



A descriptive study to assess the nutritional status of school going children (05- 10 years) in selected schools of district Baramulla Jammu and Kashmir.

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Abstract:

The healthy population is the wealth of the Nation. Children are the vital human resource of country possesses. Children hold the potential and set the limits of future development of any country. “Better the Nutritional Status of the children will raise Nation”. Today’s children are tomorrow’s citizen who should be healthy. Therefore their nutritional status is of great significance. Good nutrition is the basic component of healthy growth development and for maintaining health throughout life. Malnutrition is a major public health problem that affects millions of children worldwide often leading to death or long lasting impairment¹. This study has been done to assess the nutritional status of school going children (05–10 years).

Method and Material : The current study was done following a quantitative research approach with a descriptive research design .the sample size was 500 school going children’s in a age group of 5 – 10 years, convenience sampling method was used. The objectives of study were **a)** to assess the nutritional status of school going children (5-10 years) in selected schools of district Baramulla India. **B)** To assess the nutritional value as per the world health organization (WHO) classification criteria in selected schools of district Baramulla India. A self-structured, demographic profile of subjects, Anthropometric Measurement scale, was used a tool for data collection. **Results:** the study revealed that the frequency and percentage distribution of subjects as per their socio- demographic characteristics that the majority of study subjects in age group were 9 -10 years, 55.4% were females, 43.2% were non vegetarian, 72% were secondary educated fathers, 70.8% were secondary educated mothers, 46.8% were self- employee fathers, 73.8% were labor/ house wife, 56.4% were having 2 children in family, 70.6% were from nuclear family and 69.8% were having monthly income 5001–15000.

CONCLUSION The finding of the study reveals that majority i.e. 90.8% of school going children had mild malnourished. 9.2% school going children had moderate malnourished. So steps can be taken for early prevention, detection, and treatment among children.

INTRODUCTION:

Nutritional status is the condition of health of an individual, influenced by nutrient intake and its utilization in the body. Nutrition of primary school children is of paramount importance because the foundation for their life time health, strength and intellectual vitality is laid during this period. It is a dynamic period of their physical growth as well as of their mental development. The malnutrition affects large amount of population in all developing countries like India. Both macro and micronutrient deficiencies are of important concern. Because of inadequate intake nutrition among primary school children may lead to improper development of their body and mind resulting in growth retardation, iron deficiency anemia, poor academic performance and development of psychosocial difficulties. Research indicates that nutritional deficiencies and poor health in them are among the major causes of low school enrolment, high absenteeism, early dropout and poor classroom performances.²

Nutrition plays a vital role in growth and development of children. The health nutritional status is requirement of a person convinced by the diet, the levels of nutrients containing in the body and normal metabolic integrity.

Normal nutritional status is managed by balance diet and normal utilization of nutrients. Malnutrition is caused by imbalance food intake and faulty utilization of nutrients. Inadequate nutrition leads to malnutrition, growth retardation, reduced work capacity and poor mental and social development. These conditions if encountered during childhood can leads to a life of poor productivity.³

Nutrition is one of the most essential things of life and plays a crucial role in body growth, development and maintenance of health. Without adequate nutrition it is not possible to maintain health and protection of the body from ailments. Nutrition provides energy to the body which utilizes it to perform hundreds of biological and physical activities. Though nutrition (food) is the basic need of life for human being, thousands of people are not able to get balanced or minimum food required for life across the world due to many reasons.⁴

The anthropometric measurements are series of quantitative measurements of the muscle, bone, and adipose tissue and used to assess the composition of the body. The core elements of anthropometry are height, weight, body mass index (BMI), body circumferences (waist, hip, and limbs), and skinfold thickness.¹⁰ It helps to measure the physical growth of children and all useful to assess the nutritional status of school going children according to different classification like IAP (Indian Academy of Paediatric), Gomez, waterloo's and world health organization classification to determine the nutritional status of children.⁵

BACKGROUND OF THE STUDY

School age is a dynamic period of physical growth as well as of mental development of the all Children. Health problems due to miserable nutritional status in school-age children are among the most common causes impairment physical and mental activity of child. There was some study had been done to assess the nutritional status of children in India e.g. A cross-sectional study to assess the nutritional status of rural children (6–12 years) of north Bihar and the prevalence of stunting and thinness was found to be 18.2% and 23.8%, respectively, among studied children. Stunting was significantly higher among girls (23.1%) in comparison to boys (13.9%)². The present health and nutritional status of the school age children in India is very unsatisfactory. Nutritional status is an important index of this quality of life of individual. In this respect, under-standing the nutritional status of children has far-reaching implications for the better development of future generations.⁶

