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Assessment of prevailing supplementary and weaning practices in the selected area of Allahabad

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Abstract
Introduction: An appropriate diet is critical in the growth and development of children especially in the first two years of life. Malnutrition during the first two years of life results in an irreversible impairment in attaining full potential of physical growth, brain development, and health status of children. The rate of malnutrition is very high in infants and young children from six months of age onwards, when breast milk alone is no longer sufficient to meet a child's nutritional needs, foods other than breast milk are introduced gradually into the baby's diet, first to complement breast feeding and progressively to replace it and get the child used to adult diet. This study aimed to find out the different supplementary weaning practices adopted and find out the nutritional status of the infants aged (6 months – 2 years) in selected areas of Allahabad Uttar Pradesh, India.
Methods: It was a cross-sectional study. Using a purposive random sampling technique, 60 children of 6-24 months were recruited. Data was collected using a pretested structured questionnaire and analyzed using SPSS statistical software package. Anthropometric measurements were performed by standard methods (NCHS and Gomez classification).
Results: Timely introduction of complementary feeds was commenced in 30% of the children. More than half (65%) of the children were weaned abruptly and 76.7% of the children were bottle fed. The distribution of children by different ranges of MUAC showed that 10 children were found to be normal (14.5 cm) and 18 (13.5-14.5cm), 20 (12.5-13.5cm), and 12 (12.5cm) children were found to be in mild, moderate and severe malnutrition, respectively. For 16.11% of children height for age Z-score was between -0.99 and 0.99 SD of the NCHS median indicating that they were normal. The prevalence for severe stunting (<-3 SD) was about 6.39% and for moderate stunting (-2.99 to -2.00 SD) 46.94%. The growth performance (underweight) of the children measured by using the indicator weight for age (W/A Z score) showed that 9.58% of the children were severely underweight (-3 SD), 33.75% mildly underweight (-1.00 to -1.99 SD of the NCHS median) and 15.14% normal. The distribution of children weight for height (Z-score) according to age group showed that 43.47% (-2.99 to -2.00 SD) were moderately malnourished, and 28.61% (-1.99 to -1.00 SD) were mildly malnourished. The prevalence of malnutrition (growth retardation) by using different anthropometric indicators showed that more than half of the proportion of children (51.39%) were found to malnourished (underweight) using W/A as indicator. Amongst all the subjects, prevalence of wasting and stunting was 35.56% and 13.06% respectively.
Conclusion: The aim of our study was to assess the prevailing supplementary and weaning practices in the Selected Area of Allahabad. Adequate infant and young child feeding (IYCF) practices are essential to ensure optimal survival, health, growth, development and overall nutritional status of children. The respect of WHO recommendations on complementary and weaning practices was less than optimal. It is important to develop interventions aimed at bridging the gap between these practices and WHO recommendations. In the present study, initiation of complementary feeding at the recommended time of six months was not appropriate in the majority of children. Also, the quantity of complementary feeding was insufficient. Therefore, the benefits of timely introduction of complementary feeds and proper weaning practices should be continually reiterated for women attending ANC with follow-up in the post-natal period through counseling. There is an urgent need to lay more emphasis on the need for improving the dietary quality of weaning foods and the inclusion of all food groups' namely, dairy products, legumes and nuts, flesh foods, eggs, vitamin A rich fruits and vegetables, cereals and tubers, and other fruits and vegetables. Creating an awareness of the advantages of appropriate time of introduction of complementary foods will further strengthen and support the common practice in communities and avoid an early introduction to complementary foods for socio-cultural reasons. Socio-economic status of the family has a greater impact on the nutritional status of the children. Despite the fact that appropriate intervention and rehabilitation program can eradicate the problem of child malnutrition, nutritional knowledge and proper health measures can play a significant role in the entire scenario of nutrition. It is hoped that the results of this study will help in the proper understanding of complementary and weaning practices in communities of Allahabad district, India and the world at large.

