



MID DAY MEAL PROGRAMME: PERCEPTIONS OF BENEFICIARIES AND TEACHERS OF A SCHOOL IN DELHI

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Abstract

This study was undertaken to evaluate the perceptions of students (beneficiaries) and teachers about the mid-day meal programme being run in Government Senior Secondary School, Timarpur, Delhi. One hundred and fifty students (beneficiaries of mid-day meal) and fifteen teachers were interviewed with the help of a pretested and semi structured interview schedule. A cyclic menu was served under the programme which included Halwa-Chana, Kadhi-Rice, Chhole-Puri, Aloo-Puri, Rice-Dal and Chhole-Puri. These meals could provide calories and proteins but were not rich in micronutrients like iron and vitamin A. Most of the children liked the meals as these were reported to be quite tasty. They were getting it regularly and were happy that management involved them in menu planning. However all of them were not consuming the entire amount. They also wanted inclusion of fruits (80%) and some packaged food (70%) to be given. Most of the teachers appreciated the programme and informed it has improved afternoon attendance (73%) and concentration of students (100%). Satisfaction about quality and food hygiene was reported by students, parents and teachers.

Introduction

Mid-day Meal Scheme (MDMS) was initiated with the philosophy that "when children have to sit in class with empty stomach, they cannot focus on learning". The scheme is important for improving enrolment, attendance and retention of primary and upper primary school children, while simultaneously improving their nutritional status. Mid-day Meal Scheme had proved to be an effective means to check high dropout rates of children from economically weaker sections, while also addressing their nutritional needs.

On November 28, 2001, the Supreme Court of India gave direction making it mandatory to implement mid-day meal scheme in all states by providing every child in all Government and Government assisted schools with a prepared mid-day meal for a minimum of 200 days (Akshaya Patra Foundation, Bangalore, 2006) In October 2007, the scheme has been further revised to cover children in upper primary (classes VI to VIII). The present study was conducted to find out perceptions about this scheme from its beneficiaries (students), their parents, teachers and midday meal in charge in a school in Delhi.

Methodology

Study Area and Study unit

The Study was conducted in Timarpur area situated in North Delhi. Government Girls Senior Secondary School, Timarpur was selected for the study. In school, most of the

children came from nearby areas like Sanjay Basti, Patrachar Basti and Indra Basti. Mid-day meal was served in that school to students of class 6th, 7th and 8th. In this study 150 students of class 6th, their parents, midday meal in charge of the school and fifteen teachers of school participated.

Interview Schedule

A pre-coded, pre-tested and semi-structured interview schedule was administered to parents, teachers and students for getting their views about midday meal served to students in school. Data about demographic profile of families of beneficiaries was calculated. Intake of nutrients by subjects from midday meal was also calculated.

Results and Discussion

Socio-demographic Profile of the Students and their Families

The data was gathered on 150 girls of class VI of Government Girls Senior Secondary School, Timarpur in New Delhi. The data reflected that the children were aged between 10 to 12 years. With respect to education and occupation of the fathers, Eighteen percent of the fathers were uneducated, about half them (54%) were either X or XII pass and about one fourth (24.7%) were even graduates. The data on their occupation indicated that none of them was unemployed; most of them were working as skilled/Semi-skilled worker (54.7%), 34% were employed in some kind of

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services While 11.3% were small scaled shopkeepers. More mothers in comparison to the fathers were uneducated (35.3% vs. 18%), about 50% had studied from class 8th to class 12th only 14.7% were graduates. Most of the mothers (67.3%) were housewives and of those who were employed were working as housemaids or running small scale businesses. In terms of family income, few families (20%) reported that they had a monthly income less than ten thousand. Fifty percent families had monthly income between Rs. 10000-15000 and 30% had monthly income more than Rs. 15,000.

