"A STUDY TO ASSESS THE NUTRITIONAL STATUS OF CHILDREN BETWEEN 3 TO 5 YEAR OF AGE GROUP ADMITTED IN PEDIATRIC WARD AT DR. VVP PRH, LONI."

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ABSTRACT:

Background of study: Globally, children aged 3–5 face a stark nutritional paradox: concurrent undernutrition and rising overnutrition. In 2021, approximately 148 million under-5s were stunted, 45 million were wasted, and 37 million were overweight or obese. In urban and rural India, preschoolers suffer from persistent nutrition deficits. A 2023 Delhi-based study reported 35.5% stunting, 32.1% underweight, and 19.3% wasting among under-5s with substantial overlap of these conditions. Other state-level studies reflect similarly worrying numbers: one indicated 52% underweight, 54% stunting, and 47.5% wasting among Anganwadi-enrolled children. Even relatively better-performing regions, like urban Karnataka, reported 25.4% underweight, 23.5% stunting, and 10.2% wasting in preschoolers. Malnutrition during preschool years is not merely a stage concern; it has profound lifelong implications. Stunting is strongly associated with impaired cognitive development, poorer educational attainment, and reduced adult productivity. **Material and methods**: The researcher adopted descriptive, cross-sectional research design. The non-probability method, purposive sampling technique was used. Total 50 children aged between 3 to 5 years admitted in pediatric ward of Dr. VVP PRH; Loni were selected for the present study. The study participants were assessed using demographic variables and anthropometric measurement checklist of weight for height. **Results**: The study findings regarding nutritional status of the 3 to 5 years children revealed that 54% of the study participants were having normal nutritional status, followed by 36% of the study participants were having mild malnutrition, followed by 8% of the study participants were having moderate malnutrition, followed by 2% of the study participants were overweight and 0% of the study participants were having severe malnutrition. Overall, the group of the selected study participants normal nutritional status. There was no significant association between the nutritional status and selected demographic variables of the study participants.

Conclusion: The 3-5 years age group children admitted in the pediatric ward at Dr. VVP PRH; Loni had found with the normal to mild malnutrition. The 3-5 years age group overall had a normal nutritional status. There was no significant association between the nutritional status with selected demographic variables of the study participants.

Key words: 3 to 5 years of age group children, Nutritional status, Preschooler.

CHAPTER I

Introduction

Globally, children aged 3–5 face a stark nutritional paradox: concurrent undernutrition and rising overnutrition. In 2021, approximately 148 million under-5s were stunted, 45 million were wasted, and 37 million were overweight or obese. Although the global stunting rate dropped from 26.3% in 2012 to 22.3% in 2022, experts warn that it remains well above the WHO's <20% threshold. Estimates suggest 131 million children will still be stunted by 2025 far above targets even as overweight trends continue upward. Thus, preschool nutrition programs must now tackle both ends of the malnutrition spectrum.[1]

More than 85% of stunted children reside in Asia and Africa, and the situation in South Asia remains especially critical: 44% of under-5 children are classified as stunted, 15% as wasted. In India alone, stunting, underweight, and wasting prevalence among under-5s stood at 36%, 32%, and 19% respectively in NFHS-5 (2019-21). In sub-Saharan Africa, chronic undernutrition in under-5s averages 33% (range 21.9–53%). These regional variations underscore the interplay of food insecurity, sanitation deficits, infectious diseases, and deep social inequities in shaping child nutrition outcomes.[2]

In urban and rural India, preschoolers suffer from persistent nutrition deficits. A 2023 Delhi-based study reported 35.5% stunting, 32.1% underweight, and 19.3% wasting among under-5s with substantial overlap of these conditions. Other state-level studies reflect similarly worrying numbers: one indicated 52% underweight, 54% stunting, and 47.5% wasting among Anganwadi-enrolled children. Even relatively better-performing regions, like urban Karnataka, reported 25.4% underweight, 23.5% stunting, and 10.2% wasting in preschoolers. These figures show that malnutrition is entrenched across economic and geographic strata in India.[3]

