

Nutritional dynamics of adolescent girls in selected tribal regions of Telangana, India

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Setting the stage

- Nutri-Food Basket
- Tribal districts of Telangana
- Focus on nutrition - adolescent girls (boys not covered)
- Sample size – 1463 adolescent girls, 38 villages, 171 anganwadi centres
- Collaboration with NRHM, Women and Child welfare department, State Government departments

Tackling Malnutrition Through Nutri-Food Basket



The Intervention NUTRI-FOOD BASKET

Products served as breakfast

Through Anganwadi centers

Breakfast per person*

- 150 gm of cooked sorghum
- 50 gm of Energy dense nutrient food
- 20 gm of cookies
- 150 gm of cooked multigrain meal

Recommended dietary allowance* (%) fulfilled by nutri-food basket products

	Children (3-5 y)	Adolescent girls	Lactating mothers	Pregnant women
Iron	14	9	8	7
Calcium	15	10	6	6
Energy	20	16	10	10
Fat	42	40	23	35
Protein	36	17	15	17

* Combination of any two items on alternate days. ** RDA as per ICMR guidelines

Evaluation to assess impacts



Plan to supply for 9 months

5069 beneficiaries

- 28 tons jowar meal
- 28 tons multigrain meal
- 28 tons Energy dense nutrient food
- 11 tons of nutri-cookies

Final assessment to analyze impacts post 9 months

Nutritional Status of adolescent girls in terms of anthropometric indicators:

Indicator	Early Adolescent (11 to 14 years)	Late Adolescent (15 to 18 years)	Overall
Height (cm)	142.35 (7.99)	151.36* (4.80)	146.99 (7.76)
Weight (kg)	33.57 (6.58)	42.48* (5.23)	38.16 (7.06)
BMI (Kg/M ²)	16.38 (2.27)	18.54* (3.81)	17.49 (2.35)
BMI Status			
Under weight	81.97	54.32	67.74
Normal	17.46	42.90	30.55
Over weight	0.56	2.79	1.71
Z score for BMI			
Stunting + Thinness	12.25	4.78	8.41
Only Stunting	20.14	26.96	23.65
Only Thinness	12.96	13.81	13.40
Normal/stable	54.65	54.45	54.55

Note: i) Values in the parenthesis represent standard deviation (SD)

ii) * indicate the values of late adolescent groups are significantly different from early adolescent group of respondent

Source: Baseline survey, Nutri-food Basket project, ICRISAT, 2017

Dietary Diversity

Women Dietary Diversity Scores (WDDS): Percentage of individuals

Mandal Name	Members Status	Dietary diversity (Normal day)		
		Low (Upto 3 food groups)	Medium (4 to 5 food groups)	High (More than 5 food groups)
Kasipet	Adolescent girls (N=586)	35.96	63.36	0.68
	Pregnant and lactating women (N=526)	40.15	58.69	1.16
Tiryani	Adolescent girls (N=441)	46.8	52.28	0.91
	Pregnant and lactating women (N=420)	51.21	48.06	0.73
Utnoor	Adolescent girls (N=428)	39.57	59.24	1.18
	Pregnant and lactating women (N=774)	33.77	63.34	2.89
		Dietary diversity (Market day)		
Kasipet	Adolescent girls (N=586)	31.4	66.72	1.88
	Pregnant and lactating women (N=526)	32.89	65.02	2.09
Tiryani	Adolescent girls (N=441)	39.46	56.92	3.63
	Pregnant and lactating women (N=420)	43.57	54.52	1.9
Utnoor	Adolescent girls (N=428)	27.8	64.49	7.71
	Pregnant and lactating women (N=774)	27	66.02	6.98

Determinants of malnutrition

Variable	Model-1 (Stunted vs non-stunted)	Model-2 (Underweight Vs Normal BMI)
Adolescent dummy (Early adolescent=0, Late adolescent=1)	0.034	-1.282 ^S
Household type (1 = Male and female adult ; 2 = Female adult only; 3=Male adult only)	0.023	0.022
Household size	0.011	0.055
Head gender dummy (Male=1, Female=0)	0.239	0.390 ^S
Age of household head (years)	-0.008	-0.004
Education of head code (Illiterate or just able to sign=1, Upto primary=2, Secondary & above=3)	-0.159 ^S	-0.171 ^S
Monthly per-capita income (in "1000/-" Rs.)	-0.089 ^S	-0.061 ^S
Toilet dummy (Available=1, Otherwise=0)	-0.319 ^S	-0.117
Education of adolescent code (Illiterate or just able to sign=1, Upto primary=2, Secondary & above=3)	-0.222 ^S	-0.054
Constant	0.370	1.658

Note: "S" indicating the variables are statistically significant

Source: Baseline survey, Nutri-food Basket project, ICRISAT, 2017



Discussion pointers

- Generational effect
- Lack of basic awareness about food, nutrition, health and overall wellbeing.
- Rigid social and cultural norms – difficult to be challenged, especially by women
- Promote nutrition literacy and behavior change campaigns targeted for women, young children and adolescents in the rural and tribal regions.
- A coordinated goal oriented approach to be adopted including stakeholders from different sectors to bring about nutrition literacy and enhance the nutritional status of women, children and the communities as a whole.
- Adolescent girls and boys should be given special emphasis and receive targeted interventions including new knowledge.

