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GROWTH AND FEEDING HABITS OF UNDER FIVE CHILDREN IN NAVI MUMBAI.

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Abstract:
Background: Malnutrition is found to be a burden in the developing countries. Underweight, stunting and wasting are the indicators for malnutrition as per WHO. Poor feeding habits can have a negative impact in the optimal growth and development of under five children. Hence the study aimed to assess the growth of under five children and to assess the feeding habits of under five children.
Methods: A descriptive study design was used. The accessible population was the under five children between the age group of 6-60 months and their mothers. The setting of the study was a tribal village in Navi Mumbai. The children with acute illness were excluded from the study. A non probability convenient sampling technique was used in the study. The growth was assessed with the anthropometric nutritional status parameters like weight for age (to rule out underweight), height for age(to rule out stunting) and weight for height (to rule out wasting). The weight was taken with the weighing scale. Length and height were taken with infantometer and stadiometer respectively.
Results : It was shown that 69.3% of children between the ages of 12 and 23 months were underweight. The majority of the children with stunting fell into the 24- to 35-month age range. 39.5% of children aged between 12 and 23 months exhibited wasting.

Key words: Growth, Nutritional status, Under five children, Underweight, Stunting,Wasting, Feeding habits.

INTRODUCTION

Children are considered to be the makers as well as markers of a healthy and sustainable society. According to UNICEF, children constitute one third of the world population.[1] About 128 million of India's 1.2 billion populations are aged less than 5 years. With the data retrieved from NFHS-4 2015-16 survey, under five children comprises of 79.7%, Under five mortality rate is 50. Each year approximately 2.3 million deaths among 6-60 months aged children in developing countries are associated with malnutrition, which is about 41% of the total deaths in this age group. In India, approximately 38.4% are stunted, 21 % are wasted and 35.8% are having underweight. Only 54.7 % of the children are exclusively breast fed in India. Around % of children in India is receiving complementary feeding right from the age of 6 months[1].

Major anthropometric parameters to rule out the growth of children includes Weight and length/height , which should be compared with reference curves of weight for age, height for age and weight for height[2]. Growth assessment can easily give a clear picture about the nutritional status of the children. The major determinant of nutritional status is the feeding habits of children[3]. Exclusive breast feeding till first 6 months of age and appropriate introduction of complementary feeding at 6 months has a positive impact on the growth of children[4].

Nutrition of children between 1 and 5 years of age is of prime importance as they are most vulnerable to deficiencies or malnutrition . Nutritional problems among children cause major morbidity and mortality in India[5]. Despite the increase in food production and many interventions in recent years, the problem of chronic malnutrition continues to exist extensively among children [6]. Nutritional deficiencies commonly seen in preschool children are protein- energy malnutrition (PEM), deficiency of vitamin A, vitamin B complex, and vitamin D, iron and fluorine deficiency. PEM is a spectrum having different clinical manifestations[7]

Nutrition is a key determinant of good health and is critical for survival, good quality of life and well-being.[8] Adequate nutrition is essential in early childhood to ensure healthy growth, proper organ formation and function, a strong immune system, and neurological and cognitive development[9]. Child malnutrition impacts cognitive function and contributes to poverty through impeding individuals' ability to lead productive lives[10]

Gandhi S and Patel J have conducted a study on the assessment of nutritional status of under five children attending OPD at a tertiary care hospital of Surat, Gujarat. Anthropometric measurements were taken to the health status and nutritional status of the children. 600 under five children were involved in the study. Equal distribution of 300 boys and 300 girls were done for the study. The findings include 17.5 % of wasting, 46% of stunting and 39.33 % of underweight in under five children. Study also concluded that Malnutrition is more commonly observed in children between 12-60 months of age.[12]

Under five children are the more vulnerable group among children. Poor nutrition during the first 1000 days of a child's life leads to stunted growth which is irreversible. It is also seen to be associated with impaired cognitive ability and reduced school performances. The main cause of under five mortality rate in India is the infections like respiratory tract infections and diarrheoa. With proper immunization, adequate nutrition and good feeding habits, the under five mortality rate can be reduced further, as there is a gradual decline in the under five mortality rate since 1990. In raigad district of Maharashtra, no studies are conducted on the assessing the growth and feeding habits of under five children . So the planned research study is reliable and significant.