Undernutrition in preschoolers is closely associated with socioeconomic disadvantage. National surveys and research repeatedly link low household income, maternal illiteracy, rural settings, and marginalized caste/community status to poorer growth indices. Low birth weight (LBW), attributable to poor maternal nutrition or obstetric complications, emerges as a strong risk for subsequent undernutrition. In South Asia, LBW prevalence hovers around 28%; in India, it is 18% nationally, with some states like Punjab reporting over 22%. These intergenerational and socioeconomic factors create an early-life vulnerability that cascades into preschool years.[4]

Countries across the Global South—in India, Egypt, and beyond—are reporting surprising levels of preschool overweight and obesity, reflecting a nutrition transition. In one Egyptian center, 8.5% of 3–5-year-olds were overweight and 2.4% obese. Indian preschool data indicate overnutrition (BMI-for-age Z-score > +1) may rival undernutrition prevalence. A recent Indian screening documented nearly 24.8% overnutrition in preschoolers, with 8.5% overweight and 2.4% obese. These findings reflect the dual burden of malnutrition amidst rising consumption of energy-dense diets and sedentary behaviors.[5]

Malnutrition during preschool years is not merely a stage concern; it has profound lifelong implications. Stunting is strongly associated with impaired cognitive development, poorer educational

attainment, and reduced adult productivity. Wasting raises the risk of infectious disease and mortality and can independently contribute to stunting. The IMR and under-5 mortality rate in India (28/1000 live births) is partly driven by childhood malnutrition. Globally, undernutrition contributes to 45% of under-5 deaths. Economically, India loses around 2.6% of its GDP due to micronutrient deficiencies alone.[6]

Addressing preschool malnutrition requires a holistic, multi-sectoral response. In India, ICDS and the 2018 Poshan Abhiyaan offer supplementary nutrition, health checks, and early education. Micronutrient fortification and supplementation, promoting maternal nutrition, improving dietary diversity, and enforcing WASH (water, sanitation, hygiene) measures are proven strategies. To combat preschool overnutrition, integrated BMI monitoring, behavioral counselling, and updating programs to address all forms of malnutrition simultaneously are emerging as vital. Continued policy refinement and robust implementation—especially in underserved regions—are critical to meeting SDG targets by 2030.[7]

Problem Statement

"A study to assess the nutritional status of children between 3 to 5 year of age group admitted in pediatric ward at Dr. VVP PRH, Loni."

Objectives of the study

1. To assess the nutritional status of children between 3 to 5 year of age group.
2. To find out association between nutritional status with their selected demographic variable.

CHAPTER III

Methodology

Research Approach-It involves the description of the plan to investigate the phenomenon under study in structured (quantitative), unstructured (qualitative) or combination of two methods (quantitative qualitative integrated approach).[9]

Research Design- There searcher adopted descriptive, cross-sectional design.

Variables

Demographic Variables: Age, Gender, Education of parents, Occupation of parents, Type of family, Meals per day, Immunization status, Religion, Class/Standard, Type of Diet, Age of father and mother, Monthly income of the family, Nutritional status**.**

Study Variables

Source of data: Data was collected from the 3 to 5 years of age group children admitted in pediatric ward at Dr. VVP PRH, Loni.

Setting of the study: The study was conducted at pediatric ward of Dr. VVP PRH, Loni.

Population:

Target Population- Target population for this study includes 3 to 5 years of age group children.

Study Population-Study population selected for this study includes 3 to 5 years of age group children admitted in pediatric ward at Dr. VVP PRH, Loni.

Sampling technique: For the present study non-probability, purposive sampling technique was used.

Sample: For the present study sample comprised of 3 to 5 years of age group children, who fulfilled the inclusion criteria.

Sample size: The sample size selected for this study is 50.

Sampling criteria-

Inclusion criteria

The 3 to 5 years of children;

1. Who are admitted in pediatric ward at Dr. VVP PRH, Loni
2. Who are willing to participate in the study (Willing to provide written informed consent from the parents)
3. Who are available during data collection period?

Exclusion criteria

The3 to 5 years of children;

1. Who are unable to respond to the tool
2. Who are not available during data collection period

Tools of data collection

Section A; - Demographic variables of the children.

