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Assess The Degree Of Malnutrition And Associate The Sociodemographic Factors Among Under Five Children In Selected Rural Community

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ABSTRACT

Nutrition plays an important role in the physical, mental and emotional development of a child. Infants and pre-school children are the most vulnerable group. Children are the first priority in human resource development for several reasons: Young children are the most vulnerable, requiring special care and protection. The early years lay the groundwork for cognitive, social, emotional, physical, and motor development. Investing in early childhood development is crucial for the economic growth and development of any nation. Early childhood is a critical period when the foundation for life-long learning and development is laid. In essence, investing in young children is a crucial investment in the future of a nation. The main aim of the study is to assess the nutritional status among under five children. And associate the nutritional status among under five children and their demographic variables. A quantitative approach was used. This study sample consists of 100 under five children who fulfilled the inclusive criteria were selected by purposive sampling technique. A structured questionnaire and physical assessment method were used for data collection. The experts in the field of nursing and biostatistician were done content validity of tools. The data were analyzed in the form of descriptive and inferential statistics. The findings revealed that 32% children in the first degree of malnutrition , 29% children in the second degree malnutrition and 4% children in the third degree malnutrition. 35% are normal. This study remained that periodical nutritional education and regular monitoring of nutritional status of the under five child.

Keywords: *Nutritional Status, Under Five Children, Rural Community.*

1. INTRODUCTION

India is the home to the largest child population in the world. "The development of children is the priority on the country's development agenda, not because they are the most vulnerable, but because they are our supreme assess and also the future human resources of the country". In these words. our tenth-five year plan (2002-2007) underlines the fact that the future of India lies in the future of Indian children.

It is recognized that the period from birth to 2 years of age is a Critical window" for the promotion of optimal growth, health and cognitive development. UNICEF had pointed out that malnutrition is the biggest and single cause of Infant and child mortality. Malnutrition is largely by product of poverty ignorance, insufficient education and large family size. These factors influence most directly the quality of life and the world stat determinants of Malnutrition in society.

It is well established that nutritional status is major determinant of the health and wellbeing among children and there is no doubt regarding the importance of the study of child's Nutritional status according to spatial and temporal dimension. Developing country like India, accounts for about 40% of under nourished children in the world and it is largely due to the result of dietary inadequacy in relation to their needs in the light of the above, the assessment of nutritional status of an individual or population. Anthropometry is widely recognized as one of the useful techniques. because it is highly sensitive to detect under nutrition Malnutrition encompasses various conditions, including undernutrition (wasting, stunting, underweight), micronutrient deficiencies, overweight, and obesity, along with diet-related noncommunicable diseases. In 2022, approximately 2.5 billion adults were classified as overweight, with 890 million experiencing obesity, while 390 million were underweight. Among children under 5, 149 million were stunted, 45 million were wasted, and 37 million were overweight or obese. Nearly half of child mortality in this age group is attributed to undernutrition, predominantly in low- and middle-income countries. The consequences of malnutrition are profound, affecting individual development, economic stability, social structures, and public health on a community and national level.WHO-2024 [1].

The prevalence of undernutrition and associated factors among children under 5 years of age in Lhaviyani Atoll, Maldives. A total of 800 children (under 5 years old) and their mothers were selected for this study. The prevalence of undernutrition based on underweight (10.75%), stunting (13.5%), and wasting (9.60%) was estimated to be 23.85% among children. Child age, gender and mother's education were significantly associated with undernutrition ($P<0.05$). Our survey highlighted that better nutritional interventions are needed to improve child health in this region. Asra M [1] , Lin X [1] et. al,[2]. a need for effective use of knowledge gained through studies to address undernutrition, especially because it impedes the socio-economic development of the country. These findings may provide useful lessons for other developing countries that are working towards reducing child malnutrition in their settings Jitendra Naraya et.al(2019)[3].

Reported the burden of under-nutrition and over-nutrition, its determinants and strategies required to tackle malnutrition among under-five children in India. Existing evidence shows that the prevalence of under-nutrition among under-five children was high and varied widely (under-weight: 39-75%, stunting: 15.4-74%, wasting: 10.6-42.3%) depending on the assessment methodology adopted. at regional level, research on overweight, obesity and its etiological factors and steps for improving socioeconomic development are the prerequisites for tackling malnutrition among under-five children in India Swaroop Kumar Sahu et. al,(2015)[4].

determine the prevalence and socio-demographic determinants of malnutrition among under-5 years old children in Mandla district. The findings of the present study revealed the widespread prevalence of undernutrition among under-5-year-old children. Data show that 51.81% of children under 5 years of age are underweight, 46.74% are stunted, and 24.72% are wasted in our study area, which is much higher than national figures and highlights the need for an integrated approach toward improving child health as well as nutritional status in this area Swati saral et. al,(2023)[5].

