



## **APPRAISAL OF MID DAY MEAL PROGRAMME IN AMRAVATI AND NAGPUR DISTRICT.**

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### **Abstract :-**

The school programmes were started in our country keeping in mind the social and economic advancement of the country. Urbanisation, Industrialisation and an increase in the number of working mothers frequently brought about longer school days. This mean, that children often did not receive proper meals at home and therefore needed to have a meal at school. Thus, a free compulsory primary education became more common and pressures were brought to bear on governmental authorities to provide school lunch.

**Descriptive research design** will be use for the Study. 27-30 schools will select and 1000 samples, Students (Both Boys and Girls) will be select from rural and urban primary and secondary schools of Amravati and Nagpur District for the above study. Evaluation of MDM at school level. This phase was conducted l in the selected schools. All the children studying in 5th to 8th standard were enrolled in the study after obtaining a written consent. Data on anthropometry, socio economic status as well as practices and perceptions regarding MDM, sanitation at cooking place were collected. through spot observations implementation of MDM at school level was also studied. Data on covid condition record of school during pandemic period. Raw food distributives, like chana chole, mug dal, green gram, dal, Rice and money transfer in students parent account also. Serving was done by MDM helpers and senior students in the schools. Observation and evaluation of mdm finds in result are serving spoons being used in the schools were of different sizes. Jugs and other utensils were also used in some schools for serving. Plates for consuming MDM were provided from school. Somewhere tiffins are brought by children for mdm menu. It was observed that teachers were present at the time when meals were started being served. However, presence of teachers for monitoring throughout MDM serving as well as motivation by teachers were lacking. Most (93%) of the children consumed MDM in schools Main reason for not consuming MDM was not liking the taste among those who reported that they didn't eat MDM at school. Khichadi vegetable fried rice is the most liked item (28.7%) and chana (24.6%) was the most disliked item served under MDM, among children. Three fourth of the children opinioned that MDM



is beneficial for them. The main benefit of MDM as reported by the children, was improvement in health (28.7%).

**Keywords :** Mid day meal , evaluation , school childrens, school management etc

## **Introduction**

. A quantity of 1.91 lakh metric tons of wheat and 3.74Lakh tons of rice was lifted under the scheme during 1995-96 .Initiated in 1995 the NMMP aims to increase primary school attendance and retention as well as improve the nutritional status and learning achievements of school children generally in the 6 to 11 years old age group. Some states emphasize the education of young girls through this programme. **(Ref. Nutrition and Dietetics - Shubhangini A. Joshi 2002)**

The school programmes were started in our country keeping in mind the social and economic advancement of the country. Urbanisation, Industrialisation and an increase in the number of working mothers frequently brought about longer school days. This mean, that children often did not receive proper meals at home and therefore needed to have a meal at school. Thus, a free compulsory primary education became more common and pressures were brought to bear on governmental authorities to provide school lunch.

children studying in corporation schools are given midday meals. The meals given are based on a combination of cereals, pulses and leafy vegetables. Eggs are given once a week. Such a diet would increase the amount of vitamins and minerals result in weight gain and clearance of deficiency symptoms.

Amravati district is a district of Maharashtra state in central India. It is the administrative headquarter of Amravati division, which is one of the two divisions in Vidarbha (other being Nagpur), out of total 6 regions in state of Maharashtra. The district is situated between 20°32' and 21°46' north latitudes and 76°37' and 78°27' east longitudes. The district occupies an area of 12,235 km<sup>2</sup>. The district has boundaries with Betul District of Madhya Pradesh state to the north, and with the Maharashtra districts of Nagpur to the northeast, Chindwara district of Madhya Pradesh to the northeast Wardha to the east, Yavatmal to the south, Washim to the southwest, and Akola and Buldhana.

Nagpur is the third largest city and the winter capital of the Indian state of Maharashtra. Total population of city is 4,653,570 according to 2011 data. It has been proposed as one of the smart cities in India .The total area of Nagpur (Rural) is 659.59 sq. km. with population density of 458 per sq.km. Out of total population 49.11% of population lives in Urban Area



and 50.89 % lives in rural area. There are 19.45% Scheduled caste (SC) and 8.5% Scheduled Tribes (ST) of total population in Nagpur (rural) Taluka. Urban population of Nagpur 2405665 of which 1225405 are males and 1180260 are females.

