

Original Article

PREVALENCE OF UNDER-NUTRITION AND ANEMIA AMONG UNDER FIVE RURAL CHILDREN OF SOUTH KARNATAKA, INDIA

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Abstract :

Infant and under five mortality rates are reliable indicators of health status of the children of any country. Despite accelerated growth, the prevalence of hunger, poor health status, under nutrition and mortality in rural part of the country are still persisting in India. While under nutrition among children is pervasive; child mortality is rather high in rural parts of India. The current study conducted in two remote villages of Hassan and Kodagu districts of South Karnataka-India. Study conducted on (Boys 160, Girls 140) preschool children, selected through stratified sampling design technique. Through this study stunting in 75.0 %, wasting in 81.7% and underweight in 87.6% of both Boys and Girls of pre-school children were found. In case of Anemia, 48% of Girls and 56% of Boys were severely affected; while 47 % of Girls and 41% of the Boys were modestly affected and 10% of the Boys and 28% Girls observed mildly affected. It is also found that clinical sign of Anemia among 62% of the studied children. Next, 21% children found Vitamin A deficiency and 22% children found vitamin B complex deficiency. The Study also found that only 67% children put on breastfeeding within Three hours after the birth in the studied village. It is also noted that income poverty, bad personal habits, changing health seeking behavior, cultural practices regarding delivery, child rearing and breastfeeding also plays a vital role in case of mortality problem where Government and NGO (Non-Gov. Organizations) should focus on these issues immediately.

Keywords : Mortality, Nutrition, Health, Rural , Children

Introduction :

Under nutrition and childhood mortality became a serious problem among the rural children in many south Asian nations. It is found that social- ethnic background, health seeking behavior and health culture dynamics plays a significant role as few vital determinants of the health status of rural community in a multicultural society like India. Because of unique health seeking beliefs and behavior under nutrition and childhood mortality are more common in rural areas¹. WHO (World Health Organization) report (1985) has found that 57% of the death of under Five children in developing countries accompanied by under-

nutrition thereby low weight for their age. Medical Anthropologists have revealed that the development of health culture of the rural community should be examine as a sub cultural

complex of the entire way of life². There are a number of forces percolated from the larger socioeconomic environment and guided through the attribute of historical, social and political dimension to the growth pattern of rural health culture in the given settings. A good health required a balanced diet. Under Five children need a good nutritional diet which is scanty in many rural settings in the country and this causes mortality and morbidity among the rural population³.

It is found that Nearly Thirty (30) lakh children in India die before the age of Five due to various health issues. This has become a common phenomenon in rural parts of the country. Various child health indicators reports of the country have shown considerable improvement and infant mortality has gone down from 78 to 57 deaths per 1000 live births and under-five mortality from 109 to 74 deaths per 1000 live births¹. However, under-five mortality levels among rural children are still shockingly high (at 97 deaths per 1000 live births). Rural's constitutes 60 to 62 percent of the total population, but accounts for about 19 percent of

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all under-five deaths, and 23 percent of deaths in the 1-5 age group⁴.

In India, the flagship program for preclusion and control of anemia stress on pregnant women and young children less than 5 years. On the other hand, the position of anemia in children is not well recognized, though information on underweight and stunting is available. Hence Anemia in children continues to be given a very little precedence. Despite the marvelous development focusing preventive and curative medicine, the child healthcare delivery services in several rural communities are still poor and unscientific. It is found that poverty, illiteracy, malnutrition, scarcity of potable water, sanitary conditions, poor mother child health services, problems in covering national health and nutritional services, etc. have been found most vital causative factors for the prevalence of sever childhood mortality and morbidity amongst the rural communities in the country. Expert felt the health system of the country need further strengthening in order to achieve the goal of health for all in the country.⁵

Further, experts opined that the poor health outcome of the rural community and their children need to be read within in the context of rapid urbanization, poor health infrastructure, costly treatment etc. However, in a multicultural society like India rural childhood mortality cannot be analyzed in a contextual vacuum. Instead, they need to be looked in the light of larger socio economic changes experienced by the rural community over the period of time due to the interventions of various external agencies⁶. Till now various Governments have implemented numerous programmes to improve the nutritional status of the pre-school children through various innovative schemes. Huge money has been spent on health sector so far. Still country experiences sever under nutrition and rural child mortality issue. Health experts opined that lack of good primary health care, perceived and personal risks, lack of awareness have lead in failing health improvement programmes in the rural settings of the country⁷.

