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A comparative study on food consumption and dietary pattern of preschool children in rural and urban area of Muzaffarpur district

Kumari Leena & Bandana Singh
University Department of Home Science, B.R.A. Bihar University, Muzaffarpur

ABSTRACT

The present study has been carried out in Muzaffarpur district to study the food consumption and dietary pattern of preschool children in rural and urban area. The study was conducted on 300 pre-school children of 3 to 6 years old to find out the inclusion of food groups and frequency of meal. Out of total 300 children, the children taking cereals and pulses for their livelihood were 100.00 and 63.33 per cent respectively. The inclusion of other food groups in children's diet was less than 50 per cent. In rural belt, even the consumption of pulses in the household diet is among less than 50 per cent. Therefore, it is recommended to give urgent attention to follow the practices of inclusion of more and more food groups in the diet of preschool children in order to maintain minimum diet diversity that is inclusion of minimum 5 food groups. The increase in meal frequency will not only be helpful in dietary adequacy but it may prove advantageous in increasing the diversity also if little care is taken.

Keywords: Preschool children, Food consumption, Dietary diversity, meal frequency

Introducation:

Malnutrition is a major problem among children under 5 years of age which can impede behavioral and cognitive development and reproductive health, thereby undermining future work productivity. Since growth failure occurs almost exclusively during the intrauterine period and in the first two years of life, which further intensify during preschool years between 3 to 6 years. Major causes of malnutrition include poverty and food prices, dietary practices and agricultural productivity with many individual cases being a mixture of several factors. Various scales of analysis also have to be considered in order to determine the socio-political causes of malnutrition (Fotso and Kuate-Defo, 2005). Local food shortages can be caused by the lack of arable land, adverse weather, lower farming skills or by a lack of technology or resources needed for the higher yield such as fertilizers, pesticides, irrigation, machinery and storage facilities. As a result of widespread poverty, farmers cannot afford or governments cannot provide the resources necessary to improve local yields (Dugger, 2007; Biles, 2006).

Due to several reasons, pre-school children constitute the most vulnerable segment of any community. Nutrition is a key determinant of good health and is critical for survival, good quality of life and well-being (Kashanian et al 2006). Adequate nutrition is essential in early childhood to ensure healthy growth, proper organ formation and function, a strong immune system, and neurological and cognitive development (Gong et al 2013). Adequate nutrition to children is not possible without proper food diversity and adequacy. Therefore, present investigation has been planned to study the food consumption and dietary pattern of preschool children living in urban and rural area.

Materials and Methods:

The study was carried out on 300 preschool children of 3 to 6 years in two blocks of Muzaffarpur district. The selected block for the study of urban area was Mushahari Block. Kurhani block was selected for the study of rural population. A total of one hundred fifty (150) children from 3 to 6 years were selected each from two blocks such as Mushahari and Kurhani. The information had been gathered with the help of schedule developed for the

purpose. The mothers/caregivers were respondents for providing information on food consumption and diet pattern.

Food Consumption pattern: The study of food consumption pattern is very much important to understand the type of food included in one's diet. It also indicates the number of food groups in daily diet which shows the diversity of food. In the present study, the food consumption pattern had been studied by recording the type of food being consumed daily, 2-3 times in a week, weekly or fortnightly.

Diet Survey: Diet survey is an important tool to understand the quality and quantity of food being taken at each meal. In the present study, diet survey had been conducted by 24 hours dietary recall method to record data regarding the menu of food, ingredients used in menu along with their amount, time interval between meal and other foods taken in between meal.

Results and Discussion

The mothers' knowledge regarding nutrition, role of nutrients and source of nutrients is an important determinant deciding the food consumption pattern of children. In case of poor knowledge of mothers, the children can be provided ill-balanced diet leading to a number of deficiency diseases and other associated health problems. Therefore, it is very important to understand the food consumption pattern of the children to know actual problems of poor nutritional status of the children ultimately affecting the health condition of the children. The food consumption pattern of the preschool children under study area has been presented in Table 1 and illustrated in Fig 1.

Table- 1

Food Consumption Pattern of preschool children under study area

Study area	Food Groups included in the diet of the children						
	Cereals/ millets	Pulses	Leafy vegetables	Other vegetables	Milk & milk product	Non-veg	Total
Mushahari (n=150)	**150** (100.00)	**106** (70.67)	**20** (13.33)	**60** (40.00)	**42** (28.00)	**15** (10.00)	**150** (100.00)
Kurhani (n=150)	**150** (100.00)	**84** (56.00)	**75** (50.00)	**34** (22.67)	**32** (21.33)	**10** (6.67)	**150** (100.00)
Total N=300	**300** (100.00)	**190** (63.33)	**95** (31.67)	**94** (31.33)	**74** (24.67)	**25** (8.33)	**300** (100.00)

Figures in parentheses indicate the percentage.

