

# Dietary diversity among pregnant and lactating women living in an urban informal settlement of Mumbai: A cross sectional study

Sanika Kulkarni, Tanushree Das, Sushmita Das, Anuja Jayaraman, Shreya Manjrekar, Sushma Shende, Hussain Shaherwala  
Society for Nutrition, Education and Health Action

## BACKGROUND

Maternal malnutrition is a global concern. National Family Health Survey 2015–16 shows that more than half of the mothers did not receive any benefits from ICDS during pregnancy and lactation. National Nutrition Monitoring Bureau showed that consumption of vitamins A and C, iron and folic acid were less than 50% of recommended levels for most pregnant women. Diet diversity across food groups is needed to reduce the risk of malnutrition.

**The main objective of the study: to find the prevalence of dietary diversity among pregnant and lactating women in an urban informal settlement in Mumbai.**

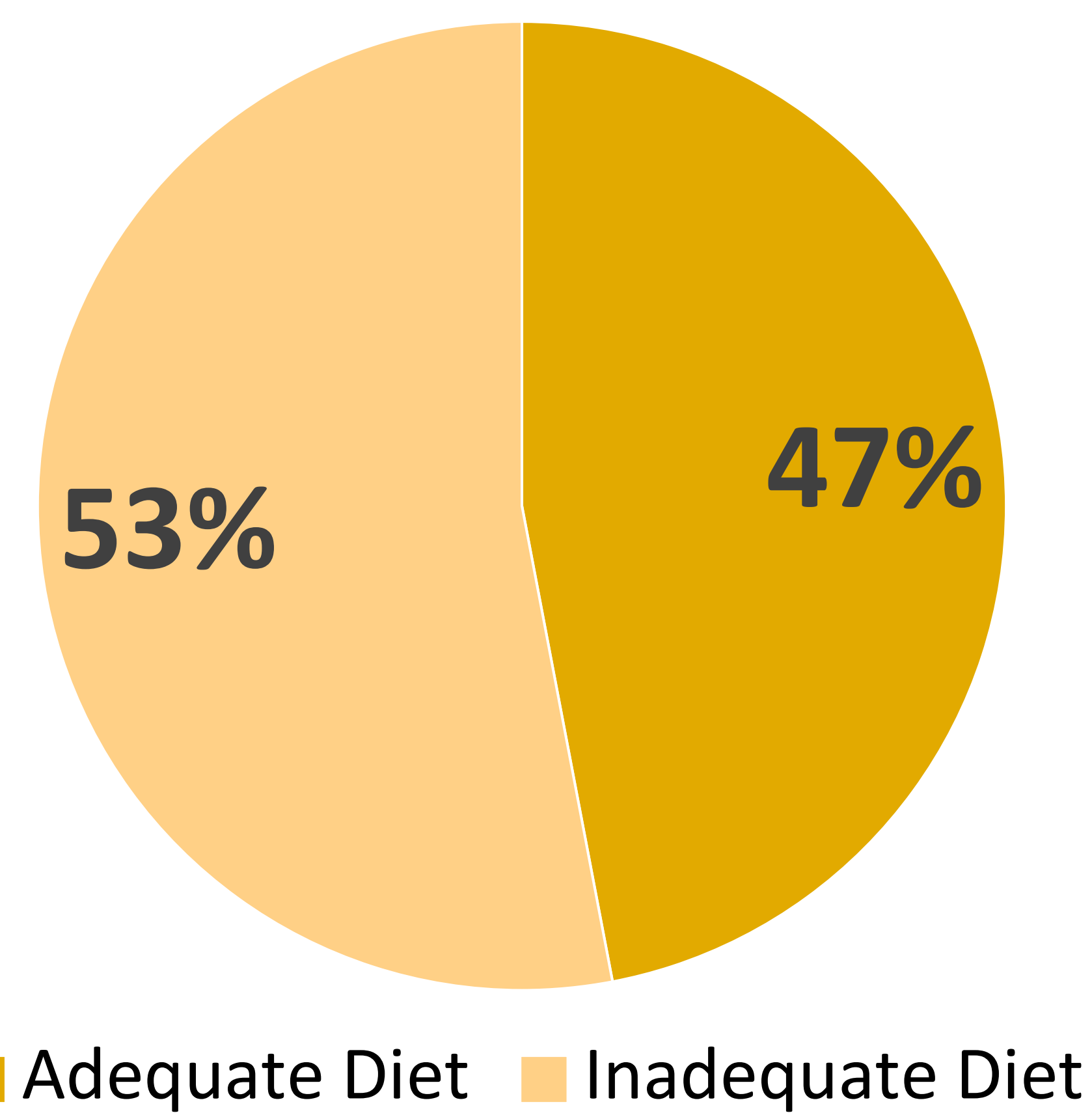
## METHODOLOGY

- The study includes 1145 pregnant and lactating mothers who participated in a community-based intervention aimed at enhancing maternal and child health and nutrition within urban settlements of Mumbai. Data was digitally collected through a routine monitoring process between April 2022 to March 2023. To measure minimum dietary diversity, the criteria were adjusted to include a minimum of  $\geq 5$  food groups.
- Information pertaining to dietary habits was gathered through a 24-hour dietary recall procedure adjusted to categorize 'adequate diet' if 5 or more than 5 food groups were consumed and as inadequate diet if less than 5 food groups of 10 were consumed.

