infant nutrition can be minimised if most women in all states exclusively breast feed up to six months.**

# COMPLEMENTARY FEEDING – QUALITY



Source: NFHS-3 Re-analysis of urban by wealth index quartiles by UHRC

Urban poor fare worse than urban overall in terms of timely introduction of semisolid complementary feeds and adequacy of the complementary feed

Urban poor children do not get adequate vitamin A or iron rich food in their diets

In spite of better access less than half of the urban poor households use iodised salt

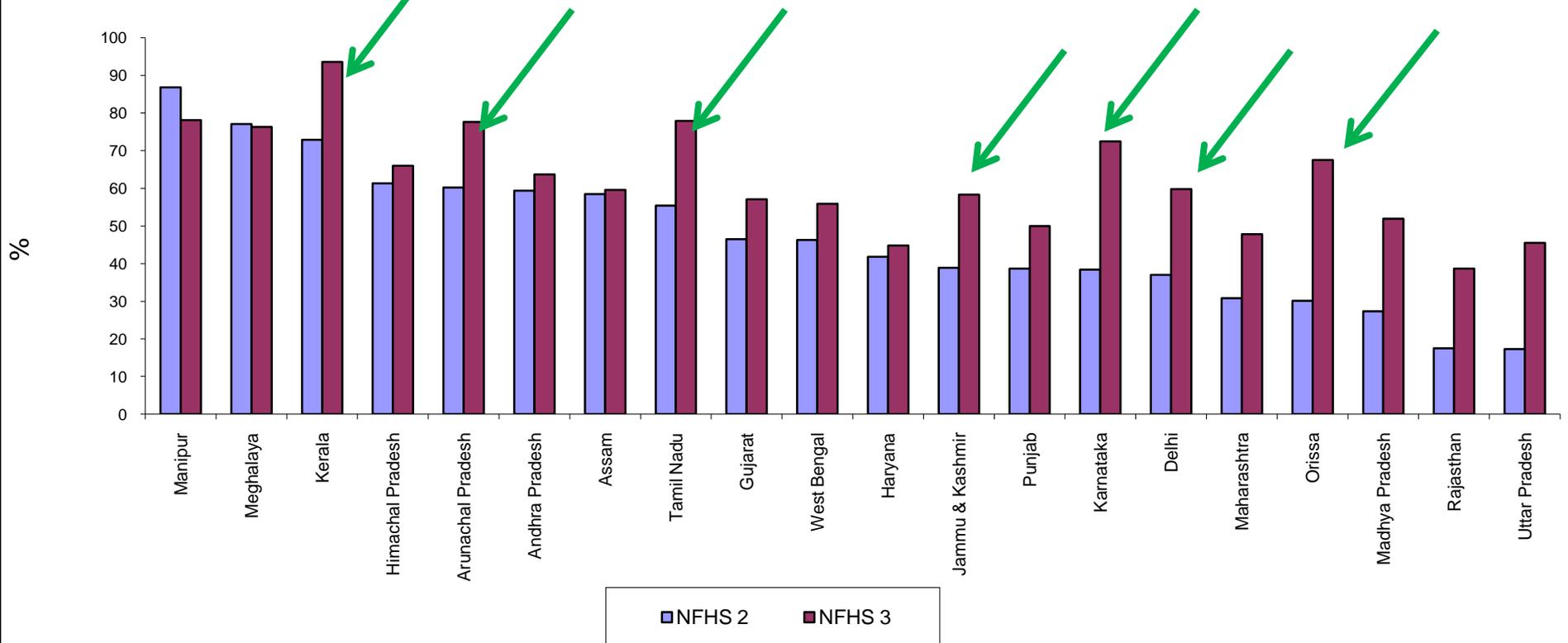
# ENERGY REQUIRED FROM COMPLEMENTARY FOODS

<b>Age (months)</b>	<b>Total energy needs (kcal/day) (US)</b>	<b>Breast Milk energy intake (kcal/day)</b>	<b>Energy needs from complementary feeds</b>
<b>6-8</b>	<b>615</b>	<b>413</b>	<b>202</b>
<b>9-11</b>	<b>686</b>	<b>379</b>	<b>307</b>
<b>12-24</b>	<b>894</b>	<b>346</b>	<b>548</b>

Energy needs of young children is very small as compared to the needs of the adults and most families can provide the needed food if they know what to give and how often.

The right time to begin BCC for IYCF is antenatal period. This has to be continued right through early infancy and childhood.

# INFANTS 6-9 MONTHS RECEIVING SOLID/SEMI-SOLID FOOD AND BREASTMILK



**There has been some improvement in timeliness of complementary feeding in some states; this has to be further improved.**

**Quantity and quality of the feeds should be improved in all states .**

# COMPLEMENTARY FEEDING

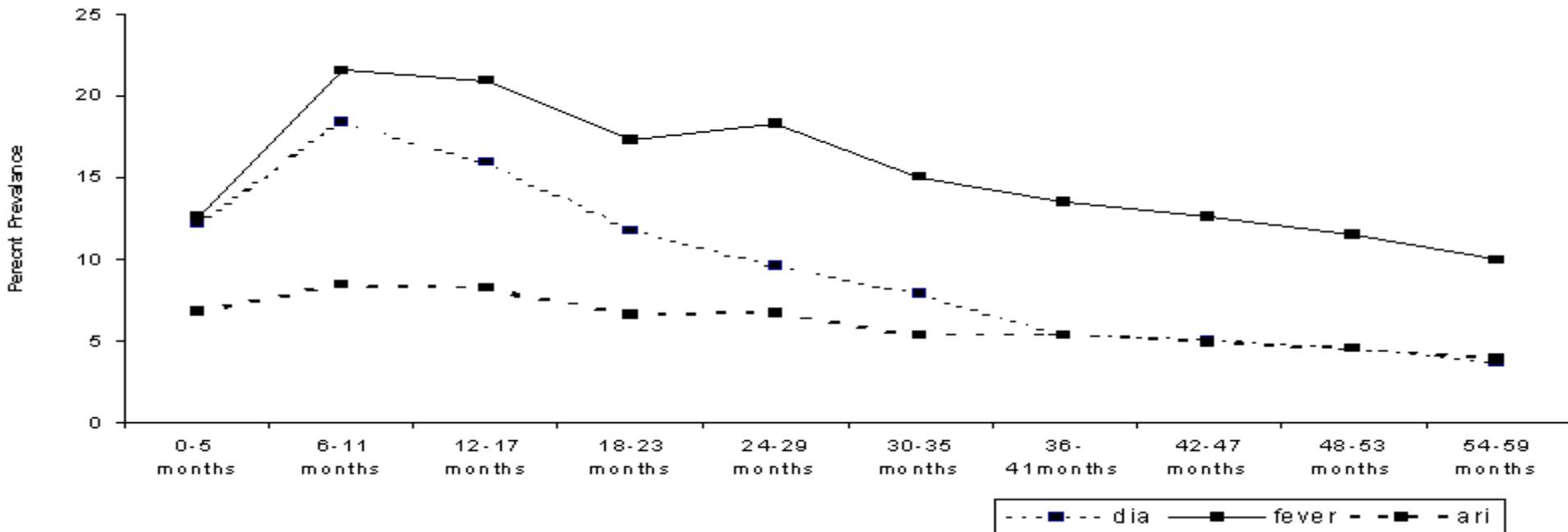
Semisolid preferably calorie dense food prepared by modifying the family food (cereal, pulse oil seed/ ghee, sugar) should be given from 6 months

## **HOW MUCH OF FOOD: HOW OFTEN**

- ✓ 6-8 mths - 2-3 times (each at least  $\frac{1}{2}$  katori)  
Try adding well mashed fruit/ vegetable from 8<sup>th</sup> month
- ✓ 9-11 mths - 3 times (each at least 1 katori)  
Start adding vegetables/ fruits one by one until the infant tastes all habitually consumed ones
- ✓ 12-23 mths - 3 times (each at least  $1\frac{1}{2}$  katori) right from the family meal and two snacks or fruits in between.
- ✓ Children have small stomachs. If energy density is low, increase frequency of feeds to 5 .