The healthy population is the wealth of the Nation. Children are the vital human resource of country possesses. Children hold the potential and set the limits of future development of any country. “Better the Nutritional Status of the children will raise Nation”. Today's children are tomorrow's citizen who should be healthy. Therefore their nutritional status is of great significance. Good nutrition is the basic component of healthy growth development and for maintaining health throughout life. Malnutrition is a major public health problem that affects millions of children worldwide often leading to death or long lasting impairment.¹

Anthropometric can be sensitive indicators of health, growth and development in infants and children. Anthropometric is the single most universally applicable, inexpensive and non-invasive method available to assess the size, proportion and composition of human body (WHO - 1995). According to WHO the ultimate intention of nutritional assessment is to improve human health like physical and mental health of all age children by measuring

height and weight of children. Malnutrition was referred to an impairment of health either from a deficiency or excess or imbalance of nutrients among children.⁷

Anthropometric measurements are closely related to assess the nutrition status, genetic makeup, environmental characteristics, social and cultural conditions, lifestyle, functional status and health. Anthropometric measurement is essential tool for determining malnutrition, overweight, obesity and muscle wasting. There was some study had been done to assess the nutritional status of children of age 5-14 years in covered rural area of Private Medical College, Kanpur in India and the prevalence of underweight, stunting and thinness (BMI<-2SD) for age/sex among children were 27.8%, 22.9% and 22% respectively. Study also concluded that prevalence of under nutrition was found to be higher among females as compared to males⁶. Anthropometric parameters are used to evaluate the progress of chronic and acute diseases, and guide for medical intervention in the elderly.⁸

Nutrition is essential for healthy growth and development. Eating healthy diet contribute to preventing future illness and improving quality and length of life. Nutritional status is the state of health is determined by what we eat. There are several ways of assessing nutritional status, including anthropometric (i.e. physical body measurement), food intake and biochemical measurement differ by age and the state of the body. The essential nutrients include protein, carbohydrate, fat, vitamins, minerals and electrolytes. Normally, 85% of daily energy used in from of fat and carbohydrates and 15% from protein. The humans, received nutrition through the process of putting foods into our mouths, chewing and swallowing it.⁹

According to WHO criteria the inter agency team released new joint estimates for child stunting, overweight, wasting and severe wasting (March 2019) using the same methodology as in previous. These new estimate results analysis published by UNICEF, WHO and the World Bank group.¹⁰

NEED OF STUDY

Nutritional status of primary school children is an important tool to assess and evaluate the nutritional status of children and helps to develop school feeding program which promotes health status during this age. Poor nutritional status has negative effects on health and development which will have adverse effects on their school performance and also prone to developing chronic diseases later on. There are not enough studies to assess the nutritional status of primary school children. There was some study had been done to assess nutritional status and morbidity pattern among primary school children in Sullia town, South India and the prevalence of malnutrition (thinness) among the primary school children is 26.5%. The prevalence of underweight and stunting were 26.5%, 19.2% and 26.5% respectively.¹⁷ The health and nutrition of primary school going children has been recognized by several organizations and governments health agencies, has positively contributed their educational achievements, growth, and development.¹¹

Nutritional deficiency is one of a Global challenges. Nutritional deficiencies are common health problem in all developing countries like India. School age stage is an active growing phase. Physical growth as well as of mental development of the child is more during primary school period. There was some study had been done to assess the prevalence of malnutrition in school children 6-14 years of age in rural and urban area of Bikaner, Rajasthan in India and the prevalence of underweight and overweight (based on weight for age) was found to be 19.72% and 0.70% respectively. 9.86% of the study population was found to be stunted. Thinness and obesity (based on BMI-forage) was seen in 22.22% and 1.95% children. The study result reveals that the prevalence of malnutrition was found to be 24.17%.¹⁹ Many research study reviews shows that health problems during primary school-age period is due to nutritional deficiencies and also it leads to unsatisfactory or inactive classroom perform in primary school children.¹² Nutritional status is the condition of health of an individual, influenced by nutrient intake and its utilization in the body. Nutrition is an important element of health which helps to growth of body. More than 1 million cases are found in India per year. In developing countries like India, various forms of malnutrition affects large amount of population. There are so many factors which are known to affect the nutritional status of school going children.¹³

