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Research Paper

Transition of diet from mother's chilhood to children and its impact on their health and nutritional status of rural Anganwadi centre

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ABSTRACT : Among children between the age of 6 and 59 months, a majority (70%) are anaemic. Nearly 3/4 (75%) of women in India are anaemic. The ICDS scheme was launched on 2nd October 1975 as a centrally sponsored project with one of its core aim to improve the nutritional and health status of pregnant and lactating mothers and children below six years. The main objective of the study was to assess the diet transition from mother's childhood to children and its impact on health and nutrition status of mother and children. There was no any remarkable difference in the diet of the mother and children. The SNP provided to the pre-school children at AWCs fulfils the only partial dietary requirement. Dietary pattern of mother and children showed that *Bhat* and *Sabji* was the major food stuff of their diet. There was lack of milk, green leafy vegetable, fruit, pulse and non-vegetarian in diet. Sattu was one of the main foods in diet sources. All mother and children belonged to BPL family; there was lack of availability and accessibility of adequate diet. Due to hardworking of mothers only 28 per cent got morning diet. Only 10 per cent mothers and 28 per cent children were getting adequate diet, resulting 70 per cent mothers underweight and 80 per cent mothers anaemic, whereas, 52 per cent children undernourished. For the improvement of the dietary intake and nutritional status of mother and children of rural areas, improvement of the services of SNP/THR and Nutrition Health Education of ICDS are must.

KEY WORDS : Transition, Diet, Malnutrition, Supplementary nutrition, ICDS

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Nutrition transition in India is attributing to rapid economic growth in the last few decades as well as accompanying life style. Diet is a basic human need and a prerequisite to a healthy life. A proper diet is essential from the early stage of life for proper growth, development and to remain active (Joshi, 2005). Food consumption, which largely depends on production and distribution, determines the health and nutritional status of the population. Health and nutrition are the most important contributory factors for human resource development in the country (Kamala Krishnaswamy *et al.*, 2011). The Recommended Dietary Allowances (RDA) are nutrient centred and technical in nature. Formulation of dietary goals and specific guidelines would help in providing required guidence to people in ensuring nutritional adequacy. Women and children is the most vulnerable group of human being. Pre-school age (3-6years) need proper and more diet for the proper growth and physical mental development. The primary cause of malnutrition in pre-school children is inadequate diet and faulty diet. Apart from poverty, other socio-economic, environmental factors also play an important role in aggravating the dietary deficiency diseases (Srilaxmi, 2008). In women, additional food and extra care are required during pregnancy and lactation. In India, it is observed that diets of women from the low socio-economic groups are essentially similar during pre-pregnancy, pregnancy and lactation mothers. Undernutrition starts as early as during conception. Because of extensive maternal under nutrition (underweight, poor weight gain during pregnancy, nutritional anaemia and vitamin deficiencies). About 22 per cent of the infants are born with low birth(< 2500g), as compared to less than 10 per cent in the developed countries. Both clinical and sub-clinical undernutritions are widely prevalent even during

early childhood and adolescence. Though the prevalence of florid forms of severe PEM like kwashiorkor and Marasmus among pre-school children is <1% national survey which indicates that half of <5 year children(48%) suffer from sub-clinical under nutrition such as underweight (43%) stunting and wasting (20%) which indicate that undernutrition is long duration. Among children between the age of 6 and 59 months, a majority (70%) are anaemic. Nearly 3/4 (75%) of women in India are anaemic, with the prevalence of moderate to severe anaemia being highest (50%) among pregnant women. India is passing through the phase of economic transition and while the problem of undernutrition continues to be a major problem.

