A STUDY TO ASSESS THE PREVELANCE OF MALNUTRITION AMONG CHILDREN BETWEEN 3-6 YEARS OF AGE GROUP IN SELECTED RURAL COMMUNITY

Kavita Chandrakar[1*]

[1] *Assistant Professor, Medical Surgical Nursing Dept.,Dayananda Sagar College Of Nursing Sciences, Karnataka, India*

ABSTRACT

Malnutrition is the most widespread condition affecting the health and growth of the children scantly at suitable foods, lack of purchasing economic power of the family as well as traditional belief and taboos about what the child should eat, often lead to an insufficient balanced diet resulting in malnutrition. Malnutrition makes the child more susceptible towards infection recovery show and mortality is higher. Undernourished children do not grow to their full potential or standard growth. It also manifest by clinical sign of micronutrient and vitamin deficiencies. Prevention and appropriate treatment of diarrhea, measles and other infection in infancy and early childhood are important to reduce malnutrition. A descriptive study to assess the prevalence of malnutrition among children between 3-6 years of age group in selected rural community was conducted with objectives to evaluate measurement {weight, height, mid-arm circumference, head circumference, chest circumference}. To determine association between malnutrition status of the children with selected socio-demographic variables. The present study showed that all demographic variables are accordingly distributed. There was a significant relationship between age, type of family, sex & dietary pattern socio demographic variables. There were 18(36%) were suffered from severe malnutrition, 17 (34%) from moderate malnutrition & 15(30%) were from mild malnutrition. There is a need of improvement of dietary pattern & awareness among parents regarding malnutrition & its complications.

Keyword: *Malnutrition, Children, under nutrition*

1. INTRODUCTION

Adequate nutrition is essential for healthy growth and development during childhood.[1] Malnutrition refers a pathological state resulting from relative or absolute deficiency or excess of one or more essential nutrients.[2] Indeed, malnutrition is considered as one of the most important public health and health policy issues in the world. Malnutrition is a condition causing adverse effects on body form or performance and clinical outcomes due to a deficiency or imbalance of energy, proteins, and other nutrients [3].The anthropometric indicators comprises of wasting, stunting, and underweight, which are commonly used to measure under nutrition in a population of under-five children [4]. According to the World Health Organization (WHO), wasting, stunting, and underweight are defined as *Z*-scores less than -2 standard deviations of weight for height, height for age, and weight for age, respectively.[5] Well developed, intellectually competent and sound children are the strongest resources that we have. Their development can only be possible through proper education, quality nutrition and proper safeguard of their right but the shocking situation is that bright future of the nation is vanishing day by day due to improper care, unavailability of food and therefore the live with the burden of many diseases [6]. The complex cause of childhood malnutrition basically is a multifactorial process and is associated to many socioeconomic and sociodemographic factors.[7] So, now its time to awake, get ready to fight with the unexpected enemies like diseases and poverty with the weapons of knowledge, skill and therapeutic care. The investigator has experience of working in the rural community of Uttai, Bhilai Chhattisgarh. During her academic experience, she found that people of this community belong to low economic class, has large family size and is less literate. According to the statistical data of Uttai, children have growth retardation and fewer children attend anganwadi. Moreover, the investigator could not locate any study conducted in Uttai region of Bhilai related to malnutritional problem among the pre-school children.

2. MATERIALS & METHODS:

The research approach of study was descriptive survey in nature. This approach implies natural observation of characteristics of the research subject without deliberate manipulation of the variable or control over research setting. The target population is the study includes all the children between 3-6 yrs of age group residing in Uttai Bhilai. There are 6 aganwadi in the village where children of 3-6 yrs go for study & there is 1 govt school. They provide facility for midday meal. The sample of the present study consists of 50 children of the age group between 3-5 years. Informed consent was obtained from all mothers who were willing to participate in study. Explanation was given regarding the purpose of study, permission from higher authorities were obtained. It deals with Socio-demographic data of children regarding age, gender, age of the mother, religion, cast, educational status of father & mother, occupational status of father & mother, type of family, dietary pattern, order of child, gap of child with other children, family monthly income. It deals with question regarding anthropometry assessment (BMI).i.e. assessing weight with weighing machine height, head circumference, chest circumference, mid arm circumference; with the help of measuring tape respectively Data obtained was analyzed in terms of objectives & by using both descriptive & inferential statistics.

