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NUTRITIONAL STATUS OF UNDER FIVE CHILDREN IN AN URBAN SLUM

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ABSTRACT

Nutrition is the cornerstone of socioeconomic development of a country. Malnutrition is one of the most common causes of morbidity and mortality in children. The objective was to determine the nutritional status of under five children. Community based cross-sectional study was conducted from February to April 2010 in under five children in an Urban slum in Raichur. 104(10.6%) children were found to be malnourished, out of them 25(2.5%) were found to be severely malnourished. Children with lower socio-economic status were found to be severely malnourished. Emphasis should be given on maternal nutrition and their education, and improving the socio-economic status wil reduce the burden of under nutrition in children. The present study also help the policy planners to develop strategies to combat different forms of malnutrition by targeting the high-risk groups.

KEYWORDS: Nutritional status, under five children, socio economic status, protein energy malnutrition

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INTRODUCTION

Good nutrition early in life is a key input for human capital formation, a fundamental factor for sustainable and equitable economic growth. Any major deviation in the nutrient intake either in quality or in quantity from its requirement can affect growth in many ways. This is particularly so during the period of growth.[1] Child undernutrition is internationally recognized as an important public health indicator, for monitoring nutritional status and health in populations. The devastating effects of undernutrition on human performance, health, and survival are well established today.[2] Nutrition is the cornerstone of socioeconomic development of a country. It is an essential component of millennium development goals (MDGs) and Primary Health Care (PHC). It is necessary to make significant progress in nutrition in order to achieve other MDGs.[3] Freedom from hunger and malnutrition is a basic human right and their alleviation is a fundamental prerequisite for human and national development[4] Malnutrition is defined as a pathological state resulting from a relative or absolute deficiency of one or more essential nutrients.[5]An estimated 54% of all childhood deaths occurs globally because of malnutriton.[6]The malnutrition is also associated with mother's education, weaning of the child, income of the family and family size.[7] Breast feeding till the age of two years and exclusive breast feeding till the age of six months of age is of prime importance. Breast feeding might protect children against asthma and related conditions.[8] Nutritional status of preschool children is of paramount importance, since the foundation of lifetime health, strength and intellectual vitality is laid during that period. Malnutrition is a global health problem. In developing countries, particularly where the population is high, hunger and malnutrition are wide spread among the preschool age children.[9]The magnitude of malnutrition problem among under five years of children is high throughout India. Hence the present study was undertaken to assess the nutritional status of under five children.

AIMS AND OBJECTIVES

To assess the nutritional status of under five children.

MATERIALS AND METHODS

This community based cross-sectional study was conducted from February 2010 to April 2010 in an urban slum of Raichur. A total of 980 children were included in the study. The information was obtained from the mother or immediate caretaker using predesigned and pretested questionnaire. Every child was subjected to anthropometric measurements. taken were weight and height. Weight of the children were measured by children weighing machine for less than two years of age and those above two years by adult weighing machine with minimum clothing over body and without shoes. The machine was regularly checked, method employed for weighing was near accuracy to100 grams. Height was measured by making child to stand on a flat surface with feet parallel and with heels, buttocks, shoulders and back of head touching upright the wall. The head were held comfortably erect, with the lower border of the orbit in the same horizontal plane as the external auditory meatus. Measurement was done with the help of measuring tape. For infants and children below five years of age, who could not stand, length was measured by making child laid on flat surface, head positioned firmly against the fixed hardboard, with the eyes looking vertically. The knees extended, by applying firm pressure and feet are flexed at right angles to the lower legs on the board. Length was measured between the two boards to the nearest accuracy 0.1cm.

Statistical analysis

The statistical analysis was done using SPSS statistical software.