Keywords: breastfeeding, complementary feeding, weaning, children

Introduction
Complementary feeding as described by World Health Organization (WHO) refers to the addition of energy and non-energy containing fluids, non-human milk and semi-solids or solids to children's diet (WHO, 2002) [31]. Growth of all infants from the age of 6 months onwards depends largely upon the provision of additional building materials supplied through infant foods in order to help them grow into healthy and active adults.

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They need to be fed on a diet that provides all the nutrients and energy required for normal growth; vitamins and minerals to alleviate their hidden hunger and keep them strong.

Complementary feeding is defined as the process starting when breast milk alone is no longer sufficient to meet the nutritional requirements of infants, and therefore other foods and liquids are needed, along with breast milk.

Introduction of timely, adequate and balanced weaning food is perhaps one of the most important single and direct remedial measures to combat infant's malnutrition. Not only the appropriate timings, but appropriate quantity and quality in a hygienic environment, along with increased maternal interaction time also have a desired positive effect on the growth of young children (Liaqat *et al.* 2006) [17]. The weaning stage is an opportunity to emphasize eating a well-balanced diet including a variety of foods and help parents set up good eating habits and a healthy diet for life for their children.

Malnutrition in infants during weaning has been attributed to inappropriate complementary feeding practices and it underlies more than one-third of child mortality in Nigeria. Growth faltering can occur as a result of inadequacy of complementary food in terms of quality, quantity and frequency of meals. Weaning plays a major role in determining the nutritional status of a child. Poor weaning practices during infancy and early childhood, resulting in malnutrition, contribute to impairment of cognitive and social development, poor school performance and reduced productivity in later life Udoh and Amodu (2016) [13].

Infant and young child feeding, therefore needs serious intervention and urgent attention of researchers and policy makers due to the fact that growth and development is maximum during early years of life and infant and young child feeding (IYCF) practices comprising both breastfeeding as well as complementary feeding is one of the major determinant of nutritional status of children (Shukla *et al.* 2016) [25]. Thus, addressing the influence of complementary feeding practice on nutritional status may be an important approach to reducing the burden of child malnutrition. Keeping above points in mind the present study aimed to assess the prevailing supplementary and weaning practices in the selected area of Allahabad with the objectives i) to find out the different supplementary weaning practices adopted in selected areas of Allahabad, and ii) assess the nutritional status of the infants aged (6 months – 2 years).

Materials and Methods
Study area and sample collection
The study was conducted among children in East Mahewa Agricultural Institute, Naini, Allahabad district, Uttar Pradesh located in the Northern part of India. A total of 60 children aged between 6 months to 2 years of age were surveyed. A purposive random sampling design was used for the study. All children 6 to 24 months of age and resident in the study areas were eligible to participate in the study and were categorized on the bases of age groups. First group consist of infants 6-11 months, second group includes 12-17 months and the third group comprises of 18-24 months. A structured pre-tested interviewer administered questionnaire was used by the researcher to obtain information on the sociodemographic information, anthropometric, clinical signs of malnutrition, dietary intake, complementary and weaning practices.

Socio-demographic profile: A structured interview schedule was used to collect socio-demographic information like name, age, gender, socio-economic status of family etc. Socio-economic status of the subject was calculated as per the modified kuppuswamy socio-economic scale. Education, occupation and income of both the father and mother were taken in order to calculate the socio-economic status of the child.

