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Study on comparative nutritional status among tribal & non-tribal school students under mid-day-meal scheme of Paschim Medinipur district in West Bengal, India

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Abstract

The Mid-day Meal scheme was introduced to provide lunch free of cost to all school going children in all working days, proving to be the world's largest feeding program in India. A comparative study was conducted to reveal the Comparative Nutritional status among Tribal & Non-Tribal School Students under Mid-Day-Meal program in Paschim Medinipur district of West Bengal, India. A total sample population was taken from Belda and Dantan block of the district, from where 120 sample collected from tribal high school(class V-VIII) & 120 sample collected from Non-tribal high school(class V-VIII) in Paschim Medinipur district in of West Bengal. Data was collected using pre tested, semi-structured interview schedule. Collected and tabulated data was analysed in terms of percentage, analysis for better interpretation and conclusion. The study clearly indicated that improvement of health, hygiene and nutritional status of the respondents, will be helpful for the policy makers to address these issues for better educational as well socio-economic upliftment of the concerned tribal and general or Non-tribal students of the state West Bengal, India.

Keywords: Nutrition, tribal, non-tribal, students, comparative, school, status etc.

Introduction

India is a land of diversified anthropological resource. There are over 84 million people belonging to 689 communities and consisting about 8.2% of the total population designated as Schedule tribes in India. The tribal population in India is larger than that of any other Country in the World as of west Bengal. These tribes comprise of less than one tenth of the total population is concentrated in the northern and western areas of West Medinipur district of the state West Bengal. The Santhals being the largest group, who live here than other tribes include-Bhumij, Mundas, Lodhas, Kodas, Mahalis and Kherias. The MDM Scheme was initiated on the basis of the philosophy that "When children have to sit in class with empty stomachs, they cannot focus on learning". The mid-day meal scheme was first introduced in the state of Kerala in 1960s by K. Kamaraj and later expended by M. G Ramachandran in 1982. It provides lunch free of cost to all school going children in all working days, proving to be the world's largest feeding program reaching up to 12 crore children. In 1995, Govt. of India implemented this as the National Program of Nutritional Support to Primary Education (NP-NSP). The NP-NSP was launched as a Centrally Sponsored Scheme on 15th Aug, 1995, initially in 2408 blocks in the Country. In 2002, the program was extended to cover not only children in classes: I-VIII of Govt. Govt. aided and local body school, but also children studying in the other centres. The scheme consisted of free supply of food grains @ 100gm/child/school/day and subsidy for transportation of food grains up to a maximum of Rs.50/quintal. In this backdrop of fact, a comparative study was conducted to reveal the Comparative Nutritional status among Tribal & Non-Tribal School Students under Mid-Day-Meal program under Paschim Medinipur district in West Bengal, India

Materials and Methods

The present study was conducted among the selected tribal & non-tribal school going children within 10-14 years age are available in Paschim Medinipur district considered for the preparation of sample population. The sample population was taken from Belda and Dantan block of the district, from where 02 no's of Tribal and non-tribal high school was selected.

From each school, 15 no's of sample population was randomly selected from tribal & non-tribal students of class V-VIII, who take mid-day meal every school day. So, the total population was 240 school going children in which 120 sample collected from tribal high school(class V-VIII) & 120 sample collected from Non-tribal high school(class V-VIII) in same block of Paschim Medinipur district in the State of West Bengal. Data was collected using predesigned pre tested, semi-structured questionnaires schedule. The collected and tabulated data was analysed by using IBM SPSS 25.0 software in terms of percentage, analysis for better interpretation and conclusion of the investigative study.

Results and Discussion

In the present study, the collected data was analysed in two parts i.e. Socio Personal and Socio-Economic features as well as health status of tribal school students were analysed in terms of frequency & percentage for effective interpretation of the investigative study.

Table-I depicted the Socio personal and Socio-economic attributes as well as nutritional status of the selected school going Tribal students in Paschim Midnapur district of the State West Bengal. The analysed data revealed that, 02 categories of respondents i.e. 11-12 years (Class: V-VI) & 13-14 years(Class: VII-VIII) of age group were taken in equal basis (50%) of respondent, where female respondents were 55.0% and male respondent were 45.0% under study. Among the respondents, all respondents(100%) were taken from tribal community, in which majority(85%) were Hindu by religion and only 15.0% were belongs to Christian Community tribes, which is very much indicative in nature. Joung *et al.* (1995) [1] found that the educational level is an important confounder of the relationship between health care utilization & nutritional status of the school going students.

