To assess the prevalence of undernutrition among male and female children of age group of 0-5 years in a rural area of Vidarbha region

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Abstract

The malnutrition is one of the major problems among under-five children that can be used to find out the need for nutritional surveillance, nutritional care, or appropriate nutritional intervention programmes in a community.

The aim of the study to assess the prevalence of undernutrition in the age group of 0 to 5 years.

A community based study was conducted to assess the prevalence of stunting, wasting, &underweight among under-five children in the field practice area of Katol. Data was collected by predesigned, pre-tested questionnaires from 1/12/15 to 31/12/15.Details like history, sex & weight were recorded and length/height was measured using standard technique. The length /height and weight were plotted against WHO centiles curves & after this malnutrition were graded according to WHO classification. Data analysis was done by using WHO Anthro and STAA software. Study subjects were belonging to the age group of 0-5 yrs. Samples were selected by randomization. As per WHO classification of protein energy malnutrition the study reveals that, there was Significantly higher number of children 86.48% (32/37) were showed malnutrition by applying anthropometric parameter ($\chi2$-value0.6614 P=0.416) Subsequently, high percentage of malnutrition was found in under-five children in male children.

Keywords: Undernutrition, Malnutrition.

Introduction

Malnutrition among under–five children is a major and crucial public health problems in India. Undernourished children have significantly higher risk of mortality and morbidity.[1]

In spite of exceed economic progress made in the last two to three decades, malnutrition among children in both urban and rural India still claims many lives. However, arise cases of malnutrition has caught the public eye and so healthcare providers as well as the government are taking the essential steps to improve the existing status of nutrition for children in India.[2]

Malnutrition is a silent emergency. It is frequently part of a vicious cycle and chain of circumstances that includes poverty and disease. These three factors are interlinked sin such a way that each contributes to the presence and persistent to the others. Socioeconomic and political changes that improve health and nutrition can break the cycle. In Maharashtra rates of malnutrition.[3] Stunting (low height for age), 40%, Underweight (low weight for age), 50%, Wasting (Low weight for height), 21%,[4] in Nagpur, Currently, in Nagpur, the protein-energy malnutrition (IAP classification) is 52.23% and vitamin B deficiency is 46.53%.[5] In spite of all these attempts, the problem still exists and has not been determined to the desired level. On this ground it has now become necessary to investigate the depth of the problem, by understanding the situation inside the house.

Aims and Objectives

To assess prevalence of undernutrition in children of age group 0 to 5 years in Vidarbha region.

Materials and Methods

The present study adopts a descriptive approach study design. Study was conducted in rural field practice area under NKP Salve Medical College, Katol block, Nagpur, among all under-five children randomly selected PHC (Yenva). Data was collected by predesigned, pre-tested questionnaires from 1/12/15 to 31/12/15. Details like history, sex &weight were recorded and length/height was measured using standard technique. The length /height and weight were plotted against WHO centiles curves & after this malnutrition was graded according to WHO classification.[6] Data analysis was done by using WHO Anthro and STAA software. Study subjects were belonging to the age group of 0-5 yrs. Samples were selected by randomization. As per WHO classification of protein energy malnutrition

Sample size

37 under-five children. The present study proposes to adopt the descriptive study approach of the children age group of 0-5 years.

The tool was valided by experts from tool validity committee of MGM University. Valuable suggestions were given & necessary correction was made after the consultation with the guide.

Permission was obtained from the medical officer of PHC (Yenva). Before assessment self -instruction was done by the investigator & the purpose of the study mentioned. Consent of the samples was taken. Demographic information was completed by using interview method. The protein energy malnutrition assessment of the samples was done by physical assessment& WHO grading was

distributed as underweight (low weight for age), wasting (low weight for height and stunting (low height for age).

The collected data was coded, tabulated &analysed by using descriptive statics (mean, standard deviation, percentage) correlation coefficient was used to find out the association between the demographic variables & assessment of nutritional status. All the information was appropriate tabulated & illustrated. The data regarding underweight of under-five children was analysed statistically by using chi square test it was found to be not significant at 0.05 level of significance.

