Volume : 3 | Issue : 2 | Feb 2014 • ISSN No 2277 - 8160

Research Paper | Home Science

Assessment of Dietary Behavior Among 10-12 Years old School Children

B.P.Sudha

Assistant Professor, Department of Nutrition and Dietetics, The Standard Fireworks Rajaratnam College for Women, Sivakasi- 626 123. Tamil Nadu.

ABSTRACT

India has more children of school age than china (Huebler, 2007). Approximately 190 million of the growing population consists of school going children in India (Sarva Shiksha Abhiyan, 2005). Good dietary behaviour helps to maintain the children's health and also minimize the nutritional deficiency diseases among children. To know the dietary behaviour, 150 children (10-12 years) were selected from Mayapandeeswari Middle School, in Theni district. A questionnaire was structured to collect the information like socio-economic background, food consumption frequency and dietary survey (24 hours recall for 3 days) of the respondents. The percentage of deficit /excess of the nutrients consumed by the respondents were also calculated. The mean consumption of the nutrients reported that, energy, carbohydrate, protein, fat, calcium, iron, β-carotene, thiamine, riboflavin, niacin, folic acid and Vitamin C intake were less than the RDA. Inadequate intake of essential nutrients for long time will lead to nutritional deficiency diseases.

KEYWORDS :

Introduction:

School age is a dynamic period of physical growth and development along with mental, emotional and social changes (Vijayalakshmi et al., 2008). Growth and development is faster in this age and the children develop their new tissues constantly and replace the old ones during this period (Salins, 2005).

Nutrition in childhood is the basis for survival and good health (Vasanthaman & Rani, 2010). To sustain and maintain good health body needs well balanced diet of different nutrients in right proportion (Salins, 2005). Inadequate diet may produce severe form of nutritional disorder in children (Balaji & Dustaghear, 2000). The most important nutritional disorders among children are Protein Energy Malnutrition, Under Nutrition, Vitamin A Deficiency, Iodine Deficiency Disorder and Nutritional Anaemia.

The UNICEF reported that 150 million children are malnourished worldwide. One in every three malnourished children lives in India (Meera, 2009). According to the World Health Organization, an estimated 250 million children in more than 100 countries are vitamin A deficient (Laxminarayan et al., 2008).

In developing countries alone about 1000 million are at risk of IDD, of which 200 million are suffering from goiter, 5 million have gross cretinism with mental retardation while another 15 million suffer from lesser degree of mental defect (Mohanty et al., 2007).

According to WHO, anaemia is estimated to affect more than 2 billion people worldwide (Kriviene and Regeliene, 2006). More than 400 million women, 56 million pregnant women, 293 million pre-school age children and 305 million school age children around the world suffer from anaemia (WHO, 1993-2005).

Healthy eating habits among school age children play a key role in reducing the various risks associated with both immediate and long term health burden diseases (Meera, 2009). So, the present study titled "Assessment of Dietary Behavior among 10-12 years old School Going Children".

Methods and Materials:

The study was conducted in Maya Pandeeswari Middle School which is located in Melmangalam, Theni district, Tamilnadu. The investigator selected one hundred and fifty children in the age group of 10 to 12 years using purposive random sampling method. A detailed questionnaire was formulated in order to elicit the information such as demographic profile, food consumption pattern; hygienic practices and dietary assessment of the respondents. In order to determine dietary intake, Information of 24 hours dietary food recall was recorded for three successive days. The statistical measures like percentage, mean, standard deviation were performed by using SPSS version 11.5 software for windows.

Summer of the Study:

Personal Particulars:

The sex wise distribution of the respondents showed that equal number (50 per cent) of the children both male and female formed the study sample. The result showed that, equal respondents from both male and female and majority of the respondents were in the age group of 11years. It is understood from the occupational status of the parents of the respondents, most of the parents of the respondents were engaged as daily wage workers. The annual family income of the respondents cleared that, majority of the respondent's family annual incomes were in low economic status group.

Food Consumption Pattern of the Respondent:

Food Consumption Pattern of the respondents showed that, most of the respondents were non-vegetarians and were taking three meals a day. Majority of the respondents were having the habit of nibbling between the meals and were taking their lunch from home.

Habit of Skipping Meals of the Respondent:

Habit of skipping meals of the respondents cleared that, most of the respondents were skipping their breakfast. Breakfast is a brain's food; it enhances the cognition and academic performances. Missing breakfast has adverse affect on cognition, particularly the speed of information retrieval in working memory and reduces the learning capacity of children (Chitra and Reddy, 2006).

Table: 1 Food Consumption Frequencies of the Respondents

Frequency	Food Groups			
	Green Leafy Vegetables	Vegetables	Fruits	Milk
Daily	10 (6.7)	44 (29.4)	4 (2.7)	77 (51.3)
Weekly	25 (16.7)	30 (20.0)	41 (27.3)	15 (10.0)
Monthly	13 (8.7)	5 (3.3)	18 (12.0)	-
Occasionally	49 (32.6)	51 (34.0)	70 (46.7)	23 (15.3)
Never Taken	53 (35.3)	20 (13.3)	17 (11.3)	35 (23.3)

Percentage is given in parenthesis.

It cleared that, majority of the respondents were never taking green leafy vegetables and they were taking vegetables and fruits in their diet occasionally. In case of milk consumption, most of the respondents were drinking daily in the form of tea and coffee. A similar studies conducted by Vijiayapushpam et al., (2003) and Iyer et al., (2006) indicated that the consumption of greens, fruits and vegetables were inadequate among the children.