2. MATERIALS AND METHODS

A quantitative approach and cross sectional survey was used. Sample were selected by purposive sampling technique.. Study was conducted at Mamandur, kancheepuram District. Permission was asked from each family of children and examination was done. Target population of this study is entire summation of the children belonging to age group of 0-5 (under-five children) residing at the Mamandur ,Kancheepuram District. The study sample comprises the children who fulfil the inclusion criteria in selected Mamandur village, kancheepuram District. Sample size consists of 100 children (male-44, female-56) Children between 0-5 years of age and Parent who are all willing to participate were included in this study. Children with any chronic illness were excluded . The experts in the field of nursing and biostatistician were done content validity of tools. Self administered structured questionnaire to assess, demographic variables such as age in child, sex, religion, type of family, family monthly income, number of children, education status of parents, occupation. Malnutrition was assessed based on weight calculation. It locates the child on the basis of his or her weight in comparison with a normal child of same age by the malnutrition formula. Scoring interpretation is done based on Gomez Classification is interpreted formula by weight of the child by weight of normal child of same age, it is assessed by 90-100% revels normal nutritional status, between 75-895% revels 1" degree or mild malnutrition, between 60-74 % was 2nd degree or moderate malnutrition and under 60% was 3 rd degree or severe Malnutrition. The investigator had collected data for four weeks in Mamandur village, before conducting

data collection, formal approval was taken from the authorities of village and consent from their parents. The data were analyzed in the form of descriptive and inferential statistics.

3. FINDINGS OF THE STUDY

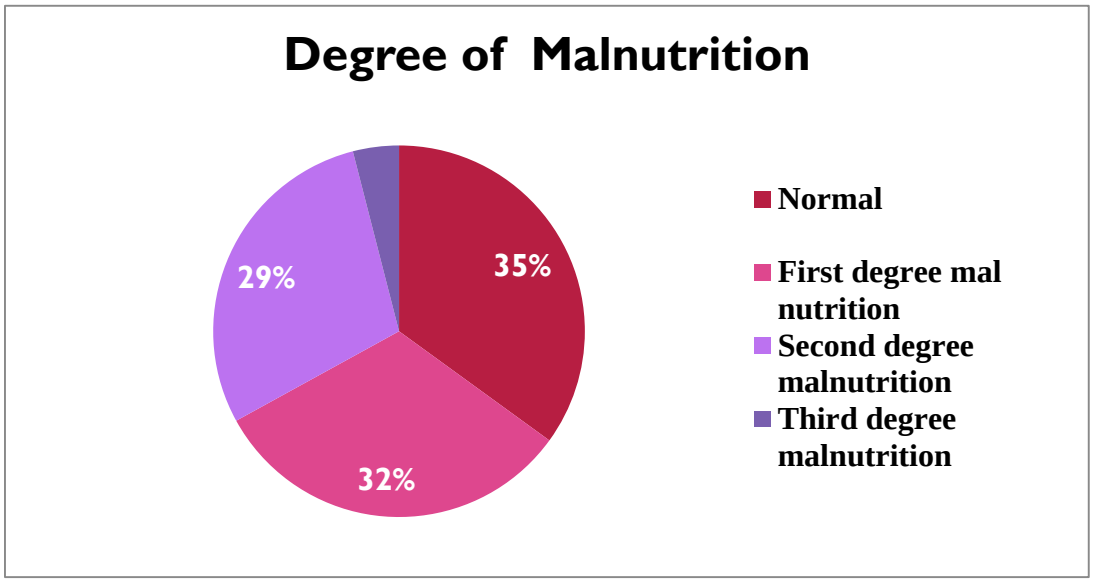
Table 1: Frequency and percentage distribution of demographic variables of under five children n=100

Demographic variables		Distribution	Distribution
Age	<1 year	11	11
	1 year	30	30
	2-3 years	30	30
	4-5 year	29	29
Sex	Male	44	44
	Female	56	56
Religion	Hindu	64	64
	Christian	30	30
	Muslims	16	16
Type of family	Nuclear	70	70
	Joint	30	30
Family income	<1000	0	0
	1000-5000	70	70
	5000-10000	30	30
No. of children	1 child	45	45
	2 children	55	55
Occupation	Professional	25	25
	Semi professional	30	30
	Clerical	25	25
	Skilled worker	20	20
Education of father	Primary	0	0
	Secondary	50	50
	Graduates	50	50
	playing	80	80

Table:2 Frequancy and percentage distribution of Levels of malnutrition and their demographic variables among under five children N=100

