

# DETERMINATION OF NUTRIENT ADEQUACY OF THE FOOD CATERED IN THE CHILD CARE HOME (CCH) OF SUNSARI DISTRICT



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## INTRODUCTION

The CCHs are formed to provide care, support, education, health services and security to the needy children; especially ones who are not in parental care and vulnerable.<sup>1</sup>

Malnutrition continues to be a primary cause of ill health and mortality among school age orphan and vulnerable children in developing countries.<sup>2</sup> Nepal is among ten countries in the world with the highest stunting prevalence, a measure of chronic under-nutrition, and one of top twenty countries with the largest number of stunted children. This problem affects 41% of its preschool children.<sup>3</sup>

## OBJECTIVE

Determination of nutrient adequacy of the food catered in the child care homes of Sunsari district.

## ACKNOWLEDGEMENTS

First and foremost I would like to record my sincere and profound gratitude to my supervisor, Mrs. Pallavi Vyas and co-supervisor Mr. Dinesh Shrestha for their timely comments, guidance and support, making this a worthwhile undertaking.

I would like to acknowledge Mr. Dambar B. Khadka and all children and adolescent in child care homes and to their caretakers for providing a conducive environment for my studies.

## METHODS

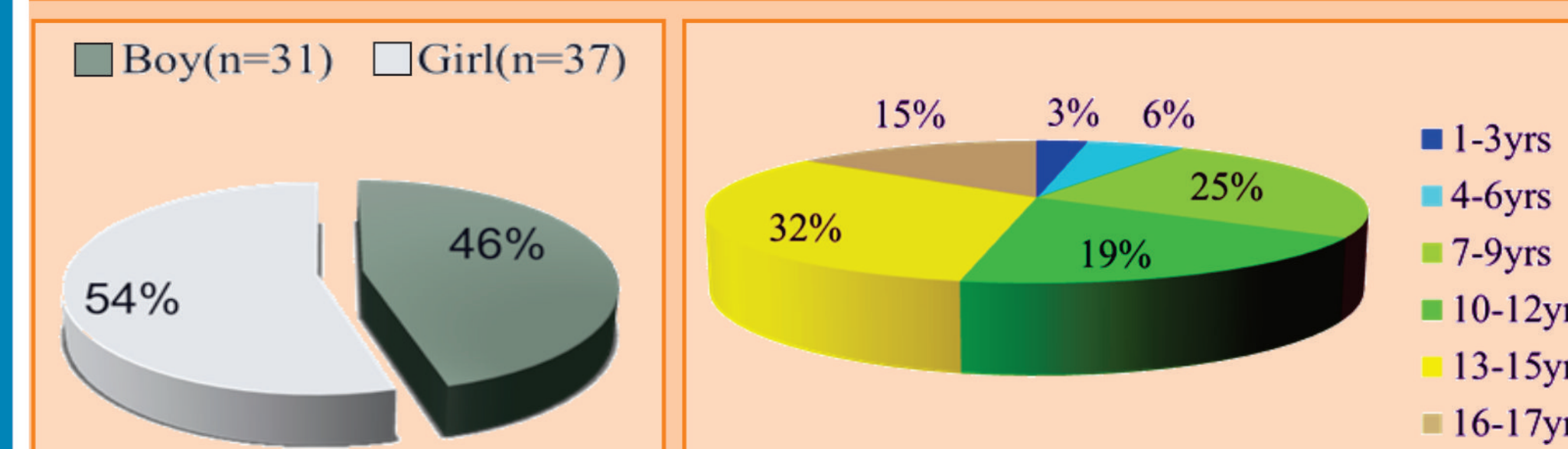
- Weighing method was used for determining the amount of food and food composition table was used to determine the nutrient content of food eaten.
- Anthropometric measurements were used to determine the nutritional status of the children and adolescent.



