



Prevalence of Malnutrition in Children Aged 1 – 10 Years Attending Out – Patient Clinics at Peerancheru Area of Hyderabad, Telangana State.

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ABSTRACT

A child's entire life is determined in large measures by food intake during the growing age. Since childhood is the most vulnerable phase in the life of human being, nutritional inadequacies will result in hampering of growth as well as development of body. Future of the Country is determined by the growing generation. A Study of prevalence of under-nutrition was conducted in 1-10years children attending out-patient clinics at Peerancheru Area of Hyderabad, Telangana State in month of July,2015 and was found that prevalence of under-nutrition (<80 percentage of standard weight-for-age) was 58%. The normal were 41.9%. The prevalence of Grade I malnourished was 56.2%, Grade II 33.5%, Grade III 8.75% and that of Grade IV was 1.45%. Prevalence of under-nutrition was higher among male(52.5%) than of female(47.4%) children. Nutritional status of children has been recognized as an important of National development which in turn depends on social development indices. Though the country is developing fast with wide availability of resources and food we still notice under-nourishment. Health education to the parents, especially to the mothers on dietary practices like feeding their children with healthy food in terms of quality and quantity should be given. Nutritional rehabilitation centre should be established which will guide the parents in regard to the nutrition of child to be maintain at particular growing age group.

KEYWORDS : Nutritional Status, Under-nutrition, Indian Academy of Pediatrics.

INTRODUCTION :

Malnutrition and Infection are the two most important factors that affect the growth of children. In most cases of childhood infections, the cause can be traced to insufficient food intake or absorption, which renders the human system vulnerable to infections. The magnitude of the problem of malnutrition among children under five years of age is high throughout in India [1]. More than 26,000 children under the age of 5 die around the world each day mostly due to preventable causes. Nearly all of them live in developing countries or, more precisely in 60 developing countries [2]. A child's entire life is determined in large measures by the food given to him during his first five years. Childhood is a period of rapid growth and development, and nutrition is one of the influencing factors in this period [3]. A number of anthropometric indices have been used successfully for many years to estimate the prevalence of under-nutrition among pre-school children. These include height-for-age, weight-for-age and weight-for-height. Height-for-age is an index of cumulative effect of under-nutrition during the life of the child. Weight-for-age is the combined effects of both, the recent and the long-term levels of nutrition, whereas weight-for-height reflects the recent nutritional experiences of the child. These indices are reasonably sensitive indicators of the immediate and underlying general causes of nutrition [4]. The risk of mortality is inversely related to children's height-for-age and weight-for-height [5,6]. Freedom from hunger and malnutrition is a basic human right and their alleviation is a fundamental prerequisite for human and national development [7].

OBJECTIVES:

- To assess the nutritional status of children aged 1 to 10 years in children attending out – patient clinics at Peerancheru area of Hyderabad, Telangana State.
- To identify the nutritional status of children with regard to the differences in gender and to that of family size.

The present study was based upon cross-sectional study carried out in children of 1 – 10 year age group attending out-patient clinics in Peerancheru area of Hyderabad, Telangana State in the month of July, 2015. Ethical clearance was obtained. The objectives of the study was to assess the nutritional status of children aged 1 to 10 years in children attending out – patient clinics at Peerancheru area of Hyderabad, Telangana State and to identify the nutritional status of children with regard to the differences in gender and to that of family size.

Total number of children aged 1 – 10 years assessed was 236 and parents were informed. Consent was obtained from parents and /or guardians of the children in regard to the study. Anthropometric data regarding weight of the children was recorded. Weight of the children was measured using portable weighing machine and reading were taken to the nearest 0.1 kg. The child was made to stand still on the platform of the weighing machine, with the body weight evenly distributed between both the feet. Light indoor clothing was allowed to be worn and footwear was removed when the weight was measured.

MATERIALS & METHODS :

Total number of children aged 1 – 10 years is 236 that attended out – patient department in the month of June, 2015. The entire children aged 1 – 10 years was included in the study. Parents or/and guardians of the children were informed about the study. Weight of the children was measured using a portable weighing machine. Grading of nutritional status among 1 – 10 years old children was assessed by computing weight-for-age according to Indian Academy of Pediatrics classification.

Settings :

Out – patient clinics at Peerancheru area of Hyderabad, Telangana State. Grade I to Grade IV nutritional grade is taken as undernourishment as per IAP.

Evaluation of Nutritional Status:

Grading of nutritional status of children was done using the Indian Academy of Pediatrics(IAP) classification. Grade I to Grade IV nutritional grade is taken as undernourishment.[9] IAP calculation for grading of under-nutrition is by formula: Weight/Expected Weight multiplied by 100.

