

**MALNUTRITION AFFECTING THE PRIMARY SCHOOL CHILDREN AT RAJNAGAR
BLOCK IN THE DISTRICT OF BIRBHUM, WEST BENGAL**

Dissertation Submitted in fulfillment for the M.Ed. Degree

Submitted by

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CERTIFICATE

This is to declare that the Dissertation entitled **Malnutrition Affecting The Primary School Children At Rajnagar Block In The District Of Birbhum, West Bengal** is a record of bona-fide research work carried out in partial fulfillment of the requirement for the degree of M.Ed from **Satyapriya Roy College of Education** under **The West Bengal University Of Teachers' Training, Education Planning And Administration** by **Maitreyee Kabiraj** under my supervision and guidance.

This work has not been submitted any other Institution for the award of any degree or diploma.

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With regards

Date: The 18th day of April, 2019.

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CHAPTER-I

1. INTRODUCTION

Malnutrition is a condition that results from eating a diet in which one or more nutrients are either not enough or are too much such that the diet causes health problems. It may involve calories, protein, carbohydrates, vitamins or minerals.(<http://en.m.wikipedia.org>). According to WHO, 2016 refers to deficiencies, excesses or imbalances in a person's intake of energy and/or nutrients. The term malnutrition covers two broad groups of conditions. One is undernutrition –which includes stunting, wasting, underweight and micronutrient deficiencies or insufficiencies. The other is overweight, obesity and diet related noncommunicable diseases. National Family Health Survey (NFHS-3)-3 indicated that about 8 million Indian children under the age of 5 years are severely wasted (UNICEF, 2009). These 8 million children-one third of the severely wasted children worldwide are dangerously under nourished, compromising their ability to survive, growth and develop to their full potential, which is the same potential as that of children in developed countries (Bhandari et al., 2002). Malnutrition can lead children to be at greater risk of death and severe illness due to common childhood infections, such as pneumonia, diarrhea, malaria, HIV AIDS and measles, (UNICEF, 2013). WHO in 2001 reported that 54% of all childhood mortality was attributable, directly or indirectly, to malnutrition. It is not only an important cause of mortality and morbidity but also leads to physical and mental impairment in children. Health and physical consequences of prolonged status of malnourishment among children were delay in their physical growth, lower intellectual quotient, poor cognitive ability, decreased economic productivity, decreased reproductive performance, greater behavioural problems and deficient social skills and susceptibility to contracting diseases (Holaday et al., 1995). Therefore, the main aim of this study is to assess the consequences that affects the malnutrition and its associated factors among children above five years and below ten years age in the district of Birbhum, West Bengal.

1.1 STATEMENT OF THE PROBLEM

The problem under study is titled as-“ Malnutrition Affecting The Primary School Children at Rajnagar Block in The District Of Birbhum, West Bengal”

1.2 RESEARCH QUESTIONS

1. What are the level of malnutrition of primary level children in Rajnagar block?
2. What are the view of parents about malnutrition that affected their children?
3. What are the physical consequences regarding malnutrition at children in primary level at Rajnagar block?

1.3 OBJECTIVES OF THE STUDY

The major objectives of this study are in the following :-

*To know the malnutrition level of primary level children in the Rajnagar block.

*To find out from parents how far malnutrition has affected their children.

* To find out the physical consequences regarding malnutrition of children in primary level at Rajnagar block.

1.4 OPERATIONAL DEFINITION OF THE TERMS

Malnutrition : Malnutrition is a condition where an individual gets a diet which is lack of nutrients or excess of nutrients. Nutrients can be proteins, carbohydrates and micronutrients (Tarcea et al., 2018).

Primary School : A primary school (or elementary school in American English and often in Canadian English) is a school in which children receive primary or elementary education from the age of about seven to twelve coming after pre-school, infant school and before secondary school.([http://en.m.wikipedia.org>wiki>prima](http://en.m.wikipedia.org/wiki/prima))

Birbhum District : Birbhum district is an administrative unit in the Indian, State of West Bengal. ([https://en.m.wikipedia.org>wiki>Birbhum](https://en.m.wikipedia.org/wiki/Birbhum)).

1.5 DELIMITATIONS

- The study is limited only to primary school children of Birbhum District, W.B. specifically at the Rajnagar block.
- This study is limited only to the physical deterioration of the children.