Details of the midday meal being served to the children

In the selected school, cyclic menu was being served. It was provided by NGO "Jeevan Uthaa". MDM was prepared in centralized kitchen of this NGO and was delivered by 9:30 am every day in sealed stainless steel containers. Meal brought by MDM distributor was then evaluated for its taste and quality by MDM in charge (Home Science teacher of School). After evaluation the food was handed over to School MDM Distributor. Food was distributed at 11 am. As there were 150 students, who were from three different sections, their data was gathered on different days and therefore, the midday meal being served on the respective day was ascertained and its nutrients were computed. Further, calculations were done on the basis on approximate consumption of MDM reported by the children. On basis of this, the children were categorized in three groups: **Group 1** consuming 75-100% of the served meals; **Group 2** consuming 50-75% of the meal and **Group 3** which was consuming 25-50% of the served meal. Their mean consumption *i.e.* 87.5% (Range 75-100%), 62.5% (Range 50-75%) and 37.5% (Range 25-50%) was taken into consideration for calculating midday meal contribution towards their dietary intake which is given in table 1.

The Mid day Meal Program, otherwise known as school lunch program, is aimed at providing one meal to a child in the school, at least one third of the calories and half of the protein RDA per child per day. In low socio-economic communities, the meal should be able to fill the nutrient gap that exists in the diets of children. Thus, the school meal, "in principle" should ensure a supply of at least 700 Kcals of energy to every child taking the meal. In the present study, it was observed that only 458-598 Kcals are provided to each child per day through the MDM program. There was, thus, still a considerable energy-deficit (29%) in the MDM being provided to the school children in the present study. Also, the food did not having much of iron and carotene rich food ingredients. Further, not many children were consuming entire portion being served thereby decreasing the contribution of midday meal.

Perception of MDM Incharge

MDM incharge (Home Science teacher in school) was responsible for Midday meal distribution and coordination.

She and fifteen other teachers of school were interviewed about their perceptions regarding mid-day meal programme. She reported following positive aspects of MDM Programme.

1. Mid-Day Meal Programme has helped in bridging up the gap of energy deficiency. Thus, improving nutritional status of children.
2. After implementation of MDM Programme, enrollment has increased and reduction in school dropout rate has also been observed.
3. It has helped in reducing short term hunger among school children. Thereby, enhancing their concentration level.
4. Quality of food served in Mid-day Meal programme is fairly good.

Mid-day Meal In-charge felt there was need for improvement in following areas

1. After distribution of midday meal, children were inhibited of littering the classrooms and playground with leftover food. So, there was dire need to educate children to throw, leftover food in dustbin only. Also, there was a need to clean the room by sweeper after lunch hour is over so that classes can be held in clean rooms.
2. The timing of MDM arrival should be changed so that food could be served hot especially during winters.
3. According to her nutritional counseling and imparting good hygienic practices among school children should also be done.
4. In Mid-day Meal Programme, besides cooked meal there should be provision of serving fruits to children so as to enhance their nutrient intake.

Perception of Teachers

Teachers were generally positive about the midday meal and all fifteen of them reported that MDM was being served in the school premises daily. Moreover, teachers responded that it had enhanced the concentration level of the students. 73.7% teachers reported that afternoon attendance of the students has increased and even few students only come to school because of MDM (Table 2). A Study conducted on MDM Scheme in Udaipur District, teachers opined that midday meal not only boosted the daily attendance among students but also helped to keep them in the class for the entire of the school day (Blue, 2005).

In the present study, however few teachers (13.3%) opined that MDM has disturbed the teaching learning process as it took more than half an hour for meal distribution. Moreover, after distribution of meal the leftover food remains scattered. About 33% teachers suggested that MDM should provide packed food like cakes, biscuits etc. as it would be handy and will reduce the chances of contamination and will keep premises clean. 53.3% of teachers felt that fruits like banana, guava etc. should be given with MDM, so as to enhance the

nutrient intake of children. Few teachers (13.4%) also suggested that timing of MDM arrival should be changed from 9:30 am to 10:30 am because MDM arrived at 9:30 am and was served at 11:00 am. This led to food turning cold by the time it was served. And in summers due to heat it further deteriorated the condition of food. Further, there were few loop holes which teachers observed in the Mid Day Meal Programme for which 93.3% teacher had made a complaint/ suggestions either to NGO Head or MDM in-charge (Table 2).