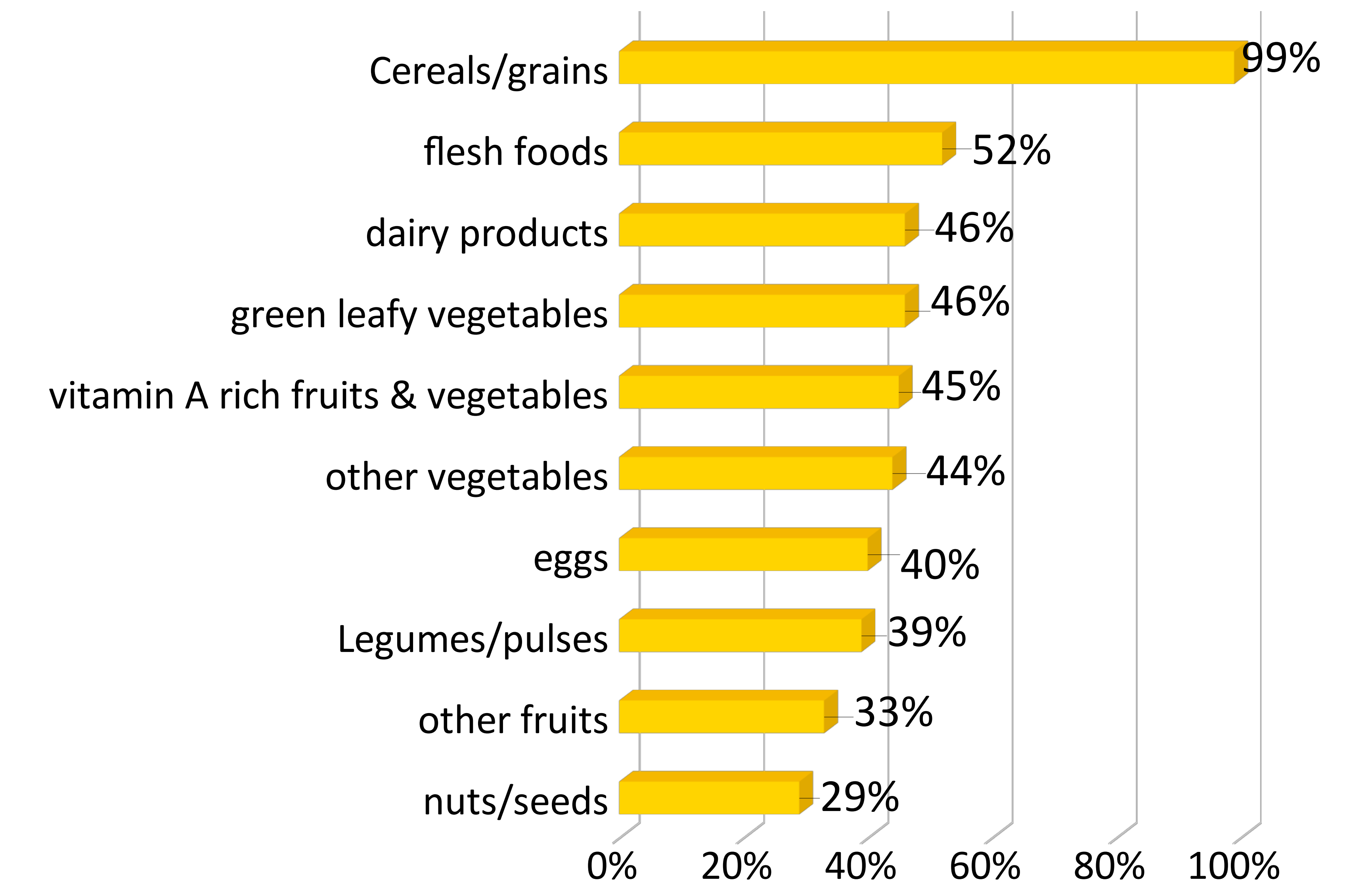
## RESULT

- Only 47% of pregnant and lactating women had sufficient dietary diversity.
- The distribution of food category consumption among pregnant and lactating women during a 24-hour period was as follows: cereals/grains (99%), Legumes/Pulses (beans, peas and lentils) (39%), nuts/seeds (29%), dairy products (46%), flesh foods (52%), eggs (40%), green leafy vegetables (46%), vitamin A-rich fruits and vegetables (45%), other vegetables (44%) and other fruits (33%).

### Maternal Diet Diversity



### Food groups consumed by women



## IMPLICATIONS

- There is low diet diversity among pregnant and lactating women. There is a pressing need to improve access and strengthen the nutritional programs to transform diets to improve overall health.
- Awareness of importance of nutrition during and after pregnancy along with interventions on how to improve the daily diet to include diversity will help to improve the maternal diet diversity.
- Nutrition policies and programs must focus on providing solutions which are easy to adapt and are sustainable.



# Understanding the Infant and Young Child Feeding Practices among mothers with children under 2 years in an urban informal settlement in Mumbai

Sanika Kulkarni, Tanushree Das, Sushmita Das, Shreya Manjrekar, Anuja Jayaraman, Sushma Shende  
Society for Nutrition, Education and Health Action