# **MORBIDITY IN RELATION TO AGE & INFANT FEEDING PRACTICES**

# PREVALENCE OF INFECTIONS IN RELATION TO AGE

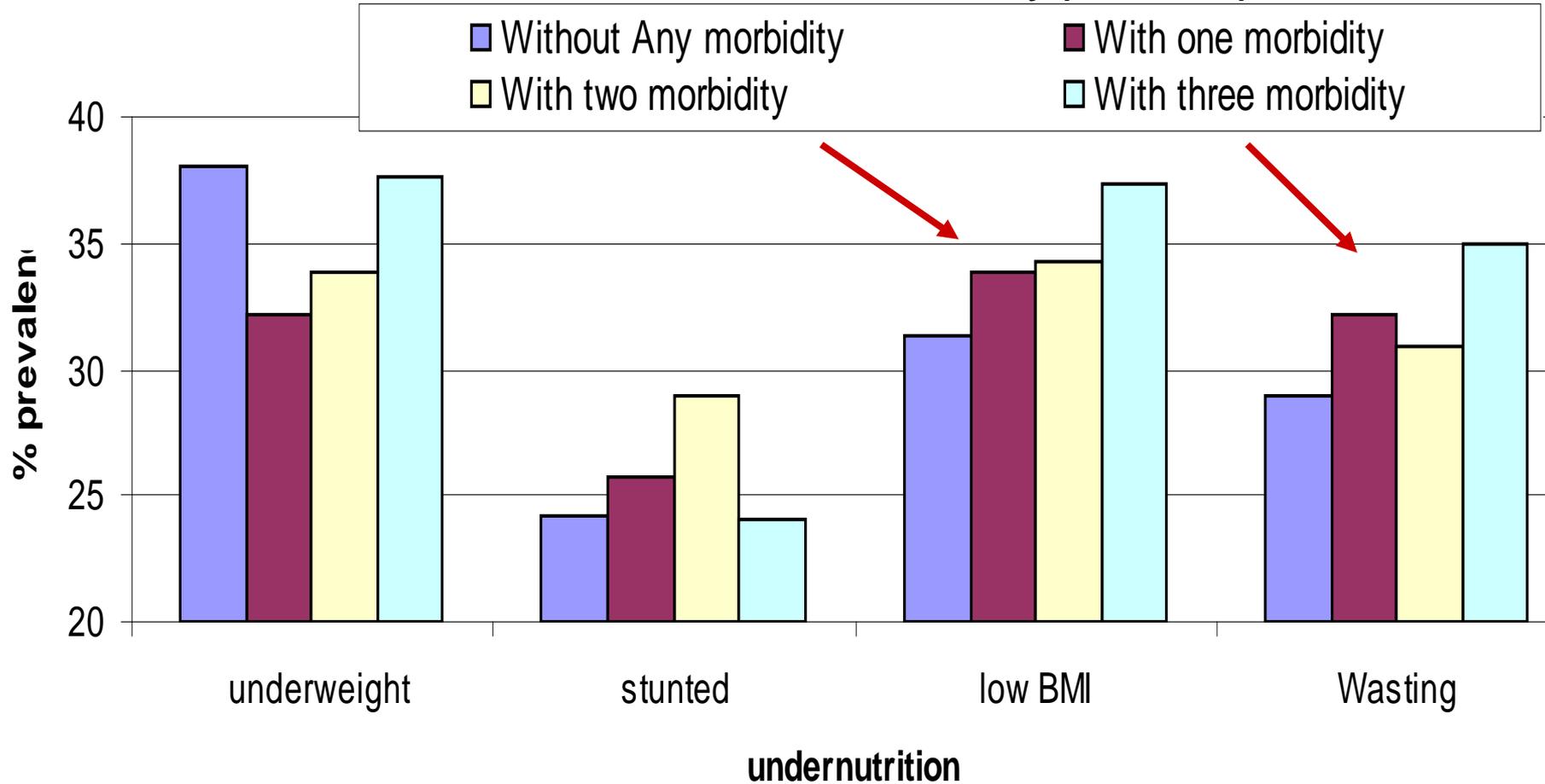


Prevalence of morbidity is low in the first three months when infants are mostly solely breast fed and are relatively not exposed to poor environmental hygiene

Morbidity especially diarrhea and fever increase between 6-23 months due to introduction of food other than breast milk, greater exposure to bacterial contamination and poor environmental hygiene

After the first two years there is some reduction in morbidity due to infection perhaps due