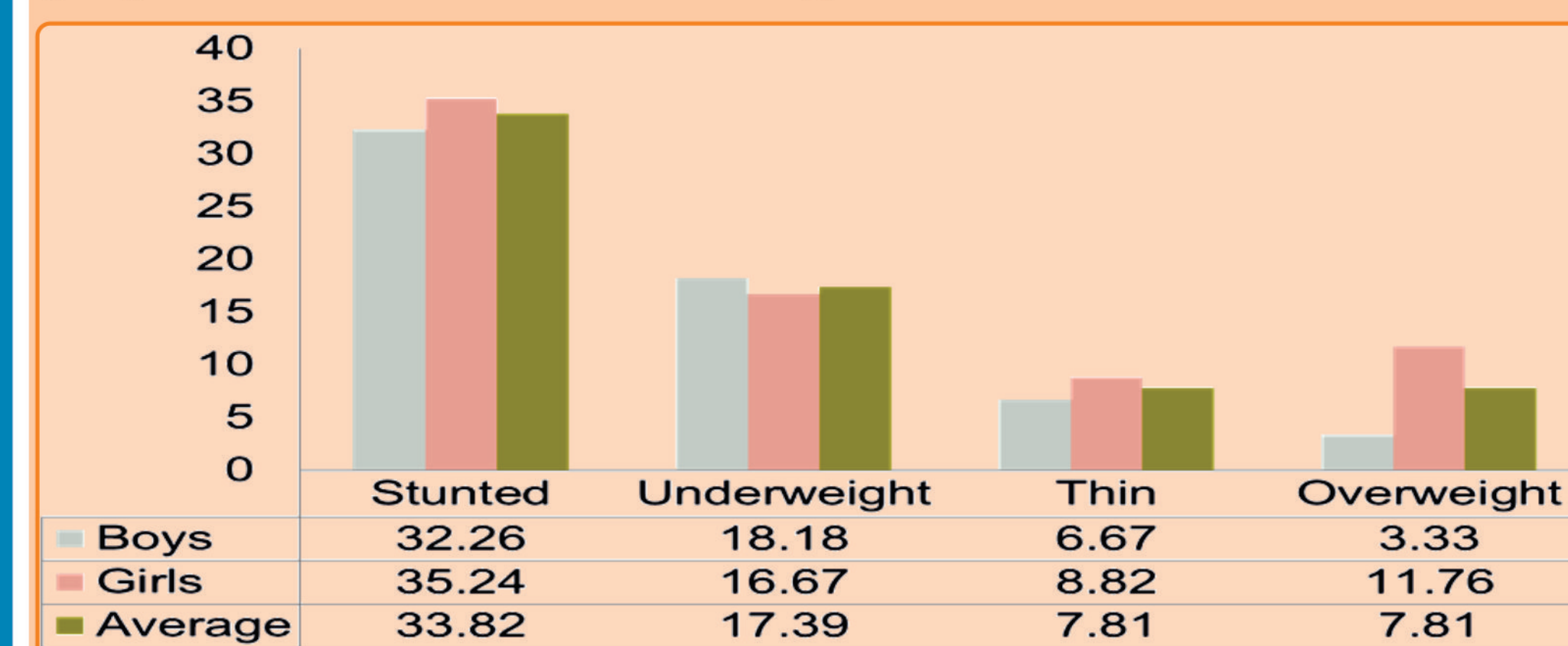
The process was done by using following steps:

- Wt. of raw food(Net wt.)+ Wt. of pan
  - Cooked food, with a pan(X1)
  - Wt. of cooked food(X1- wt. of pan)
  - Standardized portion
  - Fraction (Amt. of portion/ wt. of cooked food)
  - Amt. of each ingredient (net wt. × factor)
- Statistical analysis was performed by using the Statistical Package for Social Sciences for Windows SPSS (version 20.0).
  - T-test and bivariate spearman correlation coefficients were used to compare the nutrient intake with respective RDA and to determine the association between nutrient intake and malnutrition respectively.