Objectives of the study were to:

- Assess the growth of under five children in Navi Mumbai
- Assess the feeding habits of under five children in Navi Mumbai

Materials and Methods

The research design was descriptive design. The population were Under five children between 6 months to 5 years. The accessible population was the under five children between the age of 6 months to 5 years who were available during the data collection time and are fulfilling the inclusion and exclusion criteria in Navi Mumbai. The study setting was the tribal village of Navi Mumbai. The sample size was 175. The sampling technique was Non Probability Purposive sampling technique. The inclusion criteria was the parents and children who are willing to participate in the study. The exclusion criteria was the children with any congenital anomalies and chronic illness. The growth of the children were assessed with weight and height/length. Screening sheet, and growth and development assessment performa with growth charts were used to collect data. The anthropometric measurements were taken and recorded for all children. The feeding habits of children were assessed with a structured questionnaire which is developed by the researcher. The data analysis was done using the descriptive statistics

Results

Table-1 Frequency distribution of Sociodemographic Profile (n= 175)

Demographic Variables	Classification	Frequency	Percentage (%)
Age of child in Months	6-11	32	18.29
	12-23	40	22.85
	24-35	27	15.43
	36-47	37	21.14
	48-60	39	22.29
Sex of the child	Male	91	52
	Female	84	48
Birth weight of the child	Less than 2.5 kg	67	38.29
	More than 2.5 kg	108	61.71
Education of the mother	Illiterate	86	49.19
	Primary	65	37.14
	High School	20	11.43
	Secondary	4	2.29
Birth order	One	57	32.57
	Two	90	51.43
	Three or more	28	16
Socioeconomic class	Upper class	5	2.86
	Upper middle class	11	6.29
	Middle class	24	13.71
	Upper lower class	71	40.29
	Lower class	54	30.86

The results showed that 18.29 % were from the age group between 6 to 12 months , 22.85% of children were from 12 to 23 months, 15.43 % from 24 to 35 months, 21.14 % from 36 to 47 months and 22.29 % of under five children were from the age group between 48 to 60 months. Majority 52% of the children were males and 48% were females. 61.71% of children had their birth weight of above 2.5 kg which is considered to be a normal finding. Most of the mothers of under five children were illiterate. Only 2.29 % of mothers had secondary education. 32.57% of children were the first born in the family and 51.43% were the second born. Socioeconomic class were identified using Kuppuswamy scale. According to the scale majority 40.29% of the children belongs to upper lower class, 30.86% belongs to lower class, 13.71 belongs to middle class, 6.29% belongs to upper middle class and only 2.86% belongs to upper class.

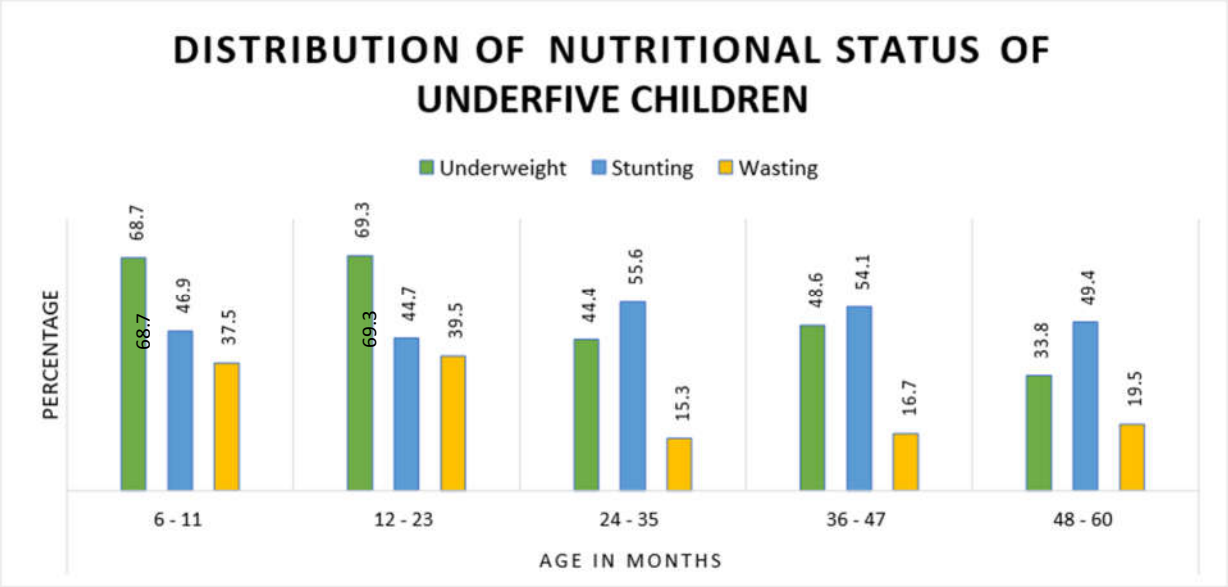

Figure 1: Distribution of Nutritional indicators according to age in months (N=175)

A classification of the nutritional status was made using WHO growth guidelines. Less than two standard

deviations (SD) is the cutoff number for underweight (weight for age), stunting (height for age), and wasting (weight for height). It was shown that 69.3% of children between the ages of 12 and 23 months were underweight. The majority of the children with stunting fell into the 24- to 35-month age range. 39.5% of kids aged between 12 and 23 months exhibited wasting.