## Prevalence of undernutrition in infancy (0-11mths)

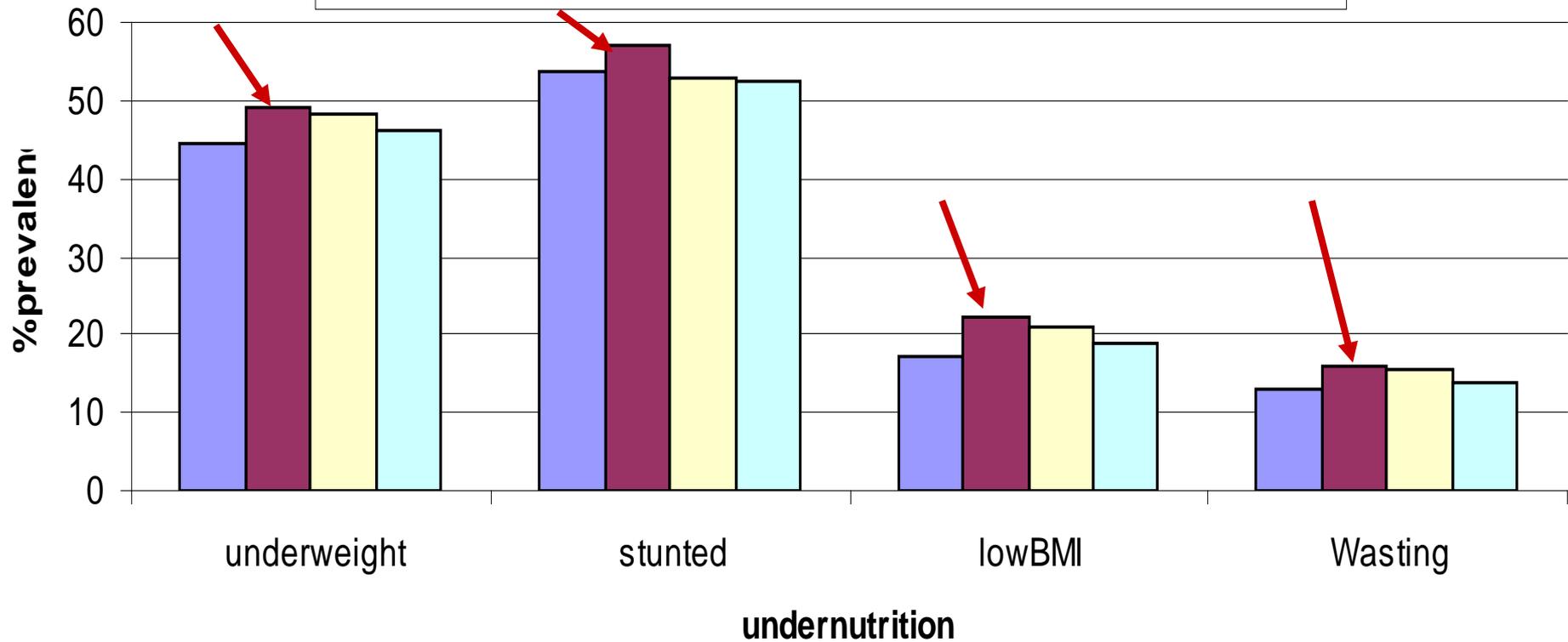


**Morbidity due to infections is associated with low BMI & wasting**

**Infants who had more than one episode of morbidity during infancy had higher prevalence of low BMI, and wasting**

## Prevalence of undernutrition in children (12-59mth)

Without Any morbidity   Diarrhoea   Fever   ARI

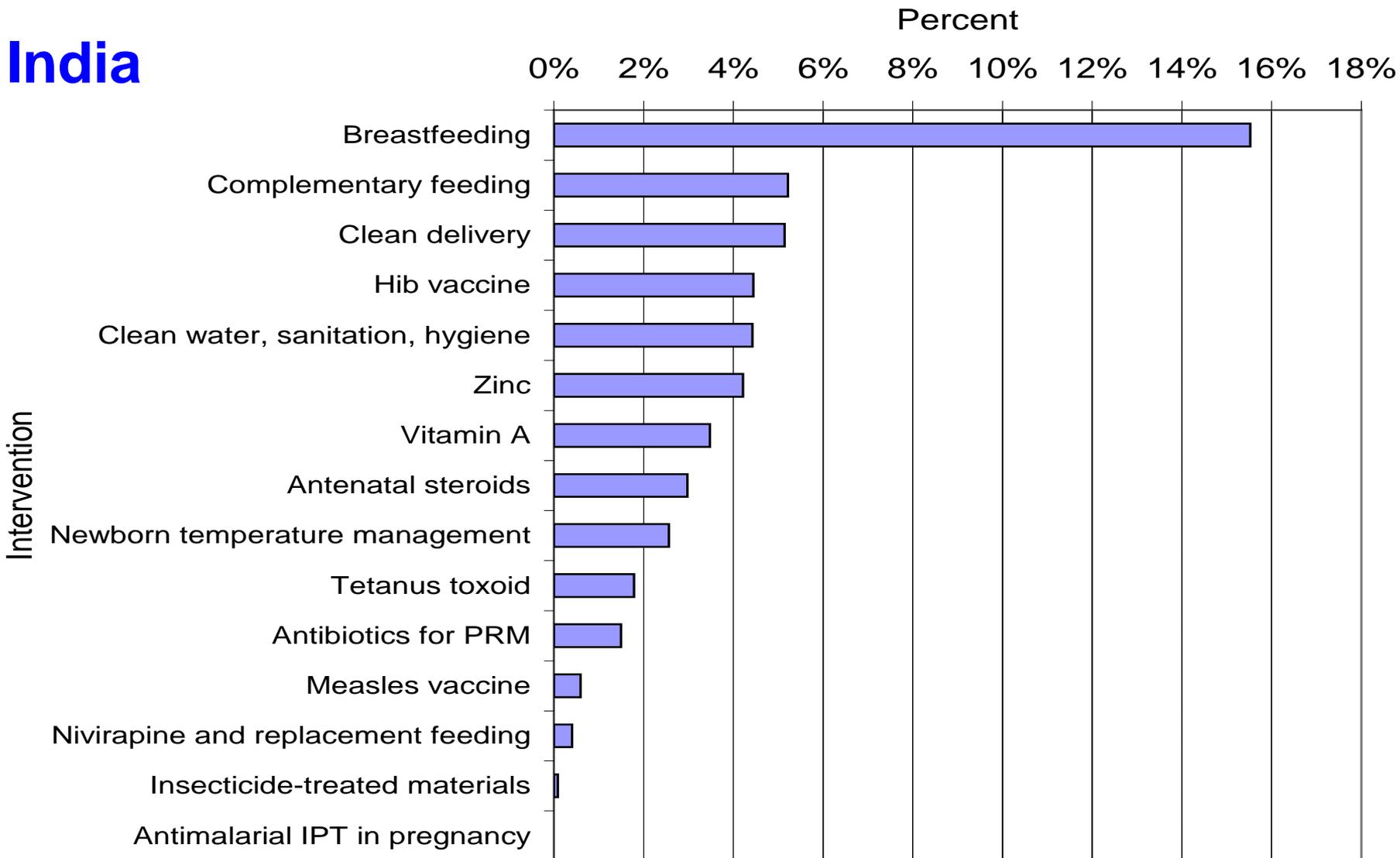


**Prevalence of undernutrition was lower in children who did not have any morbidity in the last fortnight**

**Prevalence of undernutrition as assessed by any parameter is higher in children who had diarrhoea.**

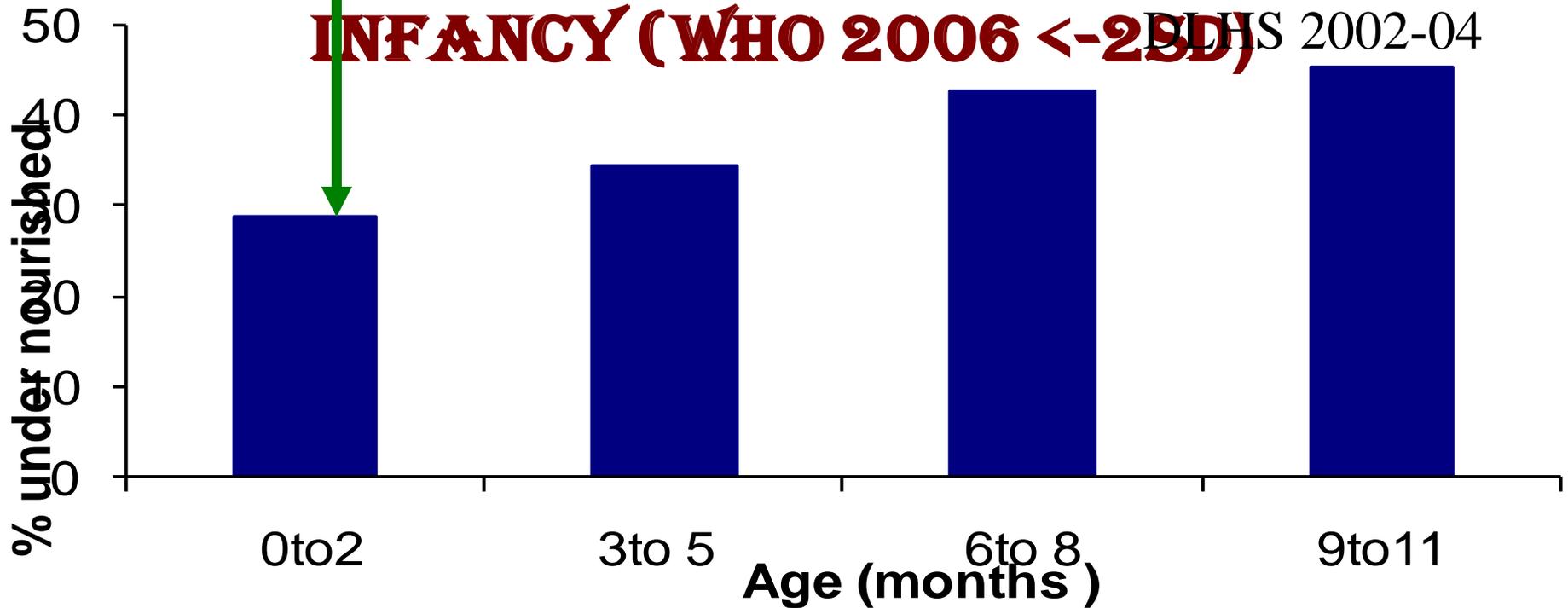
# UNDER-5 DEATHS PREVENTABLE THROUGH UNIVERSAL COVERAGE WITH INDIVIDUAL INTERVENTIONS (2000)