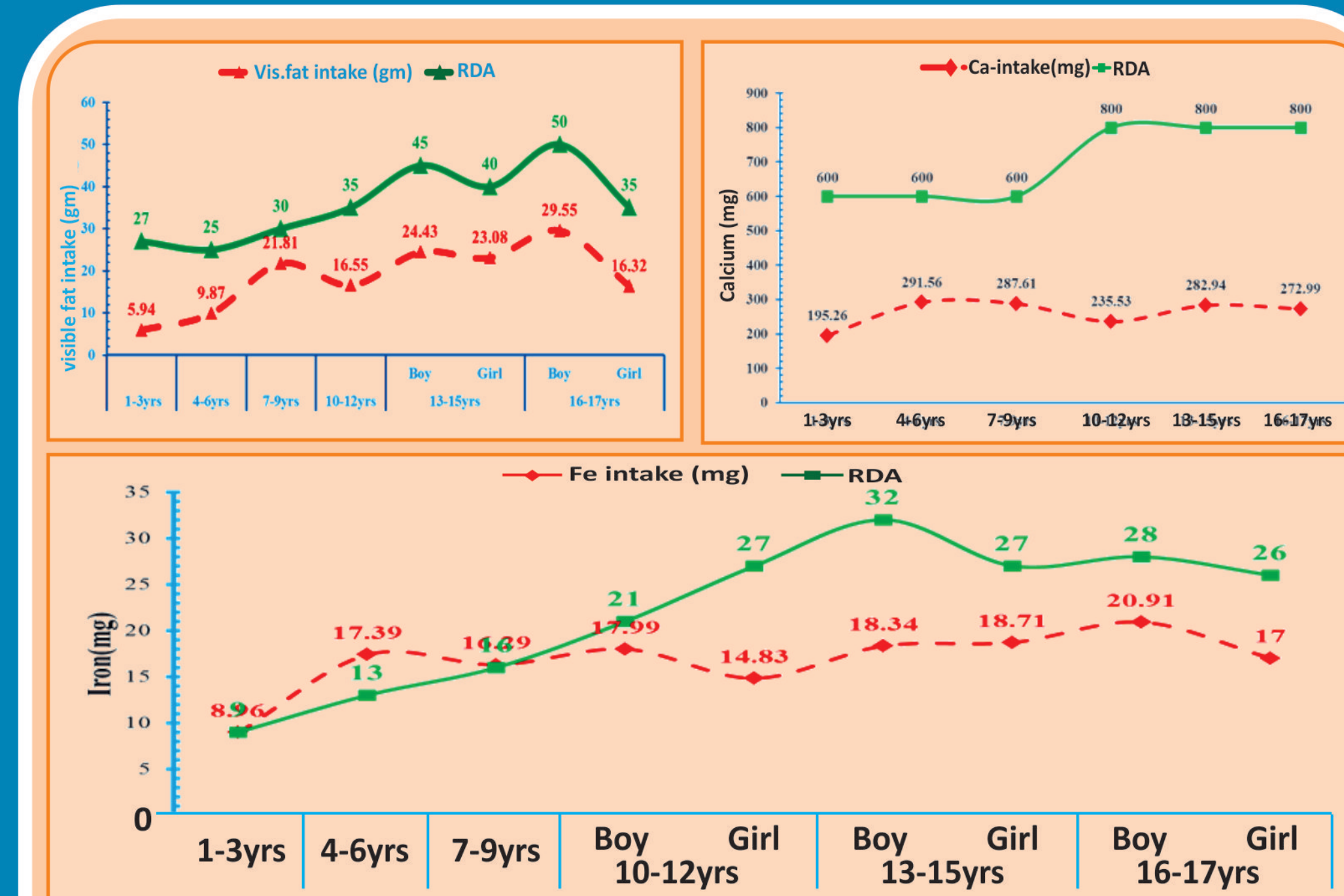
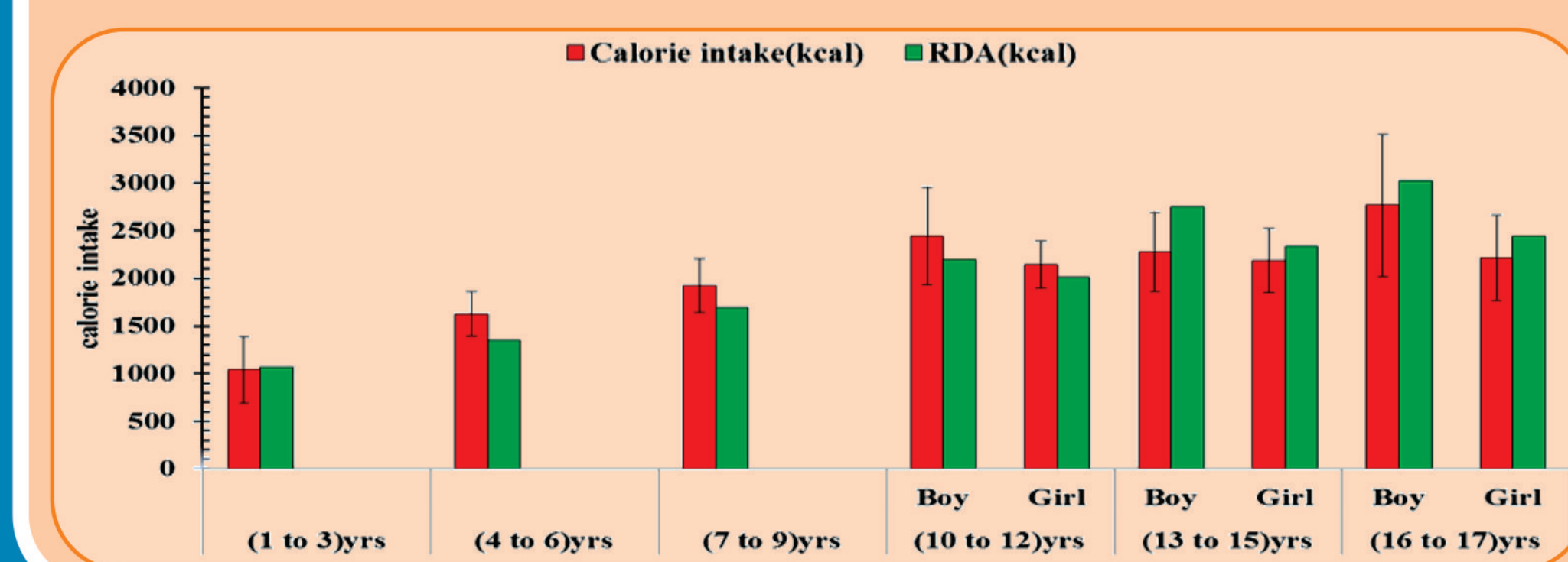
## RESULTS