India has built up gigantic rural health infrastructure and initiated huge number of rural health programme and policies. Under the NRHM scheme to round the clock services to the mother and child has to be provided all the primary health centres. The activation of the national council on India's Nutritional challenges and the decision to overhaul nutrition programme in the country after a series of negative international reports about the abysmal nutrition records are significant developments. India has one of the poorest records in the world when it comes to nutrition among children. This is especially true of children and lactating mothers and it is widely felt that at least 50 per cent of women and children suffer from nutritional deficiencies. For a nutritious diet, there is need not just for rice and wheat but other things as well. In recent times pulses, which are considered a nutritious supplement being high protein content, have gone beyond the reach of the BPL sections. Pulses are traditionally considered a residual crop, only suited for growth under rain-fed conditions when one cannot grow rice or wheat. A shortage of pulses can have devastating long term effects on our national nutritional standards and the consequences are already felt.

Integrated child development service (ICDS) scheme :

The ICDS scheme was launched in 2nd October 1975 as a centrally sponsored project with one of its core aim to improve the nutritional and health status of pregnant and lactating mothers and children below the six years. Launched in 1975, the programme has gradually increased from 33 blocks to 7073 projects in 2009, catering about 87.3 million beneficiaries through the network of about 1 million Anganwadis centre. The services of the ICDS are Immunization, Referral services, Health check-up, Supplementary nutrition, nutrition and health education and Pre-school education. First three services are delivered by Health Department at the Anganwadi centre. SNP is provided to pre-school children (3-6 years) in the form of hot cooked meals like, Khichdi, Halwa, Rasia, Pulaw and snacks form (egg, banana, biscuit, seasonal fruits)(500k/cal), whereas, to lactating and pregnant mother and severally malnourished children, THR is provided in the form of rice and pulses one time in a month (600k/cal).

Type of supplementary nutrition :

Children in the age group 0 – 6 months :

For children in this age group, States/ UTs may ensure continuation of current guidelines of early initiation (within one hour of birth) and exclusive breast-feeding for children for the first 6 months of life.

Children in the age group 6 months to 3 years :

For children in this age group, the existing pattern of Take Home Ration (THR) under the ICDS Scheme will continue. However, in addition to the current mixed practice of giving either dry or raw ration (wheat and rice) which is often consumed by the entire family and not the child alone, THR should be given in the form that is palatable to the child instead of the entire family.

Children in the age group 3 to 6 years :

For the children in this age group, State/ UTs have been requested to make arrangements to serve Hot Cooked Meal in AWCs and mini-AWCs under the ICDS Scheme. Since the child of this age group is not capable of consuming a meal of 500 calories in one sitting, the States/ UTs are advised to consider serving more than one meal to the children who come to AWCs (Jain and Agrawal, 2007). Since the process of cooking and serving hot cooked meal takes time, and in most of the cases, the food is served around noon, States/ UTs may provide 500 calories over more than one meal. States/ UTs may arrange to provide a morning snack in the form of milk/ banana/ egg/ seasonal fruits/ micronutrient fortified food etc.

Objectives :

– To know the dietary pattern of pre-school children and mother of rural Anganwadis centres, to assess the diet transition from mother's chilhood to children and to assess the health and nutritional status of pre-school children and their mother.

Nutritional norms : Revised vide letter No. 5-9/2005-ND-Tech Vol. II dated 24.2.2009

Sr. No.	Category	(Pr-revised)		(Revised) (per beneficiary per day)	
		Calories (K cal)	Protein (g)	Calories (K cal)	Protein (g)
1.	Children (6-72 months)	300	8-10	500	12-15
2.	Severely malnourished children (6-72 months)	600	20	800	20-25
3.	Pregnant women and Nursing mothers	500	15-20	600	18-20

■ RESEARCH METHODS

For the present study, 40 Anganwadis Centre of Banka districts of Bihar were selected. Sample survey of 200 pre-school children and their mother's including pregnant and lactating mothers (20-30years) of BPL family were selected. The study period was October 2011 to June 2012. For the assessment of diet and dietary pattern and food stuff, 24 hours diet recall method was used and diet frequency questionnaire was applied and then it was calculated and compared to RDA. To know the transition of diet of mothers to their childhood, the mothers were requested to recall the diet they themselves were getting in their childhood. To assess the health and nutritional status used anthropometry measurement, WHO growth chart standards, BMI, questionnaire and observation methods were used.

