



# A Study To Assess The Prevalence Of Malnutrition Among School Going Children In Selected Primary Schools In Lucknow.

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## **Abstract:**

Malnutrition significantly affects children's health, educational potential, and overall well-being. This study assesses the prevalence of malnutrition among primary school children in Lucknow and compares rates between private and government schools. Using a quantitative descriptive research design, 400 students from selected schools were evaluated through anthropometric measurements and socio-demographic data. Results indicated a higher prevalence of malnutrition in government schools (90%) compared to private schools (80.50%). These findings emphasize the need for targeted nutritional interventions in schools to address malnutrition.

**Keyword: Assess, Prevalence, Malnutrition, Primary School, Government School.**

## **1.INTRODUCTION**

Malnutrition is the most widespread condition affecting health education of children. Scarcity of suitable foods, lack of purchasing power of the family as well as traditional belief and taboos about what the baby should eat, often lead to an insufficient balance diet, resulting in malnutrition. Malnutrition is a condition that occurs when a person's intake of nutrients or energy is deficient, excessive or imbalance. Malnutrition can be caused by deficiencies in macronutrients (protein, carbohydrates and fats) or micronutrients (vitamins and minerals). India's low ranking in the Global Hunger Index reflects various factors such as undernourishment, child stunting, child wasting, and child mortality. Although India's score has improved since last year, it is still considered a serious case. In NFHS-5, the Under 5 Mortality Rate, Neonatal Mortality Rate and Infant Mortality Rate are reported as 42/1000 live births, 25/1000 live births and 35/1000 live births as compared to 50/1000 live births, 30/1000 live births and 41/1000 live births during NFHS-4 respectively. The prevalence of stunting and underweight have decreased from 51.9 % to 34.1 % and 45.8 %–29.4 %, respectively from NFHS-1 to NFHS-5, but prevalence of wasting increased from 19.9 % to 20.5 %. In the recently released NFHS 5 report for 2021, Uttar Pradesh stands as the third-highest state with child stunting, affecting 39.7% of infants.

## 2.NEED OF THE STUDY

Malnutrition is the main cause of morbidity and mortality in infants and under 5 years of age, it accounts for at least half of all childhood death worldwide. Also, it is one of the major causes of related deaths. Malnourished children are affected in numerous ways. It is difficult for them to attain optimum size as adult (and so may have less physical capacity for work), their brains are affected (resulting in lower IQ) and they are at greater risk of infection. Malnutrition also impacts on education attainment and economic productivity.

We have experience during clinical posting that children were suffering from infections very often due to weak immune system, and which is leading to diseases and improper growth and development due to lack of quantity and quality of food and leading to malnourished child. So, it's our interest to find out the prevalence rate of malnourished child. And after knowing the number of children suffering from malnutrition further, we can approach to the governmental schemes like ICDS, Balwadi programs etc. So that they will be more concerned to those group of children.

## 3.REVIEW OF LITERATURE:

1.Dutta A,Rai M .et.AI (2024) This study identified determinants of malnutrition conducted a study among school children in West Bengal, India. A total of 896 children aged between 4 and 13 years in eight districts were evaluated. BMI, weight, and height-for-age z-scores were used to categorize the stages of malnutrition. The study results revealed that the average height of the boys and girls was as per the standards set by the National Council of Health Sciences. Body mass index of the children ranged between 14.4 and 21.42 kg/m<sup>2</sup>, and which shows that the children are of high risk of malnutrition.

2.Singh K,Chhabra K.et.AI (2023) Out of 268 children, 39.99% were males (24.63% of 3–4 years and 14.93% of 4.1–5 years) and 60.45% were females (41.04% of 3–4 years and 19.4% of 4.1–5 years). 65.67% children were recorded normal and the prevalence of grade–I was highest (22.01%), followed by grade–II (9.7%), grade–III (2.61%) and no prevalence of grade–IV. Regarding wasting, most children (82.46%) were well-nourished, 17.54% were suffering from MAM and no prevalence of SAM among investigated children. The status of malnutrition among 3-5 years children is a serious health concern, contributing to the whopping crisis of malnutrition in children, especially of grade–I malnutrition and wasting in U5 children, and needs effective strategies to be prevented.