Major Objective :

This present study is to assess the extent and prevalence rate of Under-nutrition and Anemia among under Five rural children in the Two districts of south Karnataka, India.

Materials and Methods :

This current study conducted in Two remote villages of Hassan and Kodagu districts of south Karnataka. The study had 300 (Boys 160, Girls 140) preschool children, selected using stratified sampling design technique. Household survey carried out in Three villages covering 300 families under the jurisdiction of Four primary health centers (PHC). Anthropometric measurements taken using standard techniques. Infant meter was also used to measure below 1 year old children. Date of birth was obtained from the village directory for cross checking. The indices of nutritional status have been mentioned in Standard Deviation (SD). Diet survey focusing cereals, pulses, milk and milk products, vegetable etc have also been done. Hemoglobin collection and estimation also under the guidance of a physician. Household socio-economic data collected through survey & analyzed using SPSS software. Nutritional deficiency and morbidities recorded under the supervision of the dietician. Children classified after simple clinical test for Anemia and mean anthropometric measurements.

Result :

Table -1 : Demographic Factors of the Studied Families

Variables	No. (percentage)	X ²	P
Age of the Parents		3.657	0.000
Just above 20	123(41%)		
20-30	132(44%)		
30-40	45(15%)		
Educational level		2.764	0.000
Primary education	154(51.3%)		
High school	88(29.3%)		
College	16(5.3%)		
Illiterates	37(12.3%)		
Professional education	5(1.6%)		
Occupational Status		3.789	0.000
Daily labors	34(11.3%)		
Agriculture	167(55.6%)		
Skilled labor	63(21.0%)		
Unemployed	22(7.3%)		
Business	14(4.6%)		

Variables	No. (percentage)	X ²	P
Income level (in Rs.)		4.458	0.000
3000-5000	165(54.4%)		
5000-10000	123(41.0%)		
Above 10000	12(3.2%)		
Food Norms		3.901	0.00
Just vegetarian	106(35.3%)		
Purely non vegetarian	15(5.1%)		
Mixed	145(48.3%)		
Seasonal	34(11.2%)		

Table -2 : Mean Anthropometric Measurement of Studied Free School Children

Age	N	Sex	Height (in cm)	Weight (kg)
0-1	60	M- 35	5.1 ± 1.38	5.9 ± 1.7
		F- 25	5.3 ± 1.61	5.2 ± 1.5
1-2	60	M - 30	7.5 ± 1.38	8.2 ± 2.0
		F - 30	7.1 ± 1.03	7.5.3 ± 1.0
2-3	60	M -38	8.5 ± 1.13	10.5 ± 2.1
		F- 22	8.1 ± 0.71	11.3 ± 2.8
3-4	60	M-32	11.5 ± 1.81	13.1 ± 2.3
		F-28	10.3 ± 1.70	15 ± 1.3
4-5	60	M-37	12.5 ± 1.60	17 ± 2.0
		F-23	11.3 ± 1.50	16 ± 2.3

Mean ±: Standers Deviation M- Male child F- Female child

Table -3 : Distribution of Pre-School Children according to SD (standard deviation) classification

Parameter	-3 SD to -2 SD	-2S D to -1SD	Median
Weight/ Age	106 (35.3%)	96(32.0%)	114(38.0%)
Height/ Age	102 (34.0%)	103(34.3%)	108(36.0%)
Weight/Height	92 (30.6%)	101(33.3%)	78(26.0%)

Table - 4 :Type and Degree of Malnutrition

Sex	Stunting		Wasting		Underweight	
	n	%	n	%	n	%
Girls	107	(35.6)	137	(45.6)	141	(47.0)
Boys	118	(39.3)	106	(35.3)	122	(40.6)
Total	225	(75.0)	243	(81.0)	263	(87.6)

n, number of children Figures in parentheses are percentage

Table -5 : Occurrence of Anemia in Pre-school Children

Leve	Girls			Boys		
	n	%	Anemia	n	%	Anemia
Severe	77	(48.12)	< 5.3g/dl	84	(56.75)	< 6.3g/dl
Modesty	47	(29.3)	< 7.3g/dl	41	(27.70)	< 7.2g/dl
Mild	28	(17.5)	< 8.7g/dl	15	(10.13)	<19.6g/dl