Majority of tribal respondents (86.7%) attend school regularly and only small no's of students (13.3%) goes to school irregularly. The investigation revealed that, all school going students (100%) takes Mid-day-Meal (MDM) in school and among the respondents; almost all respondents (99.20%) get regular MDM in school, which shows the greater impact of the scheme towards its intended purpose. The study found that, Majority of respondents (85.8%) eat entire amount of food as given as MDM in the school and among the beneficiary respondents, maximum (76.7%) ask for more serving of the mid-day-meal in the school. The analytical work depicts that, majority of stakeholders (95.00%) eat at their home before coming to school in morning time and among them maximum(83.3%) respondents also eat after

going to home in spite of taking mid-day-meal in their school, which is also indicative in nature. The study further delineate that, largest no's of students (92.5%) replied that they receives MDM regularly from the school, whereas all (100%) beneficiary respondents brings their lunchbox for taking MDM in the school. Similarly, majority of informants (93.3%) like eating MDM in school and among them larger no's of recipients (78.3%) eat all the food provided as MDM by the school authority. the effect of the Mid-Day Meal (MDM) program on enrolment, attendance, dropout rate & retention rate in the schools & well as school performance. Yeadav P, Kumar A (2012) [7] aimed to find out the nutritional status of mid-day meal beneficiaries (MDM) & to compare the same with non-beneficiaries (NMDM).Results showed that children having PEM in MDM category formed 76% and in the NMDM Category 84% based on the NCHS 50th percentile values.

Considering hygienic status, the analytical work explore that, larger respondents(85.0%) takes mid-day-meal in school Veranda, whereas no respondents eats MDM either in class room or open place, which reflects the qualitative status of this largest Govt. sponsored scheme in Pan India., The research activity delineate that, sufficient(35.8%) no's of respondents wash their hands with soap & water and only small nos. of beneficiary students(10.8%) wash their hands with liquid soap & water after eating MDM in the school. The study also explain that, majority of the informants (75.8%) brings their own water bottle from home for drinking purpose. Maximum participants (90.8%) opined that, if school will not provide MDM, in spite of that, they will attend school regularly, which is also very indicative regarding the long term implemented benefit of this largest innovative scheme in the Country. It is also opined by, majority of respondents (83.3%), that they believe that after taking MDM, it is improving their health, as also beneficial for their better qualitative, meritorious education in the social system. In this regard, maximum beneficiary respondent(80.00%) also depict that, their all(100%) school going friends takes mid-day-meal due to this positive outcome of the MDM program. Finally the study also signifies that, maximum interview students (98.3%) feel that the attended school maintain proper hygiene for preparing MDM and considering this beneficial impact, majority of the respondent (70.8%) explicated their overall good experience for implementing this unique educational development endeavour as MDM scheme since 1995 throughout the pan India. Singh *et al.* (2004) [6] observed that the unhygienic condition can prevent 55% death of school going children due to diarrhoea and pneumonia etc.

Table 1: Socio-personal, socio-economic characteristics and nutritional status of the tribal school students under MDM scheme in terms of percentage (%) distribution from Paschim Midnapur district of West Bengal, India

Sl. No.	Particulars of Statements	Tribal Student (120)		
		Frequency	Percentage (%)	
1	Age of the students	11-12 Years	60	50
		13-14 Years	60	50
2.	Sex	Male	54	45
		Female	66	55
3	Class of the students	Class V-VI	60	50
		Class VII-VIII	60	50
4	Religion	Hindu	102	85
		Muslim	05	4.2
		Christian	13	10.8
5	Caste	General	0	0
		SC	0	0
		ST	120	100

