



Research Article

A descriptive study to assess malnutrition among the preschool (3 to 5 years) children in rural community at wavanje village

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Abstract

Objective: To assess the nutritional status of children in age group between 3-5 years. **Methodology:** The descriptive survey study was conducted in the rural community of Wavanje village, Panvel, District Raigad, Maharashtra. Total 100 subjects were randomly selected. Data collection was done using a pre-designed and pre-tested questionnaire. The participants were subjected to anthropometry (weight, height and Mid Upper Arm Circumference (MUAC)) measurements following standard technique. BMI and other parameters were also assessed; the data thus obtained and were analyzed. **Results:** It was observed that out of 100 subjects, 51 (53%) were male and 49 (47%) were female. The occupation statuses of parents were 25% in-service, 20% business, and remaining 55% were farmers and brick makers. The education status of parents: most of the fathers (28 %) were educated up to SSC and 18% were illiterate. Considering the mothers, 30% were illiterate and only 20% were educated up to eighth standard, which indicated that the lack of knowledge in child care and nutrition resulting in malnutrition. After analyzing the anthropometrical data, it was found that malnutrition was more prevalent among boys; belonging to the age of 5 years and in girls belonging to the age of 5 years as compared to the other children in the age group 3 to 5 years due to increase in the activities and reduced intake of nutrition that ultimately affects the growth and development. According to the Indian Academy of Pediatrics (IAP) classification the prevalence of Grade I malnutrition was 47.10%, Grade II was 20.50% and Grade III and IV were 32.40%. **Conclusion:** Most of the children were underweight and malnourished, well planned nutritional strategies to be made for school rehabilitation for prevention of malnutrition among school children.

Key words: Malnutrition, preschool children, rural community

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Introduction

Malnutrition is a broad term which refers to both under nutrition (sub nutrition) and over nutrition. Individuals are malnourished, or suffer from under nutrition if their diet does not provide them with adequate calories and protein for maintenance and growth, or they cannot fully utilize the food they eat due to illness. [1] India is a home to more than one billion people, of which 42 per cent are children. More broadly, malnutrition in India is in a state of silent emergency and thereby demands greater priority than ever before. The nutritional status of population is

therefore critical to the development and well being of the nation (National Nutrition Policy, 1993 Government of India). [2] The present status of malnutrition in India is that a devastating half of all the newborns are malnourished and 30 per cent are born underweight making them more vulnerable to further malnutrition and diseases. [3]

According to the World Health Organization (WHO), malnutrition is the gravest single threat to global public health. The requirement of different food stuff e.g. protein, fat, carbohydrate, minerals and vitamins are essential in proper ratio for adequate growth and nutrition. Malnutrition continues to be highly prevalent in India. But

it is erroneous to say that the root cause of all nutritional deficiencies is food shortage. Many at times, deficiency disorders occur as a result of aberrant food habits, prejudices, taboos, food fads and so on. Much can be done to rectify these through nutrition education. [4]

In India 47% of all children below 3 years of age are undernourished. National Family Health Survey data highlights the critical period when growth faltering occurs to be six months to 2 years. About 50-60% of children are reported to be undernourished. [5] The present descriptive study was based on the objective: to assess the malnutrition among the preschooler children in rural community at Wavanje village.

Research Statement

A descriptive study to assess malnutrition among the pre-school (3 to 5 years) children in rural community at Wavanje village.

Objectives

1. To assess the physical measurement of selected subjects.
2. To assess the nutritional status of children in age group between 3-5 years.
3. To assess the malnutrition on the basis of anthropometric values.

The study will help us to assess the level of malnutrition and to plan the preventive measures of malnutrition in the community.

Research design: The descriptive survey design was used for this study.

Setting of the study: The proposed study was conducted in the rural community of Wavanje village.

Population: Children of age group 3-5 years in the rural community of Wavanjae village.

Sample size: 100 subjects

Sampling technique: Random sampling

Data collection technique and tool

Data-collection techniques allow us to systematically collect information about our objects of study (people, objects, and

phenomenon) and about the settings in which they occur. Assessment tool consist of

Section I- Demographic data

Section II- Physical examination and nutritional assessment.

Analysis and interpretation of data

The collected data was tabulated, analyzed, organized, interpreted and presented using descriptive and inferential statistics. The findings were presented under the following headings:

Section I

Demography of the subjects

The data showed that 53% of the participants were male and 47% of subjects were female (fig 1). All subjects belonged to Hindu religion.

