

## Chapter-3

# Review of Literature Review on Dietary Intake

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Leela and Shanthi (2002) conducted a study on 120 school children from Coimbatore, Tamil Nadu, India to determine the incidence of anaemia among these children, their morbidity pattern and serum FgA in relation to haemoglobin levels. Overall, 80% had anaemia (46.67% with mild anaemia and 33.33% with moderate anaemia). Mean haemoglobin levels were 12-75, 11.03 and 9.17g/dl for non-anaemic mild anaemic and moderate anaemic children respectively. Food and nutrient intake was inadequate in both anaemic and non-anaemic children.

Vijayapushpam *et al* (2003) conducted a study to determine nutrition knowledge levels and dietary intakes among children from Hyderabad, Andhra Pradesh, India, with low or high socio-economic status (SES). Consumption of pulses was more frequent among children in high SES group. Intake of non vegetarian food was the same for both the group. Intake of milk, milk products, fruits and vegetables was higher among children in high SES group. After nutrition education, children in the high SES group performed better in answering questions related to food and

nutrition. An improvement in knowledge level with respect to specific question was observed.

Meenakshi and Yashpal (2004) conducted a study in one government and one private school 60 children aged 7-9yrs were randomly selected from each school. The data on food consumption pattern were collected using 24hr recall method. Mean daily consumption of cereals was significantly higher than recommended dietary allowance (RDA) in government school children. However, it was significantly lower among private school children. Mean consumption of pulses, green leafy vegetables, fruit, milk and milk products were significantly lower than the RDA among children from both school. Mean daily intake of protein, thiamine, riboflavin and niacin was significantly higher than the RDA among children from both schools, whereas, mean intake of energy, iron, calcium and vitamin A and C was significantly lower than RDA.

Sonali *et al* (2007) .A total of 315 children aged 9-13yrs recruited from 30 school in Pondicherry were examined for the presence of goitre and their urine samples were tested for iodine levels (UIE) of the studied children, 44.4% had inadequate iodine intake and showed urinary iodine level of <100mcg/lt. Among them 14.3% had severe iodine deficiency with a urinary iodine level of <50mcg/lt. The prevalence of goitre was 15.34%. It is concluded that the prevalence of iodine deficiency and goitre in Pondicherry is high and weight have an unseen impact on the intelligence of and school performance of these children.

### **REVIEW ON GROWTH ASSESSMENT**

Abdenur *et al* (1994). The relation of measured and estimated indices of adiposity with the spontaneous GH secretion (SGHS) was examined in 37 normal short stature children. 15 of the 37 patients (10 male and 5 female) were pubertal, and 22 (17 male and 5 female) were pre pubertal. The percentage of body fat and body fat mass index was used as measured indices of adiposity. The weight for height ratio, body mass index, and body mass index *Z* scores were calculated and used as estimated indices of adiposity. The result showed that SGHS is greatly influenced by variation in adiposity in normal short stature children, and measured indices of adiposity demonstrated the strongest negative correlation with SGSH. The result suggests that interpretation of SGHS must take into account body composition and gender in addition to pubertal status.

### **REVIEW ON SOCIO-ECONOMIC**

William *et al* (1982) studied an extensive inventory of the physical and socio-cultural environment of the family including measurement of the physical quality of life, socio demographic characteristics of the parents reported morbidity and mortality health care facilities and their utilization. By linking the socio-economic information with anthropometric measurements on the child it is possible to identify key socio-economic variables associated with nutritional status.

Chern and Rickersten (2003) presented the results of several comparative studies on the impact of health information on food consumption behaviour amongst various socio-economic groups and across many different

countries along with economic analysis of food demand estimations and the implication for future food systems.

Medhi *et al* (2006). Community-based cross-sectional survey in eight randomly selected tea gardens of Dibrugarh district of Assam was undertaken. Prevalence of underweight among children was 59.9% (357 of 596), and thinness among adults was 69.9% (1,213 of 1,735). Anemia was widespread. Worm infection (65.4%, 217 of 332); skin problems; respiratory infections, including tuberculosis; filariasis were present in a significant way.

### **REVIEW ON COMMUNITY NUTRITION**

Lindquist (1968). The study discussed about the different nutritional standards- minimal, optimal and maximum intakes- and their relation to each other. It also gives a survey of values for optimal intake of various nutrients in childhood. The recommendation for intake of nutrients is given per 1000 calories of the energy supply.

