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Study of mid-day meal programme on the nutritional status of school going children

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Abstract

In this paper the School Mid-Day Meal (MDM) was introduced by Government of India in year 1995 by the name National Programme of Nutritional Support to Primary Education (NP-NSPE) as a Centrally Sponsored Scheme. The aim of the initiative was to enhance school enrollment, student retention, student attendance and improve nutritional status of children. Comparison of nutritional status of boys before and after the introduction of the MDM program revealed improved nutritional status. Percentage of stunting and grade 3 malnutrition had reduced in all age groups except among 6 years. The inter gender comparison of the heights before and after the MDM programme showed, a greater proportion of girls were stunted before the MDM programme. Post MDM there was reduction in the proportion of stunting and in addition was a reduction in the proportion of children with under nutrition. The improvement in the nutritional status post MDM in girls was more.

Keywords: Mid-day meal, nutritional, MDM

Introduction

The Mid Day Meal (MDM) Programme in India was first introduced in the year 1925 for disadvantaged children of Madras Municipal Corporation. At a national level the scheme was introduced in the year 1995 by Ministry of Human Resource Development, Department of School Education and Literacy by the name National Programme of Nutritional Support to Primary Education (NP-NSPE) as a Centrally Sponsored Scheme. The objectives of this programme were enhancing school enrollment, student retention, improving student attendance and improving nutritional status of children.

The NPNSPE was revised in September 2004. Currently, the NPNSPE is the world's largest school feeding programme reaching out to about 12 crore children in over 9.50 lakh schools across the country. The MDM programme was introduced in the state of Karnataka in the year 2003. A study on the impact of the MDM in rural Karnataka showed an improvement in the nutritional status of school children.

However, in our study we compared age to age the nutritional status of children enrolled in school at two distinct and different point in time that is Pre MDM era (Year 2001) and Post MDM ear (Year 2005). In Post MDM subjects except 6 years old (who are in 1st std) the rest of the subjects were exposed to MDM for a period not less than 6 months, with older children in 2nd stud and beyond were exposed to MDM for periods between 6 months to 24 months.

Good Nutrition is the fundamental basic requirement for positive health, functional efficiency and productivity. Nutrition science provides abundant evidences of the importance of nutrition in not only promoting proper physical growth and development, but also in ensuring adequate Immuno competence and cognitive development. Recent advances point to the far reaching effects of good nutrition in early life on prevention of degenerative diseases in late adult life. For a nation to be healthy, strong and productive, the nutritional status of its people must be good (Nutrition Foundation of India (NFI), 2004).

Sunita and Jain (2005) defined nutritional status or nurture is the condition of health of an individual as influenced by nutrient intake and utilization in the body. It can be determined with the help of clinical examination of symptoms of nutritional deficiencies, dietary intake, and anthropometry and laboratory investigation.

Around 27.28% of all children in developing countries are estimated to be underweighted and stunted. The two regions that account for the bulk of the deficit are South Asia and Sub-Saharan Africa. If current trends continue, the Millennium Development Goals Target (MDGT) of halving the proportion of underweight children will be missed by 30 million children, largely because of slow progress in Southern Asia and Sub-Saharan Africa (Shah, 2010) [3].

Nutrition plays an important role in children's development from before birth through infancy, early childhood, and adulthood. However, the environmental factors such as poverty, family structure and support, and access to care, also affect children's nutritional and health status. Diet has been shown to have both short-term and long-term effects on behavior (Briefel *et al.* 1999).

School children often face health and nutritional problems that affect their intellectual and physical development and their capacity to attend school and their ability to learn. The effect of under nutrition on young children can be devastating and enduring. It can impede behavioral and cognitive development, educability, and reproductive health, thereby undermining future work productivity (Martorell, 1996).

Methodology

Selection of Subjects

33 subjects were selected for the study. Random sampling was done for the selection with 138 boys and 162 girls. The purpose of the selection of subjects was explained briefly to the students.

Study Area

The study was carried out in Government higher primary school of Jalalpur Block.

Collection of Data

Once subjects were selected, their demographic data were collected using structured Questionnaire. A pre-tested questionnaire was given which include age, gender, family history, occupation and education of the parents, family size, SES and food preferences were elicited.

Result and Discussion

The data collected is considered as base, upon which the structure of research rests. It is very essential in research to analyze and interpret the collected data in tabulated form. The method of converting raw data into meaningful statements includes data processing, data analysis and data interpretation and presentation. The present study was carried out in Jalalpur Block, Chapra Saran selecting five different government primary schools (where mid-day meal was provided every day) and five different public primary schools.

