

“Impact Of Mid-Day Meal Scheme On The Nutritional Status Of School Children”

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Abstract

Background: The Mid-day meal program was implemented by Food for Life Nepal from 2015 AD with an intention to boost universalization of primary education by increasing enrollment, retention and attendance simultaneously impacting on the nutritional levels of children. A majority of the population in Nepal is still unable to get even one complete square meal for the day, only because they are stuck in the vicious circle of poverty and illiteracy. Due to the rising costs, increasing tax and unemployment crisis, the number keeps rising each year, for these vulnerable children, Mid-day meal is only source of having good nutritious food.

Methods: Descriptive cross-sectional study was conducted with 120 children from Shivpur School of Tilotama municipality selected by lottery methods of simple random sampling technique. Anthropometry measurement and Semi-structured interview schedule was used to collect the data. Obtained data were analyzed by using descriptive and inferential statistical such as frequency, percentage and chi-square test.

Results: Among 120 students, underweight is noted more in male (6.67%) than female (5.83%) while overweight is noted more in female (5%) than male (4.16%). Likewise, normal/healthy weight is noted more in male (43.34%) than female (35%). Whereas, 12.5 % were underweight, 9.16 % were overweight and 78.34% were normal weight. The obtained chi-square value showed significant association between the nutritional status with their certain midday meal statements; MDM is provided timely ($p=0.001$), hygiene while serving and cooking ($p=0.005$), tasty ($p=0.001$), full stomach after MDM consumption (0.000).

Conclusion: It is concluded that the impact of Mid-Day Meal scheme is beneficial to the school children because study shows that very few children were having underweight and overweight while most of the children were found to have normal weight. The obtained chi-square value showed significant association between the nutritional status with their certain midday meal statements; MDM is provided timely, MDM is tasty, hygiene is maintained while serving and cooking MDM and every single student is full after MDM consumption. It is recommended for proper utilization of this programme by the stake holder, the government should make proper rules and regulations, and also the parents to be aware and concerned about this programme and teachers should maintain the above condition properly for sustainable education development.

Keywords: Impact, Mid-day meal, Nutritional Status, Schools Children

Date of Submission: 12-02-2024

Date of acceptance: 22-02-2024

I. Introduction

In Nepal, the school meals program (SMP) is a key strategy of the government to abate malnutrition, as formulated in the School Sector Development Plan (2016–2022) and the National School Health and Nutrition Strategy. It has been shown that every dollar invested in the program generates economic value of US\$ 4.1–5.2 over the lifetime of a beneficiary child. The Nepal SMP serves a midday meal to over 600,000 children according to data for 2017. The Midday Meal Scheme is a school meal programme designed to better the nutritional standing of school-age children nationwide. The programme supplies free lunches on working days for children in primary and upper primary classes in government schools. A majority of the population in Nepal is still unable to get even one complete square meal for the day.

There is a ‘nutritional transition’ in many developing countries like India and Brazil. Though the problem of under nutrition still exists, the propensity of over nutrition and obesity has been increasing over the years due to the changing life styles and dietary habits of citizens, as a result of the recent economic growth. Such changes are more evident among school age children as they get easily attracted to the so called ‘junk foods’, pushing them to be morbid and unhealthy at an earlier stage of life and the future victims of various non-communicable diseases, so any nutritional education or interventional programme initiated at this age will be more effective to establish healthy behaviours than any intervention in adulthood. However such programmes should precede careful assessment of nutritional status and predisposing factors of malnutrition in this age group to provide an adequate data for taking the appropriate action (Jayalaksimi, 2018)

II. Method and Materials

Descriptive cross-sectional study design was used to assess the impact of midday meal scheme on nutritional status of school children. The population of the study was consisted of 120 school children from 1-6 level of schools through lottery method of simple random sampling technique. The study was conducted in Shivpur Higher Secondary School at Tilotama municipality of Rupandehi district. Data were collected by using Questionnaire and Likert Scale questionnaire were in simple understanding language. Primary data was collected using semi-structured questionnaire and by anthropometric measurement. The gathered data was checked for accuracy, utility and completeness and was enter into Microsoft Excel and SPSS (Statistical package for the social sciences) 25 version software. The data was analyzed and finding was presented in different table by using Descriptive and inferential statistical tools such as frequency, percentage and chi-square test.