3.Mes-hram,N.Arlappa.et.AI(2023) A total of 1751 children of 1- to 5-year-old were covered from 120 villages, of them 858 (49%) were in 1–3 years age group. The proportion of boys and girls covered was similar. Mean age of the children was 2.5 years (SD ± 1.11). 4. Gangwar M,Dr Shankar P et.AI. 2022 The study's goal was to look into the dietary habits of school-aged children aged 6 to 10. A total of 40 students were chosen from four different schools in the Lucknow district of India. The data on food consumption was acquired using the RDA (ICMR) 1-day dietary recall approach. Height, weight, and the circumference of the mid upper arm were all measured. The majority of pupils consumed far less of all nutrients than the suggested dietary allowances. Anthropometry data revealed that among the total children evaluated (N=40), mean height and weight were significantly lower than the National Centre for Health Statistics guidelines in all age groups. The mean MUAC was significantly lower than the National Health and Nutrition Examination Survey guidelines in all age categories. Poor anthropometric indices, under nutrition, and iron deficiency anaemia may be caused by a lower than required food and nutrient intake.

## 4.RESARCH METHODOLOGY

**Research Design:** A descriptive quantitative approach was adopted.

**Setting and Population:** The study was conducted in primary schools across Lucknow, with a total of 400 participants (200 each from government and private schools).

**Sampling Technique:** Purposive sampling was used to select students from standards 1 to 5.

**Data Collection Tools:**

- **Socio-Demographic Questionnaire:** Age, Sex, Family size, Religion, Dietary patterns, and Parental occupation.
- **Anthropometric Measurements:** Weight, height, and BMI categorized based on WHO standards.

**Problem statement:**

A study to assess the prevalence of malnutrition among primary school going children in selected primary school going children.

**Objectives of the study:**

1. To assess the prevalence of malnutrition among primary school children.
2. Compare prevalence of malnutrition among private and government primary schools.
3. Determine association between malnutrition and selected socio-demographic variables.

**INCLUSION CRITERIA:**

- Students who are studying in standard from 1-5.
- Both boys and girls were included.

**EXCLUSION CRITERIA:**

- Students who were not available during the time of data collection.
- Students who are not willing to participate in the study.

**5.RESULT AND INTERPRETATIONS**

The data was collected for the result and interpretations by the investigators. Firstly format was made through the socio demographic variables, and data was collected followed by measurement of child's weight, height, and its BMI by using weight scale and stadiometer. Which was helpful to determine the normal and malnourished children.

**Table 1. Frequency distribution of sociodemographic variables.**

S.NO	DEMOGRAHAPIC	FREQUENCY	
		FREQUENCY	PERCENTAGE(%)
1	AGE OF THE CHILD		
	5-8	104	26
	09-12	234	58.5
	13-16	62	15.5
2	ACCORDING TO SEX		
	MALE	225	56.25
	FEMALE	175	43.75
3	ACCORDING TO RELIGION		
	HINDU	342	85.5
	MUSLIM	58	14.5
4	TYPE OF DIETARY PATTERN		
	VEGETARIAN	211	52.75
	NON-VEGETARIAN	189	47.25
5	FAMILY SIZE		
	3-6	317	79.25
	07-10	77	19.25
	11-15	6	1.5
6	ACCORDING TO PARENT'S JOB		
	LABOUR	133	33.25
	JOB	69	17.25
	OTHERS	198	49.5

**TABLE NO. 1 Revealed**

Sociodemographic variables of the study participants show.

