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A CROSS-SECTIONAL STUDY TO ASSESS FACTORS ASSOCIATED WITH MALNUTRITION AMONG CHILDREN RESIDING IN A TRIBAL AREA OF PALGHAR DISTRICT, MAHARASHTRA.

Community Medicine

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ABSTRACT

Background: Just 125 kms away from the vibrant city of Mumbai is Palghar district, a haven for tribes. But this safe house has now become a place of their grief as they see their children being taken away from them by malnutrition. **Objective:** This study was carried out to find out demographic & socioeconomic factors associated with malnutrition among the children. **Materials and method:** This cross-sectional study was carried out for duration of two months in Palghar districts. Care takers of 154 under five children were interviewed and information regarding nutrition of children was collected. Also, Clinical examination of the children was done and anthropometric measurements were taken.**Result and conclusion:** Proportion children with, parents having primary and secondary education, upper lower socioeconomic class, mothers between age of 18-25 years of age at the time of delivery and children with immunization drop out were significantly higher among malnourished children.

KEYWORDS

Malnutrition, Under Five, Tribal

INTRODUCTION

Periodic growth monitoring of children is an important indicator of the health and nutritional wellbeing of the population[1]. Good child health is imperative for economic and social development. The prevalence of protein-energy malnutrition in South-East Asia is the highest in the world [2]. The goal of reducing child malnutrition is far from being fulfilled in most developing countries. Over the past 20 years, some developing countries have registered only minimal changes for this critical aspect of child health. According to the 2009 United Nations Children's Fund (UNICEF) report on tracking child and maternal nutrition, the proportion of stunting among children aged five years and below in the developing world decreased from 40% to 29% between 1990 and 2008 (UNICEF, 2009)[3].

There is no significant reduction in prevalence of malnutrition during last 12-13 years in spite of various programmes[4]. Deaths in children constitute more than 34% of total deaths in India [5]. Out of which annually 41% of all Under 5 mortality is comprised of neonates, ¾ of who die within the first week of life[6]. Seven out of ten of these deaths are due to respiratory infections, diarrhoea and malnutrition. There is high under five morbidity and mortality in India [7]. At present 65% under five children are underweight which includes 47% moderate and 18 % severe cases of malnutrition[8].

Scheduled tribes (STs) comprise 8.2% of India's population [9]. Public health research among tribal communities is scarce. However, there is a need to understand the health status and health problems of the tribal populations to tailor public health services to these communities. Embarking on research in tribal communities can be challenging for a researcher hailing from a non-tribal area because of geographic access, cultural and linguistic barriers[10]. The National Family Health Survey-3 [11] reported that ST children have the poorest nutritional status in the nation.

Three districts in Maharashtra have reported 1,274 child malnutrition deaths in the past 10 months, Minister of State for Women and Child Welfare Vidya Thakur informed the State council. The three districts, according to Ms. Thakur, are Nandurbar (662 deaths), Palghar (418 deaths) and Thane (194 deaths). "These cases have almost doubled in Thane's Bhiwandi area despite a number of initiatives taken by the State government. We are taking a number of measures to reduce the cases," she said[12]. Just 125 kms away from the vibrant city of Mumbai is Palghar district, a haven for tribes. But this safe house has now become a place of their grief as they see their children being taken away from them by malnutrition[12].

Present study highlights magnitude of problem and some socioeconomic, demographic and environmental factors associated with malnutrition among under five children of rural area.

Materials and method: -

This was a cross sectional community-based study was conducted in randomly selected village in Palghar District. Duration of study was two months and conducted from 1 April to 31 may 2018. Care takers of 154 under five children from a randomly selected village of Palghar district were interviewed as per pretested and predesigned questionnaire. 154 under five children were thoroughly clinically examined as well as anthropometric measurements were done. Weight of the children was taken with the help of weighing scale. Information regarding age, gender, weight, birth weight, height, mid arm circumference, immunisation status, education of parents, age of mother, type of family and socioeconomic class of family was collected though clinical examination and interview and entered in excel sheet.

Statistical Analysis:

Collected data was analysed using software SPSS Version 24. Results was prepared in the form of charts and graphs. Proportions were calculated in percentages. Chi square test was used to assess association between malnutrition and various factors studied. P value less than 0.05 was considered for significance.

Observation and results: -

Out of 154 under five children studied, 15 were SAM / MAM. The proportion of malnourished children was 9.7%. The findings of the study are shown in following tables.

The proportion of malnutrition of under five children in Chalani village, Dahanu Taluka, Dist.- Palghar was 9.74%. Out of 15 SAM / MAM children 6 were males and 9 were females.