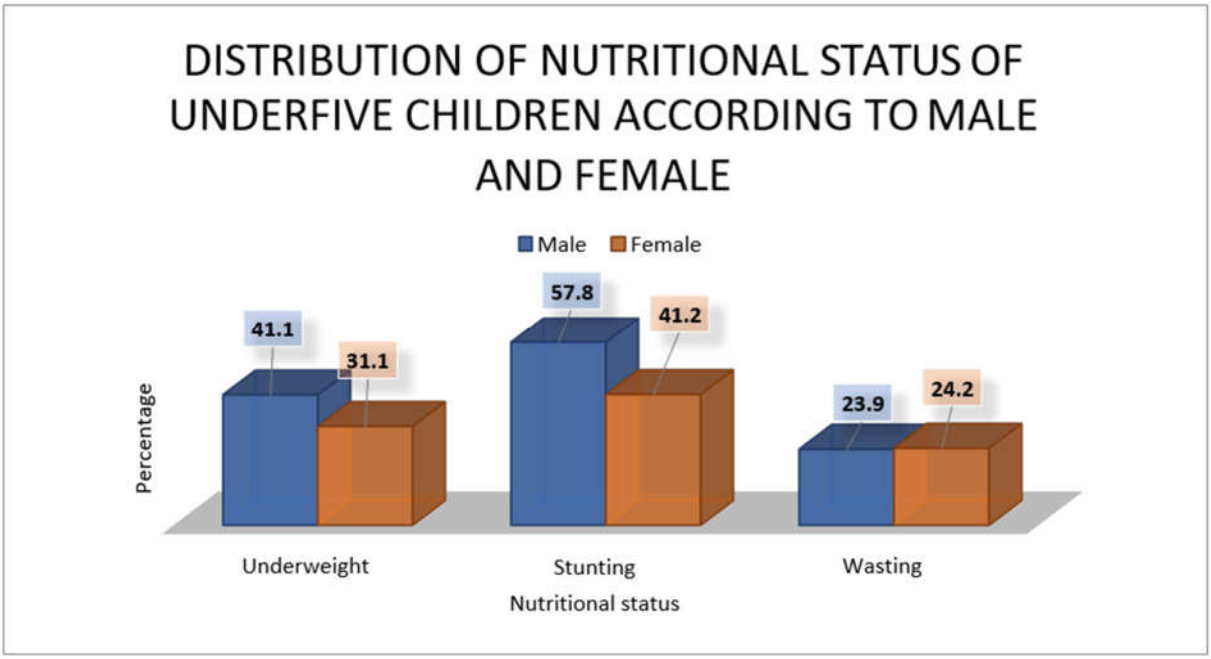

Figure 2:Distribution according to the nutritional status of male and female

According to the findings, stunting affected the majority of children who were male (57.8%) and female (41.2%). Male and female wasting rates were 23.9% and 24.2%, respectively.