Anthropometric assessment: Duplicate measurements of each child's weight and recumbent length were recorded using standard anthropometric techniques. Measured weight and length of the child was compared with NCHS standard (1976). Anthropometric measurements of infants were taken to assess their physical development. A weight balance was used to record body weight. The balance was standardized regularly before used. The body weight was recorded bare footed to the nearest 0.1 kg. Length of height of the subject was measured using a locally constructed stadiometer of length board to the nearest 0.1 cm. Mid upper arm circumference (MUAC) of the children was measured by a flexible and non-stretchable MUAC tape in cm and accuracy was maintained to 0.1 cm. Anthropometric indices weight for age (W/A), height for age (H/A) and weight for height (W/H) of the subjects were calculated and compared with the National Center for Health Statistics (NCHS) reference median (NCHS, 1976) [21]. The anthropometric measurements of the children were classified by the following growth criteria:

- **Underweight:** Children whose weight for age were d ≤ -2 SD of the NCHS standard.
- **Stunting:** Children whose height for age were d ≤ -2 SD of the NCHS standard.
- **Wasting:** Children whose weight for height were d ≤ -2 SD of the NCHS standard

The reference medians for weight and height are those of National Center for Health Statistics (NCHS) recommended for international use by WHO (1983) [34]. Anthropometry was performed with utmost carefulness and an average of three measurements was considered as the observed value. For mid upper arm circumference the cutoff points were: 14.5 cm normal; 13.5-14.5 cm mild malnutrition; 12.5-13.5 cm moderate malnutrition; < 12.5 cm severe malnutrition. The prevalence of malnutrition (growth retardation) of different age groups was also determined by the Gomez classification.

Clinical assessment
Respondents were examined for clinical signs and symptoms of malnutrition (Srilakshmi, 2012) [24].

Food consumption pattern
The dietary intakes of the children were assessed using a 24-hr dietary recall method. A single 24-hr recall was performed to obtain information on the frequency of foods and beverages consumed within the 24 hr. Mothers were interviewed to get the list of all foods and beverages consumed by the child in previous day. Information was also collected at the time of consumption, but the place of consumption and the amount of foods/beverages consumed were not estimated.

Statistical analysis
The data collected was analyzed using SPSS statistical software package. Anthropometric scores were calculated by using the NCHS, (1976) [21].

Results and Discussion
Results
Sociodemographic characteristics of respondents: majority of the children were females 38 (63.3%) and within the age range of 18 – 24 months [26 (43.3%)] and 24 (40.0%) of the mothers were within the age range of 25 – 29 years. Most of the mothers 34 (56.7%) have secondary school level of education, house wives 26 (43.3%). Majority of the family were nuclear 50 (83.3%) and belong to middle class 42 (70.0%) (Table 1).

Table 1: Socio – demographic characteristics of respondents

Variables	Frequency (%)
Age distribution of Children (months)	(n = 60)
6 - 11	22 (36.7)
12 - 17	12 (20.0)
18 - 24	26 (43.3)
Sex distribution of Children	
Males	22 (36.7)
Females	38 (63.3)
Age distribution of Mothers (years)	
15 - 19	2 (3.3)
20 – 24	22 (36.7)
25 - 29	24 (40.0)
30 – 34	8 (13.3)
35+	4 (6.6)
Mothers' educational level	
None	0 (0)
Primary level	8 (13.3)
Secondary level	34 (56.7)
Tertiary level	18 (30)
Mothers' occupation	
Unemployed	20 (33.3)
House-wife	26 (43.3)
Civil servant	10 (16.7)
Others	4 (6.7)
Type of family setting	
Nuclear	50 (83.3)
Extended	10 (16.7)
Socio-economic status	
Upper class	2 (3.3)
Middle class	42 (70)
Lower class	16 (26.7)

Respondents' complementary and weaning practices: Eighteen (30%) children were commenced on complementary feeds at less than 4 months and 30 (50%) were commenced complementary feeds at 4 to 5 months. While 18 (20%) were commenced at 6-9 months. The complementary feeds given

water dal (20%); fruit pulp (23.3%); Khichdi (26.7%); rice-dal (30%). Most of the children were fed complementary feeds thrice a day. More than half 39 (65.00%) of the children were weaned abruptly, and most of them 46 (76.7) were bottle fed. None of the children were breast fed after weaning commenced (Table 2).