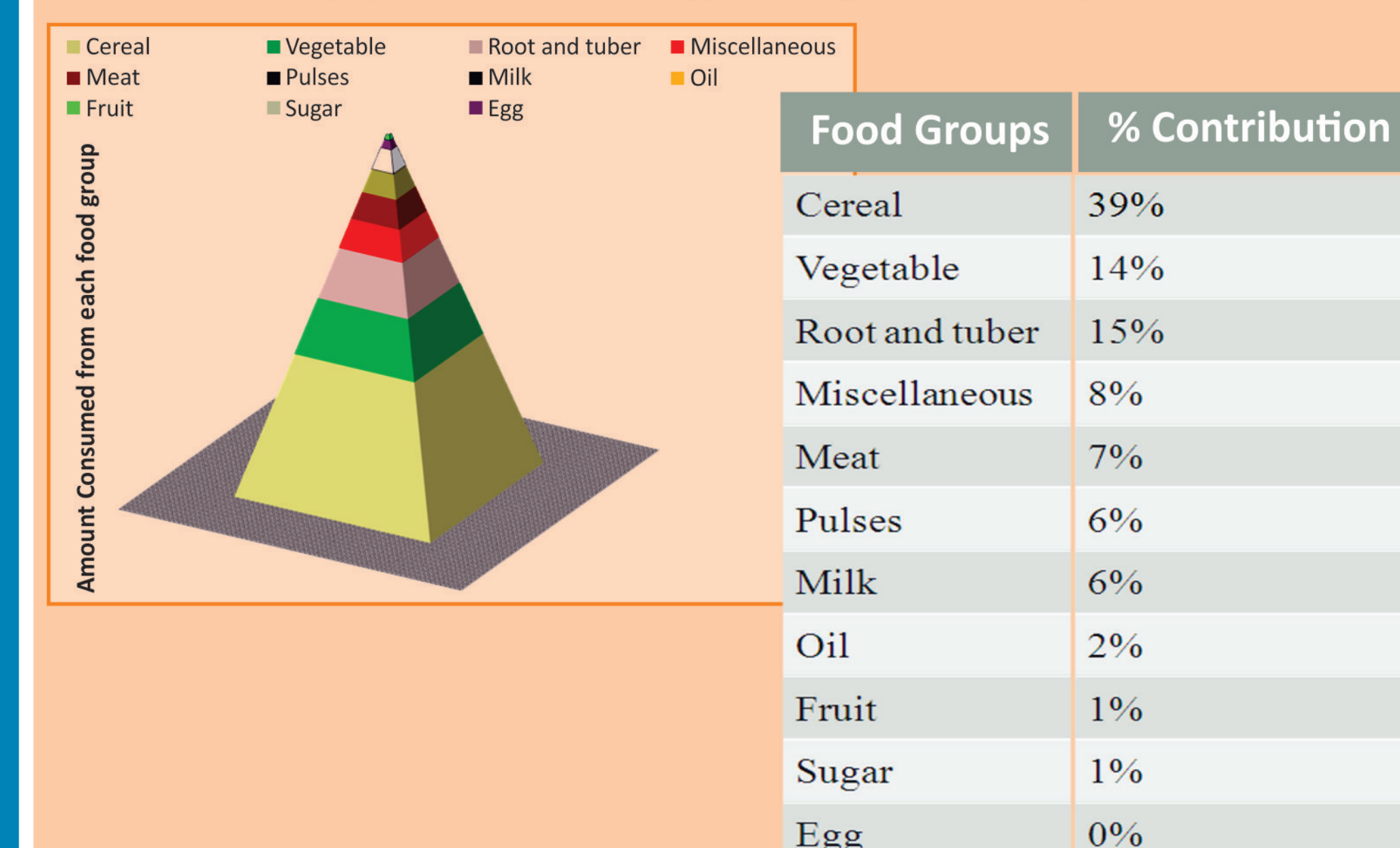
The study revealed, 33.82% and 17.39% of study population were stunted and underweight respectively. Equal percentages (7.81%) of study population were overweight and thin.