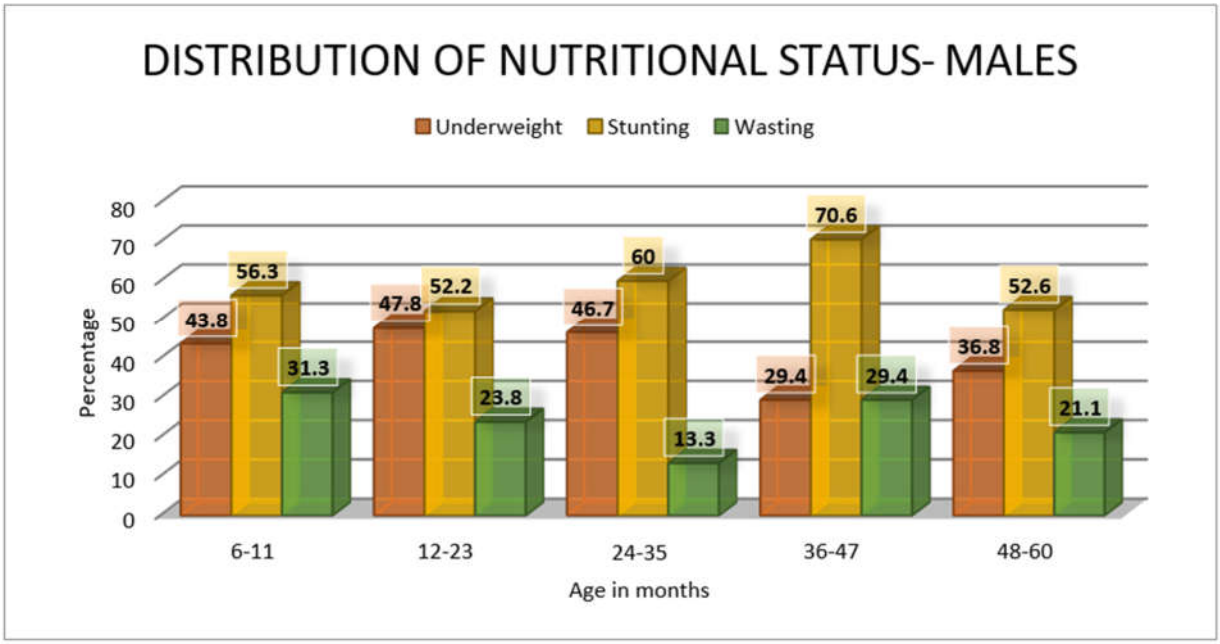

Figure 3: Distribution of Nutritional indicators in males

The results showed that 47.8% of the male children between the ages of 12-23 months were underweight. Male infants (70.6%) in the 36-47 month age range were more likely than female infants to exhibit stunting. The majority of the male children (31.3%) who had displayed wasting were babies between the ages of 6 and 11 months. Only 29.4% of boys between the ages of 36 and 47 months were underweight. Only 52.2% of male infants between the ages of 12 and 23 months were stunted, while male infants between 24 and 35 months had the lowest rates (13.3%) of wasting.

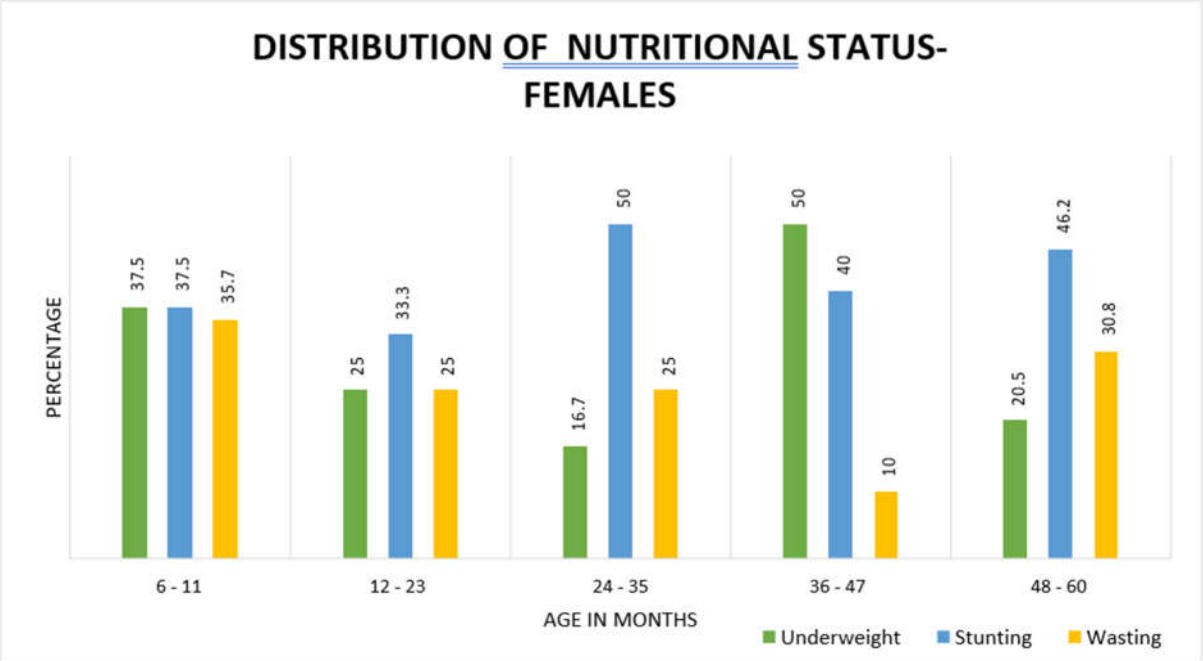

Figure 4:Distribution of Nutritional indicators in Females

50% of female children between the ages of 36 and 47 months were underweight, according to study data on their nutritional health. Stunting affected 46.2% of females between the ages of 48 and 60 months. The majority of female children with wasting (35.7%) were between the ages of 6 and 11 months. Merely 16.7% of females between 24 and 35 months old were underweight. The females in the 12- to 23-month-old age group exhibited the lowest proportion (33.3%) of stunting. In the 36-47 month age range, just 10% of infants were wasting