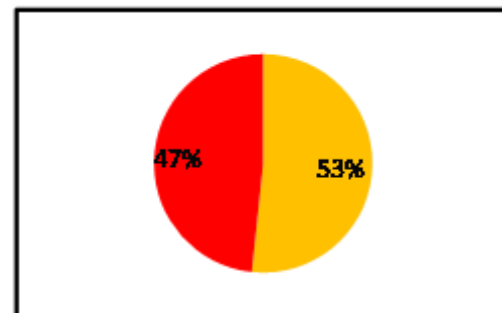


Fig 1. Gender-based distribution of subjects.

Occupation Status

The occupation statuses of parents were 25% in-service, 20% businessmen, and remaining 55% were farmers and brick makers (fig 2).

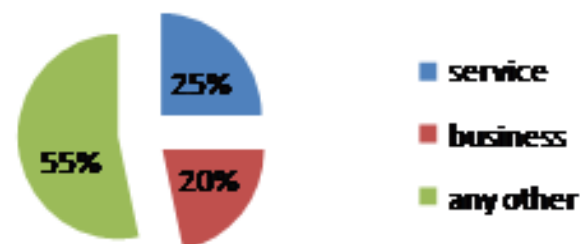


Fig 2. Occupation of Subjects' parents.

Education of Parents

Most of the subjects' fathers (28%) were educated up to SSC and 18% were illiterate. Considering the mothers, 30% were illiterate and only 20% were educated up to eighth standard, which indicated that the lack of knowledge in child care and nutrition resulting in malnutrition (fig 3).

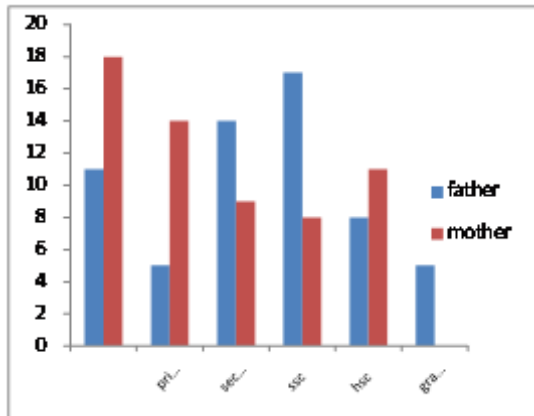


Fig 3. Education status of parents

Housing pattern

29% subjects resident in pucca house; 29% kucha house; 16% Bricks type and 26% cemented house (fig 4).

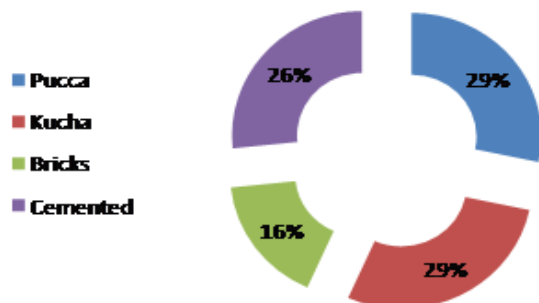


Fig 4. Housing pattern of subjects.

Food Habits

78% were non-vegetarian and remaining 22% were vegetarian (fig 5).

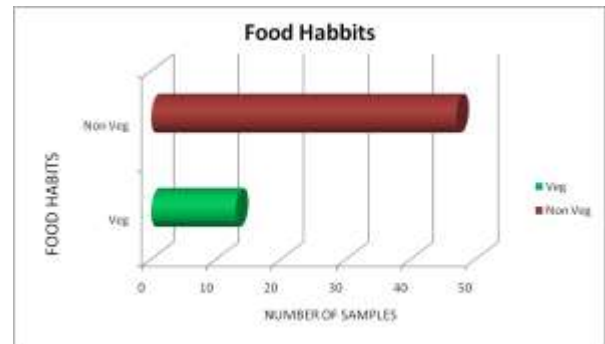


Fig 5. Food habits in subjects.

Section II

Anthropometric data

In anthropometrical data was analyzed mainly on three values. Weight for age, Height for age and BMI. The values were compared to the standard values from nutrient requirement and recommended dietary allowances for Indians, ICMR 1990 and WHO child growth standards.