Stig Sjolin (1968). Food consumption studies are greatly needed for disclosing possible dietary defects and for planning improved food habit.

Krishnamoorthy (1983). The fundamental rights of the constitution guarantee the right to equality by prohibiting any discrimination on the ground of religion, race, sex or the place of birth. The Directive Principles of the State Policy provided for the promotion of the educational and economic interest of schedule casts and schedule tribes and other weaker section of the society.

Devadas (1987) informed about the nutritional knowledge of mothers from 200 families before and after 10 days during which they attended a detailed educational programme incorporating nutrition home science health and child care. After education the green leafy vegetable eating families increased from 4% to 58.5. Improvement was also found on fruit consumption and cooking practices.

Albrecht *et al* (1992). The vulnerability of young children in child care facilities to illnesses associated with foods is discussed in relation to food handling in such facilities. Although commercial facilities are subject to inspection by local or state health agencies, child care facilities are subject to inspection by local or health agencies, child care providers operating in private homes have limited screening. Recommendation for providers operating in private homes have limited screening. Recommendation for educational food safety workshops for child care food handlers are made, in the light of a survey of the food safety knowledge of child care centre food handlers.

Nawani (1994) gave emphasis on production, availability and consumption of cereals, which are known to contribute around 70 percent of the energy and protein requirement and which happen to be the first objective to be attained by a poor household. The production, availability and consumption of pulses and other foodstuffs as also all the nutrients has also been examined to see the position of availability of staple and balanced diets.

Dwyer (2003) gave definitions of public health and community nutrition; goals of community nutrition; history of community nutrition and health; nutrition screening, assessment, and intervention; nutritional monitoring and

surveillance at the state and national levels; management of community nutrition services (planning, implementing, monitoring and evaluation); current nutritional status of infants; children and adolescents; nutrition for children with special needs; existing food and nutrition programmes; web-based resources for community nutrition; and lessons learned from community nutrition efforts.

Seghal *et al* (2007). Community nutrition encompasses a broad set of activities designed to provide access to a safe, adequate and healthful diet to a population living in a particular geographical area. The activities include nutrition education, nutrition and health promotion, food programme, supplementation programme, preventive programme, local policy analysis and development of organizational infrastructure that support it.

Bhattacharjee (2007) tested the FMFH approach in four different regions of India involving school children from urban slums, rural areas and high income urban families. The FMFH models and materials were incorporated in classroom teaching and other activities by school teachers who underwent participatory training. Significant changes in children's knowledge and perceptions of hunger, nutrition and food security were observed at the end of the intervention.

Rajet *al al* (2009). A population of 25 228 children was selected using stratified random sampling method from schools in a contiguous area in Ernakulam District, Kerala, India. Weight and height were measured. The paired data of 12 129 children aged 5-16 years were analyzed for the study. The percentage of underweight, normal weight, overweight and obese children in the year 2003-04 were 38.4%, 56.6%, 3.7%, and 1.3%

respectively. The corresponding figures in year 2005-06 were 29.9%, 63.6%, 4.8% and 1.7% respectively. Among the underweight children, 34.8% migrated to normal weight status and 0.1% migrated to overweight status. Conversion of underweight to normal weight predominated in urban area and girls. Among the normal weight children, 8.6% migrated to underweight, 4.1% migrated to overweight and 0.4% migrated to obesity. Conversion of normal weight to overweight status predominated in urban area, private schools and boys.

### **REVIEW ON MALNUTRITION**

Chandra (1982). The extent to which the nutrient intake can alter cellular function depends largely on cell multiplication and protein synthesis, so under nutrition is a major cause of immunodeficiency affecting not only developing countries but also individuals in urban slums and those developing malnutrition secondary to acute and chronic systemic disease

Pratap Kumar *et al* (1982). Low agricultural productivity combined with a poor distribution of the food stuffs available and poor environmental conditions have combined to make malnutrition a fact of life in developing countries. Malnutrition may begin before birth due to a low plane of maternal nutrition which leads on to low placental weight and birth weights. The clinical symptoms observed in malnourished children admitted in Trivandrum include skin symptoms such as dry scaly and or wrinkled skin, flaky paint and crazy pavement dermatosis, scabies, hair symptoms (dyspigmentation, sparse and easily peuchable), symptoms of oral cavity such as angular stomatitis, chielosis and grossis.