Table.2 Feeding habits of under five children

Sr. No	**Questions**		**N=175**
1	Have you ever given breast feeding	Yes	98.29
		No	1.14
2	With in how many hours have you started with breast feeding?	Half an hour to one hour after birth	12
		1-4 hours	87.43
		4-12 hours	0.57
3	Duration of exclusive breast feeding	1-3 month	37.04
		3-6 months	51.85
		6-12 months	11.11
4	Have you given any Pre lacteal feeding to the child	Yes	11
		No	89
5.1	Have you given any feeds other than breast feeding till 6 months of age?	Yes	77.24
		No	22.76
6	If yes, Which type of feeding did you give?	Formula feed	72.22
		Cow's milk	17.02
		Dal water	10.76
7	If yes, how did you give top feeding to your child till 6 months?	Feeding bottle	55.13
		Katori and spoon	43.59
		Sipper	1.28
8	At what age did you introduce complementary feeding to the child?	Less than 3 months	0.6
		4 - 6 months	14.47
		7 - 9 months	74.84
		10- 12 months	10.06

9	At the beginning of Complementary feeding, what was the consistency have you chosen?	Liquid	76.1
		Semisolid	18.87
		Solid	3.77
10	What type of foods have you introduced at the beginning of complementary feeding?	Dal water	43.40
		Dal khichdi	26.42
		Sweet suji	13.84
		Egg	6.92

According to the findings, 98.29% of women breastfed their children. Most of the mothers (87.43%) initiated breastfeeding one to four hours after giving birth. 51.85% of mothers exclusively breastfed their children for the first six months. For six to twelve months, 11.11% of mothers exclusively breastfed their children. After birth, 89% of children did not receive any pre lacteal feeding. Until the age of six months, about 77.24 percent of children were fed formula, either with or without breast milk. 55.12% of mothers used feeding bottles to top-feed their children. 43.59% of children were fed with a spoon and katori. The vast majority of mothers (74.84%) started complementary feeding children between the ages of 7-9 months. Mothers (10.06%) who started complementary feeding between 10 and 12 months exist. Almost 76.1% of children received the complementary food in liquid form. The majority of mothers (43.40%) give their children dal water as their first food.

Discussion and Conclusion

69.3% of the underweight children in the current study were between the ages of 12- and 23 months. Similar research by Kumar R, Abbas F, et al. to determine the prevalence and causes of underweight children provides support for these findings. According to the research, children between the ages of 12 and 23 months are more likely than those under the age of one to be underweight. The results of the current study showed that male children (57.8%) had a higher percentage of stunting than female children (41.2%). A study by Kasajja, M., Nabiwemba, E., Wamani, H. et al. came to a similar conclusion, concluding that stunting is more common in males than in females and is most prevalent between the ages of 12-47 months. Cognitive problems and a number of communicable and non-communicable disorders can result from stunting. To improve the optimal health of children under five, community education programs should be undertaken in rural and tribal areas. The majority of the male children (31.3%) who had displayed wasting were babies between the ages of 6 and 11 months. In a study conducted by Tuhinur R.et al concluded that the proportion of male children wasted (13.1%) was substantially higher than the proportion of female children who were wasted (9.5%).

According to the present study findings, 51.85% of mothers exclusively breastfed their children for the first six months. This finding has a close similarity with the study conducted by Haseena

C. et al. substantiated that about 55% of the children (0–5 months) were exclusively breastfed in India. 55.12% of mothers used feeding bottles to top-feed their children in the present study. This finding is supported by a study conducted by Rathaur. V. et al which showed that 53.33% infants were partially or fully bottle fed.[17] Almost 76.1% of children received the complementary food in liquid form in the present study. Another study is giving a contradictory finding which showed that only 36.4% of children were given complementary food in liquid consistency. This difference in the study findings may be due to the fact that majority (49.19%) of the mothers in this present study were illiterate. [18]

Conclusion

Infant and young child feeding awareness programmes should be organized and conducted among underprivileged tribal population. Home visits as a follow up for these activities are mandatory to identify the improvement in the child feeding practices. Anganwadi workers, ASHA workers, health workers, medical officers, NGOs and other local leaders must be encouraged to take an active part in such campaigns.

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