After analyzing the anthropometrical data, it was found that malnutrition was more prevalent among boys; belonging to the age of 5 years and in girls belonging to the age of 5 years as compared to the other children in the age group 3 to 5 years, due to increase in the activities and reduced intake of nutrition that ultimately affects the growth and development.

Table 1. Weight for Age

Children		Ideal weight (kg)	Obtained weight (Kg)
3 year	Male	14.6	12
	Female	14.1	10.8
4 year	Male	16.7	13.44
	Female	16	13.3
5 year	Male	18.7	14.2
	female	17.5	15



Fig 6. Ideal and obtained weight in male subjects.

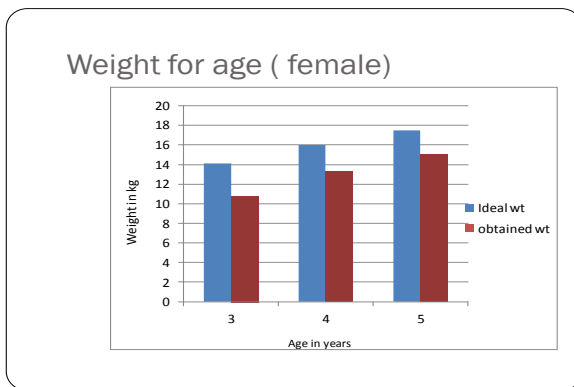


Fig 7. Ideal and obtained weight in female subjects.

Table 2. Height

Children		Ideal height (cm)	Obtained height (cm)
3 Year	Male	94.7	90.7
	Female	93.9	87.2
4 Year	Male	102.9	93.18
	Female	101.6	94.8
5 Year	Male	109.9	95.5
	Female	108	97.8

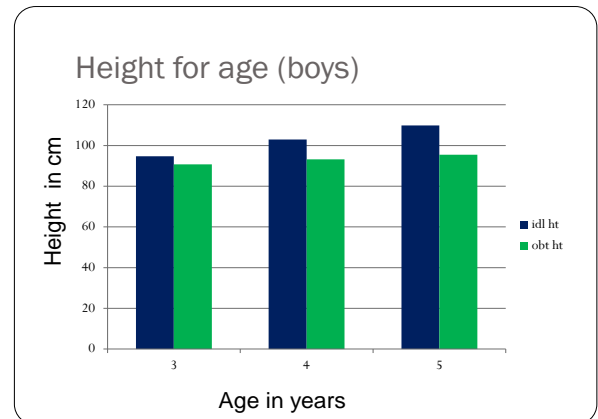


Fig 8. Height for age (Male).

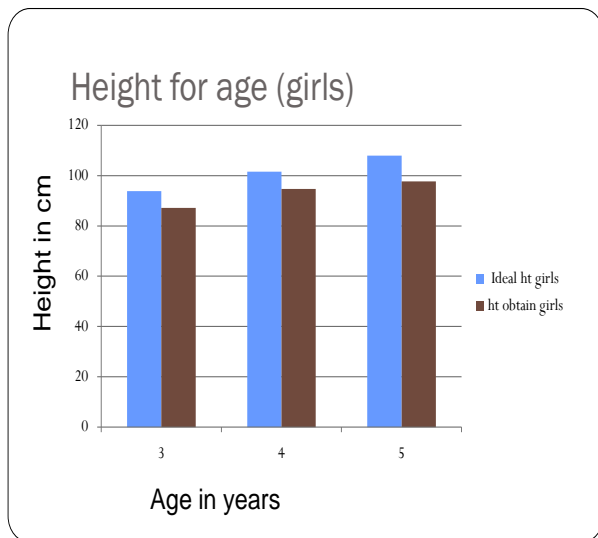


Fig 9. Height for Age (Girls).

Table 3. BMI

Children		Ideal MI	Obtained BMI
3 year	Male	13.9	13.9
	Female	14	13.6
4 year	Male	15.40	15
	Female	15.9	13.87
5 year	Male	18.69	14
	female	17.6	15.3

According to the Indian Academy of Pediatrics (IAP) classification the prevalence of Grade I malnutrition was 47.10%, Grade II was 20.50% and Grade III and IV were 32.40%).

Findings of the study:

The following are the major findings of the study based on the objectives

1. To assess the physical measurement of selected subjects.
2. To assess the nutritional status of children in age group between 3-5 years.
3. To assess the malnutrition on the basis of anthropometric values.