Kathuria and Argena (1991). Sample consists of 100 school children in the age group of 6-10 years from two primary schools of Delhi were taken for study. The tools used for the study were: (1) Neki's behaviour problem inventory; (2) Weighing scale and measuring tape for anthropometric measurement. A questionnaire was also used to get information regarding children from their mothers. Median test and Chi-square test were employed to study relationship between malnutrition and behavioural problems. Fifty four per cent of the children turned out to be malnourished depending upon their anthropometric measurements. Malnourishment did not seem to have significant relationship with behavioural problems..

Mishra and Rutherford (2000). Measurement and analysis of children's weight and height in Andhra Pradesh, Himachal Pradesh, Madhya Pradesh, Tamil Naidu and West Bengal of India, more than half of all children under age 4 are stunted, indicating chronic malnutrition, about one in six is wasted, indicated acute malnutrition and more than half are underweight of their age. Child malnutrition is considerably higher in rural areas than in urban areas.

Dutta and Pant (2003). The newly formed state of Uttaranchal in India has diverse agro climatic conditions. Over 30% of the population suffers from under nutrition, higher than the average of 20%. People residing in high hills and the rural population, on whom developmental activities should be focused, are relatively undernourished.

Vashist *et al* (2003).The Ropar girls showed better performance in growth pattern at age 5 and 6yrs of age in comparison to other rural Punjabi girls and urban Indian girls. However, girls aged 7-10yrs from other rural areas



and urban areas showed better performance in growth status. Grade I and Grade II malnutrition were prevalent among the rural Ropar girls, although, the percentage of severely malnourished girls was insignificant.

Jain *et al* (2003) Nutritional status of 44 children with newly diagnosed malignancy was evaluated by anthropometric, hematological and biochemical parameters before initiating therapy and response to therapy was assessed during follow up. Malnutrition was seen in 56.8% children by weight for age criteria (WFA  $<-2z$ ). Low hemoglobin was found in 82% children, 25% had low total proteins ( $<5.7g/dL$ ), 20.5% low serum albumin ( $<3.2g/dL$ ), 27.3% low serum transferrin ( $<210mg/dL$ ) and 16.3% low serum iron ( $<60ug/dL$ ). Mean anthropometric and biochemical parameters were higher among the survivors compared to non-survivors. Significant difference between the well nourished and the malnourished group was detected in the achievement of remission/response (69.5% vs 38.1%), delays in therapy (8.7% vs 38.1%) and mortality (30.5% vs 61.9%). Complications like febrile neutropenia and bleeding were more in the malnourished group. A statistically significant higher incidence of infection was seen in children with serum iron  $<60ug/dL$  than those with higher values of serum iron (42.8% vs 8%). Malnutrition is a major determining factor in treatment planning, complication rates, response to therapy and survival.

Vashisht *et al* (2005). The school going children are the most important segment of every society. Good nutrition is also a determinant of healthy growth of mind and the body.

Kumari and Rita (2005). High incidence of malnutrition was observed from the assessment of the school children from rural Bihar. The mean height and height of the children were below the standard values. However, increment in height and weight were higher in girls than boys, although intake of food and nutrients were not significantly different between boys and girls. Nutritional deficiency diseases such as iron deficiency, riboflavin deficiency, dental diseases, protein energy malnutrition and vitamin-C deficiency were observed.

Shahi *et al* (2005). The study was conducted in Jaipur and Jodhpur districts of Rajasthan to explore the prevalence of malnutrition in children. It was observed that only 12% of the children from Jaipur and 9.6% from Jodhpur were normal and remaining children were suffering from one or the other levels of malnutrition. In both the cities mild and moderate grades of malnutrition was found after the age of one year. Regarding factors associated to malnutrition, majority of pediatricians told poverty to be the first major factor related to malnutrition followed by feeding habit, ignorance and infection.

Mirza *et al* (2006). Tens of millions of people in many countries still do not have adequate food for leading a healthy and active life. Approximately 854 million people in the world are chronically undernourished with no access to sufficient to meet even minimum energy needs. School teachers have an important role in making children realize they have an important role in ensuring a world free from hunger.

Blank (2007) concluded that lack of essential nutrients such as protein, carbohydrates, fats, vitamins and fibers (cereals and cereal products, dairy

products, poultry products, animal products, sea food) in ones daily diet would lead to serious malnutrition and health deterioration.