Table 2: Respondents' complementary and weaning practices

Variables	Frequency (%)
Age at commencement of complementary feeds (months)	(n = 60)
< 4 months	18 (30)
4 - 5 months	30 (50)
6 - 9 months	12 (20)
Total	
Complementary feeds given	
water of dal	12 (20)
fruits pulp	14 (23.3)
Khichdi	16 (26.7)
rice-dal	18 (30)
Age at weaning	
Early (< 6 months)	31 (51.67)
Normal (6 months)	9 (15.00)
Late (> 6months)	20 (33.33)
Weaning process	
Stopped abruptly	39 (65.00)
Gradually	21 (35.00)
Bottle fed child	
Yes	46 (76.7)
No	14 (23.3)
Continued breast feeding after weaning commenced	
Yes	0 (0)
No	60 (100)

From Table 3, it can be seen that on average young children consumed weaning foods three times in a day. According to WHO (2008) [30], minimum meal frequency (MMF) indicator is the proportion of breastfed and non-breastfed children aged 6-23 months who receive solid, semi-solid, or soft foods (but also including milk feeds for non-breastfed children) the minimum number of times or more. For breastfed children the minimum number of times varies with age (two times if 6-8 months and three times if 9-23 months). For non-breastfed children, the minimum number of times does not vary by age (four times for all children aged 6-23 months). Majority of children in all the groups were fed MMF thrice a day. Table 3.

Table 3: Frequency of weaning foods/day by Infants and Young Children

Age groups (months)	Consumption of weaning foods/day							
	Once		Twice		Thrice		Quarce	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Group I (6-11 months) n = 16	2	12.5	4	25.0	6	37.5	4	25.0
Group II (12-17 months) n = 24	2	8.33	4	16.67	12	50.0	6	25.0
Group III (18-24 months) n = 20	2	10.0	6	30.0	8	40.0	4	20.0
Mean	2.00	10.28	4.66	23.89	8.67	42.5	4.67	23.33

Anthropometric measurements and indices
Different categories of MUAC: Table 4 shows the distribution of children by different ranges of MUAC. In this

study 10 children were found to be normal (14.5 cm) and 18, 20, and 12 children were found to be in mild, moderate and severe malnutrition, respectively, in MUAC measurement.

Table 4: Percent distribution of children by different categories of MUAC

MUAC (cm)	Number			Total
		Male	Female	
14.5cm	Normal	4	6	10
13.5-14.5cm	Mild malnutrition	6	12	18
12.5-13.5cm	Moderate malnutrition	11	9	20
12.5cm	Severe malnutrition	5	7	12

Height for age: For 16.11% of children height for age Z-score was between -0.99 and 0.99 SD of the NCHS median indicating that they were normal (Table 5). The prevalence for severe stunting (<-3 SD) was about 6.39% and for moderate stunting (-2.99 to -2.00 SD) 46.94%.

Table 5: Distribution of children height for age (±SD) according to age group

Age in month	Height for Age (±SD)				
	≤-3.00SD	-2.99 to – 2.99SD	-1.99 to – 1.00SD	-0.99 to + 0.99SD	Total
6-11 months (n = 16)	0(0.00)	8 (50.00)	6 (37.50)	2 (12.50)	16 (26.67)
12-17 months (n = 24)	1 (4.17)	11 (45.83)	7 (29.17)	5 (20.83)	24 (40.00)
18-24 months (n = 20)	3 (15.00)	9 (45.00)	5 (25.00)	3 (15.00)	20 (33.33)
Total	4 (6.39)	28 (46.94)	18 (30.56)	10 (16.11)	60 (100)

Number in parenthesis indicates the percentage of the children.
Note: d ≤-3.00SD = severe malnutrition, -2.99 to -2.00 SD = moderate malnutrition, -1.99 to -1.00 SD = mild malnutrition, 0.99 to +0.99 SD = normal.

Weight for age: Table 6 represents the growth performance (underweight) of the children using the indicator-weight for age (W/A Z-score). It shows that 9.58% of the children were severely underweight (-3 SD), 41.53% were moderately malnourished (-2.99 to -2.00 SD), 33.75% mildly underweight (-1.00 to -1.99 SD of the NCHS median) and 15.14% normal.