## BACKGROUND

India has a high number of malnourished children. A significantly high prevalence of malnutrition has been documented in urban informal settlements. It can be attributed to improper feeding practices. Inappropriate nutrition among infants can cause infections, weaker immune systems and lack of overall development of the infant. To take steps to improve the nutritional status of children in urban informal settlements, it is necessary to understand the infant and young child feeding (IYCF) practices.

**The main objective of the study was: To assess the IYCF practices in urban informal settlements of Mumbai carried out by mothers of children under 2 years of age.**

## METHODOLOGY

From April to June 2023, a cross-sectional survey was conducted in an informal settlement in Mumbai involving 408 children aged 0-2 years. Their mothers participated in a community-based intervention aimed at enhancing maternal and child health and nutrition within informal settlements of Mumbai.

Data collection was executed using the WHO-UNICEF Infant and Young Child Feeding questionnaire. To measure minimum dietary diversity, the criteria were adjusted to include a minimum of  $\geq 5$  out of 8 (MDD-8, 2021) food groups, with the incorporation of "breastmilk" as the eighth category. Information pertaining to dietary habits was gathered through a 24-hour dietary recall procedure. The data was checked everyday for completeness and accuracy. After collecting the data through data collection software, cleaning and analysis was conducted using STATA 14.2, a statistical software.

