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Research Paper

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Nutritional Status of Slum Children of Lucknow

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ABSTRACT

The present study was carried out to study the relationship of Protein Energy Malnutrition to various factors of Slum Children aged 5-14 years. The prevalence of various illnesses was also studied. It was found that on analysis the relationship of social factors and per capita income to PEM was significant. About 52.4% of children were having various grades of PEM. The prevalence of Anemia was also studied.

INTRODUCTION:

There are about 50 million people living in slums, children in slums are a deprived lot because of poor utilization of health services and poor living & social conditions.

The present study was carried out to study the effect of various factors affecting Nutrition among Slum children.

MATERIAL AND METHODS:

Two slums were studied with a total of 367 families residing in them. Over all 256 families could be studied. In these families a total of 524 years. The family was the unit of sampling. Two different types of schedules. Family Interview schedule and Individual Interview schedule were used after pretesting. Data was collected by door to door home visit.

Information so collected was analysed and tabulated.

RESULTS:

Out of a total 367 families in the study are only 256 could be studied due to one of the other reasons. Thus the response rate was 69.9%.

In the present study it was found that 275 (52.4%) of children were suffering from PEM (All grades) Gr. I, II and III PEM was found in 26.5%, 15.8% and 10.1% of children respectively. Prevalence of severe PEM was present in 10.1% children. While Mukherjee et all (1962), Swaminathan etal (1964), Udani (1968), Roy et al (1972) found it in 19.4%, 20%, 10.2% and 14.5% respectively. Singh and Pothen in a study of slum children found PEM in 46, of children and the majority were Gr. II. It was also found that PEM was highest 72.9% in the group which had the lowest per capita income of less than Rs. 50/- per month. As the per capita income increases the prevalence of PEM decreases. The association was statistically significant. In our study it was found that there was a positive correlation of PEM with per capita income which is in consonance with other investigators.

A study on under five children in the villages of Punjab shows that compared to the Jats (Land owning Peasants), the Ramdasia (Harijan) children not only had higher morbidity, but also higher prevalence of Malnutrition.

In another study on health behaviour of the tribals of Orissa, it was observed that even within a tribe the mortality among the landless surviving on daily wages was higher than among those who either owned land or had security of a job (Quadeer Imrana, 2011), hence even within a class income has a role to play in the occurrence of Malnutrition. This reflects the effect of income on diet and the lesser the income the poorer the diet especially in sources of protein. Although there is paucity of literature on this subject, Rather et al (1975) compared the nutritional status of 1000 slum children of Jaipur to that of 500 children of elite. He showed that children of slum area were underweight as compared to children of the elite.

Prevalence of severe PEM (Wt 60%) of mean was present in 5.9% children while Udnani (1968) Roy et al (1972) and Gupta (1978) found incidences of 10.2%, 14.6% and 18.7% respectively.

In the present study Vitamin A deficiency was present in 6.8% children. These findings are in conformity with those of Singh (1985) who found 5% children suffering from it. Verma et al (1975) found it in 3.8% children. Singh and Pothen (1982) found Vitamin A deficiency in 20.6% of slum children.

Present study showed prevalence of B_2 deficiency in 8.01% children. Rao et al (1961) reported B_2 deficiency in 10.6 children and Dubey (1969) in 11.45%. The most common manifestation of B_2 deficiency was angular stomatitis the cause of B_2 deficiency may be due to improper food habits and recurrent infections.

Vitamin C deficiency was found in 1.9% children. Singh (1955), Udani (1968) and Gupta (1978) also noted a similar incidence of 0.41%, 0.8% and 0.5% respectively.

Vitamin D deficiency was noted in 1.33% children in the form of rickets, while Singh (1955) found it in 0.6% other workers found a high prevalence between 2.23%. The low incidence in our study may be due to inclusion of older children only (5-14 years) and in this age group Vitamin D deficiency is not common.

Thus deficiency disease constituted a major problem in slum children aged 5-14 years, needing a good supply of cheap sources of good protein and supplements of Vitamin A and Vitamin D in the form of fish liver oils and health education regarding a balanced diet.

DISCUSSION:

There was malnutrition among 52.4% children studied. The relationship of PEM to the per capita income of the family was significant. Hence it can be assumed that income has direct bearing on the Nutritional status of the most vulnerable section of society i.e. children. They are the first to be affected by a fall in income levels and special attention has to be placed on assessing their nutrition.

Table-1
PEM and PER Capita Income

Per Capita Income	Children Examined	Gr. I	Gr.II	Gr.III	Total
200 +	36	4(11.1)	2(5.5)	-	6(6.6)
100-199	158	28(17.7)	11(6.9)	6(3.7)	45(28.4)
50-99	225	76(33.7)	44(19.5)	28(12.4)	148(65.7)
50	105	31(29.5)	26.27.7)	19(18.1)	76(72.3)
Total	524	139(26.5)	83(15.8)	53(10.1)	275(52.4)

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In the present study it was found that protein Energy malnutrition was highest (72.93%) in the group which had the lowest per capita income of less than Rs. 50/- per month. As the per Capita income increased the prevalence of PEM decreased. The association was found statistically highly significant ($x^2 = 41.52$, dt. = 3, P .01).