Nutritional status of under 5 year children									
Demographic variables		**Normal**		**First Degree**		**Second Degree**		**Third Degree**	
		n.	%	n.	%	n.	%	n.	%
Age	<1 year	5	14.3	6	18.8	0	0	0	0
	1 year	15	42.8	0	0	15	51.7	0	0
	2-3 years	5	14.3	17	53.1	8	27.6	0	0
	4-5 year	10	28.6	9	28.1	6	20.7	4	100
Sex	Male	20	57.1	15	46.9	9	31	0	0
	Female	15	42.9	17	53.1	20	69	4	100
Religion	Hindu	15	42.8	26	81.3	19	65.5	4	100
	Christian	15	42.8	5	15.6	10	34.5	0	0
	Muslims	5	14.3	1	3.1	0	0	0	0
Type of family	Nuclear	20	57.1	16	50	29	100	4	100
	Joint	15	42.9	16	50	0	0	0	0
Family income	1000-5000	30	85.7	12	37.5	24	82.8	4	100
	5000- 10000	5	14.3	20	62.5	5	17.2	0	0
No. of children	One	15	42.9	15	46.9	15	51.7	0	0
	Two	20	57.1	17	51.1	14	48.3	4	100
Education of father	Primary	0	0	0	0	0	0	0	0
	Secondary	10	28.6	21	65.6	19	65.1	0	0
	Graduates	25	71.4	11	34.4	10	34.9	4	100
Occupation	Professional	10	28.6	6	18.8	9	31	0	0
	Semi professional	10	28.6	5	15.6	11	37.9	4	100
	Clerical	5	14.3	15	46.9	5	17.2	0	0
	Skilled worker	10	28.6	6	18.8	4	13.8	0	0

1. LEVEL OF MAL NUTRITION OF UNDER FIVE CHILDREN IN SELECTED COMMUNITY



The above table 2 reveals that 32 (32%) children are in the first degree of malnutrition; 29 (29%) children are in the second degree of malnutrition and 4 (4%) are in the third degree of malnutrition. 35 (35%) are normal.

Table 3 shows association between degrees of nutritional status of under five children and with their demographic variables. N=100

Nutritional status						
		Normal	First degree	Second degree	Third degree	Chi-square X^2 test
Age	<1 year	5	6	0	0	X^2=40.50 P>0.05*
	1 year	10	0	15	0	
	2-3 years	5	17	8	0	
	4-5 year	10	9	6	4	
Gender	Male	20	15	9	0	X^2=7.68 P>**0.053***
	Female	15	17	20	4	
Religion	Hindu	15	26	19	4	X^2=16.78 P>0.01*
	Christian	15	5	10	0	
	Muslims	5	1	0	0	
Type of family	Nuclear	20	16	29	4	X^2=17.78 P>0.01*
	Joint	15	16	0	0	
Family income	1000-5000	30	12	24	4	X^2=24.17 P>0.05*
	5000-10000	5	20	5	0	
No. of children	1 child	15	15	15	0	X^2=3.91 P>0.271
	2 children	20	17	14	4	

Education of father	Secondary	10	21	19	0	X^2=16.35 P>0.001**
	Graduates	25	11	10	4	
Occupation	Professional	10	6	9	0	X^2=22.57 P>0.005**
	Semi professional	10	5	11	4	
	Clerical	5	15	5	0	
	Skilled worker	10	6	4	0	

The above table 3 reveals that is significant association between the degrees of malnutrition of under five children and their demographic variables of Age, gender. Religion, Type of family. Income of father, Education of father and Occupation of father. There is no association with respect to number of children.

4. DISCUSSION

The table 2. provides a detailed breakdown of demographic variables across four categories: Normal, First Degree, Second Degree, and Third Degree. Each category includes the number (n) and percentage (%) of individuals represented by age, sex, religion, family type, family income, number of children, educational attainment of fathers, and occupation.

Age Distribution:**<1 year**: The Normal and First Degree categories show a higher count (5 and 6, respectively), while there are no individuals in the other categories,.**1 year**: This age group is predominantly found in the Second Degree category (15 individuals making up 51.7%)., **2-3 years**: The First Degree category has the highest proportion (17, 53.1%), while the Second Degree also has a significant portion (8, 27.6%).. **4-5 years**: This group has participants only in the Third Degree category, with all (4, 100%) being within that range.Sex Distribution:**Male**: Dominant in Normal (20, 57.1%) and First Degree (15, 46.9%) categories but significantly less represented in Second Degree (9, 31%) and absent in Third Degree (0).**Female**: Higher representation in the Second Degree (20, 69%) and Third Degree (4, 100%), with a balanced representation in the Normal and First Degree categories. Religion Composition: **Hindu**: Predominantly represented in all categories, with the highest in First Degree (26, 81.3%).**Christian**: Notable percentage in the Normal category (15, 42.8%) but significantly reduced in First Degree (5, 15.6%).**Muslims**: Least represented with minimal numbers across all categories, limited to First Degree (1, 3.1%).Type of Family Structure: **Nuclear**: Significantly populated all categories (57.1% in Normal, 50% in First Degree, and 100% in Second and Third Degree).**Joint**: Balances out the Nuclear family in Normal and First Degree categories but not present in Second and Third Degree. Family Income:**1000-5000**: Dominantly represented in Normal (30, 85.7%) and Third Degree (4, 100%). **5000-10000**: Lower representation across categories, indicating a trend towards lower income families in Normal and higher income families in First Degree. Number of Children: Generally, families with **Two children** are relatively well represented across categories compared to families with **One child**, with a notable 100% in Third Degree. Education of Father: Higher education (Graduates) is notably present in Normal (25, 71.4%) indicating parents with better educational background compared to less educated fathers in Primary (0%) categories across all other levels. Occupation: Predominantly **Professional and Semi-Professional** vocations in Normal category (10 each, 28.6%), whereas **Clerical** and **Skilled Workers** are more common in First Degree, showing diversity in occupational background across categories.