3. RESULTS & DISCUSSION:

Analysis refers to a number of closely related operations which are performed with the purpose of summarizing the collected data & organization of data in such a manner that they answer the research question.
The data collected through the structured interview schedule were analyzed to provide substantive summary of results. The analyzed sections data has been organized & presented in the following section:-

3.1. SECTION: A-Distribution of study subjects according to socio-demographic variables using frequency and percentage.

TABLE-1: SOCIO-DEMOGRAPHIC PROFILE OF SUBJECTS

N=50

ITEMS	FREQUENCY(f)	PERCENTAGE (%)
AGE:		
3yr	21	42
4yr	15	30
5yr	12	24
6yr	2	4
GENDER:		
Male	22	44
Female	28	56
RELIGION:		
Hindu	50	100
Muslim	0	0
Sikh	0	0
Christian	0	0
CASTE:		
General	16	32
SC	15	30
ST	6	12
OBC	13	26
EDUCATIONAL STATUS OF FATHER:		
Primary	13	26
Middle	21	42
Secondary	11	22
Higher sec.	4	8
EDUCATIONAL STATUS OF MOTHER:		
Primary	17	34
Middle	25	50

Secondary	6	12
Higher sec.	0	0
Illitreate	2	4
OCCUPATIONAL STATUS OF FATHER:		
Govt	0	0
Labour	32	64
Self employed	16	32
Non-working	2	4
OCCUPATIONAL STATUS OF MOTHER:		
Govt.	0	0
Labour	27	54
Self employed	10	20
Nonworking	13	26
TYPE OF FAMILY:		
Joint	25	50
Nuclear	25	50
TYPE OF DIET:		
Veg	14	28
Non veg	36	72
ORDER OF CHILD:		
1st	19	38
2nd	16	32
3rd	14	28
Above 3rd	1	2
GAP OF CHILD:		
Below 2yr	7	14
2yr	11	22
Above 2yr	22	44
Not applicable	10	20
FAMILY MONTHLY INCOME:		
Above 3000/-	15	30
3000-5000/-	28	56
5000-7000/-	5	10
Above 7000/-	2	20

3.2. SECTION: B- Analysis for nutritional assessment by anthropometric measurements

TABLE: 2-PERCENTAGE ANALYSIS OF NUTRITIONAL ASSESSMENT IN TERMS OF WEIGHT

N=50

WEIGHT	CLASS INTERVAL	FREQUENCY(f)	PERCENTAGE (%)
	11--13	12	57.2
3yr/ (N-14.6 kg)	13.1--15	9	42.8
Total		21	100
4yr	12--14	12	80
(N-16.1kg)	14.1--16	3	20
Total		15	100
5yr	11--13.5	2	16.7
(N-18.7 kg)	13.6--16	10	83.3
Total		12	100
6yr	9--13.5	1	50
(N-20.2kg)	13.6--18	1	50
Total		2	100

Table: 2 depicts that 21 belonging to 3 yrs,15 belonging to 4yrs, 12 belongings to 5yrs & 2 belongings to 6yrs were having less weight than normal.

TABLE: 3-PERCENTAGE ANALYSIS OF NUTRITIONAL ASSESSMENT IN TERMS OF HEIGHT

N=50

HEIGHT	CLASS INTERVAL	FREQUENCY(f)	PERCENTAGE (%)
3YR	75.5--87.2	5	23.8
(N-94.9cm)	87.3--99	16	76.2
Total		21	100
4yr	84--97	11	73.4
(N-102.9cm)	98--110	4	26.6
Total		15	100
5yr	90--99	8	66.6
(N-109.9cm)	100--108	4	33.4
Total		12	100
6yr	68--86.5	1	50
(N-115.1cm)	86.6--105	1	50
Total		2	100

Table: 3 depicts that 21 belonging to 3 yrs,15 belonging to 4yrs ,12 belongings to 5yrs & 2 to 6yrs were having less height than normal.

TABLE: 4-PERCENTAGE ANALYSIS OF NUTRITIONAL ASSESSMENT IN TERMS OF HEAD CIRCUMFERENCE:

HEAD CIRCUMFERENCE	CLASS INTERVAL	FREQUENCY	PERCENTAGE
3yr	45--47.5	14	66.6
	47.6--50	7	33.4
Total		21	100
4yr	42--46.5	2	13.4
	46.6--51	13	86.6
Total		15	100
5yr	46--48	6	50
	49--50	6	50
Total		12	100
6yr	46--50	2	100

Table: 4 depicts that 21 children belonging to 3 yrs, 15 belonging to 4 yrs ,12 belonging to 5 yrs & 2 belongings to 6 yrs were having less head circumference than normal.