India



**EFFECT OF INFANT AND YOUNG CHILD FEEDING  
PRACTICES ON NUTRITIONAL STATUS**

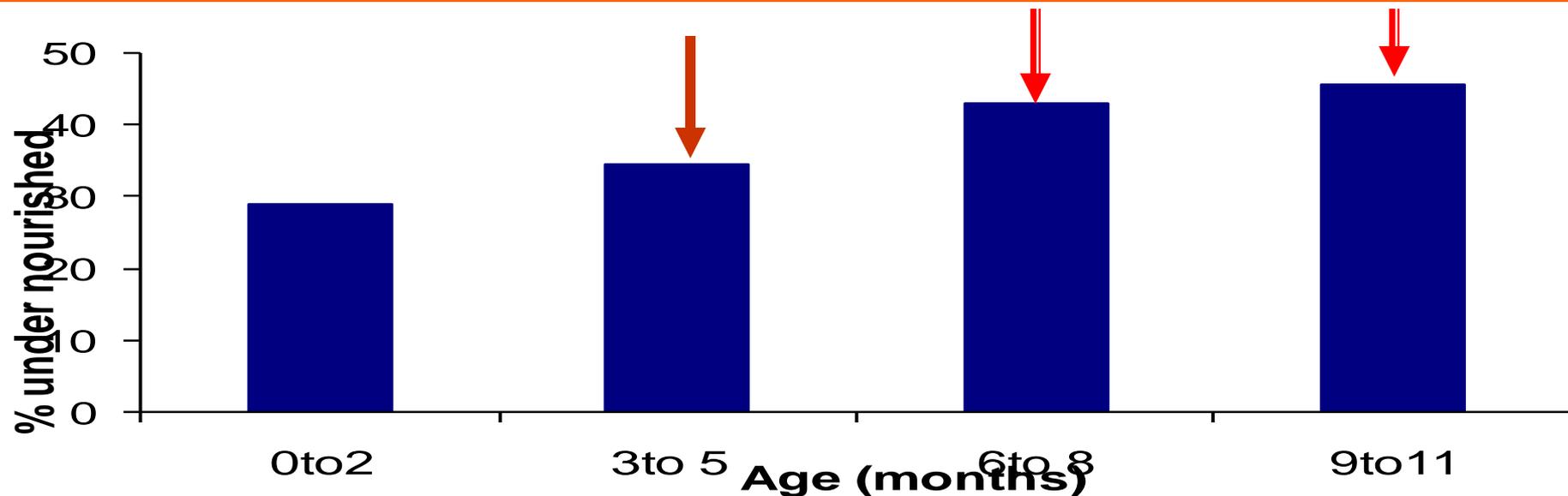
# PREVALENCE OF UNDERNUTRITION IN INFANCY (WHO 2006 <-2SD)



Most women exclusively breast feed in the first three months. Exclusive breast feeding provides adequate nutrients, prevents infection and promotes normal growth.

As a result prevalence of under-weight in first three months is 30% (same as low birth weight prevalence).

# INFANT AND YOUNG CHILD FEEDING: IMPACT ON NUTRITIONAL STATUS



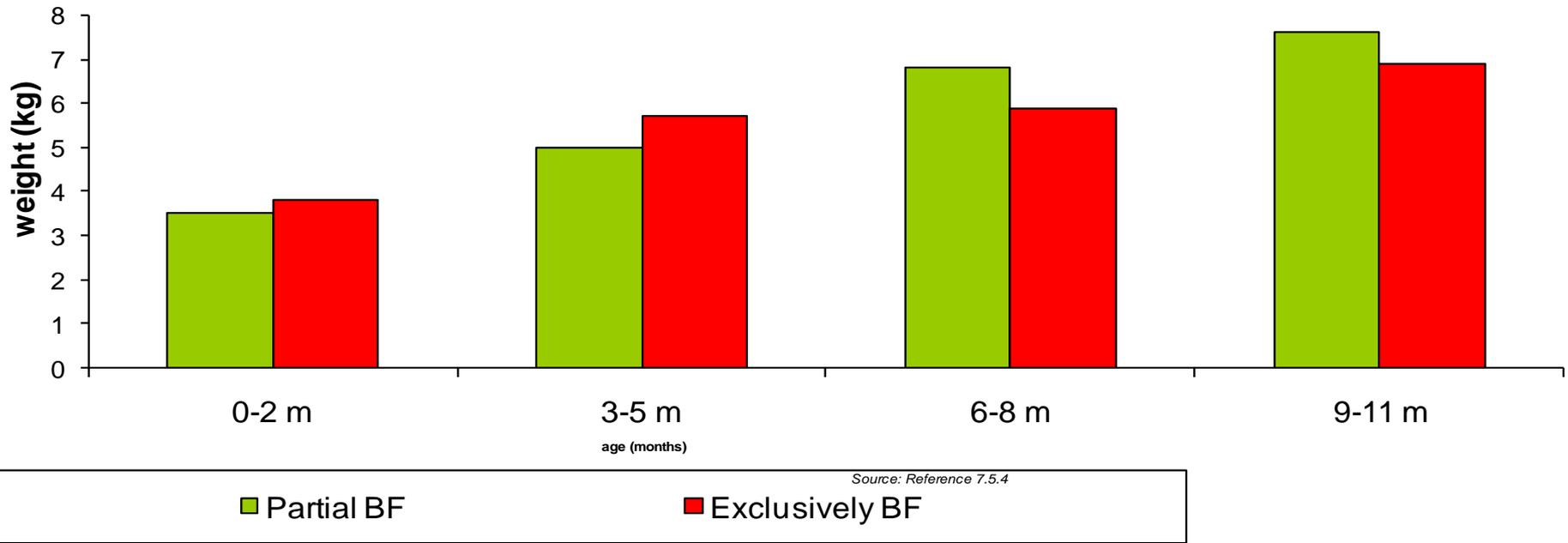
At birth 30% are underweight; in the first three months near universal exclusive breast feeding prevents further increase.

After 3 months underweight rate rises – due to early introduction of milk supplements and higher morbidity rates due to infections,

Between 6 and 11 months underweight rate further rises to 45% - partly due to inadequate complementary feeding and partly due to increase in morbidity due to infections.

**FOCUS ON NUTRITION EDUCATION ON IYCF AND BETTER ACCESS TO HEALTH CARE CAN PREVENT THIS DETERIORATION.**

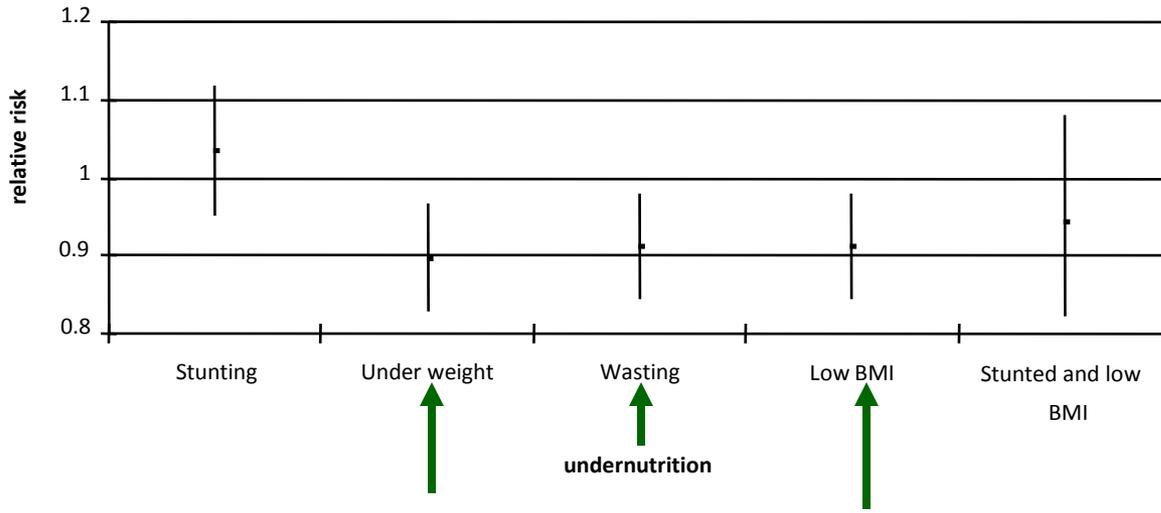
# EFFECT OF EXCLUSIVE BREASTFEEDING ON INFANT'S WEIGHT - NFI STUDIES



Exclusive breast feeding is associated with optimal growth in the first six months, because breast milk provide appropriate amount of nutrients for growth and prevents infections  
But beyond six months, the nutrient needs of infant cannot be met by breast milk alone  
Therefore continued exclusive breast feeding beyond six months is associated with poor growth