### **Sample size and sample design**

27-30 schools will select and 1000 samples, Students (Both Boys and Girls) will be select from rural and urban primary and secondary schools of Amravati and Nagpur District for the above study.

## **METHODOLOGY**

### **Methodology**

3.1 Research methods may be understood as all those methods or techniques that are used for conduction of Research. In it we study the various steps that are generally adopted by a researcher in studying his research problem along with the logic behind them. It is necessary for the researcher to know not only the research methods /techniques but also the methodology. Steps involved in research methodology is to formulate the research problem, Extensive literature survey hypothesis development research design collecting data and analysis of data are the steps use in methodology.

**3.2 Locale of Study** Amravati district is a district of Maharashtra state in central India. It is the administrative headquarter of Amravati division, which is one of the two divisions in Vidarbha (other being Nagpur), out of total 6 regions in state of Maharashtra. The district is situated between 20°32' and 21°46' north latitudes and 76°37' and 78°27' east longitudes. The district occupies an area of 12,235 km<sup>2</sup>. The district has boundaries with Betul District of Madhya Pradesh state to the north, and with the Maharashtra districts of Nagpur to the northeast, Chindwara district of Madhya Pradesh to the northeast Wardha to the east, Yavatmal to the south, Washim to the southwest, and Akola and Buldhana.

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## Methods

Mid-day meal programme for school children is come under Ministry of education. On the recommendation of National school health committee, the government of India started a scheme for providing midday meal to school children is extended to all states with effect from is 15<sup>th</sup> August 1995. The government of India pays 40% of expenditure and 60% is borne by the states. The meal is usually prepared from special foods such as Balahar, Soya fortified Bread, Indian Multipurpose food, Skim milk Powder and Wheat. The children studying in corporation schools are given midday meals. The meals given are based on a combination of cereals, pulses and leafy vegetables. Eggs are given once a week. Such a diet would increase the amount of vitamins and minerals result in weight gain and clearance of deficiency symptoms. (Ref. B. Srilakshmi second edition)

**3.3 Research Design:** Descriptive research design will be use for the study. Descriptive research includes surveys and fact-finding enquiries of different kinds. The major purpose of descriptive research is description of the state of affairs as it exists at present. In social science and business research we quite often use the term Ex facto research for descriptive research studies has no control over the variables. The methods of research utilized in descriptive research are survey methods of all kinds including comparative and correlational methods.

3.1 locale of the study

3.2 Research design

3.3 sample and sampling technique

3.4 preparation of structure questionnaires and interview schedules

3.5 Observation of MDM scheme implemented in selected schools

3.6 Monitoring scheme

3.7 checking of attendance of children in school

3.8Checking of weekly menu chart of mdm meal

3.9Checking of cook menu

3.10 Evaluation of scheme in school as per implementation guidelines



Method of study: method of study was as per random selection of samples of 50 students from corporation schools of urban area and 30 students from zp school of rural area of both Amravati and Nagpur district and collect the responses of implementation and evaluation of mid day meal program in school. The Responses are in the form of questions Questionnaire AND EVALUATE THE PROGRAM RUN IN SCHOOL.THE COMMUNICATION OF PARENTS AND INTERVIEW WITH INCHARGE TEACHER AND HEAD master also taken at all school visited and selected. The data of covid situation faced by school also collected and malnutrition observation test of students also taken

selection of villages:

- AMRAVATI
- NAGPUR

Selection of area

Rural and Urban area of Amravati and Nagpur district

Selection of schools Sant kavarram Vidyalaya dastur nagar Amravati Wadali corporation school Z. P. school Anakwadi Mozari Z P School Gurukul ashram Ashram Mozari Dandale School Tiwava Deshmukh Shala Amravati Nagpur school name Primary Upper Primary Middle School And Highschool And Zilla Parishad at Gramin level Prashant shala hiwari nagar Nagpur Z P school chikna Z P school salai Shivgaauri school bante lay out Nagpur Z P school madhavi shala chakrapani Nagar

Selection of students out of 1000 students 500 and 500 from each district of rural area and urban area of Amravati and Nagpur district.