III. Result

TABLE 1

The association between child’s nutritional status and MDM consumption

S.N	Variable	Nutritional Status			Chi-square (p-value)
		Underweight	Overweight	Normal	
1.	Before I come to school, I have taken breakfast.				2.356 (0.308)
	Disagree	10(8.33%)	2(20%) 13(11.8%)	2(20%) 9(8.2%)	
	Strongly Agree	110(91.67%)		6(60%) 88(80%)	
2.	I come to school everyday				8.356 (0.399)
	Strongly Disagree		3(13%)	3(13%)	
	Disagree	23(19.17%)	5(19.2%)	4(15.4%)	
	Undecided	26(21.67%)	3(20%)	2(13.3%)	
	Agree	15(12.5%)	2(8%)	1(4%)	17(73.9%) 10(66.7%)
	Strongly Agree	25(20.83%)	2(6.5%)	1(3.2%)	22(88%) 28(90.3%)
3.	The midday meal is provided timely.				13.851 (0.001) *
	Agree		2(20%)	4(40%)	
	Strongly Agree	10(8.33%)	13(11.8%)	7(6.4%)	
		110(91.67%)		4(40%) 90(81.8%)	
4.	I satisfy with the MDM				3.185 (0.922)
	Strongly Disagree		3(13%)	3(13%)	
	Disagree	23(19.17%)	4(12.9%)	3(9.7%)	
	Undecided	31(25.83%)	3(20%)	2(7.7%)	
	Agree	26(21.67%)	3(12%)	1(4%)	17(73.9%) 24(77.4%)
	Strongly Agree	15(12.5%)			22(84.6%) 10(66.7%) 21(84%)
4.	Hygiene MDM is provided in the school while serving and cooking				10.565 (0.005) *
	Agree		4(33.33%)	3(25%)	
	Strongly Agree		11(10.2%)	8(7.4%)	
		12(10%) 108 (90%)			5(41.7%) 89(82.4%)

TABLE 2
The association between child's nutritional status and MDM consumption

S. N	Variable	Nutritional Status			Chi-square (p-value)
		Underweight	Overweight	Normal	
5.	The kitchen store is clean and adequate for cooking.				3.216 (0.522)
	Undecided		4(10%)		
	Agree	40(33.33%)	5(12.5%)	3(6.3%)	
6.	I feel illness/ health problems after MDM.				6.084 (0.193)
	Strongly Disagree		11(10.2%)		
	Disagree	108(90%)	11(10.2%)	86(79.6%)	
7.	There is a provision of pure drinking water.				3.682 (0.885)
	Undecided		3(15%)		
	Agree	20(16.67%)	5(13.2%)	14(70%)	
8.	I feel ill after taking MDM in the school.				6.084 (0.193)
	Strongly Disagree		11(10.2%)		
	Disagree	108(90%)	11(10.2%)	86(79.6%)	
9.	The MDM is tasty.				19.880 (0.001) *
	Undecided		4(40%)		
	Agree	10(8.33%)	3(30%)	1(8.3%)	

TABLE 3
The association between child's nutritional status and MDM consumption

S. N	Variable	Nutritional Status			Chi-square (p-value)
		Underweight	Overweight	Normal	
10.	I wash my hands with soap before taking the MDM				13.694 (0.090)
	Strongly Disagree	40(33.33%)		3(7.5%)	
	Disagree	48(40%)	4(10%)	3(6.3%)	
	Undecided	6(5%)	4(8.3%)	0%	
	Agree	10(8.33%)	3(50%)	2(20%)	
11.	I feel full stomach after midday meal				18.209 (0.000) *
	Strongly Agree	16(13.34%)	2(20%)	3(9.2%)	
	Disagree	104(86.67%)	2(12.5%)	11(78.3%)	
12.	There is provision of clean dining area facilities in the school				3.149 (0.207)
	Strongly Disagree				
	Disagree	10(8.33%)		1(10%)	
13.	Sufficient quantity of MDM is served in the schools.				13.109 (0.108)
	Strongly Disagree	110(91.67%)	3(30%)	10(9.1%)	
	Disagree		12(10.9%)	88(84.6%)	
14.	MDM provided in the schools are in good quality.				3.149 (0.207)
	Undecided	40(33.34%)	4(10%)	3(7.5%)	
	Agree	48(40%)	6(12.5%)	2(4.2%)	
15.	Condition of the class room is satisfactory				3.149 (0.207)
	Strongly Disagree	10(8.33%)	3(30%)	1(10%)	
	Disagree	110(91.67%)	12(10.9%)	10(9.1%)	