■ RESEARCH FINDINGS AND DISCUSSION

Fig. 1 shows that dietary intake of pre-school children. When analysed, only 28 per cent children were getting full diet, whereas at AWCs only 34 per cent children were getting recommended supplementary nutrition *i.e.* 500k/cal. No quality and quantity of hot cooked meals and snacks were maintained adding proper supplementary food, resulting only 11 per cent children getting balance diet.

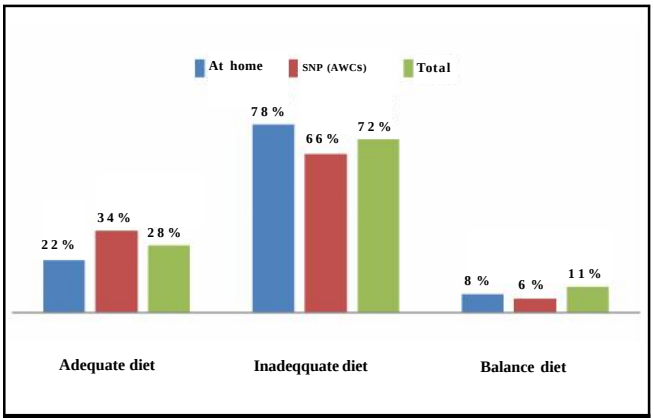

Fig.1: Dietary intake of pre-school children and mothers childhood

When the dietary intake of mother's childhood period was assessed through recall of past 20-30yrs, slight decrease in balance diet was found compared to their children, *i.e.* milk and green leafy vegetable were easily availability cheap compared to present time (Fig.2). There was no remarkable change in energy rich food. About 20 years ago *i.e.* mother's childhood no nutrition intervention of ICDS was working in the study area, so mothers did not get any SNP/THR in their childhood.

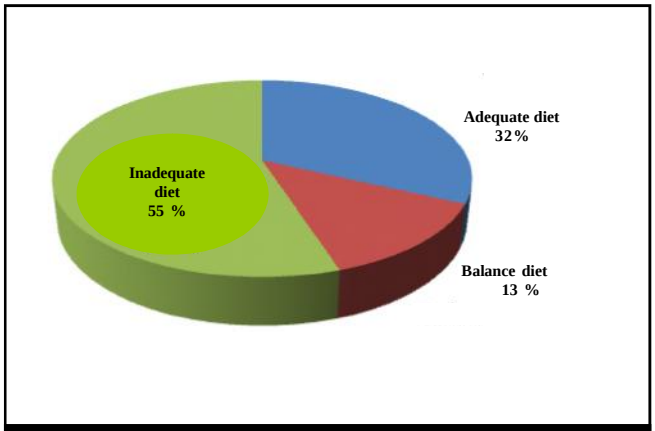

Fig.2: Diet of mother's childhood (pre-school age)

In the dietary intake of mothers only 10 per cent were getting full diet. Among lactating and pregnant mothers, only 18-21per cent were getting adequate diet, whereas, only 8 per cent mothers took balance diet, 2-6 per cent pregnant and lactating mothers took balance diet. The quality and quantity of THR which was provided by Anganwadi centre of ICDS once in a month for the lactating and pregnant mothers was very poor.

