

## Prevalence of Malnutrition among School Children in Rural North Karnataka

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### ABSTRACT

The objective of the present study is to evaluate the level of malnutrition and the impact of households on the nutritional status of school children in a rural area of north Karnataka region. Factors included: the number of children of 5 to 14 years of age in the family, occupation of the parents, family income, maternal education, type of residence (kacha or pucca) and children gender. The study was a cross-sectional descriptive survey using a structured questionnaire which includes Anthropometric measurements height (H/A) and weight (W/A). Two hundred and seventy school children representing a rural area of Raichur district, North Karnataka were participated in the study. Reference standards used were those of WHO growth charts. The results showed the level of stunting and underweight in school children as per percentile standards from the WHO. Most of the boys and girls of the study fall under < 3<sup>rd</sup> percentile. Hence, malnutrition was significantly higher among the school children. The higher the level of the mother's education, the lower the level of child's underweight was observed. In the present study, growing children by and large are deprived of good nutrition on account of their poor socio-economic status, ignorance and lack of health promotional facilities. The study findings imply that efforts for redressing child under nutrition issues in rural areas should focus on factors associated with development outcomes such as family income, maternal education and the creation of employment.

**Keywords:** Malnutrition, Percentile, Socio-economic Factors, Anthropometry

### INTRODUCTION

Malnutrition is defined as a pathological state resulting from a relative or absolute deficiency or excess of one or more essential nutrients.<sup>[1]</sup> Malnutrition during infancy and early childhood is believed to have a long term impact on both physical growth and intellectual performance in later life.<sup>[2,3]</sup> The physical growth of child is reflected by different Anthropometric measurements especially height and weight. The physical dimensions of the body are much influenced by nutrition in growing period of school age. So, it is necessary to assess the nutritional status of this specific group.<sup>[4]</sup>

The objective of the present study is to evaluate and report on the levels of the commonly used indicators of malnutrition (underweight & stunting) among children of 5 to 14 years attending school. These will include socio-economic parameters like child's family income, maternal education, parental occupation, type of housing, age and gender.

### MATERIALS AND METHODS

This study was a cross-sectional descriptive survey using a structured questionnaire and measurements of height and weight to determine the nutritional status of 270 school children between 5 to 14 years in a rural area of

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north karnataka region. It includes demographic details, family history, socio-cultural and economic factors and anthropometric data.

The dependent variables for this study were the anthropometric measurements like height-for-age, which indicates the level of stunting and weight-for-age, which indicates the level of underweight. The independent variables were occupation of the parents, family income, maternal educational knowledge, type of residence (kacha or pucca) and gender.

Reference standards used were those of 2007 WHO Reference Growth Charts.

## RESULTS AND DISCUSSION

### Characteristics of Households:

Demographic and economic properties of the 270 households, which participated in the study are given in Table, 1&2. Table-1 shows with 5 being the most common number of family members. The percentage of female child in the age group of 8-10 years is higher when compared with the same age group of male children (Tab-2)

Table: 1 FAMILY SIZE OF PARTICIPANTS IN THE STUDY

FAMILY SIZE	NO.OF PARTICIPANTS	PERCENTAGE(%)
3	14	5.1
4	54	20
5	83	30.7
6	50	18.51
>6	59	21.85

Table: 2 AGE&GENDER DISTRIBUTION OF SCHOOL CHILDREN

AGE(Yrs)	BOYS	GIRLS	% OF BOYS	% OF GIRLS
5-7	24	23	18.06	16.31
8-10	43	62	33.33	43.97
11-14	62	56	48.06	39.71

Data given in Table-3 indicate that more than half(55.18%) of the households studied, had a monthly income of Rs.5000-6000, which was the average or low income range and puts them among poorer sectors in the society.

Table: 3 MONTHLY INCOME OF FAMILY

INCOME RANGE(Rs.)	NO.OF FAMILIES EARNING	PERCENTAGE(%)
2000	12	4.44
3000-4000	89	32.96
5000-6000	149	55.18
>6000	20	7.40

Table-4 indicates that a high percentage (75.92%) of the parents participating in the study were farmers and housewives, i.e; fathers work in the agricultural sectors and mothers were not working.