	Disagree			7(6.5%) 4(33.3%)	90(83.3%) 4(33.3%)	16.571 (0.000) *
		108(90%) 12(10%)	11(10.2%) 4(33.3%)			

***Statistically significant (p<0.05)**

The obtained chi square value showed significant association between the impact of nutritional status with their midday meal scheme variables: The midday meal is provided timely ($\chi^2= 13.851$, $p= 0.001$)*, Hygiene MDM is provided in the school while serving and cooking ($\chi^2=0.565$, $p= 0.005$)*, The MDM is tasty ($\chi^2=19.880$, $p=0.001$)*, I feel full stomach after midday meal ($\chi^2=18.209$, (0.000))*. Condition of the class room is satisfactory ($\chi^2=16.571$, $p=0.000$)*.

However it did not showed any significant association with others Before I come to school, I have taken breakfast), I come to school every day ,I satisfy with the MDM, The kitchen store is clean and adequate for cooking, I feel illness/ health problems after MDM, There is a provision of pure drinking water ,I feel ill after taking MDM in the school, I wash my hands with soap before taking the MDM,There is provision of clean dining area facilities in the school, MDM provided in the schools are in good quality ,Sufficient quantity of MDM is served in the schools in midday Meal Program.

IV. Discussion

It mainly focuses on what are the similarities and dissimilarities of finding from literature review and from the research if some finding is not finding in literature review but studied in this research. The study was carried out impact of midday meal scheme on nutritional status of school children at Shivpur schools in order to fulfill the objectives of research study.

The study was conducted by Kishoreganj that shows the 48% of the total children analyzed 40.5% were underweight and 38% were overweight similar findings of present study that shows the 70% of the total children analyzed where 12.5% were underweight and 9.16% were overweight (Khanam & Haque, 2021).

Study revealed that percentage of stunting (24% boys and 19% girls) and wasting (17% boys and 18% girls) was significantly higher similar finding of present study that percentage of stunting boys and girls were 4.17% and 5.83% respectively and wasting was observed 9.17% for boys and 6.66% for girl (Patel et al.,2018)

The study was conducted in northwest Ethiopia shows the higher prevalence of malnutrition in which under nutrition constitutes the most (37.1%) whereas over nutrition is only minimal (7.5%) similar findings of present study show that lower prevalence of malnutrition (21.66%) in which under nutrition (12.5%) whereas over nutrition (9.16%) (Mohammed et al., 2021)

The study was conducted in kottayam that shows stunting, underweight and wasting were 13.4%, 38.8% and 30.7% respectively similar findings of present study shows that 9.98% stunting, 12.5% underweight and 15.88% wasting (Jayalaxmi, 2018)

The study was conducted by Aligarh city that shows stunting among boys and girls were 75,37% and 74.68% respectively and wasting was observed 86.93% for boys and 76.53% for girls’ similar findings of present study show that stunting among boys and girls were 4.17% and 5.83% respectively and wasting was observed 9.17% for boys and 6.66% for girls (Alim et al., 2017).

V. Conclusion

On the basis of findings of the study, it is concluded that the impact of Mid-Day Meal scheme is beneficial to the school children of Shivpur Higher Secondary School because study shows that very few children were having underweight and overweight while most of the children were found to have normal weight.The obtained chi-square value showed significant association between the nutritional status with their certain midday meal statements; MDM is provided timely, MDM is tasty, hygiene is maintained while serving and cooking MDM and every single student is full after MDM consumption.

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