Malnutrition can affects any age group in community, but infants and young children are the most vulnerable groups of malnutrition due to their high nutritional requirements for growth and development. Malnutrition is broad terms commonly used as under nutrition but it also refers to over nutrition. People are considered malnourished if their diet does not provide adequate calories and protein for growth and maintenance (under nutrition) or if they consume too many calories (over nutrition). Malnutrition among children is a major public health problem especially in developing

countries. It affects all aspects of children's health, including physical health, mental, social and spiritual wellbeing. Many developing countries continue to experience poor.¹⁴

Inadequate taking of nutritional diet which causes the development delay in children physical and mental growths. Malnutrition underlined factors in many diseases in all age children. It is serious health problem in world and it enhances the morbidity and mortality rate in all age children due to inadequate diet intake. All the health professionals detect the nutritional status of school going children was major health problem in India. Children were suffered with the nutritional deficiency problems.¹⁴

During my community exposure as clinical instructor for B.Sc. Nursing students , I had seen so many school going children (05 – 10 years) who were visiting the hospital with health and nutrition related problems like underweight, overweight, And with delay physical and mental development due to inadequate intake of balance diet during developmental period. Hence researcher felt that there is need to assess the nutritional status of school going children of age group 05-10 years in order to combat malnutrition at individual, family and community level

STATISTICAL METHODS

The analysis of data was done in accordance with the objectives of the study. The data was analysis by using descriptive and inferential statistics through percentage, and Pearson chi- square test. p- value <0.01was considered significant. 17- SPSS was used for analysis.

Results

Table 1

Distribution of the study subjects by their selected demographic variables

N=500

S.No.	Sample Characteristics	Frequency (n)	Percentage (%)
1.	Age (years)		
	5 -6	62	12.4
	7 -8	192	38.4
2.	Gender		
	Male	276	44.8
	Female	224	55.4
3.	Pattern of diet		
	Vegetarian	191	38.2
	Non- vegetarian	216	43.2
4.	Education status of Father		
	Illiterate	17	3.4
	Primary	74	14.8
	Secondary	361	72.2
5.	Education status of Mother		

	Illiterate	23	4.6
	Primary	83	16.6
	Secondary	354	70.8
	Graduation and above	40	8.0
6.	Occupation of Father		
	Government employee	49	9.8
	Self- employee	234	46.8
	Private employee	124	24.8
	Labor/ farmer	93	18.6
7.	Occupation of Mother		
	Government employee	3	0.6
	Self- employee	90	18.0
	Private employee	38	7.6
	Labor/ House wife	369	73.8
8.	No. of children in family		
	1	45	9.0
	2	282	56.4
	3	133	26.6
	More then 3	40	8.0
9.	Type of family		
	Nuclear family	353	70.6
	Joint family	141	28.2
	Extended family	6	1.2
10.	Monthly income (In Rupees)		
	≤ 5000	9	1.8
	5001- 15000	349	69.8
	15001- 25000	96	19.2
	≥25001	46	9.2

Table 1: reveals that the frequency and percentage distribution of subjects as per their socio- demographic characteristics i.e. 49.2% (246) of study subjects were in age group of 9 -10 years followed by 38.4% (192) in the age group of 7-8 years and 12.4% (62) were in the age group of the 5-6 years.

- As per the gender of school going children, majority of study subjects were females i.e. 55.4% (224) and males were 44.8% (276) only.
- As per pattern of diet school going children, majority of study subjects i.e. 43.2% (216) were non- vegetarian, followed by 38.2% (191) were vegetarian and only 18.6% (93) were eggetarian.
- As per educational status of father of school going children, majority of father of study subjects were studied up to secondary level i.e. 72.2% (361), followed by 14.8% (74) were primary, 9.6% (48) were graduation / above and only 3.4% (17) were illiterate.