The Nutritional Status Among Under Five .was revealed that 32 (32 %) children are in the first degree of malnutrition ; 29 (29 %) children are in the second degree of malnutrition and 4 (4 %) are in the third degree of malnutrition . 35 (35 %) are normal .**Tulsi Ram Bhandari * and MunirajChhetri (2023)** conducted a study to assess the nutritional status of under - five year children and to find out the factors associated with childhood malnutrition . Nutritional status of children is a proxy indicator for assessing the entire population health status and one of the major predictors of child survival . Despite the various efforts , malnutrition among children is remaining as a major public health problem in Nepal .

The Association Of Nutritional Status Among Under Five And Demographic Variables study found that was significant association between the degrees of malnutrition of under five children and their demographic variables of Age (P>0.05), Gender (P>**0.053)**. Religion (P>0.01) , Type of family (P>0.01), Income of father (P>0.05), Education of father (P>0.001) and Occupation of father (P>**0.005)** Hypothesis is not accepted . There is hypothesis accepted association with respect to number of children . A similar study conducted by **Tada Y et.al,** had conducted a study on nutritional status of the preschool children of the Klong Toey Slum , Thailand . Cross - sectional study to examine the nutritional status of children aged 1-5 years who live in the Klong Toey Slum Bangkok ; the factors related to nutritional status were also determined . were made for 232 children ; socioeconomic Anthropometric measurements background information was obtained by interviewing their mother using a structured questionnaire . The prevalence of malnutrition among the study sample was 25.4 % by weight for age , 18 percent by height for age and 6.9 % by weight for height : the prevalence among pre - school children in Thailand

and the Bangkok metropolitan area by weight - for - are was reported to be 8.73 % and 5.2 % respectively .

Recommendation.

1. **Community Awareness and Education**: Raising awareness about nutrition and health practices is critical. Educational programs targeting mothers and caregivers can empower them with knowledge about proper infant feeding practices, balanced diets, and the importance of hygiene.
2. **Access to Healthcare Services**: Improved access to healthcare services is essential for early detection and management of malnutrition. Regular health check-ups, nutrition counseling, and growth monitoring can help track children's health and nutritional status.
3. **Improvement of Food Security**: Ensuring food security through enhanced agricultural practices, local food production, and better access to markets can help alleviate malnutrition. Support for local farmers and initiatives that promote diversity in food crops are vital.
4. **Supplementation Programs**: Implementing and strengthening nutrition supplementation programs, such as the distribution of micronutrient powders and fortified foods, can help combat deficiencies and improve overall nutrition among vulnerable children.
5. **Promotion of Breastfeeding**: Encouraging exclusive breastfeeding for the first six months of life and continued breastfeeding, along with appropriate complementary feeding, can significantly reduce the risk of malnutrition in young children.
6. **Collaboration Across Sectors**: A coordinated effort involving government agencies, non-governmental organizations, and local communities is necessary to create sustainable interventions. Multi-sectoral approaches that integrate health, education, and agriculture can yield better results.
7. **Monitoring and Evaluation**: Establishing robust monitoring and evaluation frameworks can help assess the effectiveness of programs and initiatives, allowing for data-driven adjustments and improvements in strategies.
8. **Policy Support**: Advocacy for policies that address underlying causes of malnutrition, such as poverty, education, and gender equality, is crucial to creating an enabling environment for sustainable improvements in child nutrition.

5. CONCLUSION

The demographic breakdown reveals a clear trend of age, gender, and socioeconomic influences that vary significantly across classification categories. The data indicates patterns suggesting that educational background and family structure play a vital role in determining the demography of the sample. Nurses can improve the nutritional outcomes for children and enhance the overall effectiveness of nursing practices in pediatric care settings. Overall, the prevention of malnutrition in under-five children in rural India is a complex challenge that necessitates collaboration, innovation, and commitment at all societal levels. By prioritizing the health and nutrition of children, we can pave the way for a healthier future generation.

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