Probability of calorie and protein adequacy was found in 52.94% and 89.71% of study population in CCHs. Calcium intake of all children and adolescent were found to be below their RDA. Percentage of visible fat and calcium intake were very low. Probability of iron inadequacy was found in 80.9% of study population in CCHs.



Cereals contributed the highest amount by weight (355.3g) and proportion (39%) to the total diet for the study population in CCHs. Fruits 1% (12.9g) and additional oil 2% (20.9g) made a small contribution to the study population dietary intake. Fish and eggs were completely lacking in their diet.



The proportion of stunting and underweight were inversely and significantly ( $p < 0.05$ ) correlated with population energy and iron intake respectively. The proportion of thin and stunting were positively and significantly correlated with study population's visible fat and calcium intake.

Nutrient	Stunting	Underweight	BMI for age	
			Thin	Overweight
	r	r	r	r
Energy	-0.208* (p=.04)	-0.005 (p=.49)	0.035 (p=.39)	0.014 (p=.46)
Protein	-0.145 (p=.12)	0.181 (p=.2)	0.021 (p=.43)	0.000 (p=.5)
Visible fat	0.038 (p=.38)	-0.005 (p=.49)	0.226* (p=.04)	-0.116 (p=.18)
Calcium	0.232* (p=.03)	-0.108 (p=.31)	0.031 (p=.40)	-0.124 (p=.16)
Iron	-0.154 (p=.10)	-0.361* (p=.04)	0.203 (p=.05)	0.103 (p=.21)

## CONCLUSIONS

Conclusively, this study has assessed the nutritional adequacy of food and nutritional status of children and adolescent in CCHs of Sunsari district of Nepal. Findings are important to understand nutritional quality of food and prevalence and determinants of malnutrition of children and adolescent in CCHs.

Following points can be concluded from the study.:

- Probability of calorie adequacy was in 52.94% of children and adolescent.
- Probability of protein adequacy was very high among all children and adolescent.
- Whereas the percentage of visible fat and calcium intake was very low.
- The probability of iron adequacy was higher among children below 10 years and was lower in adolescent above 10 years.
- Prevalence of stunting was very high i.e. 33.82%. Underweight was found to be in 17.39% of children and adolescent. Equal percentage (7.81%) of children and adolescent were overweight and thin.
- Energy and iron intake were inversely and significantly ( $p < 0.05$ ) correlate with stunting and underweight respectively. Calcium intake was positively and significantly ( $p < 0.05$ ) correlated with stunting of children and adolescent.
- Ignorance about micronutrients and protective foods prevailed in CCHs.

## REFERENCES

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