### 3.4 Phase 1 A: Evaluation of MDM at school level

This phase was conducted at school level in the selected schools in both district Amravati schools name Sant kavarram Vidyalaya dastur nagar Amravati Wadali corporation school Z P School Anakwadi Mozari Z.P School Gurukul Ashram Mozari Dandale School ,Tiwasa Deshmukh School Amravati Nagpur school name PRIMARY UPPER PRIMARY MIDDLE SCHOOL AND HIGHSCHOOL AND Zilla Parishad at rural level Prashant shala hiwari nagar Nagpur Z P school chikna

Z P school, salai. Shiv Gauri school ,bante lay out Nagpur ZP school madhavi shala chakrapani Nagar Saraswati Vidyalaya, Amravati . All the children studying in 5th to 8th standard were enrolled in the study after obtaining a written consent. as well as practices and perceptions regarding MDM, were collected. Data on responses of beneficiaries i.e. school children were collected implementation of MDM at school level was also studied through spot observations. Data on nutrient intake and malnourishment count on basis of spot observation only was collected

#### **Socio Economic background of beneficiary students**

- Majority of the children were Hindu (97.3%) and only 2.7% were Muslim.
- With respect to castes, majority (61.6%) were from general category. followed by OBC (20.5%), SC (13.3%) and (4.6%) ST category.
- Data on educational status of parents showed that one third (34.9%) of the fathers had studied up to 10th standard while 63.4% of the mothers had left studies while they were in primary section,
- With respect to occupation of parents, Majority of the fathers were occupied in service (57.7%) and mothers were housewives (82.8%).
- One fourth (43.9%) children were from nuclear families followed by joint (29.1%) and extended nuclear (26.8%) families.
- Majority of the children belonged to lower income class and lower middle income class as per revised B G Prasad classification,

#### **POLICY PERSPECTIVES regarding Mid Day Meal**

- From data analysis
- Main reason for not consuming MDM was not liking the taste among those who reported that they didn't eat MDM at school.



- Khichadi ,Masale bhat vegetable fried rice, daliya some time served sooji was the most liked item eggs was the most disliked item served under MDM among children.
- Dietary Assessment from time table of mdm menu chart
- children met the nutrient norms of energy and protein. More boys consumed amount of MDM that met nutrient norms as compared to girls.

### **3.5 Tools and measuring Scales:**

The technique of developing measurement tools involves concept of development specification of concept selection of indicators and formation of index. Scaling describes the procedures of assigning numbers to various degrees of opinion attitude and other concepts of opinion attitude and other concepts this can be done in two ways i) making a judgement about some characteristics of an individual and then placing him directly on scale that has been defined in terms of that characteristic and ii) constructing questionnaires in such a way that the score of individuals responses assigns him a place on a scale.

(C R Kothari )

Questionnaire method, Interview method were applying for data collection chi square test p value will apply to collect data and assessment of malnutrition by observation method

### **3.6 Material and Methods:**

The study will apply following steps

1. Study of Policy Perspectives of Midday Meal Programme of government of India and its implementation in the primary schools of Nagpur.
2. Observation Method and develop interview schedule, Questionnaire use in the study.
3. Compare the collected data of working of MDM Scheme at rural and urban level. Comparison between subjects of Rural and Urban beneficiaries will be studied
4. Study of school dropout rate and problems faced in covid situation.
5. Dietary assessment by 24 Hour Dietary Recall Method. Midday meal and total dietary intake of subjects will be observe and impact on health and effectiveness of subjects were examine.
6. Subjects were examine by symptoms of nutritional deficiencies

### **Spot Observations of MDM at School**



- Regular supply of safe drinking water in the schools was recorded in most of the observations.

children were observed to be washing their hands with soap before meals but only 33.3% observations reported majority of the children washing their hands with soap before consuming MDM in school.

- Supervision of hand-washing was observed in only 16,7% observations, where hand-washing was supervised by student members of 'Bal- Sansad.
- Children were asked to wash their hands before meal but no dedicated time for hand-washing was given in the schools.
- Open spaces like corridors, play grounds and open shaded dining areas were used for serving MDM in the schools, Cleaning of floor was not done satisfactorily.
- Serving was done by MDM helpers and senior students in the schools.
- Serving spoons being used in the schools were of different sizes. Jugs and other utensils were also used in some schools for serving.
- Plates for consuming MDM were provided from school as seen in one third observations. Children were bringing plates from home in two third observations.
- It was observed that teachers were present at the time when meals were started being served. However, presence of teachers for monitoring throughout MDM serving as well as motivation by teachers were lacking. Waste-bins for collecting plate waste, were present in all the schools.