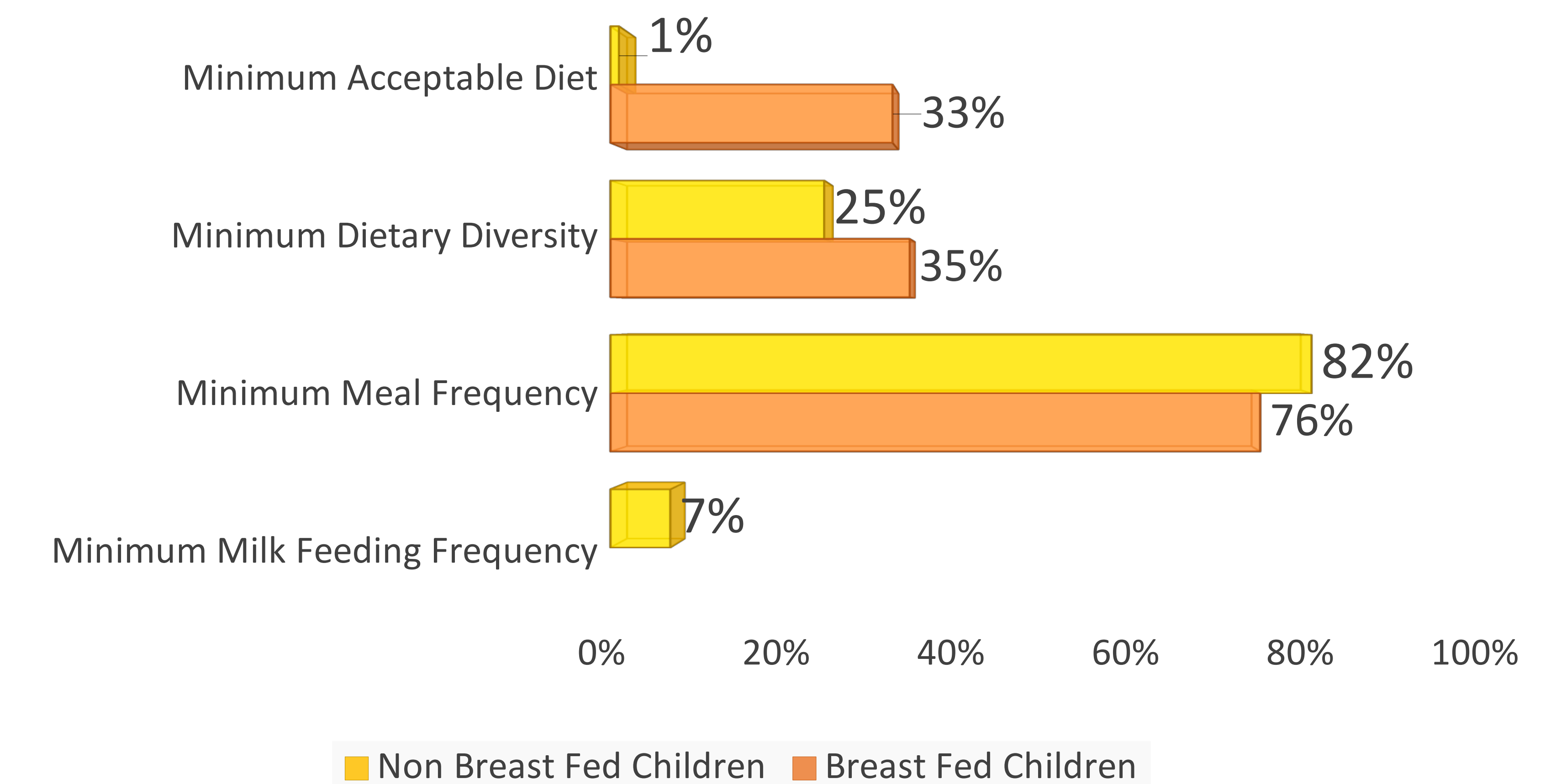
## RESULTS

- The prevalence of exclusive breastfeeding of children under 6 months of age was **56%** and **82%** continue breastfeeding till 1 year. The minimum dietary diversity among 6–23-month children was **33%** and consumption of iron rich foods was only **22%**.
- The minimum meal frequency was being met in **77%** of cases, showing that most children were receiving enough meals daily. When disaggregated by the breastfeeding status, the minimum dietary diversity prevalence was at **35%** for breastfed children while for non-breastfed children was **25%** highlighting the lack of a diverse diet for non-breastfed children.
- The minimum adequate diet when disaggregated by breastfeeding status, was at **33%** in breastfed children and only **1%** in non breastfed children.
- 81%** of children (6-23 months) consumed unhealthy food and **56%** of the children had zero vegetable or fruit consumption in the previous day.