Normal range of Hemoglobin > 12g/dl (gram/deciliter) Figures in parentheses are percentages

Discussion :

A Total of 300 rural pre-school children (Boys 160, Girls 140) examined through this study. It is found that from

the Table 1 Boys were slightly taller and heavier than Girls for their ages. Mean anthropometric distribution of studied children (according to weight against age, height against age and weight against height) has revealed that 33% (average) of children are between -2SD to - 3SD and 33.3% (average) of children are between -2SD to-1SD. (Mean anthropometric measurement were used to find out SD and Median calculated based on SD) (Table 2). In case of nutritional status of pre-school children, stunting in 75.0 %, wasting in 81.7 and under weight 87.6 observed in both Boys and Girls (Tab-3). Further, in case of Anemia, 48% of Girls and 56% of the Boys were severely affected; while 47 % of Girls and 41% of the Boys were modestly affected (Tab-4). However 10% of the Boys and 28% Girls observed mildly affected in this study. Further, it is also found that clinical sign of Anemia among 62% of studied children. Next, vitamin A deficiency was found in 21% children while vitamin B complex deficiency found in 22% children.

In depth study found that only 87% children were put on breast feeding within 3 hours after the birth. Our study also found majority of the children did not receive pre-local feeds. It is found that supplementary feeding started after 8 months in the majority of the studied children. The socio-economic data reveals that the majority of them is living in poverty and illiteracy state and belongs to low income group. Still they are depending on traditional healers to solve their various health problems⁴. Normally they will not visit PHCs for any type of health problems. Local PHCs lack infrastructure facilities. Doctors rarely visit the Hospitals. Absence of the lady physicians also one of the reasons why rural women's don't like to visit PHCs⁶. Availability of clean potable water is very rare. It is found that age old traditional health seeking behavior towards certain diseases severally hampering their health status. We learn that high Anemia of the children is causing due to poor socio-economic status⁴.Morbidity rate (32.5%) is considerably high in the studied children it is due to poor and unhygienic conditions. It is found that the prevalence of respiratory tract infection, anemia, typhoid, and deficiency of vitamin A & B are more common and it might be due to their food habits. Poor household ecology,

personal habits, cultural practices regarding delivery, child rearing and breast feeding also plays a vital role⁹. It is also noted that the food style of the responded manly causes malnutrition problems. and It is established fact that even though Government, NGOs and other developmental agencies are working for the health issues of the rural people mortality rate is still high in the rural part of the country. Strong awareness about this issue should be created among the rural folk and rural PHCs should be upgraded in a war foot manner.

Conclusion :

Malnutrition in any phase of childhood impacts schooling and the lifetime earnings capacity of the child. Malnutrition also causes economic burdon on the state. This study has found that causes of mortality related to malnutrition and lack of timely access to an adequate primary health care service. Study found that Boys were slightly taller and heavier than Girls for their ages. Girls are not showing less physical development to their ages. In case of nutritional status girl children, are more suffering from stunting, wasting and underweight than boys. In case of Anemia, Girls (48%) and Boys(56%) are more or less equally suffering. The more worrying fact is that signs of Anemia have been found among 62% children. Further

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vitamin A deficiency in 21% children and vitamin B complex deficiency in 22% children were also found. It is found that the occurrence of under nutrition and anemia may be due to low iron bioavailability or absorption rather than inadequate intake. It is noted that availability of pure water, sanitation, traditional beliefs plays a vital role in shaping health behaviors of the rural folks. In partnership with the NGOs and civil society, Govt. should try to provides high-impact, cost-effective health and nutrition interventions to decrease the number of neonatal and child mortality from various infectious diseases for the rural community. Govt. should frame programmes to create awareness about importance of nutritious foods and breast feedings amongst rural folk⁶. Media can also play a vital role in the success of. the various immunization programmes. Geographically and cultural specific programmes for the speedy development of the socio economic conditions of the rural community is most necessary for the hour

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