Table: 2 The Mean Nutrient Intake of the Respondents

Nutrients	Male			Female		
	RDA	Mean & SD	% of deficit (or) Excess	RDA	Mean & SD	% of deficit (or) Excess
Energy (Kcal)	2190	1167.44 ± 333.15	-46.7	1950	1105 ± 424.8	-43.3
CHO (g)	300	213.3 ± 60.97	-28.9	300	197.5 ± 78.2	-34.1
Protein (g)	54	33.5 ± 12	-37.9	57	33.26 ± 13.6	-41.6
Fat (g)	22	21.4 ± 7.6	-2.7	22	21.2 ± 9.2	-3.6
Calcium (mg)	600	300.8 ± 112.5	-49.9	600	301.7 ±126.4	-49.7
Iron (mg)	34	7.6 ± 3.38	-77.6	19	7.52 ± 3.94	-77.9
β Carotene (µg)	2400	729.4 ± 483.8	-69.6	2400	754.8 ±403.9	-68.5
Thiamine (mg)	1.1	0.76±0.2	-30.9	1.0	0.75 ± 0.3	-25.0
Riboflavin (mg)	1.3	0.69±0.35	-46.9	1.2	0.75 ± 0.44	-37.5
Niacin (mg)	15	10.32 ± 3.4	-31.2	13	9 ± 3.67	-30.7
Folic acid (mg)	70	60.2 ± 19.6	-14.0	70	59.5 ± 24.5	-15.0
Vitamin C (mg)	40	26.2 ± 20.9	-34.5	40	32.0 ± 26.7	-20.0

All values are mean ± SD; NS-Non Significant

Table 2 showed the mean nutrient intake of respondents. The mean consumption of the nutrients such as energy, carbohydrate, protein, fat, calcium, iron, β carotene, thiamine, riboflavin, niacin, folic acid and ascorbic acid were less than the recommended dietary allowances. Comparison drawn between nutrient intake and deficiencies indicated that low intake of iron; vitamin A and B complex vitamin correspond with high prevalence of deficiencies of these micronutrients, which results is similar to the study conducted by (Sarma et al., 2006) among the school children. Kumari and Singh (2001) and Sankhala et al., (2004) in their study on nutritional status of the children reported similar pattern of low intakes of almost all the essential nutrients and reported that long time inadequate of nutrient intake will lead of nutritional deficiency diseases.

Conclusion:

The study concluded that, regular habit of skipping meals, long time inadequate intake of essential nutrients will lead nutritional deficiency diseases.

REFERENCES

Balaji, L.N., Dustagheer, A., (2000). Nutrition Scenario in India- Implication for Clinical Practice. J. Indian Med Assoc., 98(9); 536-542. | Chitra, V., and Reddy, R.C., (2006). The role of breakfast in nutrient intake of urban School children. Public Health Nutrition., 10 (1); 55-58. | Huebler, F., (2007). India has 21million Children out of School. Am J. Trop. Med. Hyg., 71(2 Suppl); 25-34. | Iyer, U.M., Venugopal, S., Gandhi, H.I., (2006). Obesity in school children. Magnitude and risk factor analysis. ICMR funded project report, Department of Foods and Nutrition, WHO Collaborating Center for diet related non-communicable disease and anaemia control, MS University of Baroda, India. | Kriviene and Rageliene, (2006). The Prevelance of Anaemia among School Children in Siauliai region of Lithuania. ACTA MEDICA LITUANICA., 13(1); 56-59. | Kumari, S., and Singh, S., (2001). Nutritional Status of Children (6- 12 years) belonged to Scheduled Caste: A study in Samastipur district of Bihar. Ind.J.Nutr.Diet., 38; 428. | Laxminarayan, Chow, Klein and Whitacre, (2008). Recipe to Fight Vitamin A Deficiency in India: Add mustard and stir? Fall/winter, 2008 Issue of Resources. | Meera Raman, (2009). Childhood Nutrition. Health Action., 22(5). | Mohanty, B., Sarkar, S, and Basu. S., (2007). Iodine Deficiency in School going Children of Pondicherry. Indian Journal of Pediatrics., 74(8); 31- 34. | Salins, O., (2005). Essence of Nutrition, Jaypee Brothers Medical Publishers (P) Ltd, New Delhi, P - 1. | Sankhala,A., Sankhla, A. K., Bhatnagar, B., and Singh, B., (2004). Dietary Status of Children of Udaipur District, Anthropologist., 6 (4): 257- 259. | Sarma, K.V.R., Udayakumar, P., BalaKrishan, N., Vijayaragavan, K., and Sivakumar, B., (2006). Effect of Micronutrient Supplementation on Health and Nutritional Status of School Children; Growth and Morbidity. Nutrition., 22; S8-14. | Sarva Shiksha Abiyan, (2005). All India Survey of out-of-school children in the 6-13 years age group, Department of Elementary Education and Literacy, Ministry of Human Resource Development, Government-of-India. | Vasanthaman, G., and Rani, A., (2010). Nutritional status of the children living in selected service institution. Ind. J. Nutri. Diet., 47; 87. | Vijayalakshmi, P., PremaKumari, S., and HariPriya, (2008). Supplementation of milk based health drinks enriched with micronutrient part-I- impact on clinical and morbidity picture physical, performances and cognitive development of 7-12 years of old children. The Ind.J.Nutri.Diet., 45; 495. | Vijayapushpam, T., Menon, K., Rao, D.R., Antony, G.M., (2003). A qualitative assessment of nutrition level and dietary intake of school children in Hyderabad. Public Health Nutr., 6: 683-688. | WHO Global Data Base on Anaemia (1993-2005): World Prevalence of Anaemia. |