TABLE: 4-PERCENTAGE ANALYSIS OF NUTRITIONAL ASSESSMENT IN TERMS OF CHEST CIRCUMFERENCE:

CHEST CIRCUMFERENCE	CLASS INTERVAL	FREQUENCY	PERCENTAGE
3YR	43--47.5	2	9.53
	47.6--52	19	90.47
Total		21	100
4yr	47--51	8	53.4
	52--55	7	46.6
Total		15	100
5yr	49-51.5	7	58.34

	51.6--54	5	41.66
Total		12	100
6yr	48--50	1	50
	51--52	1	50
Total		2	100

Table: 5 depicts that 21 children belongs to 3 yrs that were having less than normal chest circumference,15 belongs to 4 yr, 12 to 5 yrs & 2 to 6 yrs.

TABLE: 5-PERCENTAGE ANALYSIS OF NUTRITIONAL ASSESSMENT IN TERMS OF MIDARM CIRCUMFERENCE:

MIDARM CIRCUMFERENCE	CLASS INTERVAL	FREQUENCY	PERCENTAGE
3yr	13--15	12	57.2
	15.1--17	9	42.86
Total		21	100
4yr	14--16.5	10	66.7
	16.6--19	5	33.4
Total		15	100
5yr	14--15.5	9	75
	15.6--17	3	25
Total		12	100
6yr	14--15.5	1	50
	15.6--17	1	50
Total		2	100

Table:5 depicts that 21 children belonging to 3 ysr,15 were in age group of 4yrs.12 were in age group of 5 yrs & 2 were in age group of 6 yrs were having less than normal mid arm circumference.

TABLE: 6-DISTRIBUTION OF SUBJECTS ACCORDING TO SEVERITY OF MALNUTRITION:

N=50

Malnutrition Criteria	No. of children	Percentage (%)
Severe	18	36
Moderate	17	34
Mild	15	30

TABLE: 6 depicts that 18(36%) were suffered from severe malnutrition, 17 (34%) from moderate malnutrition & 15(30%) were from mild malnutrition.

3.3. SECTION: B- ASSOCIATION BETWEEN MALNUTRITION & SOCIODEMOGRAPHIC VARIABLES:

N=50

S.NO	SOCIO DEMOGRAPHIC VARIABLE	TABLE VALUE	DEGREE OF FREEDOM	CHI SQUARE VALUE	LEVEL OF SIGNIFICANCE	INFERENCE
1	AGE OF CHILD	16.92	9	17.52	0.05	**SIGNIFICANT**
2	GENDER OF CHILD	16.92	9	18.54	0.05	**SIGNIFICANT**
3	RELIGION OF	7.82	3	13.48	0.05	NON

	CHILD					SIGNIFICANT
4	OCCUPATIONAL STATUS OF FATHER	7.82	3	5.117	0.05	NON SIGNIFICANT
5	OCCUPATIONAL STATUS OF MOTHER	7.82	3	6.48	0.05	NON SIGNIFICANT
6	EDUCATIONAL STATUS OF FATHER	7.82	3	13.48	0.05	NON SIGNIFICANT
7	DIETARY PATTERN	12.59	6	13.48	0.05	**SIGNIFICANT**
8	ORDER OF CHILD	16.92	9	13.45	0.05	NON SIGNIFICANT
9	GAP OF CHILD	12.59	6	11.23	0.05	NON SIGNIFICANT
10	ORDER OF CHILD	12.59	6	12.12	0.05	NON SIGNIFICANT
11	TYPE OF FAMILY	7.82	3	8.89	0.05	**SIGNIFICANT**
12	FAMILY MONTHLY INCOME	16.92	9	15.98	0.05	NON SIGNIFICANT

Table: 7 shows that there is association between malnutrition status & socio-demographic variables like age of child, gender, type of family & dietary pattern. On the other hand, there is no association between malnutrition & demographic variables like order of child, gap of child, family monthly income, educational status of father & mother, religion of child. The results were supported by study conducted in Northern Ethiopia where the researcher found 16.2% (95% CI: 13.8–18.8%), 43.1%(95% CI: 39.8–46.5%) and 24.8% (95% CI: 21.9–27.8%) of the under-five children were wasted, stunted and underweight, respectively in the study area, which were found to be very high according to WHO classification[8].

