

## IMPACT OF FRONT LINE DEMONSTRATION ON FEEDING OF LOW COST HIGH PROTEIN RICH FOOD (*POSHAK AAHAR*) TO MALNOURISHED RURAL TRIBAL CHILDREN

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### ABSTRACT

*In Tapi district, many of children of this area have poor nutritional and health status i.e. malnutrition. Majority of tribal farm women of this area have lack of knowledge about health and nutrition, dietary pattern for pregnant & lactating women and supplementary feeding for children. In addition to milk, children need other nutrients for their optimum growth and development. Protein is one of the most important nutrient required for better growth and development of children. Therefore, KVK, NAU, Tapi has conducted FLD on 'Feeding of low cost high protein rich food (POSHAK AAHAR) to malnourished rural tribal children of 1 to 3 years of age and evaluated its effect on the growth of children compared to control group. The data indicated that percent weight gain in the demonstration group was 8.54% as compared to control group was 3.65% i.e. less than half of gain in weight of the demonstration group. Thus, it could be concluded that low cost high protein rich food (POSHAK AAHAR) prepared by KVK, Tapi is acceptable and could be useful in growth and development of children and prevent malnutrition problem.*

**Keywords :** malnutrition, supplementary feeding, protein rich food, front line demonstration

### INTRODUCTION

Tapi is a tribal dominated district with poor economic condition of farmers. Majority of tribal farm women of this area have lack of knowledge about health and nutrition, dietary pattern for pregnant & lactating women and supplementary feeding for children. In addition to that, due to poor economic condition, they are unable to purchase fruits, vegetables and other foodstuff from market for their daily dietary need which is resulted in poor health and imbalance nutritional status of family. Many of children of this area have poor nutritional and health status i.e. malnutrition. In addition to milk, children need other nutrients for their optimum growth and development. Protein is one of the most important nutrient required for better growth and development of children. It forms the important component of muscle, other tissues and vital body fluids like blood. Protein as antibodies helps the body to defend against infection. Therefore, KVK, NAU, Tapi has conducted FLD with specific objective to study the feeding of low cost high protein rich food (*POSHAK AAHAR*) to malnourished rural tribal children and evaluated its effect on the growth of children.

### METHODOLOGY

To know the impact of front line demonstration on feeding of low cost high protein rich food (*Poshak aahar*) to malnourished rural tribal children

### METHODOLOGY

The best quality of protein is the one, which provides essential amino acid pattern very close to the pattern of tissue proteins. *e.g.* egg protein, human milk protein *etc.* But plant proteins are of poor quality since essential amino acid composition is not balanced. *e.g.* cereal proteins are poor in amino acid lysine while pulses & oilseed proteins are rich in lysine but they are poor in sulfur containing amino acid. Thus, deficiency of amino acid in one can be made good by an adequate level in another, if both are consumed together. Therefore, a combination of cereals & pulses in the ratio of 3:1 has been found to give an optimum combination (Recommended by WHO). Hence, keeping all these factors in mind KVK, NAU, Tapi has designed and developed low cost high protein rich food (*POSHAK AAHAR*) for rural tribal children to prevent malnutrition. Detail of preparation

of POSHAK AAHAR from locally available food material is presented in Table 1.

**Table 1: Preparation of POSHAK AAHAR (mixture of cereals & pulses, ratio 3:1) with nutrient composition**

n=100

Sr. No.	Ingredients	Amount (gm)	Nutrients		
			Protein (gm)	Energy (K.cal)	Calcium (mg)
1	Wheat flour	25.0	3.03	85.25	12.00
2	Jowar flour (Sorghum)	25.0	2.60	87.25	06.25
3	Rice flour	25.0	1.70	86.25	02.50
4	Soybean flour	12.5	5.40	54.00	30.00
5	Bengal gram flour	12.5	2.81	46.50	07.00

(Source: Nutritive value of Indian foods by C. Gopalan & et.al, National Institute of Nutrition, ICMR, Hyderabad)

The present study was conducted in adopted villages of Tapi district. The village namely Ghodchit, Vanskui,