Age, Gender, Education of parents, Occupation of parents, Type of family, Meals per day, Immunization status, Religion, Class/Standard, Type of Diet, Age of father and mother, Monthly income of the family

Section B; -Nutritional characteristics of the children.

Date of birth: -

Age in months: -

Procedure for data collection

Permission from concerned authority

Prior to collection of data, Permissions were obtained from Medical Superintendent of Dr. VVP PRH, Loni hospital, then the written informed consent was obtained from the parents of the participants who were willing to participate in the study and who fulfilled the eligibility criteria.

Plan for data analysis

The plan for statistical analysis was made on the basis of objectives. The data analysis was planned to include descriptive and inferential statistics. The following plan was developed for data analysis on the basis of the opinion of experts.

- Demographic data to be analyzed using frequency and percentage in the form of tables and graphs.
- Data from the nutritional status to be analyzed using frequency, percentage in the form of tables and graphs.
- The z-score of weight for height will be calculated by WHO's anthropometric calculator.
- Chi-square test to be performed to find out association between nutritional status with their selected demographic variable.

CHAPTER IV

Data Analysis and Interpretation

Section I: Description of the study participants according to their demographic characteristics

Section II: Description of nutritional status of the study participants

Section III: Association between nutritional status and selected demographic variables

SECTION-I : Description of the study participant according to their demographic characteristics

Table 4.1. Description of study participants according to their demographic characteristics.

n=50

Sr. No.	Demographic Variable		F	%
1	Age in years	3-4 years	27	54%
		4-5 years	23	46%
2	Gender	Male	29	58%
		Female	21	42%
3	Education of parents	Illiterate	6	12%
		Primary/ Secondary	29	58%
		Higher secondary	12	24%
		Graduation or above	3	6%
4	Occupation of parents	Unemployed	3	6%
		Farmer	32	64%
		Salaried	10	20%
		Self-owned business	5	10%
5	Type of family	Nuclear	17	34%
		Joint	33	66%

6	Meals per day	Less than 3	3	6%
		3	41	82%
		More than 3	6	12%
7	Immunization status	Age appropriate	46	92%
		Behind schedule/ Incomplete	4	8%
8	Religion	Hindu	34	68%
		Muslim	8	16%
		Christian	5	10%
		Other	3	6%
9	Class/ Standard	Nursery	22	44%
		LKG	17	34%
		UKG	11	22%
10	Type of diet	Vegetarian	20	40%
		Mixed	30	60%
11	Age of father and mother in years	Less than 21	3	6%
		21 to 25	11	22%
		26 to 30	19	38%
		31 to 35	11	22%
		Above 35	6	12%
12	Monthly income of the family in rupees	Less than 3000	3	6%
		3001 to 6000	7	14%
		6001 to 9000	19	38%
		More than 9000	21	42%

Table no. 4.1 shows the description of the study participants according to their demographic variables, the detailed description of the study participant according to each demographic characteristic is discussed further in the chapter.

SECTION II: Description of Nutritional status of the study participants

Table No 4.2. Description of the nutritional status of the study participants

Sr. No	**Overweight**	**Normal**	**Mild Malnutrition**	**Moderate Malnutrition**	**Severe Malnutrition**
F	1	27	18	4	0
%	2%	54%	36%	8%	0%

Table no 4.2 shows the description of nutritional status of the study participants, it reveals that 54% of the study participants were having normal nutritional status, followed by 36% of the study participants were having mild malnutrition, followed by 8% of the study participants were having moderate malnutrition, followed by 2% of the study participants were overweight and 0% of the study participants were having severe malnutrition.