- ❖ 26% of std 1 to 5 are aged between 5-8 years,58.5% are aged 9-12 years,15.5% are aged 13-16 years.
- ❖ 56.25% are male students and 43.75 are female students.
- ❖ 85.5% students are Hindu and 14.5% are Muslims.
- ❖ 52.75% students are vegetarian and 47.25% are non-vegetarian.
- ❖ 79.25% students are living in family size of 3-6,19.25% are 7-10 and 1.5% with 11-15.
- ❖ 33.25% students' parents' job is labour ,17.25% of having job, 49.5% are others.

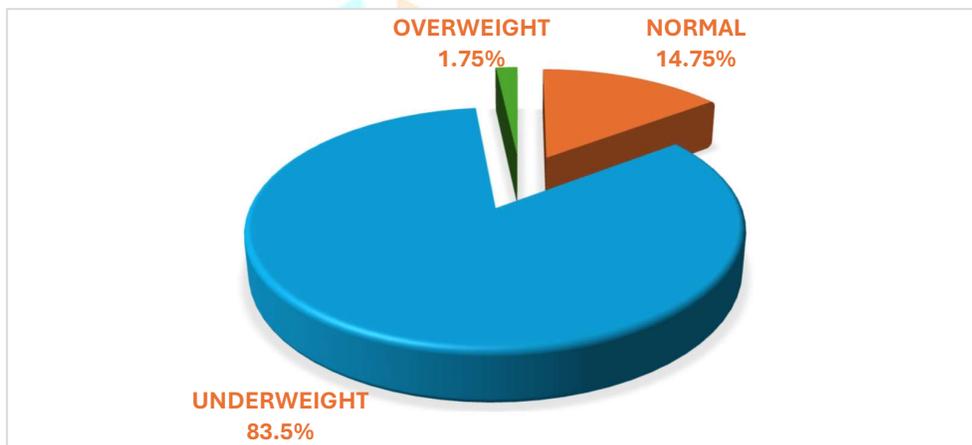
**Section -A:**

To assess the prevalence of malnutrition of primary school children through BMI.

N=400

**TABLE-2** Showing the category of BMI.

	N	%	PREVALANCE
<b>NORMAL</b>	59	14.75	85.25%
<b>UNDERWEIGHT</b>	334	83.5	
<b>OVERWEIGHT</b>	7	1.75	



**Figure 1:** Pie chart showing the category of BMI

**Section -B:**

Finding the prevalence of malnutrition among private and government school.

N=200

**TABLE-3** Showing the category of Government school.

<b>GOVERNMENT SCHOOL</b>			
	N	%	PREVALANCE
<b>NORMAL</b>	20	10	90%
<b>UNDERWEIGHT</b>	180	90	
<b>OVERWEIGHT</b>	0	0	

N=200

TABLE-4 Showing the category of Private school.