6	Attend school regularly	Yes	104	86.7
		No	16	13.3
7	Eat MDM at school	Yes	120	100
		No	0	0.00
8	Get regular MDM	Yes	119	99.2
		No	01	0.80
9	Eat entire amount of food given	Yes	103	85.8
		No	17	14.2
10	Ask more serving	Yes	92	76.7
		No	28	23.3
11	Eat at your home before coming to school	Yes	114	95.0
		No	06	5.0
12	Eat after going home	Yes	100	83.3
		No	20	16.7
13	School provide MDM regularly	Yes	101	92.5
		No	19	7.5
14	Bring your lunch box to school	Yes	120	100
		No	0	0
15	like eating at school	Yes	112	93.3
		No	08	6.7
16	Eat all food	Yes	94	78.3
		No	26	21.7
17	MDM is served at	Class room (1)	0	0.0
		School veranda(2)	102	85.0
		Open place(3)	0	0.0
		Others if any(4)	18	15.0
18	After eating MDM how to wash hand	By soap	34	28.3
		Clean water	30	25.0
		Soap & water	43	35.8
		Liquid hand wash & water	13	10.8
19	Do you bring your own water bottles from home	Yes	91	75.8
		No	29	24.2
20	If, school does not provide MDM, then you attend school regularly	Yes	109	90.8
		No	11	9.2
21	Do you believe MDM improve your health	Yes	100	83.3
		No	20	16.7
22	Your all friend take MDM	Yes	96	80.0
		No	24	20.0
23	Do you feel school maintain proper hygiene for preparation of MDM	Yes	118	98.3
		No	02	1.7
24	All over experience due to MDM	Very poor	01	0.80
		Poor	34	28.3
		Good	85	70.8

Table-02 explained that, the Socio personal and Socio-economic features as well as health status of the selected Non-Tribal or General School students in Paschim Midnapur district of the West Bengal. The exploratory study depict that, majority of non-tribal respondents(75.00%) belongs to 11-12 years age group & only small no's of students (25.00%) from the 13-14 years of age group, whereas the respondents from Class: V-VI and Class: VII-VIII share in equal basis (50%) for the present investigative study. Among the sample interviewee, majority of the respondents were female (71.7%) and only 28.6% were male respondent under study. Among the respondents, maximum respondents (90.8%) were Hindu by religion and only 0.8% were belongs to Christian Community. The larger no's of recipients (75.0%) belongs to general category, and small fractions comes from SC(11.7%) and ST (13.3%) category, which reflects typical socio-economic scenario of the study area.

Majority of general or Non-tribal respondents (97.5%) attend school regularly and only small no's of students (2.5%) goes to school irregularly. The study revealed that, maximum school going students (91.7%) takes Mid-day-Meal (MDM) in school only few(8.3%) respondents not takes MDM at the School. almost all respondents (99.20%) get regular MDM in

school, which shows the greater impact of the scheme towards its intended purpose. The study disclosed that, Majority of respondents (80.8%) eat entire amount of food as given as MDM in the school and among the beneficiary respondents, larger no's of respondents (88.3%) ask for more serving of the mid-day-meal in the school. The analytical work explained that, majority of stakeholders (90.8%) eat at their home before coming to school in morning time and among them, majority (98.3%) of respondents also eat after going to home in spite of taking mid-day-meal in their school, which is also indicative in nature. The study further delineate that, higher no's of students (66.7%) replied that, they receives MDM regularly from the school, whereas all (100%) beneficiary respondents brings their lunchbox for taking MDM in the school. Similarly, larger group of informants (74.2%) like eating MDM in school and among them maximum no's of recipients (90.0%) eat all the food provided as MDM by the school authority. Shalinic, Murthy N, Shailini S, Dinesh R, Shivaraj N. *et al.* (2014)^[4] study findings showed that 13.8% & 13.1% of the studied students were underweight & stunted, respectively and higher proportion of rural student were below weight & height compared with urban students (weight 16.3% & 11.5%).

