Research Paper :

Association of socio-economic variables with nutritional status of pre-school children

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ABSTRACT

The present study aimed to assess the relationship between socio-economic variables and nutritional status of pre-school children of Beldour block of Khagaria district of Bihar state. A village named Pansalwa was purposively selected and there from a sample of 100 pre-school children (1 to 6 years) was selected at random. Test of associations like correlation and Chi-square were used to examine interrelationships. Weight profile of the children were highly correlated with parental literacy and occupational status at 1 per cent level of significance (r=0.36 and 0.314). Weight for age status of the children was found to be positively associated with their fat and sugar intake as well as with nutrients like energy, protein and calcium intake, too. Statistical analyses of the data showed a highly significant association between washing of mother's hands before feeding the child and prevalence of diarrhoea among children. Analyses of the findings based on Gomez classification depicted a highly significant association between the age of the child and prevalence of moderate malnutrition among children (Chi-square value = 6.0). Conclusively, it might be stated that analyses of the findings clearly demonstrate the interrelationships between identified socio-economic variables and nutritional status of pre-school children.

Increasingly it is being felt that good or bad nutriture is the final outcome of interplay of the host of factors, not necessarily related to the availability of foods alone.

An individual's nutriture is determined by a number of factors acting directly or indirectly. These include food availability, purchasing power of the people, distribution of income, food consumption pattern, intra-family food distribution, level of nutritional knowledge, levels of employment, illiteracy and ignorance. Besides, factors like susceptibility to disease, particularly diseases of the digestive system and to infestations as a result of unsafe drinking water, poor sanitation and unhygienic living conditions are equally important determinants, contributing to what is called 'nutrition knowledge' (Ali, 1992).

The beginning of malnutrition, which starts around 5 to 6 months of age, reaches its peak around 2 years and then more or less stays at that level. In the National Family Health Survey, this pattern has been found in every state of India, only the extent varies. This is surely not due to paucity of resources, because the additional requirements of the young child are very little, but due to a lack of knowledge and awareness about the child's food and nutrition requirements. A lack of only 200 to 300 Kcal in a young child's daily diet starts the descent towards malnutrition, illness and death (Ghosh, 1997).

In the present context an attempt has been made to identify crucial socio-economic variables, which have a profound effect on the child's health and nutritional profile. The present study has been carried out with keeping in view the following objectives to find out correlation between socio-economic variables and weight profile of the pre-school children, to analyze association between food and nutrient intake and weight profile of children, to find out association between mother's washing hands before feeding the child and diarrhoea among children and to analyze association between the age of the child and prevalence of malnutrition among the pre-school children.

METHODOLOGY

The study was conducted in a village named Pansalwa under Beldour block of Khagaria district of Bihar, which was purposively selected as a locale of the present study. A sample of 100 pre-school children was selected at random from the selected locale. An interview schedule was designed to elicit information regarding socio-economic profile of children as well as their weight measurements were also recorded. 24- Hour recall method of dietary survey was used to assess the food and nutrient intake of children through habitual diet.

Statistical analyses namely, test of associations' *viz.*, correlation and chi-square were used to examine

interrelationships between socio-economic variables and nutritional status of children. The selected variables included type and size of the family, community, parental literacy and occupational status, land holding, family income, housing condition, sources of drinking water, age, food and nutrient intake of the child. Prevalence of malnutrition and incidence of illnesses comprised the outcome variables.

FINDINGS AND DISCUSSION

The findings obtained from the present study as well as relevant discussion have been presented under following heads :

Weight profile of the children:

It is evinced from Table 1 that parental literacy and occupational status had an important bearing on nutritional status of children, as these variables were highly correlated (r value = 0.360 and 0.314 at 1% level of significance)

Table 1 : Association between selected Independent variables and weight profile of the children	
Socio-economic variables	'r' values
Family type	0.274*
Family size	-0.282*
Community	0.249 NS
Housing condition	0.185 NS
Sources of drinking water	0.277*
Parental literacy	0.360**
Parental occupation	0.314**
Land holding	0.079 NS
Family income	0.268*

* and ** indicate significance of values at P=0.05 and 0.01, respectively
NS –Non-significant

with weight profile of the subjects.

Statistical analyses of the findings also depicted that children belonging to joint families fared better than their counterparts from nuclear households, but large family size was found to be negatively correlated with weight profile of the children. Family income, too, was observed to be positively correlated with weight profile of pre-school children.

Statistical analysis of the dietary data of Table 2 revealed that the weight for age status of the children was positively correlated with their fat and sugar intake. In contrast, association between weight and other food items like cereals, pulses etc. were non-significant.

Computations of correlation co-efficient between nutrient intake and weight for age of the children revealed

Table 2 : Association between food and nutrient intake and weight profile of preschool children	
Variables	'r' value
Food intake	
Weight for age against fat and oils	0.14
Weight for age against sugar	0.16
Nutrient intake	
Weight for age against energy intake	0.17
Weight for age against protein intake	0.17
Weight for age against calcium intake	0.18

* indicates significance of value at P=0.05
Gomez Classification (Weight for Age)

that energy, protein and calcium intake were positively correlated with their weight profile.

Diarrhoea:

Diarrhoea, a common childhood ailment having a direct bearing on the nutritional profile of the child was found to be very common among study subjects. Washing of hands by the mothers before feeding the child was associated with occurrence of diarrhoea in children.

Diarrhoea in children whose mothers were not washing hands was 39 per cent as against 5 per cent in children whose mothers were washing hands before feeding their child (Table 3).

Table 3 : Association between mother's washing hands and diarrhoea among children				
Variables	Diarrhoea			Chi-square value
Washing hands	Present	Absent	Total	
Yes	5	42	47	
No	39	24	53	40.04
Total	44	66	100	

* indicates significance of value at P=0.05
Figures in parentheses represent percentages

Statistical analysis of the data revealed that there was a highly significant association between washing of mother's hands before feeding the child and diarrhoeal diseases among children.

Extent of malnutrition:

Findings presented in the Table 4, clearly revealed that percentage of children who could be categorized as normal was highest among 4 to 6 years. Statistical analyses of the findings indicate that prevalence of moderate malnutrition was highly associated with age and the major victims of it being 1 to 3 year old children. However, no significant difference was analyzed among the two age-

Table 4 : Association between the age of the child and extent of malnutrition				
Age of the child (Years)	Grade of Malnutrition			
	Normal	Mild malnutrition	Moderate malnutrition	Total
1 to 3	17 (27.4)	34 (54.83)	11 (17.74)	62
4 to 6	16 (42)	21 (55.26)	01 (2.63)	38
Total	33	55	12	100
Chi-Square		2.28^{NS}	6.0^{*}	

Figures in parentheses represent percentages
Gomez Classification, Reference NCHS,
* indicates significance of value at P=0.05, NS-Non significant

groups in case of mild malnutrition.

Statistical analyses for determination of relationship between socio-economic variables and nutritional status of pre-school children revealed that parental literacy, occupation and income were some of the important positive correlates, for weight profile of the subject. It might by concluded that the practice of washing hands before feeding the child could help in lowering the incidence of diarrhoeal among children. Analysis of the findings also indicate that addition of fat and sugar in the foods of the children up to recommended level improved the energy density of the diets, which in turn improved his/her nutritional profile.

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