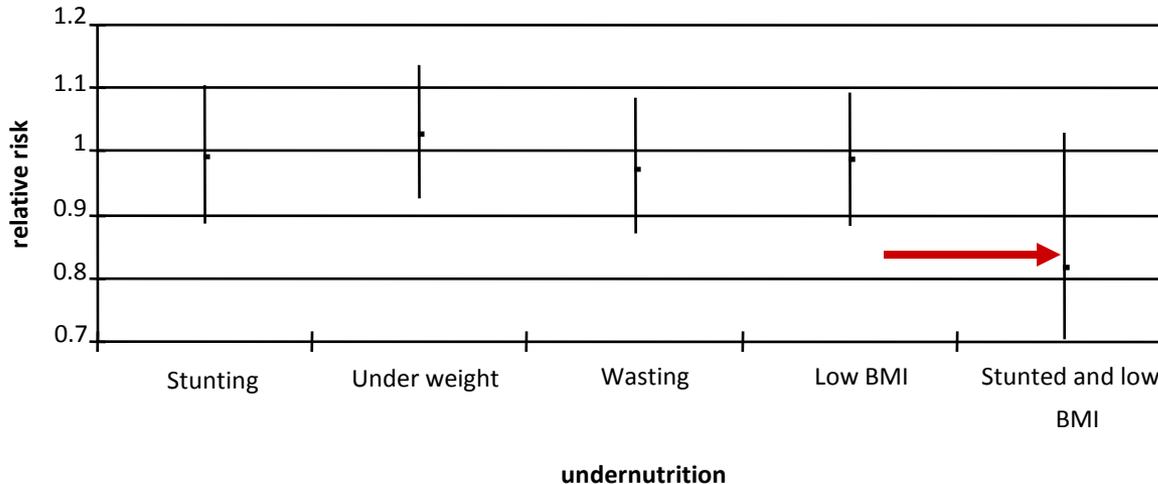
# INFANT FEEDING PRACTICES & NUTRITIONAL STATUS-NFHS 3

Exclusive breast feeding and undernutrition(0-5mth)



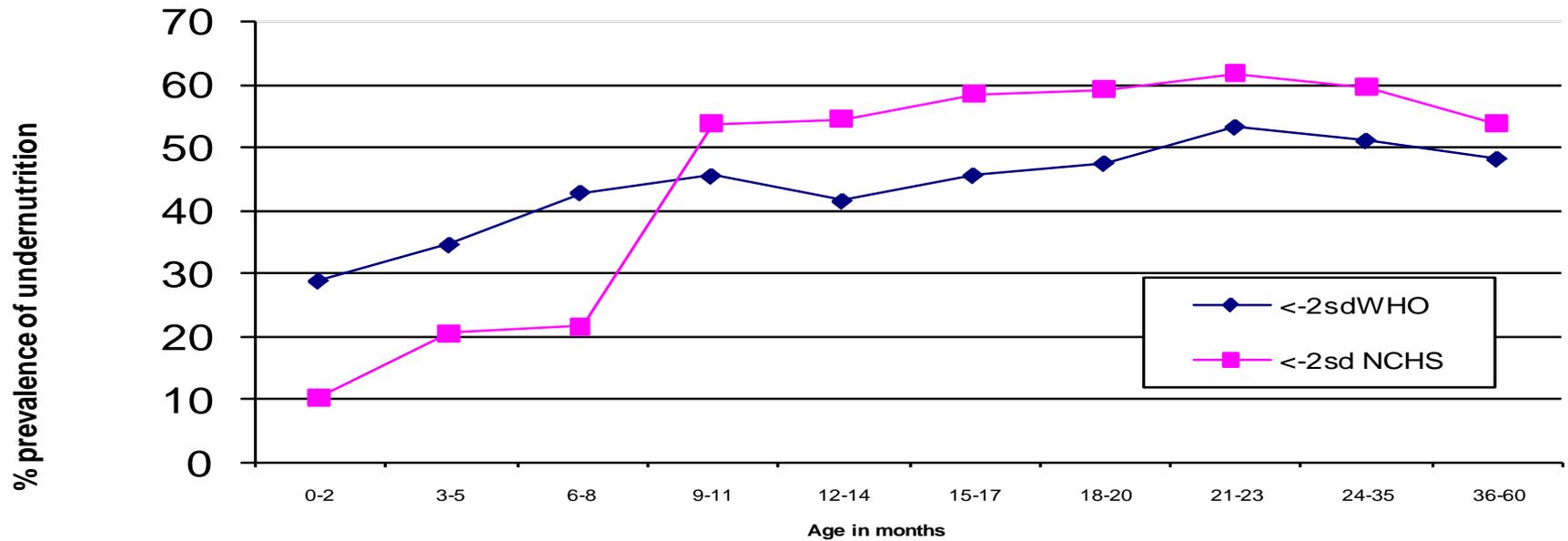
Exclusive breast feeding in the first six months protects against under-nutrition (under-weight, wasting & low BMI).

Exclusive breast feeding and undernutrition (6-11mth)



Exclusive breast feeding in 6-11 age group is associated with higher risk of stunting and low BMI

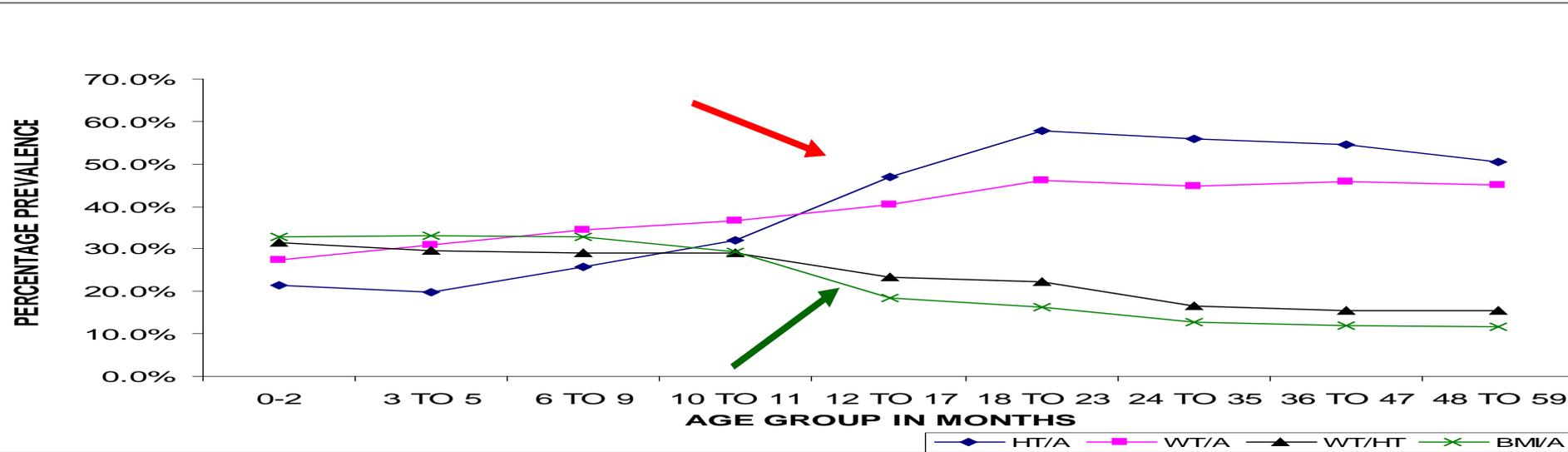
# UNDER WEIGHT PREVALENCE IN DLHS WHO VS NCHS



Growth of breast fed infants differs from growth of bottle fed infants  
Bottle fed infants do not grow as well as breast fed infants in the first nine months but after 9 months they tend to weigh more  
The NCHS WHO standards was based on bottle fed infants  
The current WHO MGRS ( 2006) standards are based on breast fed infants and is therefore appropriate for use in India

**IMPLICATIONS OF INTRODUCING WHO GROWTH STANDARDS  
(2006)**

# PREVALENCE OF UNDER-NUTRITION IN RELATION TO AGE



Between three and twenty four months, there is a progressive increase in stunting and underweight rates.