1.6 SIGNIFICANCE OF THE STUDY

Malnutrition affects people of every age, although infants, children and teens may suffer the most because many nutrients are critical for normal growth and development (<http://kidshealth.org/parents/hunger>). It remains as one of the biggest problems that constrain school-age children from attending or performing well in school basically at the Rajnagar areas Birbhum. (www.scielo.br/scielo). Most of the people are greatly died due to malnutrition as well as other physical problems. Health is wealth but in the District of Birbhum proper health is insufficient for human resource development. For reducing the critical condition this study will help much more effectively.

CHAPTER-II

2. REVIEW OF RELATED LITERATURES

• INTRODUCTION :-

A literature review is a scholarly paper, which includes the current knowledge including Substantive findings, as well as theoretical and methodological contributions to a particular topic. Literature reviews are secondary sources, and do not report new or original experimental work. Literature reviews are a basis for research in nearby every academic field. (<https://en.wikipedia.org/wiki/literature-review>).

• REVIEWS :-

Studies Conducted in India:

Singh, MB et al., (2006) studied on the nutritional status of children aged 0-5 years in a drought affected desert area of western Rajasthan, India

The objective of this study was -

- To assess the impact of drought on the nutritional status of pre-school children aged 0-5 years from a rural population in a desert area facing drought conditions very frequently .

Methodology:

- ❖ The study was carried out in 24 villages belonging to six tehsils (sub-units of District) in Rajasthan during a drought in 2003.
- ❖ A total of 914 children were examined at household level with nutritional Status .
- ❖ The sampling design for assessment was the three stage sampling technique.
- ❖ Assessed by anthropometry, dietary intake and clinical signs of nutritional deficiency.

Findings :-

- The results revealed growth retardation -
- Stunting (malnutrition of long duration) was observed in 53% of children.
- Underweight in 60%.
- Wasting an indicator of short duration malnutrition, was present in 28% of children.
- The extent of malnutrition was significantly higher in girls than boys.

Bose, K et al., (2007) studied on stunting, underweight and wasting among Integrated Child Development Services (ICDS) scheme children aged 3-5 years of Chapra , Nadia District, West Bengal ,India.

The Objective of this study was

- To investigate age and sex variations in height and weight, levels of stunting, under weight and wasting.

Methodology :-

- ❖ Among 533 (254 boys ; 279 girls) 3 to 5 year old rural children of Bengali ethnicity were selected at 11 Integrated Child Development Services Centers of Nadia District ,West Bengal ,India .
- ❖ Height -for-age , weight -for-age and weight -for-height were used to evaluate stunting , underweight and wasting ,respectively, following the National Centre for Health Statistics (NCHS) guidelines.

Findings:-

- Results revealed that boys were significantly heavier than girls at 3 years.
- Significant age differences existed in mean height and weight in both sexes.
- In general, the frequency of stunting increased with increasing age in both sexes.
- The prevalence rates of stunting and wasting were medium.

Kumari, P. (2018) studied on prevalence of protein energy malnutrition among under five children belonging to rural areas of Ambala, Haryana, India.

The Objective of this study was:

- To assess the prevalence of protein energy malnutrition(PEM) among under five children with various sociodemographic variables which affect the nutritional status among under five children in selected rural areas of Ambala ,Haryana, India .

Methodology:-

- ❖ House to house visits by cross sectional study covering 300 under five children in rural areas of Ambala, Haryana, India .
- ❖ Data analysis consisted of descriptive statistics and inferential analysis of nonprobability consecutive sampling.

Findings :-

- According to the Gomez classification , 44.43% had good nutritional status with the proportion of first, second and third degree malnutrition was 39.34%,15.66% and 0.66% , respectively. A significant association of PEM was determined by the age of the children.

Singh, R et al., (2018) studied on a hospital based bivariate analysis of nutritional status and its determinants among the children aged 2 to 12 years in an Indian island.

The objectives of this study were:

- To determine the nutritional status of children aged 2-12 years of age using World Health Organization (WHO) Z score for weight for age (WFA/Body Mass Index (BMI) for age (for children above 108 months).
- To evaluate association between under weight and various socio-demographic factors.

Methodology :-

- ❖ A total of 444 children aged 2-12 years (24-144 months) were enrolled in the study.