Budhiraja and Bhar (2007). Under-nutrition and malnutrition are major health problems among children in developing countries. According to one estimate, 65% population of the developing countries suffers from malnutrition; women and children constitute bulk of it. Besides food availability, socio-economic and cultural factors have also conditioned nutritional status of the people. 60% of the girls were found undernourished. Acharjee *et al* (2007) concluded that the access to food with adequate quantity and proper quality is the basis to ensure nutrition and fight malnutrition. The study was conducted on school children aged 6-14yrs in four villages of Haringhata block in West Bengal, India to assess the food intake volume in terms of some agro-economic and socio-personal variables. Multiple regression analysis showed that family education, body weight, mother's age was the primary factors associated with the quantity of food consumed by the target respondents. The variable body weight of children had the most significant impact on the quantity of food consumed by the children

Jukhral *et al* (2007). India has the largest child population in the world; ground realities, government policy on children. Food security: malnutrition and nutrition, government action; one in every three malnourished children in the world lives in India.

Gill (2008) studied nutrition status of 812 rural primary school children from 6 to 15 years of age. The diet in a sample of 45 families was deficient in all the nutrients except carbohydrates, iron and thiamine and yielded only

2390 calories per consumption unit. 77.1% of the children suffered from malnutrition. Signs of protein deficiency were found in 60.8% of Vit A deficiency in 46.3, of Vit D/calcium lack and essential fatty acids in 10.3% each. Malnutrition has a dampening effect on their growth potential particularly during their spurt period.

Balaji and Dustagleer (2009) discussed factors leading to malnutrition and micronutrient deficiencies in India and presented an overview of the prevalence of nutritional disorders in the country. It is concluded that there is a need for counseling and education of patients, families and care givers on the advantages of breast feeding, complementary feeding of children adequate nutrition for pregnant and lactating women, intake of iodized salts and mineral supplementation. Early deficiency states should be diagnosed and treated early in order to decrease morbidity and mortality.

Jelliffe (1966). The principal aim of the nutrition assessment of a community is, to map out the magnitude and geographical distribution of malnutrition as well as public health problem, to discover and analyze the ecological factor that are directly or indirectly responsible and where possible to suggest, appropriate corrective measures preferably capable of being applied with community participation.

Lindquist (1968) discussed about the different nutritional standards- minimal, optimal and maximum intakes- and their relation to each other. It also gives a survey of values for optimal intake of various nutrients in childhood. The recommendation for intake of nutrients is given per 1000 calories of the energy supply. The study reviewed the different reasons for

recommending a higher protein intake than what is considered to be minimal requirement.

Sood and Kochar (1993). The nutritional status of 24 boys and girls aged 13-15, from the villages of Utrala, Bhawarna and Thural, in the Kangra district of Himachal Pradesh, India were surveyed. Height, weight, arm circumference and body mass index were recorded in addition to basal metabolic rate, blood pressure, serum protein level and daily creatine excretion. The mean anthropometric measurements were below the reported Indian standard. Diastolic blood pressure was normal, while systolic blood pressure was sub normal. Blood haemoglobin was not correlated with income or anthropometry or blood pressure in either sex. The data collected indicates wide spread malnutrition in these villages which is attributed to ignorance, illiteracy, poor eating habits and inadequate nutrient intake.

Chandna and Sehgal (1995). In a study of 6-12yrs old school children and their mother's, the effect of mother's nutrition knowledge level on nutritional status of school children of Panipat City, India was examined. 11% of mothers had excellent knowledge regarding various aspects of nutrition while the majority of mother had good and fair knowledge scores. Intake of cereals, milk and milk products was significantly higher in children whose mother had excellent, good and fair nutrition knowledge compared to children whose mother had poor knowledge. Higher nutrient intake in children whose mother had excellent, good and fair knowledge resulted in better anthropometric values and higher haemoglobin and serum retinol levels. The study indicates that nutrition knowledge level of mothers significantly affect the nutritional status of their children.

Awasthi Nivedila Kumar (1999). The study was conducted among primary school children of Kumaon hills (Uttar Pradesh, India) with the objective of assessing nutritional status of 7-9 age groups. The measurement of all the age group and of both sexes was far below the 50<sup>th</sup> NCHS percentile values. Based on Gomez classification about 75% of the children suffered from various grades of malnutrition. Diets were inadequate in energy, fats, calcium, iron, beta-carotene and ascorbic acid. Significant correlation existed between family size and diet quality, birth order and diet quality, per capita income and cereal intake and mother's education and clinical signs of deficiency. It is concluded that the nutritional status of hill primary school children is poor and immediate measures are required to improve the situation.