Perception of Students Regarding MDM

All 150 students selected for study were attending the school daily and they had positive perception regarding the MDM served (Table 3). Seventy percent of subjects did not take any breakfast or sometimes they took tea with biscuits before coming to school, as they were not hungry in the morning or had no time to take breakfast. However, researcher felt that since they knew that they would be getting midday meal at school, they did not bother about breakfast. If this was so, midday was working as a substitute rather than a supplement. All students were taking MDM regularly but there were many students who were not consuming entire portion of MDM being served. 49% students were consuming 75-100% of meals, 39% were consuming 50-75% of the meals whereas 12% students were consuming only 25-50% of the meal served (Table 3).

It was informed to the researcher that the school management also conducted survey from time to time, to acquaint with views and suggestions of school children regarding MDM programme. The researcher also, interviewed students regarding their likes and dislikes, views and suggestions regarding MDM served. All the students liked Kadhi-Rice, Chhole-Puri and Halwa- Channa. But Rice-Dal and Chhole-Rice were liked by only 50% students (Table 3). Organoleptic evaluation of midday meal by beneficiaries was done by Sharma *et al.* (2006) in 660 schools of Delhi. 74.5% children fairly accepted the food supplied in midday meal programme. Children relished Rice-Sambar and Puri-Aloo/ Soybean while they did not relish vegetable Dalia, Sweet Dalia and Moong Dalia.

In the present study a lot of students (53.23%) opined that fruits like apple, banana, guava etc. should be served along with cooked MDM and 46.6% suggested that biscuits, cakes, rusk etc. should be served in place of cooked midday Meal as those were tastier and also in case if they were not able to consume entire portion of MDM, they could take these packed food to their home (Table 3). However, a survey conducted by Samson *et al.* (2005) revealed that many children were thrilled with the concept of cooked meal served in school. They found the meal was very tasty and it ensured them to stay in school atleast for the first half of the day.

Perception of Parents Regarding MDM

All the parents were interviewed by the researcher

regarding the perception about midday meal Programme (Table 4). The study revealed that all of them were sending their children to the school regularly and were in favour of their children getting MDM at school. Most of the parents (76.7%) reported that they were satisfied with the quality and hygiene of food. They praised MDM as they felt that their children were getting freshly cooked and tasty food. Similar results were reported from a large scale study conducted in twelve schools of Delhi by Sampson *et al.* (2005).

In the present study 95% parents opined that MDM is a supplement to regular food and is not a substitute. However, when the researcher asked the parents of those children who were in habit of skipping breakfast, majority (75%) of them replied that child was never hungry in the morning while remaining (25%) also said they were not concerned as they knew that child would get midday meal at school. In this way, the researcher felt MDM was a substitute for breakfast. Moreover, majority of parents also regarded MDM as an effective way to promote growth, intelligence as well as to enhance nutrient intake of food but very few (17.3%) responded that MDM has decreased incidence of illness among their children.

In a study in Karnataka 72% parents opined that their children had gained weight because of MDM and 59% parents felt that their children suffered less from 90% of common ailments like cold and cough. In total 90% of parents were satisfied with the scheme (Naik, 2005.) In the present study, some of the parents (12%) had complained about the MDM food either to the class teacher or to the MDM incharge regarding the quality of food served. Majority of the parents (62%) were in favour of providing fruits also in MDM. And about 38% parents were in favour of providing packed foods like biscuits, cakes, rusks etc. The survey in total indicates that parents were positive regarding the concept of MDM programme.

Recommendations

After observing various constraints and bottlenecks during the evaluation study of MDMS, there is an urgent need for a serious and sincere brainstorming for making headway in the effective execution of the programme. A few suggestions are placed below for the better execution of MDMS which is required for the development of the future generation. These views are recommended after having intensive interaction with all the parents, teachers and students.