Table 6: Distribution of children weight for age (±SD) according to age group

Age in month	Weight for Age (±SD)				
	≤-3.00SD	-2.99 to – 2.99SD	-1.99 to – 1.00SD	-0.99 to + 0.99SD	Total
6-11 months (n = 16)	1 (6.25)	7 (43.75)	5 (31.25)	3 (18.75)	16 (26.67)
12-17 months (n = 24	3 (12.50)	11 (45.83)	6 (25.00)	4 (16.67)	24 (40.00)
18-24 months (n = 20	2 (10.00)	7 (35.00)	9 (45.00)	2 (10.00)	20 (33.33)
Total	6 (9.58)	25 (41.53)	20 (33.75)	9 (15.14)	60 (100)

Number in parenthesis indicates the percentage of the children.
Note: d ≤-3.00SD = severe malnutrition, -2.99 to -2.00 SD = moderate malnutrition, -1.99 to -1.00 SD = mild malnutrition, 0.99 to +0.99 SD = normal.

Weight for height: Table 7 depicts the distribution of children weight for height (Z-score) according to age group. Among all the children, 43.47% (-2.99 to -2.00 SD) were moderately malnourished, and 28.61% (-1.99 to -1.00 SD) were mildly malnourished.

Table 7: Distribution of children weight for height (±SD) according to age group.

Age in month	Weight for Height (±SD)				
	≤-3.00SD	-2.99 to – 2.99SD	-1.99 to – 1.00SD	-0.99 to + 0.99SD	Total
6-11 months (n = 16)	4 (25.00)	7 (43.75)	4 (25.00)	1 (6.25)	16 (26.67)
12-17 months (n = 24)	3 (12.50)	10 (41.67)	5 (20.83)	6 (25.00)	24 (40.00)
18-24 months (n = 20)	1 (5.00)	9 (45.00)	8 (40.00)	2 (10.00)	20 (33.33)
Total	8 (14.17)	26 (43.47)	17 (28.61)	9 (13.75)	60 (100)

Number in parenthesis indicates the percentage of the children.
Note: d ≤ -3.00SD = severe malnutrition, -2.99 to -2.00 SD = moderate malnutrition, -1.99 to -1.00 SD = mild malnutrition, 0.99 to +0.99 SD = normal.

Prevalence of malnutrition (growth retardation): Table 8 depicts the prevalence of malnutrition (growth retardation) by using different anthropometric indicators. Among all the children more than half of the proportion of children (51.39%) were found to be malnourished (underweight) using W/A as indicator. Amongst all the subjects, prevalence of wasting and stunting was 35.56% and 13.06% respectively. Age group of 18-24 months showed the highest prevalence of wasting (40.00%), underweight (50.00%) and stunting (10.00%).

Table 8: Prevalence of malnutrition (growth retardation) according to age group (Gomez classification).

Age (month)	Total No. of children	Prevalence (%)		
		Wasting	Underweight	Stunting
6-11 months	16	6 (37.50)	8 (50.00)	2 (12.50)
12-17 months	24	7 (29.17)	13 (54.17)	4 (16.67)
18-24 months	20	8 (40.00)	10 (50.00)	2 (10.00)
Total	60	26 (35.56)	26 (51.39)	8 (13.06)