Table 1 Distribution of study subjects according demographic and socioeconomic factors

Factor	Malnourished children		Normal children		Total		P value
	N	%	N	%	N	%	
Distribution according to age groups							
< 3 years	13	86.66	88	63.31	101	65.58	0.08
≥3 years	2	13.34	51	36.69	53	34.42	
Distribution according to gender							
Male	6	40	74	53.23	80	51.94	0.32
Female	9	60	65	46.77	74	48.05	
Distribution according to type of family							
Nuclear	1	26.66	24	17.26	25	16.23	0.56
Joint	6	40	52	37.41	58	37.66	
3 generation	8	33.34	63	45.33	71	46.11	
Distribution according to education of mother							
Nothing to secondary	12	80	64	46.04	103	66.88	0.01
Above secondary	3	20	75	53.96	51	33.12	
Distribution according to socioeconomic class							
Other than lower	2	13.33	106	76.25	108	70.12	<0.001
Lower	13	86.67	33	23.75	46	29.88	
Distribution according to age of mother at birth							
≤25 years	15	100	88	63.30	103	66.88	0.001
>25 years	0	0	61	36.70	61	33.12	

In table number 1 it was observed that proportion of children with age less than 3 years, female gender and having joint/three generation family was more among malnourished children as compared to normally nourished children, but this difference was not statistically significant. Also, proportion of children with parents having no education and education up to secondary school, low socioeconomic class and age of mother less than 25 years at time of delivery was significantly more among malnourished children as compared to normally nourished children. (P<0.05)

Table 2 Distribution of study subjects according to birth parameters

Factor	Malnourished children		Normal children		Total		P Value
	N	%	N	%	N	%	
Distribution according to birth weight							
>2500 gm	3	20	123	88.49	126	81.81	<0.001
<2500 gm	12	80	16	11.51	28	18.19	
Distribution according to birth order							
≤2	9	60	139	100	148	96.10	<0.001
>2	6	40	0	0	6	3.90	

Table number 2 shows that 80% malnourished children had low birthweight as compared to 11.51% normally nourished children and this difference was statistically significant. (P<0.05) Also, it was observed that 40% children among malnourished children had birth order >2 whereas none of children among normally nourished children had birth order more than 2 and this difference was statistically significant. (P<0.05)

Table 3: Distribution of study subjects according to immunisation status

Immunization status	Malnourished children		Normal children		Total		P value
	N	%	N	%	N	%	
Fully/completely	0	0	98	70.50	98	63.63	<0.001
Drop out	15	100	41	29.50	55	36.37	

Table number 3 shows that all 15 malnourished children had immunization drop out while 29.50% normally nourished children had immunization drop out and difference in immunization status was statistically significant. (P<0.05)

DISCUSSION

This was a cross sectional community-based study was conducted in randomly selected village in Palghar District. Duration of study was two months and conducted from 1 April to 31 may 2018. Care takers of 154 under five children from a randomly selected village of Palghar district were interviewed as per pretested and predesigned questionnaire. 154 under five children were thoroughly clinically examined as well as anthropometric measurements were done.

Out of 154 under five children studied, 15 were SAM / MAM. The proportion of malnourished children was 9.7%. This was less as compare to the proportion of malnutrition found in study of Banerjee et al [13].

In present study it was observed that proportion of children with age less than 3 years, female gender and having joint/three generation family was more among malnourished children as compared to normally nourished children, but this difference was not statistically significant. Similar finding were observed in the study of Gupta et al[14]. High proportion of children under 2 year of age group because no importance was given to the exclusive breast feeding. Joshi et al (1989) [15] a similar study at Hyderabad reported 92% of the children (1–4 yrs) to be nutritionally normal which was contradictory to our study finding.

The percentage of less educated mother was quite high as in compare with similar study of Kumar et al [16]. Maternal literacy has been seen to influence the nutritional status of children. Food consumption pattern was found to be better in children with literate mothers as compared to illiterate mothers [17]. Illiteracy in mother is strongly associated with malnourishment

Also, proportion of children with parents having no education and education up to secondary school, low socioeconomic class and age of mother less than 25 years at time of delivery was significantly more among malnourished children as compared to normally nourished children. (P<0.05) Similar findings were observed by Gupta et al [14].

In our study we found that 80% malnourished children had low birthweight as compared to 11.51% normally nourished children and this difference was statistically significant. (P<0.05) Proportion of low birth weight among malnourished was almost equal to the study by Nair NS et al[18].

Also, it was observed that 40% children among malnourished children had birth order >2 whereas none of children among normally nourished children had birth order more than 2 and this difference was statistically significant. (P<0.05)

In findings of our study all 15 malnourished children had immunization drop out while 29.50% normally nourished children had immunization drop out and difference in immunization status was statistically significant. (P<0.05) Similar findings were observed by Gupta et al [14].

CONCLUSION: -

The present study suggests that malnutrition among the tribal children is the result of a nexus of multiple factors. Besides programmes that offer direct nutritional support, emphasis should also be given to improvement of breast feeding, economic status, maternal nutrition and access to medical care especially during pregnancy.

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