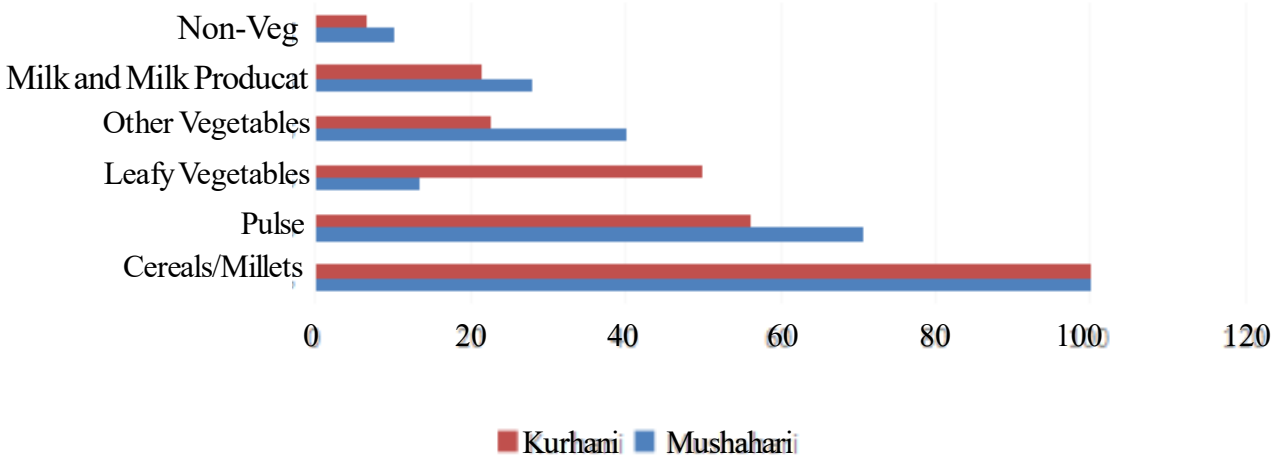

Fig 1. Percentage of children with diversified food consumption pattern

Out of total 300 children, the children taking cereals and pulses for their livelihood were 100.00 and 63.33 per cent respectively. The inclusion of fruits in daily diet was not reported by any child. For the long term amelioration of nutritional blindness due to Vitamin A deficiency, it is very essential to provide Vitamin A rich food to the children besides National Programme on Vitamin A supplementation. The inclusion of leafy vegetables and other vegetables in daily diet of children in study area comprising rural and urban population was found to be 31.67 per cent and 31.33 per cent respectively. Overall, milk and milk products were included in the diet of 24.67 per cent children, whereas non-veg was present in the diet of only 8.33 per cent children.

In urban area of Mushahari block, the children receiving milk & milk products and non-vegetarian foods were 28.00 per cent and 10.00 per cent respectively whereas the inclusion of leafy vegetables and other vegetables were 13.33 per cent and 40.00 per cent respectively. Hundred per cent children in Mushahari and Kurhani block were taking cereals in their daily diet. The inclusion of pulses among children's diet was 70.67 per cent in Mushahari block and 56.00 per cent in Kurhani block. In Kurhani block, the children consuming milk and milk products was 21.33 per cent whereas consumption of non-veg was among 6.67 per cent children's diet. The children receiving green leafy vegetables and other vegetables were 50.00 per cent and 22.67 per cent.

It can be observed in Fig 1 that the consumption of all food groups except cereals and pulses in the study area comprising urban and rural population is below 50 per cent level. In Kurhani block, the consumption of pulses also is below 50 per cent. It is a true fact if micronutrients are not at proper level in the diet of children, the cereals and pulses in spite of being rich in carbohydrate and protein cannot be fully utilized for energy release and tissue formation.

Inclusion of different food groups in daily diet is very essential. As well, frequency of the food taken by children cannot be ignored. Minimum meal frequency is very much essential to minimize the interval between meals. The frequency of food taken by the children has been presented in Table 2. The graphical presentation has been made and explained in Fig 2.

Table- 2

Frequency of take meal of preschool children under Study areas

Study area (Block)	Frequency of taking meal				
	2 times	3 times	4 times	5 times	Total
Mushahari (n=150)	**7** (4.67)	**93** (62.00)	**32** (21.33)	**18** (12.00)	**150** (100.00)
Kurahni (n=150)	**13** (8.67)	**87** (58.00)	**35** (23.33)	**15** (10.00)	**150** (100.00)
Total N=300	**20** (6.67)	**180** (60.00)	**67** (22.33)	**33** (11.00)	**300** (100.00)

Figures in parentheses indicate the Percentage.

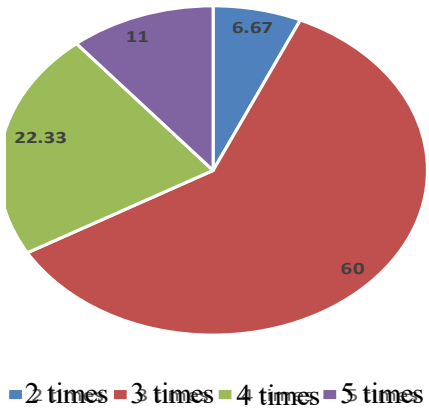

Fig 2. Percentage of children with meal

It can be observed in Table 2 that out of 300 children from Mushahari and Kurhani block, 11.00 per cent children take food for 5 times a day. A total of 60.00 per cent children takes food for 3 times a day followed by 22.33 percent children for 4 times a day and 6.67 per cent children for 2 times a day.

In Mushahari block, the percentage of children receiving food for 3 times a day was 62.00 per cent followed by 21.33 per cent children for 4 times, 12.00 per cent children for 5 times and 4.67 per cent children for 2 times a day. In Kurhani block, the percentage of children receiving food for 3 times a day was 58.00 per cent followed by 23.33 per cent children for 4 times, 10.00 per cent children for 5 times and 6.67 per cent children for 2 times a day.

Conclusion:

Therefore, it is recommended to give urgent attention to follow the practices of inclusion of more and more food groups in the diet of preschool children in order to maintain minimum diet diversity that is inclusion of minimum 5 food groups. The increase in meal frequency will not only be helpful in dietary adequacy but it may prove advantageous in increasing the diversity also if little care is taken.

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