SECTION III: Association of the nutritional status of the study participants with selected demographic variables

Table no 4.3. Association of the nutritional status with selected demographic variables.

n=50

Sr. No.	Demographic Variable	Chi square Calculated	Chi Square Tabulated	Interpretation
1	Age in years	8.54	9.48	NS
2	Gender	4.38	9.48	NS
3	Education of parents	19.16	21.02	NS
4	Occupation of parents	17.26	21.02	NS
5	Type of family	6.17	9.48	NS
6	Meals per day	8.34	15.5	NS
7	Immunization status	7.43	9.48	NS
8	Religion	20.58	21.02	NS
9	Class/ Standard	8.04	15.5	NS
10	Type of diet	9.25	9.48	NS
11	Age of Father and mother in years	25.95	26.29	NS
12	Monthly income of the family	17.67	21.02	NS

Table no 4.3 shows the association of nutritional status of the study participants with socio-demographic variable. There was no significant association between the nutritional status and selected demographic variables of the study participants. The chi-square value for age in years 8.54 shows non-significant association. The chi-square value for gender 4.38 shows non-significant association. The chi-square value for education of parents 19.16 shows non-significant association. The chi-square value for occupation of parents 17.26 shows non-significant association. The chi-square value for type of family 6.17 shows non-significant association. The chi-square value for meals per day 8.34 shows non-significant association. The chi-square value for immunization status 7.43 shows non-significant association. The chi-square value for religion 20.58 shows non-significant association. The chi-square value for Class/ Standard 8.04 shows non-significant association. The chi-square value for type of diet 9.25 shows non-significant association.The chi-square value for Age of father and mother in years 25.95 shows non-significant association.The chi-square value for monthly income of the family 17.67 shows non-significant association.

CHAPTER V

Discussion

The present study was conducted to assess the nutritional status of children between 3 to 5 year of age group admitted in pediatric ward at Dr. VVP PRH, Loni. In order to achieve the objectives of the study, the researcher adopted descriptive, cross-sectional research design. The non-probability method, purposive sampling technique was used. Total 50children between 3 to 5 years of age were selected for the present study. The study participants were assessed using demographic variables, and anthropometric measurements of weight for height to assess nutritional status.

SUMMARY: The present study was conducted to assess the nutritional status of children between 3 to 5 year of age group admitted in pediatric ward at Dr. VVP PRH, Loni. In order to achieve the objectives of the study, the researcher adopted descriptive, cross-sectional research design. The non-probability method, purposive sampling technique was used. Total 50children between 3 to 5 years of age were selected for the present study. The study participants were assessed using demographic variables, and anthropometric measurements of weight for height to assess nutritional status.

Conclusion: The 3-5 years age group children admitted in the pediatric ward at Dr. VVP PRH; Loni had found with the normal to mild malnutrition. The 3-5 years age group overall had a normal nutritional status. There was no significant association between the nutritional status with selected demographic variables of the study participants.

BIBLIOGRAPHY

1. Wikipedia contributors. Malnutrition [Internet]. Wikipedia, The Free Encyclopedia. 2025. Available from: https://en.wikipedia.org/w/index.php?title=Malnutrition&oldid=1293751322

2. Meshram II, Sreeramakrishna K, Harikumar R, Venkaiah K, Laxmaiah A. Regional variation in the prevalence of undernutrition and its correlates among under 5-year children in Western India. Indian Journal of Community Health. 2019 Dec 31;31(4):521-31.

3. Debata I, Ranganath TS, Priya KJ, Tejas J. A cross-sectional study of anthropometry and immunization coverage of Anganwadi children in a rural area of Karnataka. Journal of Family Medicine and Primary Care. 2023 Aug 1;12(8):1679-84.

4. Jana A, Dey D, Ghosh R. Contribution of low birth weight to childhood undernutrition in India: evidence from the national family health survey 2019–2021. BMC Public Health. 2023 Jul 12;23(1):1336.

5. Ramachandran P, Kalaivani K. Overnutrition in Indian children: challenges and opportunities. Frontiers in Public Health. 2022 Mar 3; 10:814900.

6. Goyal M, Singh N, Kapoor R, Verma A, Gedam P. Assessment of nutritional status of under-five children in an urban area of South Delhi, India. Cureus. 2023 Feb 13;15(2).

7. Ramachandran P, Kalaivani K. Overnutrition in Indian children: challenges and opportunities. Frontiers in Public Health. 2022 Mar 3; 10:814900.

9. Sharma SK, Nursing Research & Statistics, Second Edition, Elsevier publication, 2017: 98