RESULTS

In the present study, 980 children aged 1-5 yrs were surveyed. There were 510 (52.04%) males and 470 (47.96%) were females. (Table 1)

TABLE 1
DISTRIBUTION OF CHILDREN ACCORDING TO AGE AND SEX

Age group(months)	Male children	Female children	Total
12-24	103 (20.1%)	85 (18.0%)	188(19.1%)
25-36	81 (15.9%)	75 (16.0%)	156(15.9%)
37-48	83 (16.2%)	81 (17.2%)	164(16.9%)
49-60	243 (47.8%)	229 (48.8%)	472(48.1%)
Total	**510 (100%)**	**470 (100%)**	**980 (100%)**

Out of the total 980 children surveyed, we found out that 104 (10.6%) were found to be suffering from Malnutrition. The mean height of study participants was 108.46±5.05cms and mean weight was 20.56 ± 5.75kg. About 13 (52%) children were found to be severely malnourished children in the age group of 49-60 months followed by 37-48 months 08 (32%). (Table 2)

TABLE 2
DISTRIBUTION OF CHILDREN ACCORDING TO DEGREE OF MALNUTRITION

Age group (months)	Moderate malnutrition	Severe malnutrition	Total
12-24	3 (3.8%)	0 (0%)	3(2.8 %)
25-36	15 (18.9%)	04 (16%)	19(18.2%)
37-48	23 (29.1%)	08 (32.0%)	31(30.0%)
49-60	38 (48.2%)	13 (52.0%)	51(49.0%)
Total	**79 (100%)**	**25 (100%)**	**104**

In our study, we observed that 67% of malnourished children parents are either literate or one literate and remaining 33% are illiterate. (Table 3)

TABLE 3
DISTRIBUTION OF CHILDREN ACCORDING TO LITERACY STATUS OF PARENTS & PEM

Literacy status(Parents)	Normal children	Children with PEM	Total
Both literate	255 (29.1%)	17 (16.3%)	272 (27.8%)
One literate	558 (63.7%)	53 (51.0%)	611 (63.3%)
Both illiterate	63 (7.2%)	34 (32.7%)	97 (8.9%)
Total	876 (100%)	104 (100%)	980 (100%)

TABLE 4
DISTRIBUTION OF CHILDREN ACCORDING TO SOCIAL CLASS & MALNUTRITION

Social class	Normal children	Children with PEM	Total
I	55 (6.2%)	02 (1.9%)	57 (5.8%)
II	67 (7.7%)	02 (1.9%)	69 (7.0%)
III	103 (11.7%)	10 (9.7%)	113 (11.5%)
IV	349 (39.9%)	37 (35.6%)	386 (39.5%)
V	302 (34.5%)	53 (50.9%)	355 (36.2%)
Total	876 (100%)	104 (100%)	980 (100%)

Majority of the children suffering from PEM, 53 (51.0%) belong to social class V, followed by 37 (35.5%) in class IV, only 2(1.9%) of children who were found to be malnourished were in class I & II (Table 4)

DISCUSSION

In developing countries, malnutrition in children is a public health concern.[10] The National Family Health Survey-III data projected that almost half of children under five years of age (48 percent) are stunted and 43 percent are underweight. The proportion of children who are severely undernourished is also notable. 24 percent are severely stunted and 16 percent are severely underweight. Wasting is quite a serious problem in India, affecting 20 percent of children under five years of age. Very few children under five years of age are overweight.[11] In our study majority (86.5%) of the children suffering from malnutrition belonged to lower socio economic class, i.e IV & V, 9.4%. Dhakal MM et al study, mentioned that the burden of malnourishment still haunts the poor with 82.75% children from low income group i.e. IV & V by Prasad Scale[12]. Study conducted by Saxena N et al found that grade II and III PEM were higher among children of social class V.[13] ,where as Patwari AK, study showed that delayed weaning after one year of age, was associated with malnutrition in 53.4% of children in his study.[14] A study conducted in urban slum of Delhi, it was found that there was a significant difference among male and female with respect to malnutrition with more females (9.6%) suffering from severe malnutrition as compared to male (6.5%).[15]

CONCLUSION

The causes of under nutrition in under-five children are complex and involve multiple factors. Emphasis should be given on maternal nutrition and their education, measles vaccination of children and improvement of socio-economic status to reduce the burden of childhood under nutrition. These above findings are expected to update knowledge of health scientists about possible determinants of under five malnutrition. The present study may also help the policy planners to develop strategies to combat different forms of malnutrition by targeting the high-risk groups.

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