Expected weight(1-6 years) = Age(in years) X 2 + 8.

Expected weight(7-12 years) = Age(in years) X 7 – 5 / 2.

Age(Years)	Expected Weight(Kgs)
1	10
2	12
3	14
4	16
5	18

6	20
7	22
8	23
9	26.5
10	30

Table/Fig - 1 : Expected Weight in Kgs for the Respective Age in Years.

IAP CLASSIFICATION

Normal	>80%
Grade I	71-80%
Grade II	61-70%
Grade III	51-60%
Grade IV	<50%

Table/Fig - 2 : Nutritional Grade Percentage of Standard Weight-for-Age

Percentage of Standard weight for age	Nutritional grade	Nutritional status	Freq (n)	Percentage
>80%	Normal	Normal	99	41.9%
71 - 80%	Grade I	Mild under-nutrition	77	32.6%
61 - 70%	Grade II	Moderate under-nutrition	46	19.5%
51 - 60%	Grade III	Severe under-nutrition	12	5%
< 50%	Grade IV	Very severe under-nutrition	2	0.8%
Total n (%)			236	100%

Table/Fig - 3 : IAP Classification of Nutritional Status

Nutritional grade	Male gender	Female gender
Normal	51	48
Grade I	38	39
Grade II	26	20
Grade III	8	4
Grade IV	0	2
Percentage under-nourished	52.5%	47.4%

Table/Fig - 4 : Showing Nutritional Grading in Respect to Differences in Gender.

RESULTS :

The prevalence of under-nutrition (<80 percentage of standard weight-for-age) was 58%. The normal were 41.9%. The prevalence of Grade I malnourished was 56.2%, Grade II 33.5%, Grade III 8.75% and that of Grade IV was 1.45% [Table/Fig - 2]. Prevalence of under-nutrition was higher among male(52.5%) than of female(47.4%) children[Table/Fig - 3]. Percentage male and percentage female was statistically significant. The prevalence of malnutrition was more in families with respect to number of siblings in that family.

DISCUSSION :

In the study, the prevalence of under-nutrition (<80% of standard weight-for-age) was 58%. The prevalence of Grade I malnourished was 56.2%, Grade II 33.5%, Grade III 8.75% and that of Grade IV was 1.45%. In a study conducted in a rural area the prevalence of protein energy malnutrition among children aged 1-5 y was found to be 56.4% [10]. In a dietary survey conducted by Vinod et al., it was found that 52.23 %children were suffering from various grades of malnutrition among whom 32.18 % children were in grade I, 16.09 % in grade II, 3.46 % in grade III and 0.5 % in grade IV malnutrition [8].

Prevalence of under-nutrition was higher among male children(52.5%) than of female(47.4%) children and the difference was found to be highly significant. This finding is unique in Indian context where females are prone to get neglected and sex wise prevalence of under nutrition was usually higher in females as compared to males [8,11].

Singh JP et al., in his study similarly found that prevalence of malnutrition was higher among male children (54.82%) than female children (45.18%) [12].

As the size of family increased the nutritional status of the children was effected. Mudkhedkar et al., found that relationship between family size and nutritional status was inversely proportionate when size of family was large (>8) [14]. In a study done in rural Hissar, it was found that majority of the cases of protein energy malnutrition had family size of 5 - 8 members [15].

The second order children were more undernourished than the first and third order but the difference was not statistically significant. Verma et al., found a significant association ($p < 0.001$) was observed between birth order and the nutritional status of the child. Highest prevalence of malnutrition (76.2%) was observed in children with birth order 4 and above [13].

Time of initiation of breast feeding and nutritional status was not statistically associated. However, there was a statistically significant association between duration of exclusive breast feeding and the nutritional status. Kavita et al., reported that Children deprived of colostrum and exclusive breastfeeding also showed significant difference in prevalence of PEM [11].

CONCLUSION :

Nutritional status of children has been recognized as an important of National development which in turn depends on social development indices. Though the country is developing fast with the wide availability of resources and food we still notice under-nourishment. Nutritional inadequacies will result in the hampering of the development of the body and result in various infections which will further alter the growth of the child. Future of the country is determined by the growing generation of the country. It is the health status of the children of any country that represents the health status of the people of that country. Health education to the parents, especially to the mothers on dietary practices like feeding their children with healthy food in terms of quality and quantity should be given. Nutritional rehabilitation centre should be established which will guide the parents in regard to the nutrition of child to be maintain at particular growing age group.

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