

Dietary Diversity and Associated Risk Factors among Children Aged 6-24 Months in India

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BACKGROUND/RATIONALE

• Malnutrition is responsible for nearly 45% of deaths among under five children, particularly in low- and middle-income countries (LMICs) (1). It increase the risk of morbidity and mortality. In India, malnutrition among under five children remains a critical public health challenge due to poor infant and young child feeding practices.

• Major challenges for suboptimal feeding practices are inadequate quality or quantity of foods, poor feeding practices, complementary feeding being initiated too early or too late, or being provided in quantities that are too small or infrequent etc.

• WHO has recommended set of indicators to assess IYCF among children. Dietary diversity is one of the important indicators identified as a useful predictor of the nutrient adequacy of children's dietary patterns. It is a measure of the number of different food items/groups consumed over 24 h. Eight food groups (breast milk, grains, roots and tubers; legumes and nuts; dairy products; flesh foods (meats/fish/poultry); eggs; vitamin A-rich fruits and vegetables; and other fruits and vegetables) were identified and recommended that children aged 6–23 months consume at least five or more food groups daily (2).

OBJECTIVE

• To assess dietary diversity and its associated risk factors among children aged 6-24 months in India.

MATERIAL AND METHODS

The present study used a cross-sectional, secondary data research design. We utilized data of The most recent the most recent and nationally representative National Family and Health Survey data (2019-20) was utilized. The present study included 62,610 children aged 6-24 months.

Minimum Dietary Diversity (MDD) was assessed using children receive foods from 5 or more food group out of eight specified food groups over the 24 hours preceding the survey. Children with dietary diversity scores ≥ 5 were classified as they attained adequate dietary diversity, whereas those with scores < 5 were classified as inadequate dietary diversity.

The study included determinants of individual, maternal and household level.

• Maternal Characteristics – education, working status and BMI

• Individual characteristics – age and sex of children

• Household Characteristics – place of residence and wealth status

Data were analyzed using software STATA version 14. Descriptive statistics was employed to examine the background characteristics of children. Logistic regression was employed to examine the association between DD and its predictors among children. The coefficient with P value < 0.05 were considered as statistically significant.

RESULTS

Male children (52%) were slightly higher than female children (48%). Around 40% of children were in the 12-18 months age category followed by 34% in 6-11 months and 25% in 19-23 months. Only 23.3% of the children across India achieved minimum dietary diversity score (5 and more food groups).

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References: 1. Tambe AB, Akeh ML, Tendongfor N, Dhlamini T, Chipili G, Mbhenyane X. The predictors of food security and dietary diversity among internally displaced persons' children (6–59 months) in Bamenda health district, Cameroon. Conflict and Health. 2023 Dec;17(1):1-1. 2. World Health Organization. Indicators for assessing infant and young child feeding practices: definitions and measurement methods..

Table 1 describes association between dietary diversity among children and their risk factors. Mother's education was positively associated with the diversified diet in children. The dietary diversity was significantly higher in those children, whose mothers were working to their counterparts. Children aged 19-23 months had more dietary diversity as compared to other age groups. Additionally, no difference in dietary diversity among male and female children.

Multivariate analysis confirms that dietary diversity was higher among children belonged to middle and rich wealth status as compared to other wealth categories. No significant association was in dietary diversity among residing in urban and rural areas. Multivariate analysis confirmed that those children belonged to Northeast region had more dietary diversity whereas those belonged to west region had low dietary diversity.

TABLE 1 Results of logistic regression analysis of Minimum Dietary Diversity by selected socio-demographic characteristics in children aged 6–23 months

Socio-demographic characteristics	Odds Ratio	[95% C.L.]
Mother's education		
No education ^o	1.00	[1,1]
Primary	0.96	[0.776,1.188]
Secondary	1.08	[0.920,1.278]
Higher	1.15	[0.923,1.423]
Mother's currently working status		
No ^o	1.00	[1,1]
Yes	1.307***	[1.138,1.502]
Household Characteristics		
Wealth status		
Poor ^o	1.00	[1,1]
Middle	1.225**	[1.050,1.428]
Rich	1.480***	[1.259,1.739]
Type of place of residence		
Urban ^o	1.00	[1,1]
Rural	1.01	[0.874,1.167]
Region		
North ^o	1.00	[1,1]
Central	0.758**	[0.634,0.907]
East	1.299**	[1.081,1.562]
Northeast	1.468***	[1.171,1.841]
West	0.82	[0.658,1.032]
South	1.526***	[1.263,1.844]
Individual Characteristics		
Child's sex		
Male ^o	1.00	[1,1]
Female	1.01	[0.902,1.119]
Child's age (in months)		
6-11 months ^o	1.00	[1,1]
12-18 months	3.113***	[2.706,3.581]
19-23 months	4.032***	[3.461,4.698]

Note: ^o reference category; **p < 0.01; ***p < 0.001

CONCLUSION

This study underscores the urgency of addressing dietary diversity and associated risk factors among children aged 6-24 months in India. Comprehensive strategies should be implemented by the policy and program implementers to improve dietary diversity among children.