Table 1: MDM school children according to religion and sex

Religion	Sex of MDM School Children				Total	
	Boys		Girls		No	%
	No	%	No	%		
Muslim	89	64.50	85	52.46	174	58
Hindu	49	35.50	77	47.54	126	42
Total	138	100.00	162	100.00	300	100.00

Above table- 1 indicates that the maximum percentage (64.50%) of boys were of Muslim religion whereas 35.50%

boys were of Hindu religion. However in girls, the majority of them (52.46%) were of Muslim religion and remaining 47.54% were of Hindu religion.

Table 2: MDM school children according to class and sex

Class	Sex of MDM School Children				Total	
	Boys		Girls		No	%
	No	%	No	%		
II	33	23.90	60	37.03	93	31.00
III	45	32.60	32	19.80	77	25.67
IV	32	23.20	48	29.62	80	26.70
V	28	20.30	22	13.60	50	16.63
Total	138	100.00	162	100.00	300	100.00

Above table 2 indicates the distribution of boys and girls of MDM School according to class (education). Out of 300 MDM school children, majority of them were in class II (31%), followed by (26.70%) children in class IV, 25.67% of school children were in class III where the minimum students (16.63%) were in class V. Similar pattern regarding class was observed among girls students, whereas in boys, the majority of them (32.60%) were in class III, followed by 23.90% and 23.30% in class II and class IV, respectively and the least percentage (20.30%) of boys were in class V.

Table 3: MDM school children according to family member and sex of children

No. of family member	Sex of MDM School Children				Total	
	Boys		Girls		No	%
	No	%	No	%		
>4	5	3.62	6	4.34	11	3.37
5-9	101	73.18	124	76.24	225	75.00
10-14	32	23.18	32	19.75	64	21.33
Total	138	100.00	162	100.00	300	100.00

In the above table 3, the maximum percentage i.e. 73.18% families of MDM boys were having 5 to 9 members, while 23.18% families of boys were having 10 to 14 members in their family, followed by minimum of 36,20% boys with less than four family members. The situation was similar in case of the families of girl children, 16.24% of girls were having 5 to 9 family members, 19.75% girls were having 10 to 14 family members and remaining 4.34% were with less than four family members.

Table 4: Standard of living and nutritional status of MDM school children

Standard of living	Nutritional Status					Total		
	Normal		Thin		Severally thin		No	%
	No	%	No	%	No	%		
Low	13	8.78	68	45.94	67	45.28	147	49.33
Medium	18	15.78	43	37.71	53	46.51	114	38.00
High	21	55.26	12	31.57	5	13.17	38	12.64
Total	52	17.33	123	41.00	125	41.67	300	100.00

The prevalence of under nutrition among MDM school children belonging to different standard of living was observed in the above table. A decreasing trend was noticed in the prevalence of under nutrition of the children as low standard of living to high standard of living. The prevalence of overall under nutrition (thinness + severe thinness) was found to be highest (91.22 %) among children of low standard of living, followed a decreasing order by 84.22% in

children belonging to medium standard of living children. A significant ($\chi^2=48.453$, $df=4$, $p<0.05$) relationship was observed between the prevalence of under nutrition (thinness + severe thinness) and standard of living of MDM school children.

Conclusion

The Mid-day Meal Scheme in India is the largest school meal programme in the world, covering an estimated 139 million children. It also has the largest child development programme (the Integrated Child Development Services or ICDS), which provides free meals to the school children as a part of the nutritional programme. MDMS Scheme was initiated to improve enrolment and attendance of primary school children, while simultaneously improving their nutritional status. Mid-Day Meal Scheme had proved to be effective to check dropout rates of children from the low economic background, and also addressing their nutritional needs.

Nutrition Support to Primary Education popularly referred to as mid-Day Meal programme (MDM) is considered as a means of promoting improved enrolment, school attendance, and retention. MDM was providing for each school child roughly one-third of the daily nutrient requirement in the form of a hot cooked meal. It was better for some children from poor households; the school meal may become a substitute rather than a supplement for the home meal. It was important to note that it was not merely the long-term effects of the school meal on the nutritional status but its Short-Term Effects on better attention, memory and learning capacity. A hungry child is a poor learner and lack of concentration. A midday meal was an important instrument for combating classroom hunger and promoting better learning. Many children reach school with an empty stomach in the morning. Children from all castes and communities eating together, was also an instrument to bring better social integration.

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