Observations and Results

In 37 sample5 (13.51%) under- five were normal and 32(86.49%) were undernourished (Fig. 1)
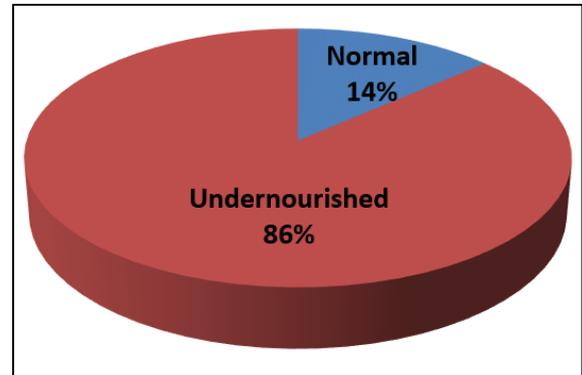
Fig. 1: Prevalence of malnutrition in under five children (n=37)

Table 1: Percentage of underweight, stunting and wasting among under five children (WHO Classification) (n=37)

	Gender		
	M(21)	**F(16)**	**Total(37)**
Normal	02(9.52%)	03(18.75%)	05(13.51%)
Underweight	14(66.67%)	09(56.25%)	23(62.16%)
Wasting	03(14.28%)	02(12.5%)	05(13.51%)
Stunting	02(9.52%)	02(12.5%)	04(10.81%)
Total	21(100%)	16(100%)	37(100%)
χ^2-value0.6614 p= 0.416			

Prevalence of malnutrition was higher in male (90.48%) than female (81.25%) however the difference was not found statistically significant (p=0.416).

Table 2: Comparison of prevalence of undernutrition in male and female under-five children (n=37)

WHO criteria	n=19 Male	n=13 Female	Chi-square	p- value
Under weight	66.67%	56.25%	0.4189	0.517
Wasting	14.29%	12.50%	0.0248	0.875
Stunting	9.52%	12.50%	0.0834	0.773
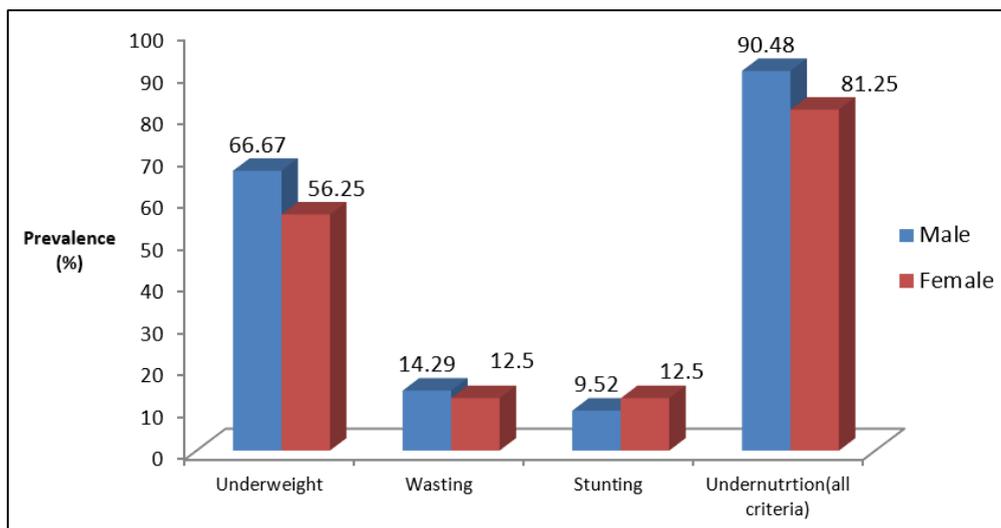
Fig. 2: Comparison of prevalence of under nutrtion in male and female under-five children

In observation & result total sample size was 37 out of which19 were male & 13 were females. As per WHO Criteria, underweight, wasting & stunting was assessed and evaluated (Table 2) more percentage for underweight was found in males i.e. 66.67% in comparison with females i.e. 56.25% same thing was noticed for wasting. Whereas for stunting more females were there that is 12.50% and in males were 9.52%. After analysis the data was found to be non- significant since the Sample was less.

Discussion

Protein energy malnutrition is a wide spread nutritional disease in developing countries. A huge proportion of males were suffering[7] from Malnutrition as compared to females.

In study group out of 32 undernourished children 19 were males And 13 were females. In present study the percentage of undernutrition was significantly higher in 0-5 year age group of children. Similar results was found by Gupta *et al* improper weaning; recurrent infections make this age group more vulnerable.[8] In our study prevalence of underweight, wasting and stunting was 66.68%, 14.28% and 9.52% in males as well as 56.25%, 12.50%, 12.50% respectively in females total prevalence is 86.49% finding of the study was compared with Sengupta (74% stunted, 42% wasted and 29.5% underweight)[9] and Rao VG underweight (61.6%), stunting(51.6%) and Wasting (32.9%)].[10] Here higher prevalence of malnutrition in our study may be because of rural area.

Recommendation

Reducing the child malnutrition in 0-5 age group can be distributed by availability of supplementary feed. Health care providers to focus on health education among parents, especially the mothers to fulfil the nutritional needs in terms of quality and quantity of the child at certain age groups.

Conclusion

In present study, majority of under five children were in undernutrition i.e (86.48%) and it was found more in males than females in Vidarbh region.

Source of funding

None.

Conflict of interest

None.

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