Aggarwal *et al* (2000) A cross sectional study was conducted during in eight government primary schools including a total of 736 children in rural Haryana, India to study the morbidity pattern and nutritional status among these children. Various morbidity condition and anthropometry were recorded in pre-designed performa. The most common morbidity found was pallor (23.8%) followed by signs of xerophthalmia (21.6%) dental caries (16.8%) worms infestation (73%) refractive error(16.3%) skin infection(8%) and ear infection (13.7%). Moderate malnutrition was higher among males than in females whereas, moderate and severe stunting was marginally higher among man than in females.

Satter *et al* (2001). Cross sectional study was carried out to compare nutritional status amongst children of 5–10 years of age of different socio-economic status. The study revealed significantly ( $p < 0.05$ ) lower heights of both male and female children of low SES compared with of high SES at the age of 5–5.9 years and those older than 9 years. Similarly, mean weight of children of low SES was significantly ( $p < 0.05$ ) lower than children of

middle and high SES. Mid-arm circumference was also significantly ( $p<0.05$ ) lower in both males and females of low SES than high SES. In children of low SES, significantly greater TSFT was observed in females than males at 5–6.9 years and 9–9.9 years of age while in children of middle SES TSFT was observed at 6–6.9 and greater than 8 years of age. The data showed significantly lower values ( $p<0.05$ ) of TSFT in children of low and middle SES than those of high SES in both male and female of all age groups

Kunwar and Pillai (2002). In a cross-sectional study the nutritional status of 2585 school children, including 1253 boys and 1332 girls, aged between 5 and 15 years was correlated with the levels of literacy of their parents. The study showed a direct relationship between the levels of literacy of parents and the nutritional status of children. When the same was tested separately for mothers and fathers in relation to the sex of the child, it was noted that nutritional status of boys and girls was not different irrespective of mother's literacy level. In case of fathers it was noticed that with the increase in the literacy level of fathers, the nutritional status of boys was better than that of girls.

Kunwar and Pillai (2002). A cross sectional study was conducted in the primary school in large cantonment to evaluate the effect of parental education on nutritional status of primary school children in India. The children's nutritional status was assessed using weight for age with all children for weight for age  $<80\%$  of standard considered as undernourished. Out of 2585 children included in the study 848(32.80%) were undernourished. A direct correlation was found between the literacy level of

the parents and children's nutritional status, such that 36.57% of the children were undernourished when both parents were illiterate or educated up to primary education only. As the literacy status of both parents improved the proportion, the proportion of undernourished children decreased. This association was found to be statistically significant. In conclusion, parent's education is an important determinant of nutritional status of children.

Gaur and Sharma (2003). The nutritional status of a cross sectional sample of 255, 6-11yrs old school going backward class children was evaluated mainly with the help of weight-for -age, stature-for-age and weight-for-stature, calculated as Z-scores for each individual. The growth performance in weight and stature of the backward class children was poor. The percentage of malnourished children according to weight-for-age, stature-for-age and weight-for-stature was 30.6%, 36.8% and 9.8% respectively. The percentage of malnourished males was more than that of females.

Khalil and Khan (2004). An anthropometrics profile of 1240 children 888(71.61%) boys and 352(28.38%) girls of age 6-14 year was studied in 12 rural school The mean height and weight increased monotonically with age along with high degree of positive correlation between height and weight in both boys and girls (except for 114 years of age for girls) .The overall increase in a mean height is more in boys(40.52cm) than girls (37.35cm), but increase in mean weight was more for girls(19.76kg) than boys (16.92). It can be concluded that boys are taller than girls but girls are heavier than boys at pre-puberty and puberty(14 years of age).



Agrahar and Murugkar (2005). The study was conducted by the method of personal interviews using questionnaires and 24-h dietary recall. The nutritional status of Khasi girls with age groups of 6-12 was studied. Most girls of age 7-9 had Grade I malnutrition. Girls of age 10-12 yrs had the highest incident of moderate malnutrition. Severe stunting was observed in all age groups. Average energy consumption was significantly lower than the recommended dietary allowance in all the age groups. Consumption of protein by children of age 7-9 yrs and 10-12 yrs was also significantly lower than the recommended dietary allowance. Sociologic community factors are required to facilitate implementation of a nutritional package and availability of key nutrients to ensure growth in children.