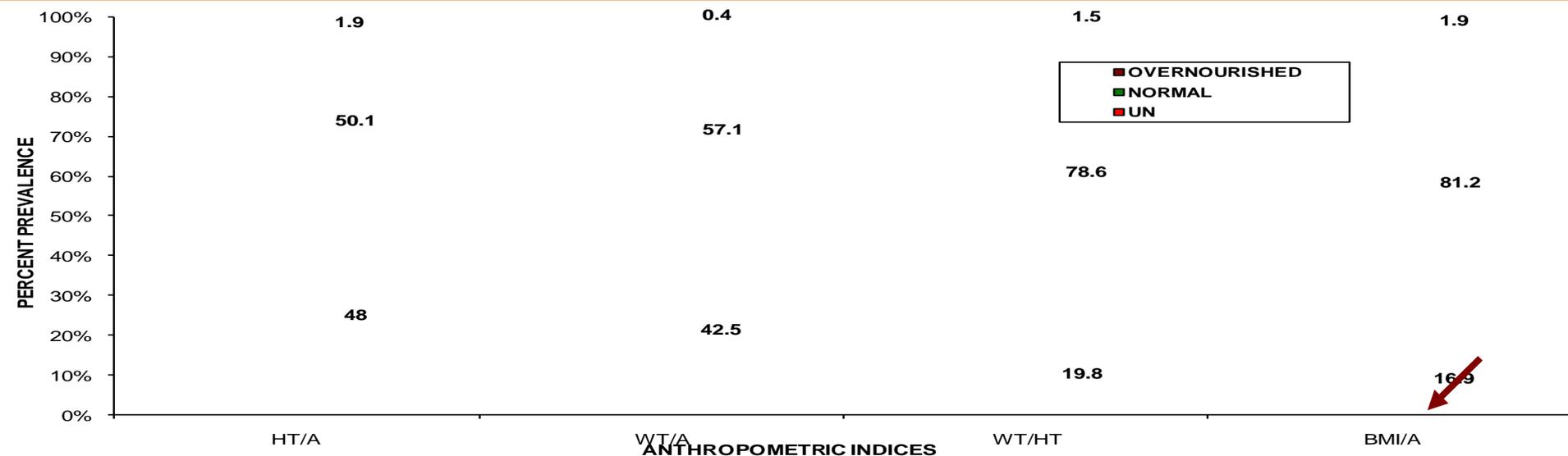
Wasting and low BMI rates are highest in the first three months; this is because stunting rates in the first six months are lower than underweight rates.

With the progressive and relatively steeper increase in stunting rates as compared to underweight rates between six and 24 months, the wasting and low BMI rates decline.

**This decline should not be interpreted as improvement in nutritional status**

# USE OF WHO STANDARDS (2006 )

## FOR ASSESSMENT OF NUTRITIONAL STATUS IN CHILDREN



In India about half of the preschool children are stunted and 42% are underweight. But most of the underweight children have appropriate weight for their current height.

If BMI-for-age is used as the parameter only 16% are under-nourished and 2% are over-nourished.

India has adopted WHO standards because in dual nutrition burden era, BMI-for-age would help in early detection of under nutrition in children & initiation of appropriate interventions.

# **PREVENTION, DETECTION & MANAGEMENT OF UNDERNUTRITION**

## **PREVENTION OF UNDER NUTRITION IN 0-36MONTH:**

**Major intervention needed- appropriate IYCF.**

**Demonstration in anganwadi on immunisation, health and nutrition days**

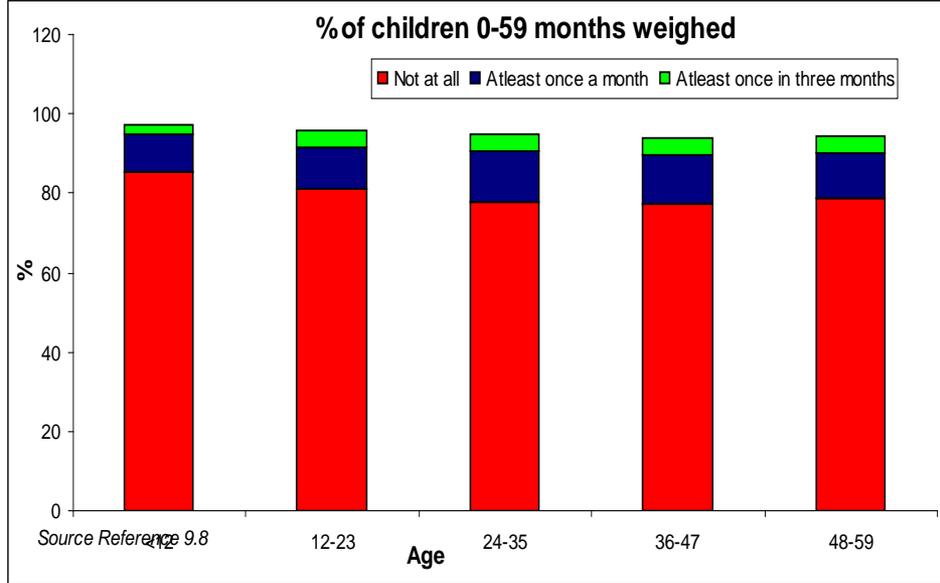
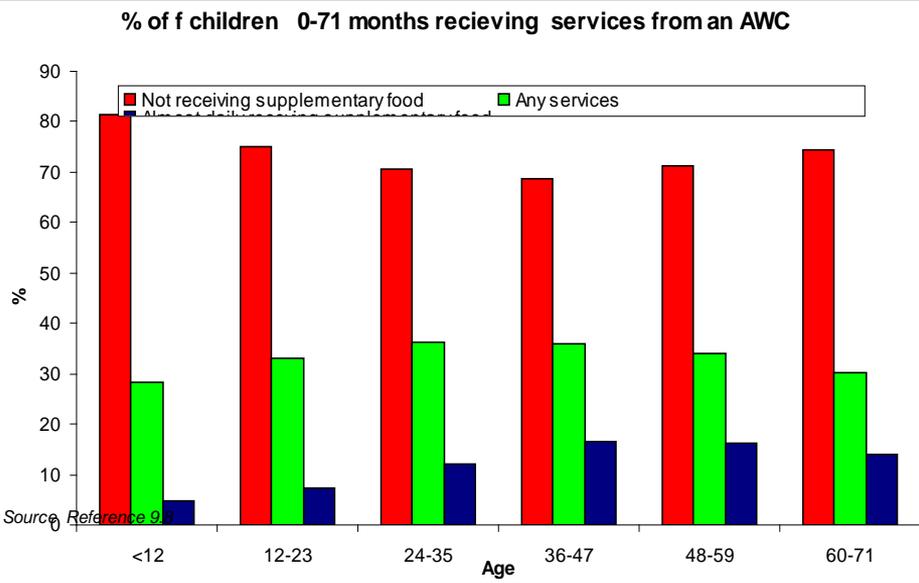
**How to make low cost complementary feeds from family food consisting of cereals, pulses and vegetables and how to feed the young children.**

## **DETECTION OF UNDER NUTRITION**

**At least once in three months all children should be weighed (provision for functional balances)**

**skill upgradation of AWW in weighing and monitoring growth in individual child's card (cards should be made available).**