1. The students should be motivated towards the concept of MDM *i.e.* how MDM is necessary part of their diet, how it helps them to grow, big and strong. This can be done by showing them puppet shows, presentations, by playing games so that both teaching and learning process can be made more effective. The importance of consuming the entire amount of MDM needs to be explained.
2. It appeared from the study that some teachers considered

MDM as a distraction to teaching and learning. We should strive to correct this apprehension and make persuasive efforts to sensitize the teachers by explaining to them the advantages of providing meal in the schools as a means of improving school attendance, retention and learning abilities of the children. Teachers must appreciate MDM as being a part of education, requiring their full cooperation. The slight increase in responsibilities that MDM may impose will be rewarded by better returns in terms of improved performances for their teaching efforts. Every effort must be made to enlist the cooperation of teachers. They should become enthusiastic participants rather than sullen by bystanders.

3. Need for inclusion of fresh fruits was felt by beneficiaries as well as teachers. They can also provide desired micronutrients in diets of children.

Although most teachers, parents and children liked the MDM Scheme but they also wanted improvement in quality and food hygiene. Therefore, efforts should be made by the government to make the meal more nutritious as well as impart health education for the effective implementation of midday meal programme.

References

- Akshay Patra Foundation (2006). Bangalore [online]. Available form URL: <http://www.akshayapatra.org/>
- Blue Julia (2005). The Government Primary School Mid-day Meals Scheme: An Assessment of Programme Implementation and Impact in Udaipur District Sewa Mandir, Udaipur. *The Internet Journal of Biological Anthropology*, 2(1).
- Bhoitre R and Iyer U (2011). Operational Research on midday meal program and its outcome on growth of school children in rural area. *International Journal of Applied Biology and Pharmaceutical Technology*, 2(2): 448.
- Hall A, Hanh TT, Farley K, Quynk TP and Valdinia F (2007). An evaluation of the impact of a school nutrition programme in Vietnam. *Public Health Nutr.*, 10(8): 819-882.
- Naik R (2005). A Report on AksharaDasoha Scheme of Karnataka. Dept. of Food Sci. and Nutr., Univ. Agric. Sci., Dharwad, India. *The Ind. J. Nurt. Dietet.*, 45: 399-409.
- Samson De, Anuradha, Noronha and Claire Meera (2005). Towards more benefits from Delhi's midday meal Scheme, *CORD-Collaborative Research and Dissemination*, New Delhi, October, <http://www.righttofoodindia.org/data/cord2005mdmdelhi.doc>
- Sharma S, Passi SJ, Thoma S and Gopalan HS (2006). Evaluation of mid-day meal programme in MCD schools. Delhi. Scientific Report (18), NFI.
- Sharma AK, Singh S, Meena S, Kannan, 2010 ; Impact of NGO run Mid Day meal program on nutritional status and growth of primary school children. *Indian Journal of Paediatrics*, 77(7): 763-769

Table 1: Details of Mid May Meal Served and Nutrient Contribution

	MDM Served	Percentage Contribution	Energy (kcal)	Protein (g)	Iron (mg)	Carotene (µg)
Day 1	HALWA CHANA	100 %	458	8.82	1.67	28.35
		87.5 % (Range 75 - 100%)	400	7.72	1.46	24.81
		62.5 % (Range 50-75%)	286	5.51	1.04	17.72
		37.5 % (Range 25-50%)	172	3.31	0.63	10.63
Day 2	KADHI RICE	100 %	560	16.14	3.49	70.7
		87.5 % (Range 75-100%)	490	14.12	3.05	61.69
		62.5 % (Range 50-75%)	350	10.09	2.18	44.06
		37.5 % (Range 25-50%)	210	6.05	1.31	26.44
Day 3	CHHOLE PURI	100 %	581.15	12.79	4.84	75.75
		87.5 % (Range 75 - 100 %)	508.51	11.19	4.24	66.28
		62.5 % (Range 50-75%)	363.22	7.99	3.03	47.34
		37.5 % (Range 25-50%)	217.93	4.80	1.82	28.41

