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Original Article

Prevalence of Under Nutrition and Risk Factors among Under 3 Years Old Children

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Abstract

Background: A majority of children in developing countries are malnourished. While the rate of under nourished children are facing a steady increase in the recent years, finding the root cause for the existence of such condition that could impose negative short and long term effects on the functioning of various physiological activities are crucial.

Aim: To study the prevalence of risk factors of under nutrition in under 3 years old children.

Methods: The observational study was carried out in 50 children in the department of pediatrics in Government Headquarters, hospital, (Government Medical College and Hospital), Virudhunagar. The survey included anthropogenic variables besides socio-demographic parameters encompassing children's gender, age, socio economic status, mother's education and occupation, duration of breast feeding.

Results: Our study proposes the existence of a significant number of malnourished children in the study area that could be accounted for the poor economic backgrounds as well as lack of proper awareness among the mothers whose children weaned at 12 months of age. Higher number of mal-nutritional children may also be correlated with the existence of more number of female children.

Conclusion: The prevalence of malnutrition in higher number of children, from the smaller study are, only a little lower than national average disposes an immediate attention on analysing the mitigation of multifactorial risk factors for the better development of children and a society of people with improved health status.

Key words: Underweight, Multi factorial, Anthropogenic factors, Socio-demography, Weaning

INTRODUCTION

Malnutrition is a global crisis. Associated with anaemia in addition to diarrhoea, undernutrition has become the primary cause for implicating higher rates of morbidities among children.[1] The consequences of undernutrition could be acute and also long-term at some instances. These long term effects of undernutrition occurring at the underage are said to exert a negative influence on the development of children.[2] In developing countries, malnutrition alone has been recorded to cause significant number of death tolls among children worldwide. Asian and African countries contain greater number of mal-nutritional children.[3] Furthermore, the most severe complication of malnutrition is the diarrheal illness, the incidence and duration of which is extended by malnutrition.[4]

Along with the effects of malnutrition, the causes of undernutrition are also complex and multi-factorial.[5] Among the direct causes of mal-nutrition are accounted to inadequate energy along with insufficient nutrient consumption. Occurrence of persistent and repeated infectious diseases among children is also an added reason for causing malnutrition among children.[6] Poor sanitation and hygiene along with an unhealthy diet are among indirect reasons for the manifestation of under nutrition. Lower socio-economic status of families also contributes to the incidence of under-nourishment in children that is mainly caused by the recurrence of various infectious diseases.[7] Healthiness besides physical magnitudes of extended conditions of mal-nourishment among children are reported to cause a suspension in their physical growth,

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lower IQ, meagre cognitive capability along with declined reproductive concerts.[8]

Owing to the complexity of the causes and consequences of undernutrition, a detailed analysis on the prevailing conditions among under nutritional children would provide additional insight on the management of this global crisis.

Aim

To study the prevalence of risk factors of under nutrition in under 3 years old children.

MATERIALS AND METHODS

The study was conducted among 50 children under age of 3 in the department of pediatrics in Government Headquarters hospital, (Government Medical College and Hospital), Virudhunagar from July 2020 to December 2020. Anthropogenic variables and socio-demographic parameters of all the children were recorded that included children's gender, age, socio economic status, mother's education and occupation, duration of breast feeding. Weight of the children were designated as either under or over weight based on national guidelines.[9]

RESULTS

In a total of 50 children surveyed, a significant percentage of children were malnourished (36%), among which 28% of children were moderately underweight and 8% were severely underweight (Table 1).

Table 1: Distribution of under-weight children

Variables	Frequency	Percentage
Normal weight	32	64.0
Moderately underweight	14	28.0
Severely underweight	4	8.0

Table 2: Distribution of children according to different variables

Variables	Frequency	Percentage
Gender		
Male	23	46.0
Female	27	54.0
Age		
<1	19	38.0
>1	31	62.0
Socio economic status		
Upper lower	24	48.0
Lower Middle	21	42.0
Mother's education		
School	27	54.0
College	23	46.0
Mother's occupation		
Unemployed	34	68.0
Employed	12	24.0
Duration of breast feeding		
<12 months	26	52.0
>12 months	24	48.0

Out of the children included in survey, 46% were males and 56% were females. Children belonging to age <1 were lower (38%) compared to that of children >1 years of age (62%). Also children were from an upper (48%) socio-economic status compared to lower middle (42%). Mothers of 54% of children never went to college and 46% of them studied in college (Table 2). A majority of mother's were unemployed (68%). Most of the children were breast fed <12 months (52%).

DISCUSSION

Malnutrition is a global crisis and can seriously affect the growth and development of children posing a long term effect on the quality and productivity of various physiological and morphological functions. With the potential to cause significant number of mortality rates, the developing cause for the existence of malnourished children along with the extent of their existence has to be seriously looked upon and analysed.

The current study records malnourished condition in 36% of the analysed children. Though the national average rate of the prevalence of undernourished children is 43%, the lesser rate of undernourished children in our study may be due to the selection of a smaller demographic area. However in a study conducted at rural Bangalore, 70% of children less than 60 months of age were found to be malnourished which is higher than both state as well as national average rates. This still indicates the increase of malnutrition cases at an alarming rate.[10,11] Out of the surveyed population majority of the children were females. The higher rate of under nourished female children was recorded in previous study conducted at e in rural community in Nitte.[11] Previous survey conducted by ministry of home affairs in India and Kumar *et al.* also reports higher prevalence of under nutrition in female children.[12,13]

A major proportion of children surveyed belonged to age category of more than 1 year and upper socio economic status. Also a lower proportion of children were only breast fed until more than a year. The higher prevalence of under nutritional children might be due to the weaning stage and lack of feeding children with appropriate nutritional supplements. [14] A likely association between earlier weaning and development of malnourishment among children was reported by Rashmi and kiran [11] as well as Jeyakumar *et al.*[15] Socio-demographic factors such as economic status along with education and

occupational status of mothers influenced the prevalence of malnourished children in a society.[16] This correlates with the results of the current study that records significant number of malnourished children in the area that contained mothers who were predominantly unemployed as well as had no higher education. Apart from the current variables taken under consideration various epidemiological factors such as birth spacing, vaccination and lack of maternal care during pregnancy associated with short comings of adequate medical facilities in rural areas are also accounted highly for the development of malnutrition in children especially in rural areas.[17]

CONCLUSION

Nevertheless, the present study demonstrates the prevalence of various risk factors associated with the development of under nutrition in children under the age of 3 encompassing various sociodemographic variables that demands immediate action in the eradication of the lacunae in child nutrition.

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