Section 'A': Demographic data

It was observed that out of 100 subjects, 51 (53%) were male and 49 (47%) were female. The occupation statuses of parents were 25% in-service, 20% business, and remaining 55% were farmers and brick makers. The education status of parents: most of the fathers (28 %) were educated up to SSC and 18% were illiterate. Considering the mothers, 30% were illiterate and only 20% were educated up to eighth standard, which indicated that the lack of knowledge in child care and nutrition resulting in malnutrition [6].

Section 'B' Nutritional status of children and anthropometric values

After analyzing the anthropometrical data, it was found that malnutrition was more prevalent among boys; belonging to the age of 5 years and in girls belonging to the age of 5 years as compared to the other children in the age group 3 to 5 years due to increase in the activities and reduced intake of nutrition that ultimately affects the growth and development. When the mean and percentage of anthropometric values compare to the Indian Academy of Pediatrics (IAP) classification the prevalence of Grade I malnutrition in the present study was 47.10%, Grade II was 20.50% and Grade III and IV were 32.40%). Thus the finding reveals that majority of the children were underweight and malnourished, well planned nutritional strategies to be made for school rehabilitation for prevention of malnutrition among school children [7].

Discussion

A cross sectional study was conducted on prevalence and determinants of chronic

malnutrition in Dhaka city Bangladesh. The sample comprised 380 randomly selected children. Results of analysis of this study data revealed that the prevalence of stunting among preschool children in Dhaka city was 39.5%, with 25% severely stunted and 14% moderately stunted ($p < 0.001$). Results of bivariate analysis revealed that socioeconomic and demographic factors were most significantly associated with the stunting of children.

In the present study it reveals that the occupation statuses of parents were 25% in-service, 20% business, and remaining 55% were farmers and brick makers. The education status of parents: most of the fathers (28 %) were educated up to SSC and 18% were illiterate. Considering the mothers, 30% were illiterate and only 20% were educated up to eighth standard, which indicated that the lack of knowledge in child care and nutrition resulting in malnutrition.

Conclusion

The findings of the present study, can be concluded that highest percentage of mothers education, 30% were illiterate and only 20% were educated up to eighth standard which indicated that the lack of knowledge in child care and nutrition resulting in malnutrition. Overall mean, SD and mean percentage revealed that mothers having average knowledge on malnutrition. Children were found to be well-nourished if their parents had a tertiary-level education or higher and if the mother held a job and had good knowledge of nutrition.

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. Economic growth and human development require well-nourished populations who can learn new skills, think critically and contribute to their communities. Child malnutrition impacts cognitive function and contributes to poverty through impeding individuals' ability to lead productive lives.

Implication:

The finding will help the nursing personal to estimate the prevalence and knowledge regarding malnutrition and how to tackle malnutrition in a particular geographical area.

Nursing Practice: Nursing personals working in the hospital and the community can utilize the finding to know the prevalence of malnutrition of pre-scholar children. Study finding will help the health personals (especially anganwadi workers) to plan health education programmes for mothers of pre-scholar children.

Nursing Education: The nurse can prepare the nursing students to educate mothers regarding knowledge on malnutrition and steps to prevent malnutrition. The Nursing students will be able to know the assessment pattern by using anthropometric measurements and how to assess the nutritional status by interview technique.

Nurses Research: The findings can be utilized for conducting research to assess knowledge and practice of nutritional food among mothers and providing nutritional related education and learning materials so that we can rule out malnutrition.

Recommendation:

1. A similar study can be undertaken with a large sample to generalize the findings.
2. Comparative studies can be done in various areas like urban, rural and tribal.
3. To assess what are the factors that contribute severe malnutrition at major districts in the state.
4. Effect of nutritional implementation program to improve nutritional status and growth and development of children under- five age group.
5. Therapeutic malnutrition program should be strengthen and expanded by ministry of health
6. For prevention of malnutrition, community based nutrition program should be established and implemented at all community levels and there should well trained man power
7. Since colostrums breastfeeding has many advantages such as; rich in vitamin 'A', help to intestinal mature

prevent to infection because it contains antibiotic in nature. Professional in the study should disseminate health information on importance of colostrum milk

Well planned nutritional strategies to be made for school rehabilitation for prevention of malnutrition among school children.

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