- ❖ The children's anthropometric measurements were taken using the Standard operating procedures.
- ❖ The socio-demographic particulars were obtained using a pretested validated Questionnaire, after obtaining written consent from their parents .
- ❖ The anthropometric data was analyzed using WHO Anthro and Anthro plus softwares.

Findings:-

- Overall prevalence of undernutrition among the children 24-144 months of age was 30.8%.
- Among children in the age groups of 24-59 months, 60-119 months and 120-144 months, the prevalence of underweight /thinness was 27.9%, 31.3% and 26.4%, respectively.

Goutam, S.K et al., (2018) studied on the nutritional status and its correlates in under five slum children of Kanpur Nagar, India.

The objective of this study was:

- To assess the nutritional status in under five children in the slum area of Kanpur Nagar.

Methodology :-

- ❖ The present study was conducted in 30 slums of Kanpur Nagar selected through 30 cluster sampling technique.
- ❖ The sample size was calculated as 390.
- ❖ From each cluster, approximate 13 study subjects aged 0-60 months were studied.
- ❖ Mothers of study subjects were interviewed to illicit the requisite information, using a predesigned and pretested questionnaire.
- ❖ Anthropometric measurements were taken using standard technique for each study subject.
- ❖ Data collected was analyzed using statistical tool.

Findings :-

- Based on WHO classification, the prevalence of stunting and severe stunting was observed to be 31.28% and 13.59%. 14.62% study subjects were wasted while 6.15% subjects had severe wasting. 40.51% had mild –moderate malnutrition and 7.59% had severe malnutrition as per the criteria of mid-upper arm circumference.

STUDIES CONDUCTED IN ABROAD

Schaible et al., (2007) studied on Malnutrition and Infection : Complex Mechanisms and Global Impacts.

The objectives of this study were:

- To discuss current concept and controversies surrounding the complex influences of malnutrition on infection and immunity.
- To discuss about protein energy malnutrition (PEM) including the 'big three' infectious diseases

HIV/AIDS, Tuberculosis and Malaria.

- To call for new strategies to overcome worldwide morbidity and mortality caused by chronic malnutrition.

Methodology:

- ❖ Measures to counteract acute malnutrition are now available and were successfully applied in 2005 when Niger was affected by a famine.
- ❖ To avoid disturbance of the market and long – term development goals, food was sold to starving people for too high a price instead of being freely distributed.
- ❖ Under the emergency conditions of the Niger famine in 2005, the measures employed by Medicines sans Frontiers kept child mortality at the rate of non – famine periods.

Findings :

- Further research and development in diverse areas ranging from biomedicine to public health are required to stop the downward spiral of chronic malnutrition, infection, disease and reduced economic productivity in impoverished societies with the consequences of migration and economical and political instability.

Redi et al., (2017) studied on the Prevalence of Malnutrition among children aged 6 – 59 months in Haramaya District, Oromia, Ethiopia.

The objective of this study was:

- To assess the prevalence of under – nutrition and factors affecting nutritional status among children aged 6 – 59 months in Haramaya District, eastern Ethiopia.

Methodology:

- ❖ The data type in this study was primary data.
- ❖ The data were collected by using a well – structured pretested questionnaire.
- ❖ Anthropometric measurements of the children were taken to assess the nutritional status of the children.
- ❖ The source population was all children aged between 6 and 59 months and their mothers or caregivers.
- ❖ The sampling technique used in this study was two stages stratified sampling method.

Findings :

- The prevalence of stunting, wasting and underweight were 36.07%. the current study showed that the prevalence of child under – nutrition is highly prevalent in Haramaya District.

Community based nutrition program should be established; continuous nutrition supervision based on each nutritional status indicators and special attention to severely malnourished children is necessary to attempt the problem of malnutrition.

Asim, M et al., (2018) studied on Child Malnutrition in Pakistan : Evidence from literature.

The objectives of this study were:

- To know about the methodological approaches used in previous studies.
- To assess the overall situation of childhood malnutrition.
- To identify the areas that have not yet been studied.

