Research Article

A DESCRIPTIVE CROSS-SECTIONAL STUDY TO ASSESS PREVALENCE OF MAL-NUTRITION IN CHILDREN 6-14YEARS AGE IN BHILWARA, RAJASTHAN

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A R T I C L E   I N F O

A B S T R A C T

Background: Malnutrition affects the child's physical and cognitive growth and increases the susceptibility to infections while having an adverse impact on economic growth of the country indirectly.

Methods: A cross sectional descriptive study was carried out involving 1000 children in the age group 6 to 14 years from urban and rural areas.

Results: In present study (based on Weight-for-Age criteria), majority of the study population (76.3%) were well nourished, 21.2% children were found underweight and 2.5% were overweight.

Conclusion: This study shows that malnutrition are also widely prevalent in schoolchildren in rural and urban, and it underlines the need for nutrition interventions to target them.

INTRODUCTION

Background

Childhood is a period of rapid physical and mental growth and development. Children are building up new tissues constantly and replacing the old ones. Their nutritional requirements are higher per unit of body weight than those of adults. If children do not receive the nourishment they need, undernutrition and malnutrition of one type or other will inevitably result, the type and extent depending on the type and quality of nutrients lacking in diets.[1]

Malnutrition is basically cellular imbalance between the supply of nutrients and energy and the body's demand to ensure growth, maintenance and specific body functions[2]. Thus, Malnutrition is a pathological state resulting from a relative or absolute deficiency or excess of one or more essential nutrients. It comprises four forms- undernutrition, overnutrition, imbalance and the specific deficiency.[3]

Malnutrition is "not so silent" emergency in India also. The global community has designated having the prevalence of underweight children by 2015 as a key indicator of progress towards the Millennium Development Goal (MDG)[4] Economic growth alone, though impressive will not reduce malnutrition sufficiently to meet nutrition target. 'End hunger, achieve food security and improved nutrition and promote sustainable agriculture' is one of the goals of Sustainable Development Goal (SDG)[5]

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In the purview of above mentioned facts it is well obvious that undernutrition is a serious concern for our nation. It jeopardizes children survival, health, growth and development. Therefore there is a felt need to study undernutrition and its epidemiology in depth.

Methods

We conducted a cross-sectional study in M.G.Hospital Bhilwara, Rajasthan. The city and its rural areas were covered in this study. In the present study, I took 360 study subjects(6-14years childrens) from each area i.e. from rural and urban area making total study population of 1000.we use sample Random Sampling technique.

Anthropometric Measurements

In present study, Nutritional status of children was assessed through standardized indices (height for age, BMI for age, weight for age). The anthropometric measurements were taken following the standard techniques recommended by Jelliffe[3].

RESULTS

Table 1 distribution on soci-demographical profile (N=1000)

variable	Level of variable	frequency
Age(years)	6 years	57
	7 years	80
	8 years	81
	9 years	153
	10 years	174
	11 years	99
	12 years	160
	13 years	114
	14 years	82
Gender	male	540

	female	460
Religion	Hindu	730
	Muslim	270
Geographic area	urban	502
	rural	498
Socio-economic status class	I	93
	II	146
	III	270
	IV	413
	V	78
Type of family	joint	305
	nuclear	695

Table-1 shows Maximum17.4% children were in age group 10 years and minimum 5.7% children were in age group 6 years. Out of total 1000 study population, 540 were male and rest 460 (46.0%) were female. most of children (73.0%) were Hindu. The majority of the study population i.e. 69.5% were from nuclear family and only 30.5% children were from joint family and the maximum (41.3%) of the study population belonged to socio-economic status class IV.

Table 2 Distribution of study population according to Weight-for-Age

Weight for age	Frequency	Percentage (%)
Underweight (<-2SD)	212	21.2
Normal weight (-2SD to +2SD)	763	76.3
Overweight (>+2SD)	25	2.5
Total	1000	100.00

In present study (based on Weight-for-Age criteria), majority of the study population (76.3%) were well nourished, 21.2% children were found underweight and 2.5% were overweight.

Table 3 Distribution of study population according to Height-for-Age

Height for age	Frequency	Percentage (%)
Stunted (<-2SD)	141	14.1
Normal Height	859	85.9
Total	1000	100.00

In present study, most of the study population (85.9%) was having normal height for age and 14.1% children were found stunted.

DISCUSSION

In present study, study population comprised of school children of 6 to14 years of age. Maximum (17.4%) children were in age group 10 years and minimum (5.7%) children were in age group 6 years. Almost similar age profile of the study population was observed in other studies conducted by Bose K *et al* (2008)[6], Fazili A *et al*(2012)[7] and MSH *et al* (2008)[8].

In present study, the proportion of boys (54.0%) was higher than girls (46.0%). Similarly, in other study conducted by Singh R *et al* (2009)[9]in Jhansi city (52.98% male and 47.02% females).

In present study (based on Weight-for-Age criteria), majority of the study population (76.3%) were well nourished, 21.2% children were found underweight and 2.5% were overweight. Almost similar prevalence of underweight were obtained in studies conducted by Mukherjee R *et al* (2008)[10] and Puthia R (2009)[11] (16.1% girls and 13% boys).

Much higher prevalence of underweight was found in studies conducted by Saluja N *et al* (2009)[12] (49.5%), World Bank (2009)[13]. The reason of such vast difference in prevalence of

underweight may be that these studies were conducted in different geographical areas which are different in their age and sex composition of the population, literacy status of parents, socio-economic status, food habits and dietary practices etc. Another reason for low prevalence of underweight in present study may be that in other studies, where prevalence of underweight was quite higher, different classification systems were used, e.g. Gomez's classification, IAP classification, NCHS standards etc. and mild underweight children were also included in the overall prevalence. While, in this study, WHO-Z score (2007) was used to define underweight. Only moderate and severe undernourished children were included in underweight.

In present study, most of the study population (85.9%) was having normal height for age and 14.1% children were found stunted.

Almost similar prevalence of stunting was found in studies conducted by Fazili A *et al* (2012)[7] (9.25%) and Osei A *et al* (2010)[14] (56.1%), where prevalence of stunting were much higher than present study. Stunting reflects long-term malnutrition, and is influenced by parental attitudes and child care practices accumulating over a long period of time. The reason of vast difference observed in prevalence of stunting may be that these studies were conducted in different geographical areas which are different in their age and sex composition of the population, literacy status of parents, socio-economic status, food habits and dietary practices etc.

CONCLUSION

This study shows that malnutrition are also widely prevalent in schoolchildren in rural and urban, and it underlines the need for nutrition interventions to target them.

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