Semwal *et al* (2006). The nutritional hazards of school children under study were found to be low, more so in girls than in boys in spite of the mid-day meal programme being run in all the schools.

Medhi *et al* (2006). Conducted a study to assess the growth and nutritional status of school age children (6-14 years) of teagarden workers of Assam. Compared to NCHS standard and affluent Indian children, the mean height and weight of tea garden children was inferior at all ages. Assessment of nutritional status using WHO recommended anthropometric indicators revealed a high prevalence of malnutrition among tea garden school age children and malnutrition was both chronic and recent in nature. Prevalence of wasting, stunting and underweight was 21.2%, 47.4% and 51.7% respectively among the children in the age group of 6-8 years. Prevalence of stunting and thinness was 53.6% and 53.9% respectively among the children in the age group of 9-14 years age group.

Medhi *et al* (2006). Community-based cross-sectional survey in eight randomly selected tea gardens of Dibrugarh district of Assam was undertaken. Out of 4,016 participants, 1,863 were male and 2,153 were female. They were mostly illiterate, and nearly 52.9% (1,197 of 2,264) of adults were manual workers in the garden. Alcohol and oral tobacco use were common. Prevalence of underweight among children was 59.9% (357 of 596), and thinness among adults was 69.9% (1,213 of 1,735). Anemia was widespread. Worm infection (65.4%, 217 of 332); skin problems; respiratory infections, including tuberculosis; filariasis were present in a significant way. Children suffered more in various diseases. Major non communicable diseases like hypertension, stroke were emerging in the community and were associated with modifiable risk factors like alcohol and tobacco use.

Shrihari *et al* (2007) reviewed on nutritional status of Indian school children 6-18 years from middle and high socio economic status. Studies showed that anemia prevalence (hemoglobin concentration <120 g/L) ranged from 19 to 88% across five different cities in India. Other micronutrient deficiencies including, folate, riboflavin, niacin, vitamin C, vitamin A, and vitamin B12 were also present based on biochemical parameters in one study and clinical signs of deficiency in three other studies. Overweight and obesity were prevalent among 8.5-29.0% and 1.5-7.4% respectively among school children, as indicated by 11 studies. Predominant components in children's diet were cereals and pulses, followed by milk and milk products; the fruits and vegetables component was comparatively lower.

Oninla *et al* (2007). Carried out a study to determine and compare the **nutritional status of children** attending urban and rural public **primary**. The weight and height were recorded for each pupil, and converted to **nutritional indices** (weight for age, weight for height, height for age). A total of 749 pupils (366 and 383 **children** from the rural and urban communities, respectively) were studied. The present study shows that malnutrition (underweight, **wasting** and **stunting**) constituted major health problems among **school children in** Nigeria.

Singh and Sengupta (2007). Conducted a study based on a cross-sectional sample of 513 children (Boys=256, Girls=257) aged 6 - 10 years. The mean values of weight and height of boys and girls along with their standard deviation shows that in all the ages boys are heavier and taller than girls except in age 10 years, where girls are taller but the difference is not significant. It is found that the prevalence of underweight is slightly higher in girls (35.80 %) than in boys (32.03 %). Severe forms of underweight girl children (32.03 %) are more in number than their counterparts (7.42 %).

Maiti (2009) cited the status on nutrition of school going children in India and the role of central government-funded public welfare scheme where the center provides uncooked cereals (and transportation of food grains) free of cost. Protest against state against the state government's inability to provide mid-day meals to primary school students by NGOs.

Neelu *et al* (2010) studied the nutritional status of primary school children (5-11 years) in urban Meerut. 800 school children aging between 5-11 participated in this study. Students aged 5-11 years were included in the study. Weight and height of the children were recorded on a pretested

performa and were analysed. Out of 800, 396 children (49.5 %) were found to be malnourished. Grade I malnutrition was most common (35.5%) followed by grade II (11.4%) and grade III (2.6%) malnutrition. Wasting was found in 44.6% children (46.3% girls and 43.2% boys) out of which 1.2% children showed severe degree of wasting. Stunting was found in 43.8% children (46.0% girls and 41.8% boys). The study concluded that malnutrition can make learning difficult and can seriously hamper the educational process and the child's intellectual growth.