Aamalgundi, Degama and Bhadbhunja were selected purposively. To assess the growth promoting effect of low cost high protein rich diet (POSHAK AAHAR), 20 malnourished rural tribal children of 1 to 3 years of age were selected from AANGANVADIES of one village in each year during 2010-11 to 2014-15 (Five years) and divided into two groups. One group were fed POSHAK AAHAR 100 to 150 gm per day per child with existing traditional dietary pattern for four months period and another group as control with traditional dietary pattern. KVK, Tapi has organized FLD training for rural tribal mothers of malnourished children. In FLD training, various low cost nutritious recipes were prepared from POSHAK AAHAR like Paustic mix, Sukhadi, Bhakhari, Thepla, Muthia, Dhokla, Handawa etc. The malnourished rural tribal children were weighed at the beginning of feeding trial and were repeated after every month (30 days) until the end of the experiment i.e. four months period. The data were analyzed with simple statistic tools like Mean and percentage.

### RESULTS AND DISCUSSION

The data regarding the study were analyzed and presented in the following Table 2.

**Table 2: Average weight gain of malnourished tribal children after feeding of POSHAK AAHAR compared to control group after four months**

n=100

Year	Village and Block	Group	No. of malnourished tribal children	Average body weight (Kg)		Weight gain (kg)	Percent weight gain
				Before FLD	After FLD		
2010-11	Ghodchit (Songadh)	Demonstration	10	7.900	8.880	0.980	12.40
		Control	10	8.300	8.750	0.450	5.42
2011-12	Vanskui (Vyara)	Demonstration	10	8.710	9.500	0.790	9.07
		Control	10	9.020	9.400	0.380	4.21
2012-13	Aamalgundi (Songadh)	Demonstration	10	7.970	8.700	0.730	9.15
		Control	10	8.290	8.540	0.250	3.01
2013-14	Degama (Valod)	Demonstration	10	8.660	9.090	0.430	4.96
		Control	10	9.730	9.940	0.210	2.15
2014-15	Bhadbhunja (Uchchhal)	Demonstration	10	8.910	9.580	0.670	7.51
		Control	10	8.510	8.820	0.310	3.64
Five years	Adopted villages	Demonstration	50	8.430	9.150	0.720	8.54
		Control	50	8.770	9.090	0.320	3.65

Weight gain is the parameter used to assess the effect of low cost high protein rich food on the body of malnourished rural tribal children. Therefore, initial and final weights of malnourished children were recorded and from this data gain in weight and percent gain in weight were calculated. The data portrayed in Table 2 indicated that the demonstration group fed low cost high protein rich food (POSHAK AAHAR)

and control group fed traditional food for four months period showed an average initial body weight was 8.430 kg and 8.770 kg respectively while after conducting FLD, an average final body weight of malnourished children was 9.150 kg and 9.090 kg respectively. Therefore, the demonstration group and control group of tribal malnourished children showed an average weight gain of 0.720 kg and 0.320 kg respectively.

Percent weight gain in the demonstration group was 8.54% as compared to control group was 3.65% i.e. less than half of gain in weight of the demonstration group.

#### Feedback of Mothers

- POSHAK AAHAR is good in taste therefore children are eating this food one to two times in a day. So that weight of children is increased and ultimately weakness of children is decreased.
- POSHAK AAHAR is cheaper and easily available at home.
- Recipes of POSHAK AAHAR can be prepared as per taste required.

#### CONCLUSION

From the above results and discussions, it could be concluded that low cost high protein rich food(*POSHAK AAHAR*) prepared by KVK, NAU, Vyara, Dist.Tapi is acceptable and could be useful in growth and development of children and prevent malnutrition problem. The beneficial effect of *POSHAK AAHAR* indicates that it can be successfully incorporated in rural community programmes like *MAHILA SHIBIR*, Health camp, Health awareness programmes, In-service training for AANGANVADI workers and health workers, Method demonstration and other community based extension activities for promoting health and nutritional

status of children as well as rural community.

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