Methodology:

- ❖ A total of 28 articles was reviewed and almost similar methodologies were used in all of them.
- ❖ Most of the researchers conducted the cross sectional quantitative and descriptive studies, through structured interviews for identifying the causes of child malnutrition.
- ❖ Only one study used the mix method technique for acquiring data from the respondents.
- ❖ For the assessment of malnutrition among children, out of 28 papers, 20 used the World Health Organisation (WHO) weight for age, age for height, and height for weight Z – score method.

Findings:

- Early marriages, large family size, high fertility rates with a lack of birth spacing, low income, the lack of breast feeding and exclusive breast feeding were found to be the themes that repeatedly emerged in the revised literature.

Idris et al., (2018) studied on prevalence of bacteremia among febrile children with sever malnutrition in North Western Nigeria.

The objective of this study was:

- To determine the prevalence of bacteremia and describe the antibiotic sensitivity pattern of the bacterial isolates among febrile children with severe PEM (Protein – Energy Malnutrition).

Methodology:

- ❖ It was a hospital – based descriptive cross – sectional study.
- ❖ All consecutive febrile children aged 6 – 59 months with severe PEM presenting to EPU of AKTH who met the inclusion criteria were enrolled.
- ❖ The minimum sample size for the study was 78.

Findings:

- Bacteremia occurred in 45.6% of the individuals which was significantly higher than 23.3% in

the control group.

Mohammadi, M et al., (2018) studied on Prevalence of underweight in Iranian children : A Systemic review and meta – analysis.

The objective of this study was:

- A systemic review and meta – analysis of the prevalence of underweight Iranian children, in order to highlight the importance of this issue to health policy – makers.

Methodology :

- ❖ A meta – analysis was performed for relevant articles in scientific data bases including Scientific Information Database (SID), Pubmed and Google Scholar,
- ❖ Cross – sectional studies were done.

Findings :

- In 26 articles reviewed in the study, total number of participants was 142938 persons at age of 1 month to 12 years.
- The overall prevalence of under – weight in Iranian children was 15.5%.. The highest prevalence of underweight was recorded in Birjand city in 2006 (68.6%).

CRITICAL OBSERVATION

From the above literature reviews especially the national papers give an outlook that most of the girls than boys are suffering from under – nutrition. Malnutrition also presents equally in my study area. But in these areas there is a little space of reducing the on – going problems. International level of reviews greatly enhance the probable solution of these chronic diseases. For my study area this approach is very much effectively practised. But there seem to present that how terrible consequences occurred from malnutrition is slightly seen in these reviews. However, these reviews help to bring a research gap that will fruitfully direct my area.

CONCLUSION

The nutritional status of children is dependent on good food qualities, socioeconomic status, education and healthy environment. Malnutrition is an impediment to development, and its presence indicates that basic physiological needs have not been met.

(www.fao.org.) In food insecure communities, many programmes such as Mid - Day - Meal scheme help fight malnutrition and help keep children in school. They can also improve incomes when locally produced foods are supplied to the school. Good nutrition education helps children to become “ nutritionally literate”.

CHAPTER III

C. Methodology :

- **Variables** → For malnutrition the researcher uses the following independent variables –
 1. Age
 2. Weight
 3. Height
 4. Sex
 5. BMI (Body Mass Index)
- **Design** :
 - Population → All the students from III and IV classes in five schools are taken as a population.
 - Sampling technique → From the whole population the researcher through purposive and random

Sampling technique selects the sample.

❖ **Sample** → For better convenience the researcher selects only four students from each class within five schools. Their respective parents are also involved for study.

- ⊗ No of Schools : 5
- ⊗ No of standard : 2 (III & IV standers)
- ⊗ No of students : 4 students (Class III)
from each classes 4 students (Class IV)

So that number of students of each school : 8

In their study the researcher takes $8 \times 5 = 40$ students and their parents. Ultimately the number comes $40 + 40 = 80$.

❖ **Tools** → The researcher uses a validated and reliable self – made questionnaire by the approval of our professors for collection relevant information from the students along with their mothers.

The researcher collects information through interview technique for better understanding of the questionnaire in case of students and their mother.

For BMI chart collection the researcher takes assistance from Rajnagar BPHC (Block Primary Health Centre) under Rashtriya Bal Swasthya Karyakram of Govt. of India.