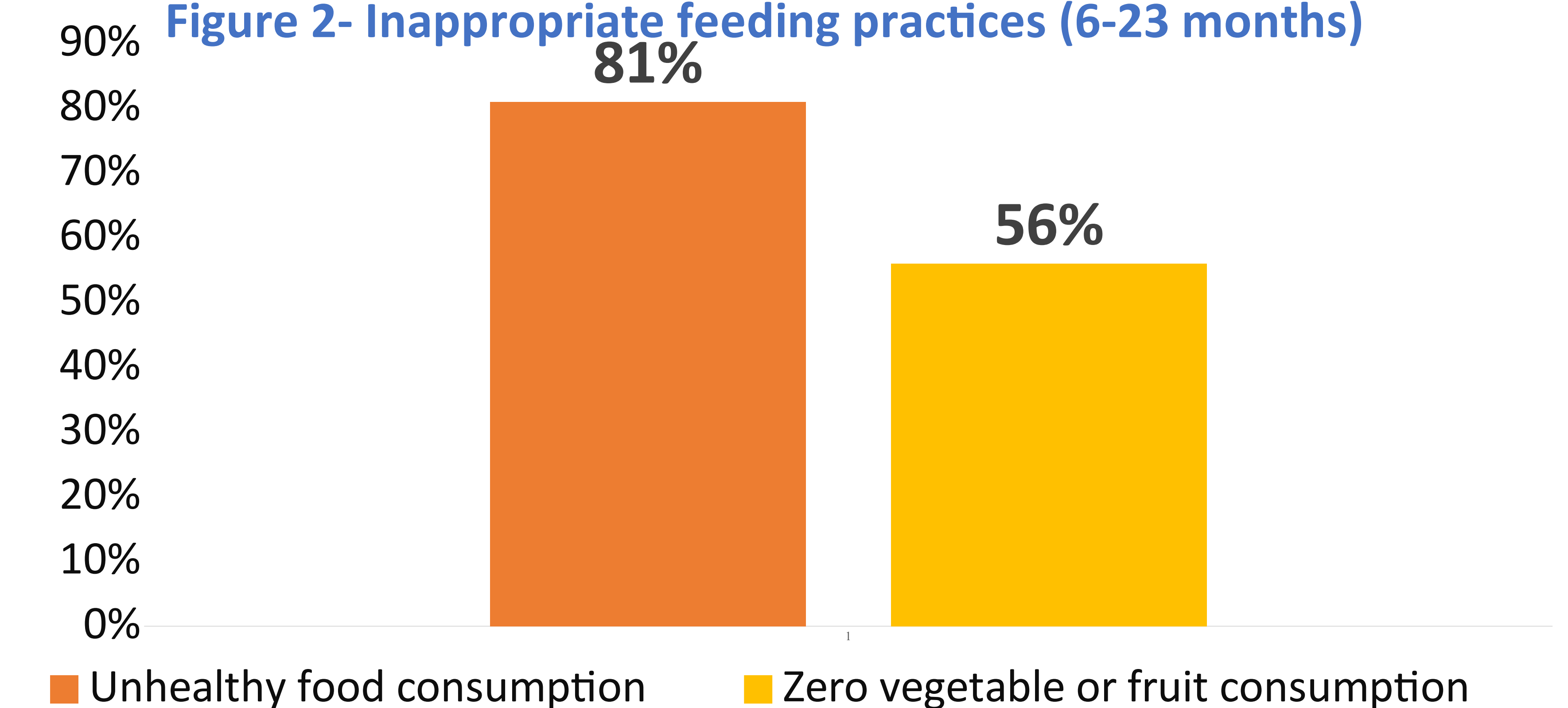
**Table 1: Core indicators of IYCF practices**

Indicator	Frequency (%)
Early initiation of breastfeeding (within 1 hour of birth)	31
Exclusive breastfeeding under 6 months	56
Continued breastfeeding at 1 year	82
Introduction of solid and semi solid food (6-8 months)	78
Minimum dietary diversity (6-23 months)	33
Minimum meal frequency (6-23 months)	77
Minimum acceptable diet (6-23 months)	26
Consumption of iron rich food (6-23 months)	22

**Figure 1 - IYCF Practices (6 to 23 months)**



**Figure 2- Inappropriate feeding practices (6-23 months)**



## IMPLICATIONS

- A high number of children lacked a diverse diet and did not have a minimum acceptable diet, especially the non breastfed children. A huge proportion of children were found to consume unhealthy food and more than half had not consumed any fruit or vegetable in the previous day.
- There is a need to strengthen the existing programs and policies with emphasis on dietary diversity and focus on transforming diets of the children in this age group. It is necessary to focus on the nutrition of the non breastfed children and raise awareness about their diets among the caregivers.
- Programs should be designed to make people understand the implications of unhealthy food consumption on health and given solutions on how to incorporate nutritious food choices in daily life.