Table-2
HAEMOGLOBIN LEVEL OF CHILDREN STUDIED

Hemoglobin in %	Male		Female	
(gms/ 100ml)	No. Studied	Percent	No. Studied	Percent
Below 7	1	1.8%	2	4.0%
7-9	12	21.8%	17	34.0%
10-12	21	38.1%	18	36.0%
13 & +	21	38.1%	13	26.0%
Total	55	100.0%	50	100.0%

In the present study 55 males and 50 females were examined for hemoglobin status. There included those on whom there was clinical Suspicion of anemia and who could be convinced for a prick. 23.6% of males and 38% of females were having hemoglobin less than 10 gms% 38% of males and 26% of females studied had hemoglobin more than 12 gms%.

Table III
Mean Height (cms) of Children According to Age and Sex

Age in Years	Males			Females		
	Numbers Examine	Mean Ht. in cm	Standard Deviation	Numbers Examine	Mean Ht. in cm	Standard Deviation
	D			D		
5	33	105.5	4.2	15	100.4	3.1
6	31	108.9	4.9	15	105.4	3.8
7	41	117.9	5.8	29	109.8	5.7
8	46	119.7	6.3	49	115.2	6.3
9	31	124.0	5.2	26	119.9	7.3
10	36	122.7	4.9	16	126.4	5.6
11	37	133.3	5.9	27	133.5	4.8
12	36	135.5	6.2	16	136.2	5.6
13-14	26	140.1	5.8	15	139.9	4.9
Total	316			208		

In the present study males were taller than female children generally upto the age of 10 years when females overtook the males upto the age of 13 years. This reflects the early spurt in growth in female children at puberty. The mean height of both male and female children upto the age of 14 years was less than their counterparts at different ages as observed by ICMR.

Table IV
Mean Weight (Kgs) of Children According to Age and Sex

Age in Years	Males			Females		
	Numbers Examine	Mean Wt. in Kgs.	Standard Deviation	Numbers Examine	Mean Wt. in Kgs.	Standard Deviation
	D			D		
5-6	33	13.5	2.3	15	12.8	2.21
6-7	31	15.6	2.78	15	14.2	2.63
7-8	41	17.1	3.13	29	15.3	2.92
8-9	46	18.3	3.35	49	17.6	3.25
9-10	31	20.5	4.31	26	20.3	3.37
10-11	36	22.5	5.16	16	22.6	5.74
11-12	37	24.9	6.23	27	25.4	5.53
12-13	36	25.5	5.93	16	26.8	6.63
13-14	26	29.7	6.76	15	30.3	6.68
Total	316			208		

The average weight of male children was more than female children upto the age of 10 years when it was almost equal. After that the weight of female children was more than that of males. The average weight in both sexes upto the age of 14 years was less than their counterparts in ICMR findgins.

Table V
MID-ARM Circumference (cms) of Children According to Age and Sex

Age in Years	Males			Females		
	Numbers Examine	Mean	Standard Deviation	Numbers Examine	Mean	Standard Deviation
	D			D		
5	33	13.2	0.93	15	12.9	1.19
6	31	13.5	1.31	15	13.3	1.33
7	41	13.8	1.78	29	13.5	0.69
8	46	14.4	1.08	49	14.2	0.98
9-10	31	14.6	1.10	26	14.6	1.63
10-11	36	15.2	1.39	16	15.3	0.89
11-12	37	15.9	0.59	27	15.8	0.31
12-13	36	16.3	0.68	16	16.1	0.58
13-14	26	16.7	0.79	15	16.4	0.43
Total	316			208		

The average mid-arm circumference of male children was more than that of female children upto the age of 9 years when it was equal. At 10-11 years age group mid-arm circumference in female children was more than that of males but later on it again decreased.

REFERENCE

1. Mukherjee et al 1962 Health Status of School Children in Rural Area of W.Bengal. Ind. J. Med. Assn. 38, 421 | 2. Swaminathan MC, et al 1964 An evaluation of the Nutritional Status of South India. Ind. J. Med. Res. 48, 762-79. | 3. Udani P.M. 1968 Physical Growth in Children of Different Socio-economic Groups. Ind. J. Ch. Hlth. 12, 593. | 4. Roy SH et al 1972 Chronic Defects among Urban School Children of New Delhi. Ind. J. Publ Hlth 16, 21 | 5. Qadeer Imrana 2011 Public Health in India : Critical Reflections. Daanish Books.