# ACCESS TO ICDS SERVICES FOR PRESCHOOL CHILDREN

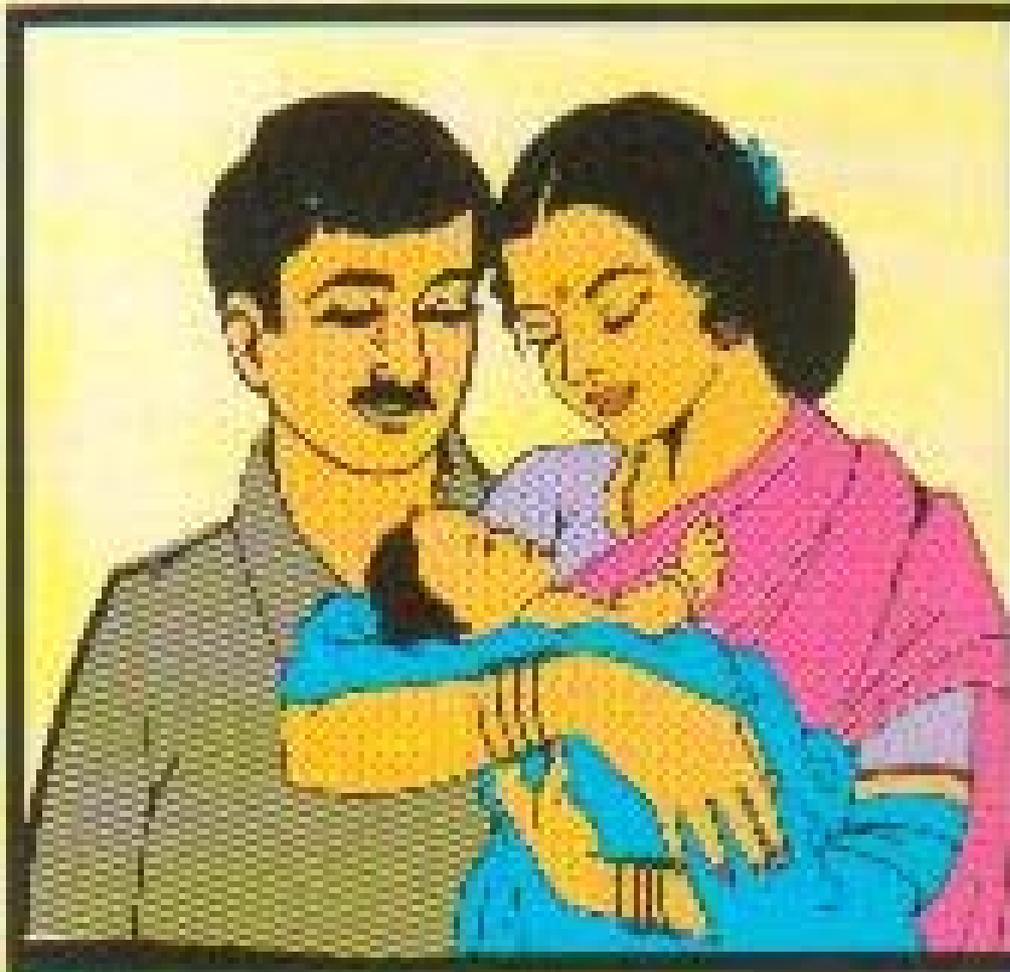


**ICDS currently covers the entire country.**

**Data from NFHS 3 indicate that the coverage of children for weighing or any of the services at Anganwadi is quite low.**

**IDENTIFICATION OF GROWTH FALTERING AND PROVIDING DOUBLE RATIONS TO UNDERNOURISHED CHILDREN AS WELL AS NUTRITION EDUCATION AND HEALTH EDUCATION IS NON EXISTENT. THIS LACUNA HAS TO BE CORRECTED**