Day 4	ALOO PURI	100%	598.8	7.16	2.67	60.52
		87.5% (Range 75-100 %)	523.95	6.27	2.34	52.96
		62.5% (Range 50-75%)	374.25	4.48	1.67	37.83
		37.5% (Range 25-50%)	224.55	2.69	1.00	22.70
Day 5	RICE DAL	100%	520.7	16.65	4.92	82.97
		87.5% (Range 75-100%)	455.61	14.57	4.30	72.60
		62.5% (Range 50-75%)	325.44	10.41	3.06	51.86
		37.5% (Range 25-50%)	195.26	6.24	1.85	31.11
Day 6	CHHOLE RICE	100%	564	15.72	4.02	74.82
		87.5% (Range 75 -100 %)	493.5	13.76	3.52	65.47
		62.5% (Range 50-75%)	352.5	9.83	2.51	46.76
		37.5% (Range 25-50%)	211.5	5.90	1.50	28.06

Table 2: Data on perception of Teachers regarding MDM

Variable	Frequency	Percentage
MDM served regularly		
Yes	15	100
No	0	0
Opinion about food hygiene		
Good	2	13.3
Fair	13	86.7
Bad	0	0
Impact of MDM on increased concentration level of students		
Yes	15	100
No	0	0
Impact on Afternoon Attendance		
Increased	11	73.3
No Impact	4	26.7
Decreased	0	0
MDM should be provided		
Yes	15	100
No	0	0
Complaint/ Suggestion ever given for MDM		
Yes	14	93.3
No	1	6.7
Staff to whom complaint was given		
Not complained	1	6.7
NGO Head	7	46.7
MDM Incharge	7	46.7
Suggestions for improvement		
Provide Packed Food	5	33.3
Provide Fruits with MDM	8	53.3
Delivery time of MDM should be changed	2	13.4
MDM has disturbed teaching		
Yes	2	13.3
No	13	86.7

Table 3: Data on perception of Students regarding MDM

Variable	Frequency	Percentage
Eat MDM at school		
Yes	150	100
No	0	0
Frequency of Eating MDM		
Daily	150	100
Four times a week	0	0
Five times a week	0	0
Proportion of MDM consumed		
75-100%	74	49.33
50-75%	58	38.67
25-50%	18	12
MDM is provided regularly		
Yes	150	100
No	0	0
Eat breakfast before coming to school		
Yes	45	30
No	105	70
Management committee asked for choice of menu for MDM		
Yes	150	100
No	0	0
Choice of Food items to be serve with MDM		
Fruits with cooked food	80	53.23
Packed food (Cake, Rusk, Biscuit)	70	46.67

Table 4: Data on Perception of Parents regarding MDM

Variable	Frequency	Percentage
Sends child school everyday		
Yes	150	100
No	0	0
Allow to have MDM		
Yes	150	100
No	0	0
Quality and Hygiene of Food		
Good	115	76.7
Fair	35	23.3
Bad	0	0
MDM is a Supplement		
Yes	143	95.3
No	7	4.7
Impact of MDM on growth		
Yes	137	91.3
No	13	8.7
MDM served regularly		
Yes	150	100
No	0	0
Impact of MDM on illness		
Decreased illness	26	17.3
No change	124	82.7
Impact of MDM on performance		
Yes	136	90.7
No	14	9.3
Impact of MDM on enhancing nutrient intake		
Positive impact	132	88.0
No impact	18	12.0
Ever Complained or give suggestions		
Yes	38	25.3
No	112	74.7
Complaint given to		
MDM In charge	12	8.0
Class Teacher	26	17.3
Suggestions		
Packed Food	57	38.0
Fruits	93	62.0