CHAPTER IV

D. Result :

Description and interpretation →

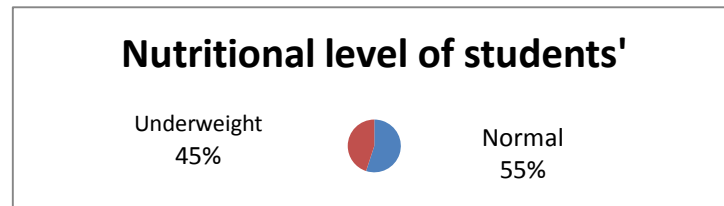
The researcher to all selected primary schools and its students along with their parents' opinion comes to these results as follows –

1. School : All the five schools of Rajnagar block, Birbhum.

BMI chart enclosed in appendix 1.

Table 1. Malnutrition level of the students

Total No. of Students	Normal	Underweight
40	22	18
Percentage	55%	45%



Pie graph showing the students' malnutrition level

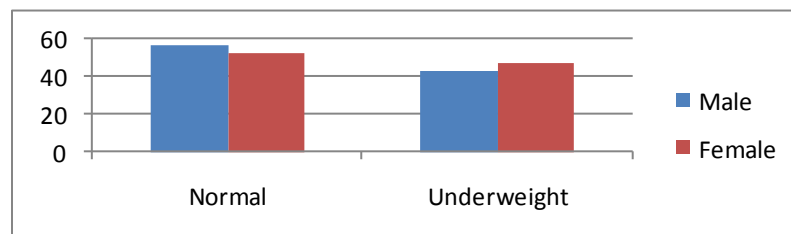
Source : Collected from survey

From the diagram it was shown that majority of schools are included with malnutrition children.

2. Malnutritional level according to sex of all the selected schools

Table 2.

BMI	Male		Female	
	Total No of Students	Percentage	Total No of Students	Percentage
Normal	12	57.14	10	52.63
Underweight	9	42.86	9	47.37



Bar graph showing the students' nutritional level according to sex

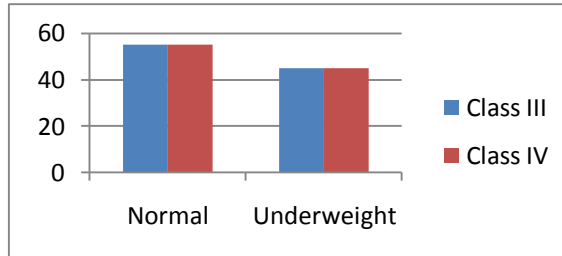
Source : Collected from survey

From the graph it was shown that malnutrition in both sexes is very much equal.

3. Based on class and age, malnutrition level of the students

Table 3.

BMI	Class III (8+ years)		Class IV (9+ years)	
	Total No of Students	Percentage	Total No of Students	Percentage
Normal	11	55	11	55
underweight	09	45	09	45



Bar graph showing the students' malnutrition according to class and age

Source : Collected from survey

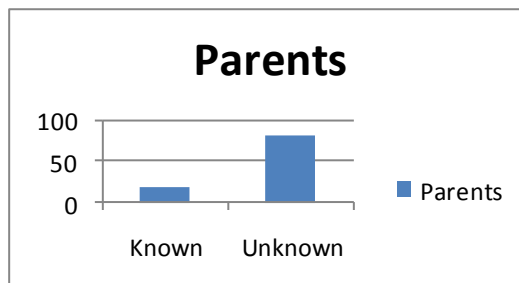
From the stated graph it was shown that malnutrition is equally presented in both the classes.

4. Parents' basic concept about their children's malnutrition

Questionnaire enclosed in appendix 2.

Table 4.

Parents basic concept	Percentage of the parents
Known	20%
Unknown	80%



Bar graph showing the parents' knowledge about their children malnutrition

Source : Collected from survey

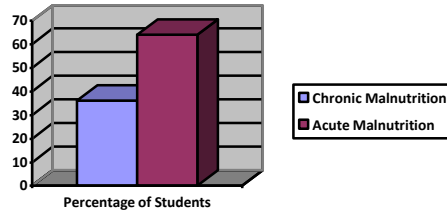
From the graph it was shown that majority of the parents have no basic concept about malnutrition.

5. Students' physical consequence for malnutrition

Questionnaire enclosed in appendix 3.

Table 5.