# Integrated Child Development Services

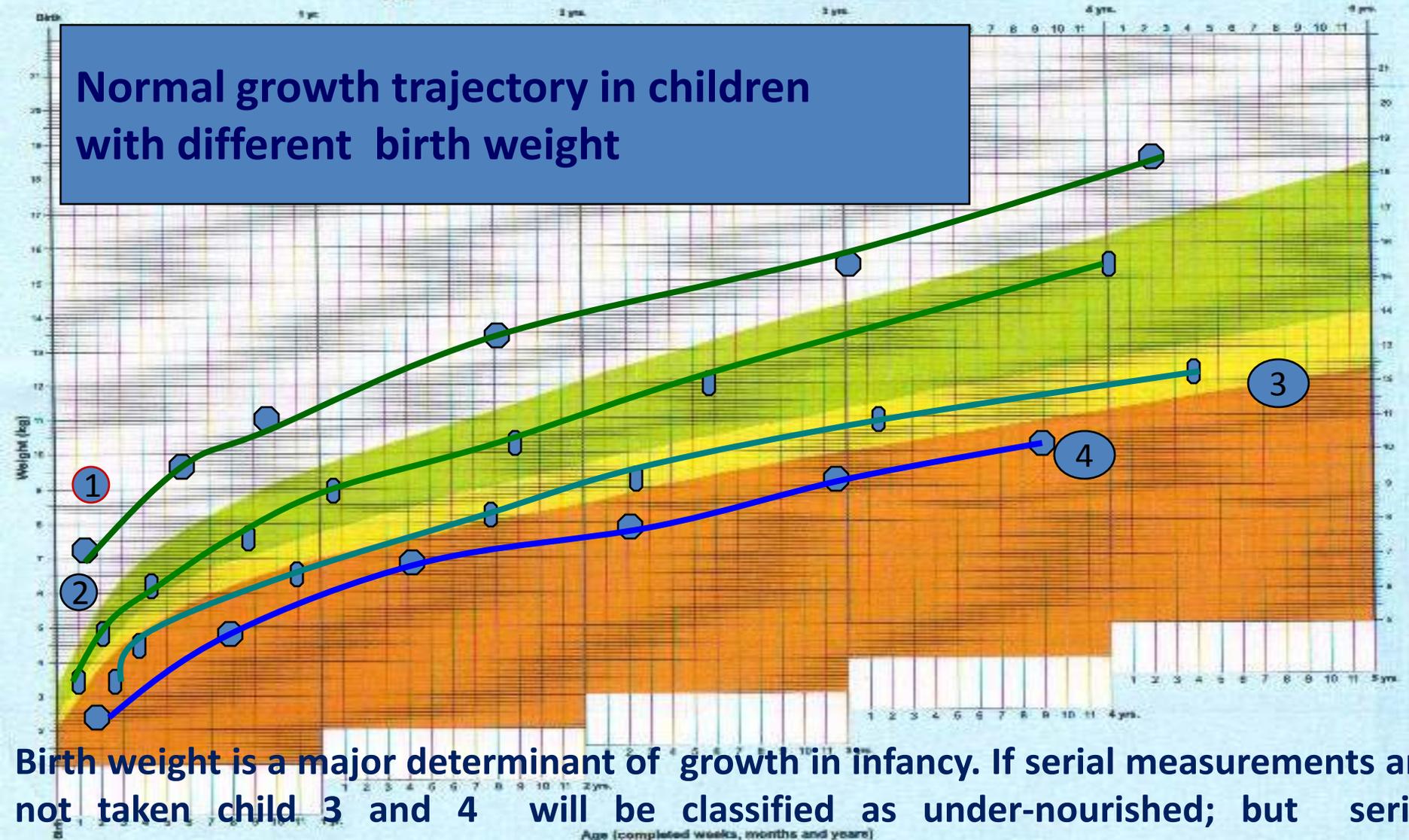


**Mother  
and  
Child  
Protection  
Card**



## BOY : Weight-for-age – Birth to 5 years (As Per New WHO Child Growth Standards)

Normal growth trajectory in children with different birth weight

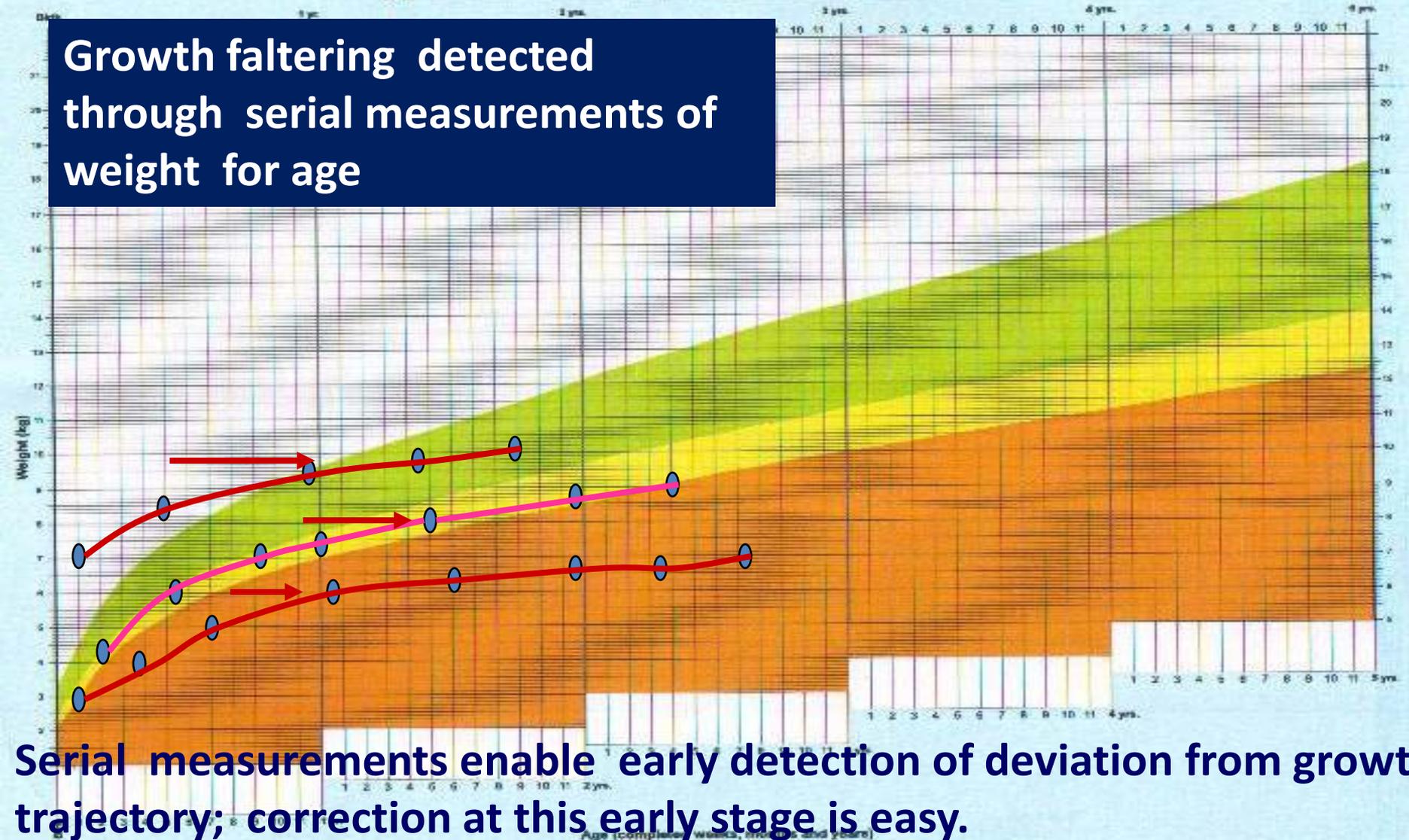


Birth weight is a major determinant of growth in infancy. If serial measurements are not taken child 3 and 4 will be classified as under-nourished; but serial measurements show that they are growing normally according to their trajectory.



## BOY : Weight-for-age – Birth to 5 years (As Per New WHO Child Growth Standards)

**Growth faltering detected through serial measurements of weight for age**

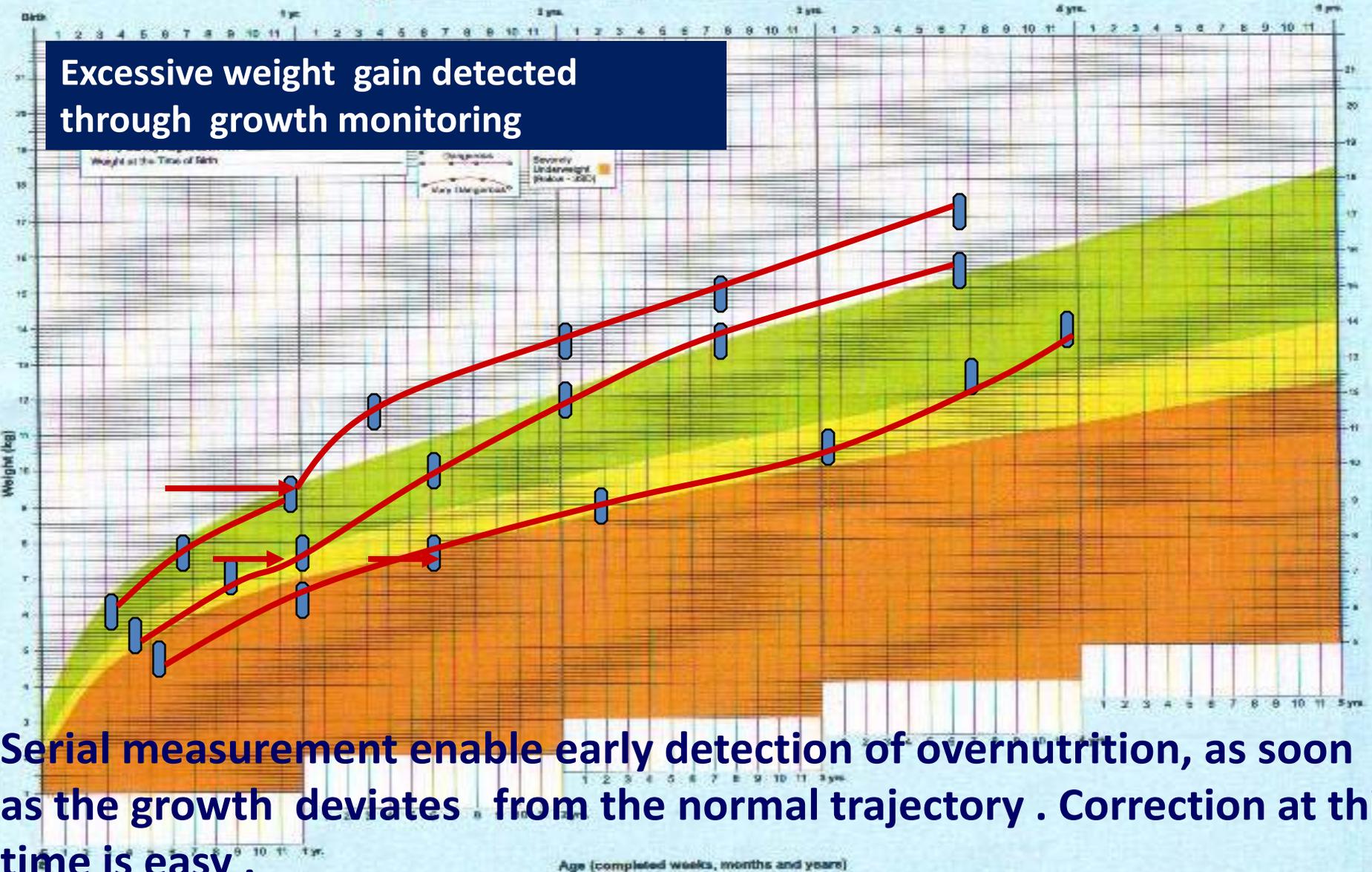


**Serial measurements enable early detection of deviation from growth trajectory; correction at this early stage is easy.**



## BOY : Weight-for-age – Birth to 5 years (As Per New WHO Child Growth Standards)

Excessive weight gain detected through growth monitoring



Serial measurement enable early detection of overnutrition, as soon as the growth deviates from the normal trajectory . Correction at this time is easy .

# IYCF - KEY TO INFANT SURVIVAL AND GROWTH

**Nutrition education is the critical intervention**

- Exclusive breast feeding for first six months,**
- Appropriate adequate complementary feeding 3-5 times a day from six months of age,**
- Continued breast feeding and feeding family food 4-5 times a day upto 24 months,**
- Feeding 2-5 year old children 4-6 times a day from family food consisting of cereals, pulses and vegetables.**
- Advise regarding timely immunisation, measures to prevent infections, appropriate feeding and care during illness and convalescence.**



**THANK YOU**