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Study On Prevalence And Determinants Of Malnutrition Among Anganwadi Children Of Nagavi Primary Health Centre Area, Gadag.

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Abstract

Background: Malnutrition is a major health and nutrition problem in India. It may lead to permanent impairment of physical and mental growth of those who survive. Globally, 16% of under five children were underweight, 26% were stunted and 8% were wasted.[2] According to NFHS 4 Karnataka 35.2% were Underweight, 36.2% were stunted and 26.1% were wasted.**Objectives:** 1)To estimate the prevalence of Malnutrition among anganwadi children. 2)To assess the association between determinants with malnutrition.**Methodology:** An observational cross sectional study was conducted for a period of 6 months among anganwadies of Nagavi PHC area. Anthropometric measurements of the children attending the anganwadi were taken according to the WHO standards. Classification of samples was done based on Gome's classification. Stunting and wasting was calculated using Waterlow classification. By the vernacular language of the informant a written consent was obtained and survey was conducted by using a semi structured questionnaire. Data was tabulated in Microsoft excel sheet and analysed by using epi info 7 software. **Results:** In the present study prevalence of underweight (weight for age), stunting (height for age) and wasting (weight for height) were found to be 40.54%, 36.49% and 30.41% respectively. Factors like children with age 48-71 months, child with low birth weight, lack of exclusive breast feeding, breast feeding duration less than 18 months and poor sanitation shows increased risk for malnutrition.**Conclusion:** From the study we conclude that there is a high prevalence of malnutrition among the anganwadi children aged 48-71 months. Various factors like age of children, child with low birth weight, lack of exclusive breast feeding, breast feeding duration less than 18 months and poor sanitation shows increased risk for malnutrition.Therefore presentstudy recommends education& behaviour change communication (BCC) strategy are to be conducted regularly about nutrition in vulnerable populations to reduce the prevalence of malnutrition.

Key-words: Anganwadi, PHC, Malnutrition, Exclusive breast feeding.

INTRODUCTION

Children's Health; Tomorrows Wealth is a World Health Day Theme in 1984. Health of the child alters when the nutritional status of the child becomes poor. This poor nutritional status of the child leads to development of infectious diseases and finally malnutrition. Malnutrition is defined by WHO as a weight – for –age below the median minus two standard deviations of the NCHS reference population.[1]

Globally, 16% of under five children were underweight, 26% were stunted and 8% were wasted.[2] According to NFHS 4 India Factsheet 35.7% were underweight, 38.4% were stunted and 21.0% were wasted.[3]According to NFHS 4 Karnataka 35.2% were Underweight, 36.2% were stunted and 26.1% were wasted.[3]

Malnutrition is a major health and nutrition problem in India. It may lead to permanent impairment of physical and mental growth of those who survive. Causes for malnutrition involves physical, socio-cultural and familial factors like poverty, low birth weight babies, infection, gender discrimination, adolescent pregnancy, repeated pregnancy, inadequate birth spacing, lack of exclusive breast feeding, artificial feeding, food taboos and broken family.[4]

Government of India started the Integrated Child Development Services (ICDS) Scheme in 1975 to reduce the malnutrition problem in children. This scheme incorporates interventions such as food supplementation, immunization, health care and referral services for children as well as pregnant and lactating mothers.[5]

Despite of the expansion of ICDS Scheme to cover most of the children in the country, progress in reducing child malnutrition has been slow. Thus the present study was planned to find out prevalence and determinants of malnutrition among anganwadi children of Nagavi, Gadag.

OBJECTIVES

1. To estimate the prevalence of Malnutrition among anganwadi children of Nagavi PHC area
2. To assess the association between determinants with malnutrition.

METHODOLOGY

An observational cross sectional study was conducted for a period of 6 months from1st January2017 to 30th June 2017 amonganganwadis ofNagavi PHC. Nagavi PHC area has 3 sub centres, each sub centre has 4 to 5 anganwadi and total 15 anganwadis are present under Nagavi PHC area. By convenient sampling technique randomly we have taken one sub centre under which 4 anganwadis are present. All anganwadis of that sub centre were visited and consent of the anganwadi teachers was taken before drawing data collection. Children who were absent at the day of visit were excluded from the study.

A semi structured questionnaire was used for the data collection. Anthropometric measurementslike Height, Weight and Mid upper arm circumference of the children attending the anganwadi were taken according to the WHO standards.[6] Classification of samples was done based on Gome's classification. Stunting and wasting was calculated using Waterlow classification. Taking help of the anganwadi teacher and the children, respective houses were visited. By the vernacular language of the informant a written consent was obtained from the mother and survey was conducted by using a semi structured questionnaire.

STATISTICAL ANALYSIS

Data was tabulated in Microsoft excel sheet and analysed by using epi info 7 software. Frequency of anthropometric measurements and variables was obtained. Association was drawn between the variables and malnutrition by using chi square test. Ethical clearance was obtained from the ethical committee of Gadag Institute of Medical Sciences, Gadag.

RESULTS

The present study was conducted among anganwadi children of Nagavi PHC area. Total study subjects comprised of 148. Out of 148 children 35(23.65%) children belongs to the age group 24-47 months and 113(76.35%) children belongs to 48-71 months. In our study 52.03% of children were girls and 47.97% of children were boys. Socio-demographic details of the study subjects was explained in Table 1.