Physical consequence	Percentage of the Students
Chronic malnutrition	36%
Acute malnutrition	64%



Bar graph showing the percentage of physical consequences of students

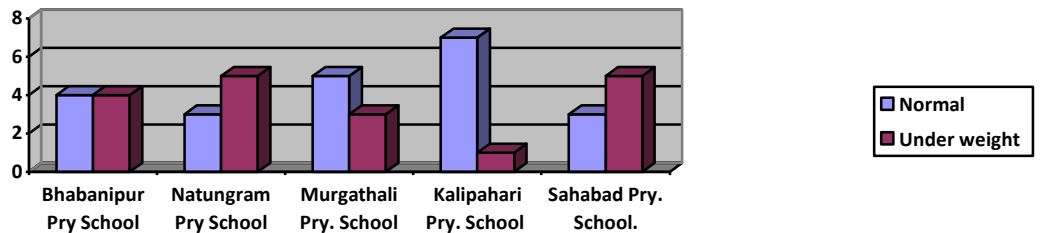
Source : Collected from survey

From the diagram it was shown that acute malnutrition is highly seen in children than chronic malnutrition.

6. School wise Nutritional level of students'

Table 6.

Nutritional Level	Bhabanipur Primary School	Natungram Primary School	Murgathali Primary School	Kalipahari Primary School	Sahabad Primary School
Normal	4	3	5	7	3
Underweight	4	5	3	1	5



Bar araph showina the School wise nutritional level of students

Source : Collected from survey

From the graph it was shown that school wise nutritional level of students are different. Under weight students are same in two schools where as the highest normal students belong to one school.

CHAPTER V

E. Discussion :

Summary and Findings: Discussion on findings of the study is done.

Summary –An abstract is a brief summary of a research article, thesis, review, conference proceeding or any in – depth analysis of a particular subject and is often used to help the reader quickly ascertain the paper’s purpose.

This study is focused on malnutrition affecting the primary school children at Rajnagar block in the district Birbhum, West Bengal. The design of the study is descriptive survey method. 80 sample are taken. Data is collected on the basis of BMI chart, 13 questions for parents and 17 questions for students. Three research questions are formulated to guide this study. Graphical representations (Bar graph and Pie graph)are selected to prove the effects of malnutrition among primary school children. The findings reveal that primary school children are greatly suffered for malnutrition.

Findings – The result section should state the findings of research arranged in a logical sequence without biasness and interpretation

- Malnutrition affects the primary school children almost greatly (45%)
- Male and female students are equally affected through malnutrition.
- Malnutrition level is equally presented in both the classes (Class III & IV)
- Majority of their parents have no basic concept about malnutrition.
- Most of the students are severely affected by malnutrition.

Limitations : The limitation of the studies are those characteristics of design or methodology that impact or influence on the interpretation of the findings of research. Here are some limitation given below:

- ❖ Due to sensitization of the selected topic, students and their parents are avoided to solve the questionnaires.
- ❖ Only the malnutrition level of primary school children is not able to show the overall level at Rajnagar block.
- ❖ As the data is collected on the basis of objective type questions, primary children and their parents may not give their proper opinion. There is a big possibility of biasness.
- ❖ The area of the study is limited only 80 samples. It is not applicable for a proper research work.

Recommendation and Suggestions : Recommendation and Suggestions in research paper can be defined as a critical suggestion regarding the best course of action in a certain situation.

Therefore, based on the findings recommendation and suggestion are made and given below.

- i. NGOs and other private organizations should initiate for reduction of malnutrition.
- ii. Parents should be aware about the effects of malnutrition along with its basic concept.

- iii. Health workers should seriously observe the malnourished children.
- iv. Teachers should consciously inform the medical team about malnourished children.

Future Direction :

- This study is done only for completion of M.Ed course. Therefore, due to shortage of time and population and sample area are need to be enlarged for details research work on this topic.
- For the in – depth, successful research work there will be need to give emphasis in future at all the primary school of Rajnagar block.
- There is a scope of analysing between rural and urban students about malnutrition.
- District level survey is done for well established idea.
- Sub – district level may be done for proper research work.

CONCLUSION

From the research area from Rajnagar block of selected five schools the majority students are suffering from malnutrition. Parents are hardly conscious about malnutrition. Their children suffer very much in acute category than others. So, it can be called that mostly students either primary or secondary fall in this acute condition due to unproportionate food quantity.

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