Discussion

The present study reports the assessment of prevailing supplementary and weaning practices in the selected area of Allahabad. Eighteen (30%) children were commenced on complementary feeds at less than 4 months and 30 (50%) were commenced complementary feeds at 4 to 5 months in the present study. Evidence has shown that complementary foods offered before 6 months of age tend to displace breast milk and do not confer any growth advantage over exclusive breastfeeding (Dewey 2001 and Dewey 2016) [10, 11]. In the present study, contrary to WHO recommendations for commencement of complementary feeding at 6 months, some of the mothers in this study introduced complementary feeds early at less than 4 months and this is in line with findings from previous studies conducted in rural Kenya, Malawi and Uganda where complementary foods was initiated too early (Engebretsen *et al.* 2007) [14]. Furthermore, in our study, half of the children were introduced to complementary feeds between the ages of 4 - 5 months which is dissimilar to a study in Ife (13.1%) and to a study in Ethiope East of Delta state (52.7%) (Osie-Efetie *et al.* 2011; WHO, 2012; Yadavannavar and Patil 2011; Muchina and Waithaka, 2010) [22, 28, 18]. This may reflect differences in the level of awareness and culture of the different populations with respect to appropriate infant feeding practices. Early introduction of complementary feeds has been observed to falter the growth and development of a child (Dewey and Vitta, 2013) [9]. The mean age at commencement of complementary feeds was found to be not within the recommended age of 6 months by WHO, which was found to be not in line with 18 (30%) and 30 (50%) of the children in the present study. However, this is in contrast to studies in Kenya and Tanzania which found 2.9 months and 3.3 months as the mean ages for introduction of complementary feeds (Muchina and Waithaka, 2010; Engebretsen *et al.* 2008; Basnet *et al.* 2015; Sadoh *et al.* 2011) [18, 15, 7, 23]. Age at commencement of complementary feeds may vary according to different socio-cultural backgrounds, economic status and regions.

In our study, early weaning at less than 6 months was noted to be high while normal weaning (at 6 months) was less. In Lahore, a study showed that 44% of children were weaned less than 6 months while 38% of the children were weaned at 6 months (Chaudhry and Humayun, 2007) [8]. In Sokoto State, Nigeria, it was observed that 19.6% of the children had commenced weaning at 6 months (Umar and Oche, 2013) [27]. Delay in weaning is a risk factor for nutritional rickets and other micronutrient deficiencies (Chaudhry and Humayun, 2007) [8]. Weaning practices may depend on the cultural practices of a people, influence of family members or even socio-economic factors of the family. In our study, only a few stopped breastfeeding gradually while a vast majority weaned their children abruptly. This is in line with a study in the Gaza strip which found that 48.8% of the infants were weaned suddenly (Kanoa *et al.* 2011) [16]. Reasons proffered in this study for commencing weaning was that the mother was not having enough milk, mother got pregnant and mother got sick. These reasons were also cited in similar studies in Malaysia, Kuwait and the Gaza strip with the mother getting pregnant as a commonest reason for commencement of weaning (Kanoa *et al.* 2011; Amine, 1989; Ahmad *et al.* 1996) [16, 4, 1]. This is not surprising as there is a general belief that mothers who are pregnant should no longer breast feed their infants as the breast milk is perceived to be harmful and no longer nutritious and so the need to abruptly stop the child from breast milk.

The World Health Organization (WHO) and UNICEF have developed the Global Strategy for Infant and Young Child Feeding (IYCF), which recognizes appropriate infant feeding practices to be crucial for improving nutrition status and decreasing infant mortality in all countries. WHO offers three recommendations for IYCF practices for children aged 6-23 months: Continued breastfeeding or feeding with appropriate calcium-rich foods if not breastfed; feeding solid or semi-solid food for a minimum number of times per day according to age and breastfeeding status; and including foods from a minimum number of food groups per day according to breastfeeding status (Mukuria *et al.* 2006) [19]. Weaning includes the time of initiation of solid, semi solid or soft foods, minimum dietary diversity of at least 4 of the 7 food groups, minimum meal frequency according to age group, and minimum acceptable diet received by children other than breast milk. According to the national data, in Uttar Pradesh, only 46 percent children 6-9 months receive solid/semi solid foods along with breast milk.