- As per educational status of mother of schools going children, majority of mother of study subjects were studied up to secondary level i.e. 70.8% (354), followed by 16.6% (83) were studied up to primary level, 8.0% (40) were studied up to graduation /above and only 4.6% (23) were illiterate.
- As per occupational status of father of schools going children, majority of fathers were self- employee i.e. 46.8% (234), followed by 24.8% (124) were private employee, 18.6% (93) were labor / farmer and only 9.8% (49) were government.
- As per occupational status of mother of schools going children, majority of mothers were labor / house wife i.e. 73.8% (369), followed by 18.0% (90) were self- employee, 7.6% (38) were private employee and only 0.6% (3) were government.
- As per the Number of children in family of school going children, majority of number of children in family having 2 children i.e. 56.6% (282), followed by 26.6% (133) were having 3 children in family, 9.0% (45) were having 1 child in family and 8.0% (40) were having more than 3 children in family.
- As per types of family of school going children, majority of study subjects were belonged from nuclear family i.e. 70.6% (353), followed by 28.2% (141) were belonged from joint family and only 1.2% (6) were belonged from extended family.
- As majority 69.8% (349) of study subjects having their parental monthly income 5001-15000, followed by 19.2% (96) having 15001 – 25000, 9.2% (46) having ≥ 25001 and only 1.8% (9) having ≤ 5000 .

Hence it is concluded that the majority of study subjects in age group were 9 -10 years, 55.4% were females, 43.2% were non vegetarian, 72% were secondary educated fathers, 70.8% were secondary educated mothers, 46.8% were self- employee fathers, 73.8% were labor/ house wife, 56.4% were having 2 children in family, 70.6% were from nuclear family and 69.8% were having monthly income 5001–15000.

Table 2

Assess the nutritional status as per WHO classification criteria

N = 500

WHO Weight for age	WHO Height for age	WHO Weight for Height
Normal 29 (5.8%)	Normal 15 (3%)	Normal 322 (64.4%)
Under Weight 47 (9.4%)	Stunted 96 (19.2%)	Wasted 124 (24.8%)
Severely Under Weight 314 (62.8%)	Severely stunted 389 (77.8%)	Severely wasted 54 (10.8%)
Overweight 110 (22%)		

Table 2 (A) represent that the magnitude of nutritional status according to WHO criteria, weight for age 5.8% (29) children were having normal adequate weight for age, 9.4% (47) were under weight, 62.8% (314) were severely under-weight, 22% (110) were overweight.

- As per WHO criteria height for age, 3% (15) were having normal adequate height for age 19.2% (96) were stunted and 77.8% (389) were severely stunted.
- As per WHO criteria weight for height 64.4% (322) were having normal weight for height, 24.8% (124) were wasted and 10.8% (54) were severely wasted.

CONCLUSION

- The finding of the study reveals that majority i.e. 90.8% of school going children had mild malnourished.
- So steps can be taken for early prevention, detection, and treatment among children.

IMPLICATIONS

The study findings have very important implications for the nursing profession i.e. clinical practice, community health nursing, nursing education, nursing administration and nursing research. In all these areas nurse act as educator, organizer, leader, counsellor and motivator and can help parents to have better understanding about associated causes, early detection and prevention of malnutrition to greater extent.

NURSING EDUCATION

- It was concluded from the present study that malnutrition is still prevalent among school going children.
- Nurse can provide nutritional education to parents and community people regarding nutritional problems
- Nurse can provided information regarding health services which are available at PHC, CHC level.

NURSING PRACTICE

- The study reveals that malnutrition among school going children is still prevalent among school going children.
- Nurse can planned some practices like clinical observations, anthropometric measurements to detect and treat the problem early
- Nurse must have in- depth knowledge regarding for early detection of problems that occurs because of malnutrition and their treatment.

NURISNG ADMINISTRATION

- Under nursing administration policies should be formed to make the parents aware regarding malnutrition and screen the child for it.
- A public health workshop can be organized to make the parents more knowledgeable regarding malnutrition and its associated causes.

NURSING RESEARCH

- Finding of this study can be utilized by making parents and child aware about the malnutrition.
- This study forms the base for extensive research in future in this direction as few studies have been conducted in the area of assessment of nutritional status.
- The study can be large sample to make the picture clearer and the finding generalizable.

LIMITATION OF STUDY

- A purposive sampling technique was used for data collection, which restrict the generalization of the study to particular setting.
- Tool clinical profile used for the study was not standardized one. So , all the limitations in use of constructed tool were applicable to the study.

RECOMMENDATIONS FOR FUTURE RESEARCH

The following recommendations are made on the basis of the present study:

- The study can be conducted on a large sample to generalize the finding.
- Similar study can be conducted with multi – setting approach
- The study can be conducted in community setting to have a clear picture of nutritional status in a particular community.

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