PRIVATE/PUBLIC SCHOOL			
	N	%	PREVALANCE
NORMAL	39	19.5	80.50%
UNDERWEIGHT	154	77	
OVERWEIGHT	7	3.5	

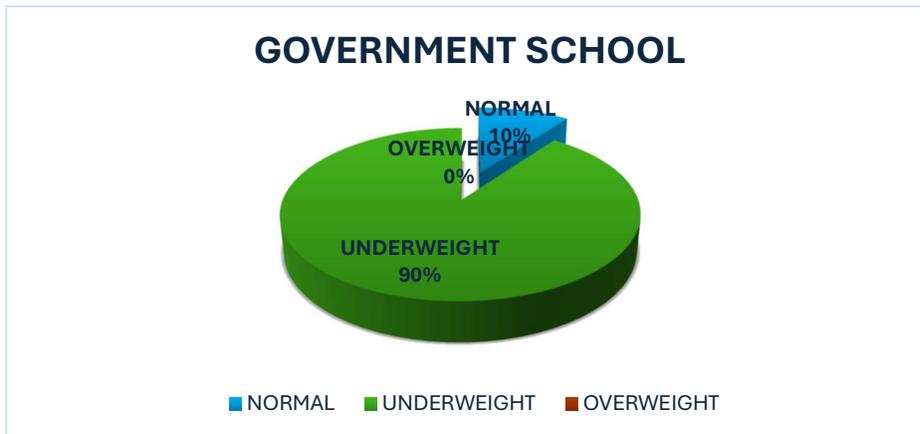


Figure 2: Pie chart showing the category of government school

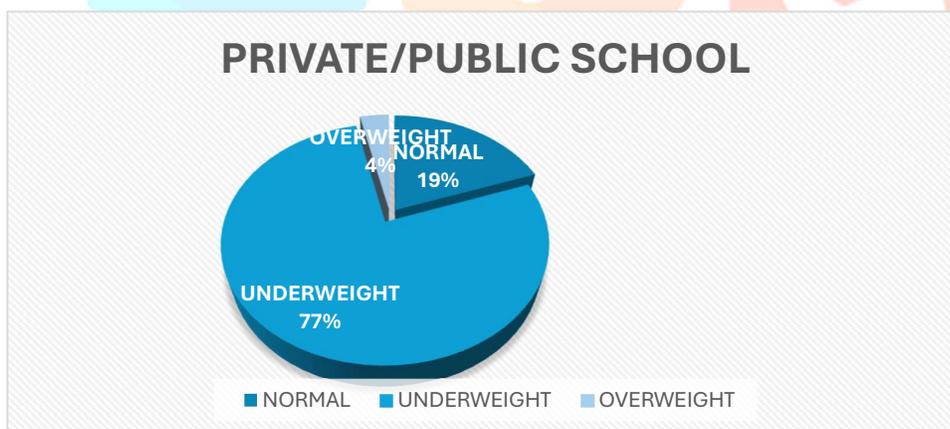


Figure 3: Pie chart showing the category of private school

**Section -C:****To deal with association between malnutrition and selected socio demographic variables.**

The section describes the characteristics of the subjects under the study. The data obtained describes the samples characteristics pertaining to their age, BMI, type of food, religion, sex, parent's occupation and family size.

**Table no-5 Chi square, tested at 0.05 level of significant****N=400**

S · N O ·			NUTRITIONAL STATUS			CHI SQUARE VALUE	DF	P value	SIGNIFI CANCE
			UNDER WEIGH T	NOR MAL	OVER WEIG HT				
1	AGE	5-8	32	5	1	4.206	4	0.379	
		09-12	250	40	7				
		11-15	51	14	0				
		<b>Total</b>	33	59	8				
2	SEX	M	182	26	5	2.537	2	0.281	
		F	151	33	3				
		<b>Total</b>	333	59	8				
3	RELIGION	H	285	45	4	9.806	2	0.007	
		M	48	14	4				
		<b>Total</b>	333	59	8				
4	DIETARY PATTERN	V	169	31	4	0.068	2	0.967	
		N	164	28	4				
		<b>Total</b>	333	59	8				
5	FAMILY SIZE	3-6	273	50	7	1.029	4	0.905	
		07-10	4	0	0				
		11-15	56	9	1				
		<b>Total</b>	333	59	8				
6	OCCUPATIO N	LABOUR	139	14	2	8.292	4	0.081	
		JOB	90	18	3				
		OTHERS	104	27	3				
		<b>Total</b>	333	59	8				

**Major findings**

1-As per the socio demographic variables, religion is significant to malnutrition of the children.

2-But the age, sex, diet, family size, occupation are not significant to malnutrition of the children.

## 6. Conclusion

This study underscores the urgent need to address malnutrition among school-aged children, with a focus on government schools in Lucknow. Tailored interventions, robust monitoring, and collaboration between schools, health sectors, and policymakers are essential to mitigate malnutrition's impacts.

## 7. Recommendations:

1. Strengthen nutritional programs in government schools.
2. Conduct awareness campaigns targeting parents and communities.
3. Implement routine nutritional assessments in schools.
4. Extend research to other regions for comprehensive analysis.

## 8. References

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