In regard to hygienic status, the analytical work depicted that, greater no's of respondents (49.2%) takes mid-day-meal in school Veranda, as well as higher no respondents (50.8%) eats MDM either in any other place, which is reflects the implementation status of this largest Govt. sponsored scheme in Pan India. The investigative study delineate that, majority (65.0%) of respondents wash their hands with liquid hand wash & water and few nos. of beneficiary students(20.0%) wash their hands with soap & water after eating MDM in the school. The research study also explain that, majority of the informants (98.3%) brings their own water bottle from home for drinking purpose, whereas almost all participants (99.2%) opined that, if school will not provide MDM, in spite of that, they will attend school regularly, which is also very indicative regarding the long term benefit of this largest Govt. sponsored scheme in the Country. It is also opined by, majority of respondents (89.2%), that they believe that after taking MDM;

it is improving their health, as also beneficial to pursue their qualitative education in the School System. In this regard, maximum beneficiary respondent (95.8%) also depict that, their school going friends takes mid-day-meal due to this positive outcome of the MDM program. Finally the study also signifies that, majority of interviewee students (64.2%) feels that, the school maintain proper hygiene for preparing MDM under the School in the Paschim Midnapur district of West Bengal. Considering this overall experience, majority of the respondent (70.0%) shared their poor experience and only small nos. (20.8%) of beneficiary students informed their Good experience for implementing this largest educational development endeavour as MDM scheme throughout the Country. Shrivastavas, P, Ramasamy, J. (2015) [5] found that the Mid-Day Meal scheme is one of the country's national flagships feeding scheme initiated to improve the nutritional & educational status of the vulnerable children.

Table 2: Socio-Personal & Socio-economic characteristics of the Non-Tribal School Students under MDM Scheme in terms of Percentage (%) distribution from Paschim Midnapur district of West Bengal, India

Sl. No.	Particulars Of Statements	Non-Tribal Student(120)		
		Frequency	Percentage (%)	
1	Age of the students	11-12 Years	90	75.0
		13-14 Years	30	25.0
2.	Sex	Male	34	28.6
		Female	86	71.7
3.	Class of the students	Class V-VI	60	50.0
		Class-VII-VIII	60	50.0
4.	Religion	Hindu	109	90.8
		Muslim	10	8.3
		Christian	01	0.8
5.	Caste	General/OBC	90	75.0
		SC	14	11.7
		ST	16	13.3
6.	Attend school regularly	Yes	117	97.5
		No	03	2.5
7.	Eat MDM at school	Yes	110	91.7
		No	10	8.3
8	Get regular MDM	Yes	119	99.2
		No	01	0.8
9	Eat entire amount of food given	Yes	97	80.8
		No	23	19.2
10	Ask more serving	Yes	106	88.3
		No	14	11.7
11	Eat at your home before coming to school	Yes	109	90.8
		No	11	9.2
12	Eat after going home	Yes	118	98.3
		No	02	1.7
13	School provide MDM regularly	Yes	80	66.7
		No	40	33.3
14	Bring your lunch box to school	Yes	120	100
		No	0	0
15	like eating at school	Yes	89	74.2
		No	31	25.8
16	Eat all food	Yes	108	90.0
		No	12	10.0
17	MDM is served at	Class room (1)	0	0
		School veranda(2)	59	49.2
		Open place(3)	0	0
		Others if any(4)	61	50.8
18	After eating MDM how to wash hand	By soap	02	1.7
		Clean water	16	13.3
		Soap & water	24	20.0
		Liquid hand wash & water	78	65.0
19	Do you bring your own water bottles from home	Yes	118	98.3
		No	02	1.7
	If, school does not provide MDM, then you attend school regularly	Yes	119	99.2

20		No	01	0.80
21	Do you believe MDM improve your health	Yes	107	89.2
		No	13	10.8
23	Your all friend take MDM	Yes	115	95.8
		No	05	4.2
24	Do you feel school maintain proper hygiene for preparation of MDM	Yes	77	64.2
		No	43	35.8
25	All over experience due to MDM	Very poor	11	9.2
		Poor	84	70.0
		Good	25	20.8

Conclusion

The analytical study can be very useful for the planners and policy makers of the respective area in improving service delivery of this unique mid-day meal scheme for better effective use of this knowledge and competence to boost their educational status for socio-economic development. The study clearly indicated that improvement of health, hygiene and nutritional status of the respondents, will be helpful for the policy makers to address these issues for better educational as well socio-economic upliftment of the concerned tribal and general students of the state West Bengal, India.

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