Table 1 When the data of dietary pattern of children were analysed it was found that more than ¾ children getting Bhat (rice) and potato based mixed vegetable in diet, in which 50 per cent children were getting *Basi Bhat* (night cooked rice) and *Sabji* in morning diet, 16 per cent children were getting wheat bread (*Roti*) and *Sabji* twice in 24 hours *i.e.* night and *Basi Roti* (night cooked *Roti*) in the morning. In the evening,

Table 1 : Dietary pattern of children

Food stuff	Morning	Afternoon	Evening*	Night**
Bhat (rice) and potato based mixed vegetable(night cooked 62%, fresh 38%)	62%	73%	52%	56%
*Roti (*Chapati) *Bhat* (rice) and potato based mixed vegetable(Night cooked 86%, fresh 14%)	16%	03%	02%	21%
Bhat, Dal,Sabji	00%	06%	03%	02%
Tea/ milk, bread	02%	00%	02%	06%
Mudi (puffed rice), Chuda	08%	01%	36%	03%
Sattu (maize based flour)	12%	17%	01%	01%

* 3% children not getting any diet at evening. **11% children not getting diet at night

36 per cent children got snacks like Mudi (Frahi) / Chuda (bittle rice). 2-3 times in a week they were getting Dal (pulses). 12 per cent children got Sattu (maize based roasted flour) in morning and afternoon diet. About 11per cent children did not take dinner. Only 6 per cent children were getting milk in their diet.

When the dietary pattern of mothers was analysed it was found that same pattern *i.e.* more than ¾ mothers took *Bhat* and potato based mixed vegetable in which 40-60 per cent took night cooked *Bhat* and *Sabji* in the morning. In the afternoon diet, maize roasted sattu was the second main diet *i.e.* 27 per cent, only 4 per cent mother's took pulse daily. In the night, 30 per cent mothers are getting *Roti* and *Sabji*. It was observed, only 28 per cent mothers got morning diet and only 2 per cent mothers were getting milk (Table 2).

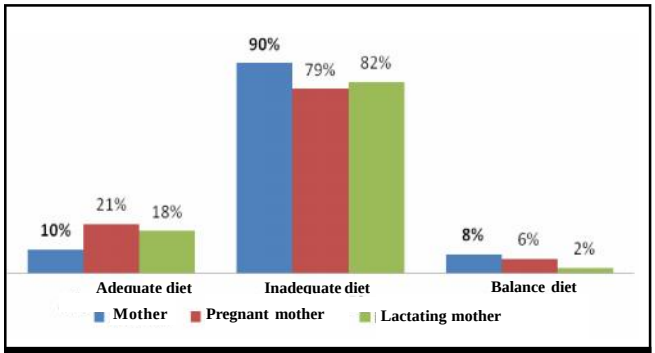

Fig. 3: Dietary intake of mothers (include THR)

The supplement diet of mothers and children showed (Fig 4) that only 2 per cent mother and 11per cent children were getting milk. Only 12 per cent mother took green leafy vegetable. Only 2 per cent mothers and 6 per cent children got fruit occasionally.72 per cent children took chocolate every day, whereas, 66 per cent children took biscuit daily. Only 1 per cent mothers and 2 per cent children were taking no vegetarian diet once in a week.

When the nutritional status of mother was analysed, 70 per cent mothers were underweight in which 8 per cent were severely underweight, 59 per cent mothers were thin and 80 per cent mothers were anaemic in which 12 per cent were severely anaemic. The analysis of nutritional status of children according to the WHO growth standards 2006, it showed that 52 per cent were underweight in which 22 per cent were severely underweight, 64 per cent stunted and 48 per cent wasted (Fig. 5).