4. IMPLICATIONS:

4.1. NURSING EDUCATION: Good nutrition is the material basis for human resource development of a country or a community; nutrition is an issue of survival, health and development for current and succeeding generation. The education sector should include nutrition in all its formal and non-formal activities. The nursing personnel should be taught importance of balanced diet in the proper growth and development of the body from the beginning. They should be provided with learning experiences in planning and organizing health education programs on prevention and management of nutritional deficiency disease. They should be taught methods of assessing malnutrition status.

4.2. NURSING PRACTICE: Community health nurses should create awareness among mothers having 3-6 years of age regarding nutrition & prevention of nutritional deficiency diseases. Growth monitoring should be taught to mother & this can be achieved by weighing the child regularly & plotting the weight on the health card. If the child is having malnutrition, the mothers are taught & advised to provide additional & protein rich diet every day.

4.3. NURSING ADMINISTRATION: Nursing professionals should be able to render services according to the changing needs of the society.In context of technological changes & knowledge exposure the nurse administrator should take responsibilities to update the knowledge of nursing staff. Administrator should organize in-service education programs regarding malnutrition assessment of children & should impart knowledge about nutritional requirements of children.

4.4. NURSING RESEARCH: The researcher must conduct studies in urban & rural areas as a whole for taking preventive measures for early detection & diagnosis of nutritional diseases & thus reducing the child mortality & morbidity rates in India.

5. CONCLUSION:

The present study showed that all demographic variables are accordingly distributed. There was a significant association between age type of family, gender & dietary pattern socio demographic variables. There were 18(36%) were suffered from severe malnutrition, 17 (34%) from moderate malnutrition & 15(30%) were from mild malnutrition. Hence, there is a need of improvement of dietary pattern & awareness among parents regarding malnutrition & its complications. Thus by Strengthening public health interventions for mild malnutrition cases among the vulnerable groups with a focus on socioeconomic development and its etiological factors in the country are the prerequisites required to tackle malnutrition among under-five children.

6. REFERENCES:

1. R. E. Black, L. H. Allen, Z. A. Bhutta et al., "Maternal and child under nutrition: Global and Regional exposures and health consequences," pp. 243–260, 2008.
2. M. Pavani Varma and K. S. V. Prasad, "Malnutrition and its related factors among children 0–5 years in rural Shamirpet mandal, Ranga Reddy district, India," International Journal of Bioassays, vol. 6, no. 4, pp. 5340–5342, 2017.
3. Stratton RJ, Green CJ, Elia M. Disease-Related Malnutrition: An Evidence-Based Approach to Treatment. Wallingford, UK: Cabi; 2003.
4. Y. K. Zemenu, B. Tsigereda, M. Alemu, T. Mesfine, and Y. Sintayehu, "Malnutrition and associated factors among under five children at Shashemene referral hospital, West Arsi zone, Oromia, Ethiopia," Current Pediatric Research, vol. 21, no. 1, pp. 172–180, 2017.
5. World Health Organization and UNICEF, WHO Child Growth Standards and the Identification of Severe Acute Malnutrition in Infants and Children: Joint Statement by the World Health Organization and the United Nations Children's Fund, World Health Organization, Geneva, Switzerland, 2009
6. Park K. Health care of the community. In: Park K, editor. Park's Textbook of Preventive and Social Medicine. 21st ed. Jabalpur: Bhanot Publications; 2011. p. 830-1
7. Jamsiah Mustafa, Syed Aljunid,1,2 Zaleha Md. Isa, and Mohammed A. Abdalqader," Malnutrition among 3 to 5 Years Old Children in Baghdad City, Iraq: A Cross-sectional Study Journal of health Population Nutrition. 2013 Sep; 31(3): 350–355.
8. B. M. Yalew, F. Amsalu, and D. Bikes, "Prevalence and factors associated with stunting, underweight and wasting: a community based cross sectional study among children age 6–59 months at Lalibela town, Northern Ethiopia," *Journal of Nutritional Disorders & Therapy*, vol. 4, no. 2, p. 147, 2014.