Table: 4 OCCUPATION OF PARENTS

PARENTS	OCCUPATION	NUMBER	PERCENTAGE(%)
BOTH	Farmer&Housewife	205	75.92
BOTH	Daily labourers	29	10.74
BOTH	Worker&Housewife	10	3.70
BOTH	Daily labourer&Housewife	15	4.07

Data in Table-5 also shows that a high proportion (88.1%) of the mothers had no education. Mothers having Primary education were very less(11.95%).

Table: 5 EDUCATION LEVEL OF MOTHER

EDUCATION LEVEL	NUMBER	PERCENTAGE(%)
None	238	88.1
Primary	32	11.9
Secondary	00	000

Data in Table-6 shows that most of the Families live in Kacha house(73.70%) and others in pucca house(22.3%).

Table: 6 TYPE OF HOUSING

TYPE OF HOUSING	NO.OF FAMILIES LIVING	PERCENTAGE(%)
Kacha pucca	16	5.92
pucca	55	20.3
kacha	199	73.70

The level of malnutrition based on dependent variables like Height-for-age(H/A) and Weight-for-age(W/A) were shown in Table-7.The results showed that the level of malnutrition for underweight among male and female children was almost the same(<3<sup>rd</sup> percentile) whereas stunting also showed both children under same level of percentile.

Table-7: MALNUTRITION AMONG SCHOOL CHILDREN

Total Girls	97 <sup>th</sup> percentile(a)	85th-97 <sup>th</sup> (b)	50th-85 <sup>th</sup> (c)	15 <sup>th</sup> -80 <sup>th</sup> (d)	3 <sup>rd</sup> -18 <sup>th</sup> (e)	< 3 <sup>rd</sup> (f)
W/A	-----	-----	-----	-----	15	126
H/A	-----	-----	24	-----	96	21
Total Boys						
W/A	-----	-----	-----	-----	-----	129
H/A	-----	1	6	15	60	32

Normal; (b)below normal; (c) moderate; (d) below moderate ; (e) mild; (f) poor

The present study reports on the level of malnutrition and the impact of some socio-economic and demographics of households on the nutritional status of school children. The study reveals that malnutrition is a problem

that affected stunting and underweight of school children. The lower anthropometric measurements of rural school children can be attributed to frequent illness due to lack of hygiene, which is reflected by the poor

economic status. A similar study also reported lower weights of children. <sup>[5]</sup> In studying the correlates of underweight in children, our findings revealed that a negative relationship between the number of children in the family, family income, maternal education and nutritional status (underweight) of children exist in the population. Observations from other studies suggest that economic engagements of parents, especially maternal income is protective against child malnutrition. <sup>[6&7]</sup>

It is found that women with higher status in the society have the ability to make decisions that improve the nutritional status of children, while those with low status do not. <sup>[8]</sup>

### CONCLUSION

From the study, it can be concluded that the higher the level of the mother's education, the lower the level of child's underweight was observed. Also, growing children by and large are deprived of good nutrition on account of their poor socio-economic status, ignorance and lack of health promotional facilities. The study findings imply that efforts for redressing child under nutrition issues in rural areas should focus on factors associated with development outcomes such as family income, maternal education, and the creation of employment.

### ↓ REFERENCES

1. Jelliffe DD 1966. The assessment of the nutritional status of the community. WHO monograph, No.53, Geneva:WHO
2. Stoch MB, Smythe RM. The effect of undernutrition during infancy on subsequent brain growth and intellectual development. *S. Afric Med J*, 1967, 41:1027
3. Craviato J, Dr Hicardole ER. Nutrition, mental development and learnings. In F. Falknar, J M Tanner (EDS): *Nutrition*. 1979, Vol 3, New York: Press P 407
4. Bharati P, Itagi S, Megeri SN. Anthropometric measurements of school children of Raichur, Karnataka. *J. Hum Ecol*, 2005, 18(3):177-179
5. Khader, V.: Anthropometric measurements of primary school children (6-10 years) in Vallabha Vidyanagar, Gujarat. *The Indian Journal of Nutrition and Dietetics*, 1997, 34: 15-19, 1997.
6. Barret H and A Browne. Health Hygiene, maternal education: Evidence from Gambia. *Soc. Sci, Med*. 1996; 43:1579-1590
7. Reed BA, Habicht JP and C Niameogo. The effects of maternal education on child nutritional status depends on socio-environmental conditions. *Int. J. Epidemiol*. 1996; 25:585-592
8. Smith LC, Ramakrishnan U, Ndiaye A, Haddad L and R Martorell. The importance of women status for child nutrition in developing countries. International Food Policy Research Institute, 2003.