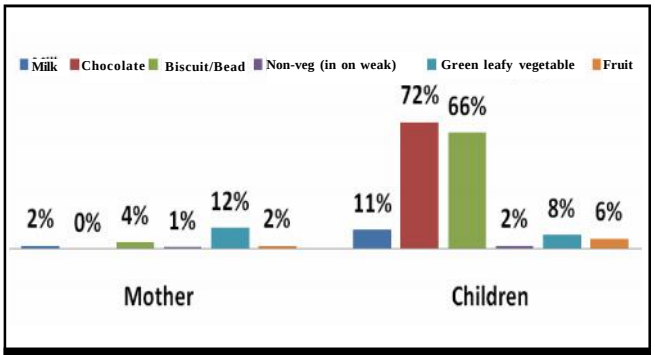

Fig. 4: Supplement diet

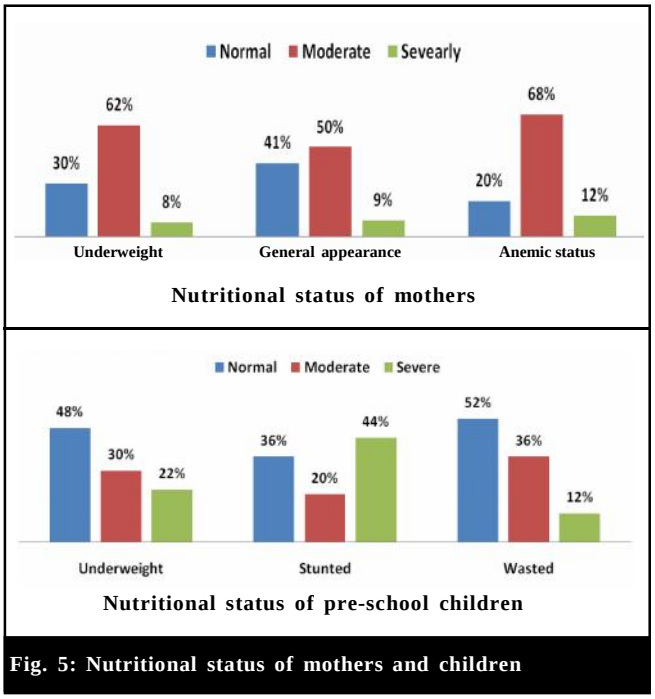

Fig. 5: Nutritional status of mothers and children

Table 2: Dietary pattern of mother

Food stuff	Morning*	Afternoon	Evening**	Night***
Bhat(rice) and potato based mixed vegetable(night 62%,fresh 38%)	11%	66%	12%	63%
Roti (Chapati) Bhat (rice) and potato based mixed vegetable(night 86%,fresh 14%)	06%	03%	02%	30%
Bhat, Dal,Sabji	00%	04%	01%	02%
Tea/Milk, Bread	00%	00%	00%	02%
Mudi(puffed rice), Chuda	00%	01%	09%	03%
Sattu(maize based flour	11%	27%	02%	02%

*Only 28% mother getting morning diet, **only 26% mother getting evening diet, ***only 5-6% mother getting pulse in diet.

Conclusion :

On the basis of the findings of the study, the following conclusion may be drawn :

–There is no any remarkable difference in the diet of the mothers and children.

–A minor difference was found in the diet of the mothers in their childhood and their children.

–A little difference has been found in the intake of milk and green leafy vegetables of mothers in their childhood and their children.

–The THR provided to the pregnant and lactating mothers was not sufficient to meet their requirement.

–The SNP provided to the pre-school children at AWCs fulfilled only partial dietary requirement.

–Snacks were not provided according to the norms at AWCs.

–Dietary pattern of mothers and children showed that *Bhat* and *Sabji* was the major food stuff of their diet.

–There was lack of milk, green leafy vegetables, fruit, pulses and non-vegetarian diet.Sattu was one of the main foods in diet sources.

–All mothers and children belonging to BPL family; there was lack of availability and accessibility of adequate diet. Due to hardworking of mothers, only 28 per cent get morning diet .Only 10 per cent mothers and 28 per cent children were getting adequate diet, resulting 70 per cent mothers underweight and 80 per cent mothers anaemic, whereas 52 per cent children were undernourished.

Recommendation :

For the improvement of the dietary intake and nutritional status of mothers and children of rural areas, the quality and quantity of supplementary nutrition has to be improved. Take Home Rashan and Supplementary Nutrition provided by ICDS should be managed properly. The services of Nutrition Health Education of ICDS should be implemented strongly.

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