Table 1. Socio-demographic details of study subjects.

Variables		Frequency	Percentage
Age	24-47 months	35	23.65
	48-71 months	113	76.35
Sex	Boys	71	47.97
	Girls	77	52.03
Education of Father	Illiterate	88	59.46
	Literate	60	40.54
Education of Mother	Illiterate	117	79.05
	Literate	31	20.95
Socio economic status	Class 2-Class3	13	8.78
	Class4- Class5	135	91.2

Prevalence of Malnutrition

In the present study prevalence of underweight (weight for age), stunting (height for age) and wasting (weight for height) were found to be 40.54%, 36.49% and 30.41%respectively.(Table 2)

Table 2. Prevalence of Malnutrition.

Type of Malnutrition	Frequency	Percentage
Underweight(weight for age)	60	40.54
Stunting(Height for age)	54	36.49
Wasting(weight for height)	45	30.41

According to mid upper arm circumferences, 37.16% of the children with mild malnutrition and 6.76% of the children with moderate malnutrition were seen.

Association between various factors with underweight.

In the present study prevalence of underweight was more (45.13%) in 48-71 months age group children compared to 24-47months age group children (25.71%) This shows that there is a association between underweight and age of the children. This association was statistically significant at $p<0.05$. Prevalence of underweight was more in children with birth weight <2.5kg, lack of exclusive breast feeding, breast feeding duration <18 months and absence of toilet facility and these shows statistically significant association with underweight at $p<0.05$. (Table 3)

Table 3. Association between various determinants and malnutrition.

Determinants		Normal N(%)	Underweight N(%)	Total N(%)	Chi-square value	P value
Age	24-47 months	26(74.29)	9(25.71)	35(100)		
	48-71 months	62(54.87)	51(45.13)	113(100)	4.1803	0.04
Birth weight	<2.5kg	35(46.05)	41(53.95)	76(100)		
	≥2.5kg	53(73.61)	19(26.39)	72(100)	11.6489	0.0006
Exclusive breast feeding	yes	75(66.37)	38(33.63)	113(100)		
	no	13(37.14)	22(62.86)	35(100)	9.471	0.002
Breast feeding duration	<18 months	22(44.90)	27(55.10)	49(100)		
	≥18 months	66(66.67)	33(33.33)	99(100)	6.4435	0.011
Toilet facility	Present	20(76.92)	6(23.08)	26(100		
	Absent	68(55.74)	54(44.26)	122(100)	3.9906	0.045

In our study prevalence of Underweight was more among girls, child with preterm delivery, on set of breast feeding more than 30 minutes, birth order >3 and presence of Indoor air pollution in house, but these factors not showed any statistically significant association with underweight.

DISCUSSION

In the present study prevalence of underweight, stunting and wasting was found to be 40.54%, 36.49% and 30.41% respectively. High prevalence of malnutrition was seen in the studies done by ShailendraMeena 49%[7] and Mohammad Imran 47.3%.[8] Low prevalence of malnutrition was seen in the studies done by Vanita G Pinto Silva[9] where prevalence of underweight, wasting, and stunting in their study was found that 33.4%, 24%, and 31.5%, respectively. Study done by Elham Kavosi[10] showed prevalence of underweight, stunting, and wasting was 9.66, 9.53 and 8.19% respectively. The reason for high prevalence of malnutrition in our study may be due to low literacy status of the parents and low socio economic status study population.

In the present study Prevalence of malnutrition was high in the age group 48-71 months age group compared to 24-47 months age group children. Similarly study done by Mahammad Imran[8] showed lower prevalence of underweight in children with the age group 24 – 36 months compared to 36-48 months and 48-60 months age group children. High prevalence of underweight in 48-71 months age group children may be due to majority of the anganwadi children are belongs to this age group and these are the children who are vulnerable for many communicable infections.

In our study prevalence of underweight was more in children with birth weight less than 2.5kg compared to children with the birth weight equals or more than 2.5kg. Similarly study done by Mohan Anantrao Patil[11] showed that common cause for underweight in the children is due to low birth weight(83%) compared to other causes.

In the present study underweight was more in the children with the lack of exclusive breast feeding compared to children with the exclusive breast feeding. Similarly study done by HS Aprameya[12] showed malnutrition is more in children with lack of exclusive breast feeding.

In this study mothers who discontinued breast feeding within 18 months have undernourished children compared to >/18 months breast fed children. Similarly study done by BaitunNahar showed discontinued breastfeeding shows increased prevalence of under nutrition.[13]

CONCLUSION AND RECOMMENDATIONS

From the study we conclude that there is a high prevalence of malnutrition among the anganwadi children aged 48-71 months. Various factors like age of under five children, child with low birth weight, lack of exclusive breast feeding, breast feeding duration less than 18 months and poor sanitation shows increased risk for malnutrition.

An integrated approach like improving the literacy level of community, effective implementation of family planning services and health education on child feeding and rearing practices and personal hygiene should be made by the policy makers to reduce the malnutrition. Campaigns like information, education & communication (IEC) & behaviour change communication (BCC) strategy are to be conducted regularly about nutrition in vulnerable populations.

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