In our study, the nutritional status based on height for age, was as follows: 6.39%, 46.94%, 30.56%, and 16.11% for severe underweight, moderate underweight, mild underweight and normal, respectively. The nutritional status based on weight for age (underweight) was as follows: (9.58%, 41.53%, 33.75, and 15.14% for severe underweight, moderate underweight, mild underweight and normal, respectively. The nutritional status based on weight for height was as follows: 14.17%, 43.47, 28.61, and 13.75% for severe underweight, moderate underweight, mild underweight and normal, respectively. Global estimates for 2012 suggested that 51 million children under five were wasted (low weight for height), 162 million were stunted (low height for age), and 99 million were underweight (low weight for age) on the basis of indices lower than two standard deviation (z) scores below the median for age and sex (UNICEF, WHO 2013) [28]. According to World Bank document (1993), Bangladesh has the severest malnutrition problem in the world, because 68% of the children under 5 years are highly or moderately underweight, 64% of them are severely or moderately stunted and 17% are suffering from wasting. Childhood malnutrition is a public health priority to which one-third of child deaths can be attributed (Vesel *et al.* 2010) [29], and long-term malnutrition manifest as stunting increases the risk of infections and reduces cognitive development and economic productivity (Dewey and Begum 2011) [12]. Beguin and Hauqe (1992) [6] studied the nutritional status of 1108 children of Dhaka City. Nutritional status of children aged 0-12 years was assessed by measuring weight-for-age, weight-for-height and height-for-age from 11 locations. Only 12% of children were found to have normal weight-for-age and 58% were considered as suffering from malnutrition of second and third degree. The weight-for height was normal in 39%, and 21% were considered as wasted. Almost 47% were stunted, and the percentage of stunted children increased with age. When stunting and wasting combined, 47% of the children could be considered normal and 12% were severely malnourished.

The dietary intakes of the children in the present study were assessed using a 24-hr dietary recall method. Udoh and Amodu (2016) [3] identified association between underweight and dietary diversity. The association remained after controlling for several factors such as gender of child, mother's income and parity. Children who received the minimum dietary diversity were less likely to be underweight compared with children who did not receive the minimum dietary diversity. Also, children who received the minimum

dietary diversity were less likely to be stunted compared with children who did not receive the minimum dietary diversity. This observation is in line with previous findings by Marriott *et al.* (2011) [20]. In another study by Arimond and Ruel (2004) [5], the authors demonstrated that children aged 6 – 23 months who received diverse diet had better HAZ compared with children who did not receive diverse diet. Only 13% of children satisfied the indicator for minimum dietary diversity, 43% achieved minimum meal frequency, and 5% had a minimally acceptable diet (Bentley *et al.* 2015) [2].

Conclusion
The aim of our study was to assess the prevailing supplementary and weaning practices in the Selected Area of Allahabad. The respect of WHO recommendations on complementary and weaning practices was less than optimal. It is important to develop interventions aimed at bridging the gap between these practices and WHO recommendations. In the present study, initiation of complementary feeding at the recommended time of six months was not appropriate in the majority of children. Also, the quantity of complementary feeding was insufficient. Therefore, the benefits of timely introduction of complementary feeds and proper weaning practices should be continually reiterated for women attending ANC with follow-up in the post-natal period through counseling. There is an urgent need to lay more emphasis on the need for improving the dietary quality of weaning foods and the inclusion of all food groups' namely, dairy products, legumes and nuts, flesh foods, eggs, vitamin A rich fruits and vegetables, cereals and tubers, and other fruits and vegetables. Creating an awareness of the advantages of appropriate time of introduction of complementary foods will further strengthen and support the common practice in communities and avoid an early introduction to complementary foods for socio-cultural reasons. Socio-economic status of the family has a greater impact on the nutritional status of the children. Despite the fact that appropriate intervention and rehabilitation program can eradicate the problem of child malnutrition, nutritional knowledge and proper health measures can play a significant role in the entire scenario of nutrition. It is hoped that the results of this study will help in the proper understanding of complementary and weaning practices in communities of Allahabad district, India and the world at large.

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