### **Evaluation of MDM program at School**

- Raw food items were cleaned before cooking. Vegetables, pulses and rice were thoroughly washed before using.
- Kitchen floors were kept clean throughout cooking. Floors and all the machineries were thoroughly cleaned after cooking. All the utensils were
- A process was followed in order to ensure error free deliveries of meals to the school Nutrient and microbial analysis of food samples was carried out to study the quality attributes of food items served by the centralised kitchen in study area. Food samples were collected in sterile containers using sterile ladles. Samples were collected from the kitchen for nutrient analysis, Microbial analysis was carried out on food samples collected from the kitchen



at the time of production and from the school while MDM was being served. This was done to understand the changes in microbial profile of food from production to serving. Analysis was done in an NABI, accredited laboratory.

- **Sample size and sample design**
- 18 schools will select and 1000 samples, Students (Both Boys and Girls) will be select from rural and urban primary and secondary schools of Amravati and Nagpur District for the above study.

SRNO.	AMRAVATI DESTRIC RURAL	AMRAVATI DESTRIC URBAN	NAGPUR DESTRIC RURAL	NAGPUR DESTRIC URBAN
1	250	250	250	250
<b>TOTAL SAMPLE</b>	<b>500</b>		<b>500</b>	
<b>1000</b>				





**3.6 Sample design:** The research problem having been formulated in terms the researcher will be required to prepare a research design. ie, he will have to state the conceptual structure within which research would be conducted. A sample design is a definite plan determined before any data are actually collected for obtaining a sample from a given population. ( C R kothari )

Schools will select from rural and urban area of Amravati and Nagpur city.

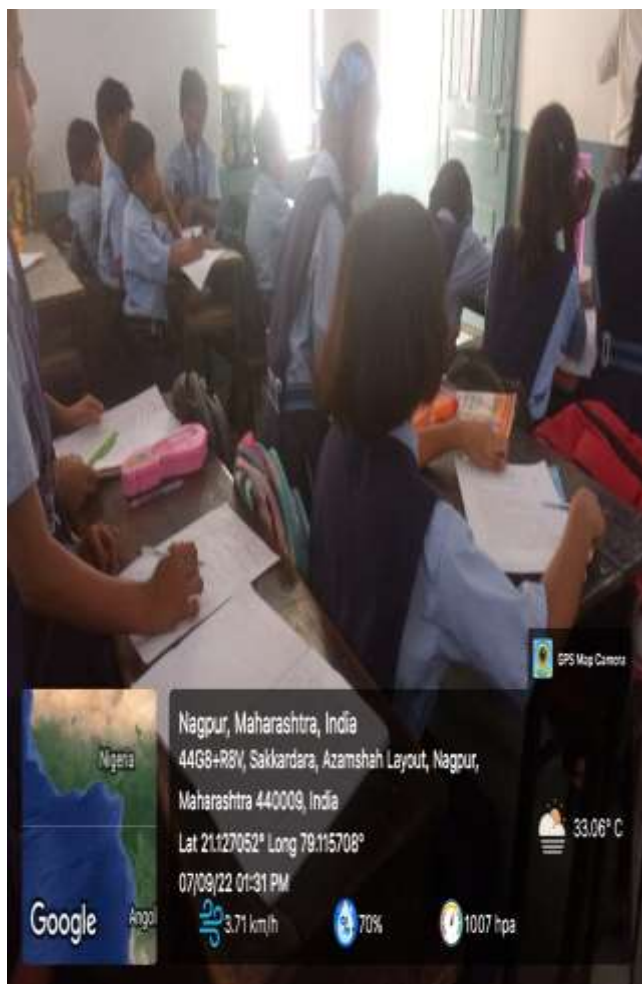
• Rural Area Amravati and Nagpur	• Urban Area Amravati and Nagpur
• Chikna salai	• Wadali
• dongargaon	• Dastur Nagar



<ul style="list-style-type: none"> <li>Anakwadi</li> </ul>	<ul style="list-style-type: none"> <li>Sitaburdi ,Sakkkardara</li> </ul>
<ul style="list-style-type: none"> <li>Mozari, Tiwasa</li> </ul>	<ul style="list-style-type: none"> <li>Nandanwan,, Wardhman Nagar</li> </ul>
<ul style="list-style-type: none"> <li>Butibori</li> </ul>	<ul style="list-style-type: none"> <li>Besa Hudkeshwar</li> </ul>

INDEPENDENT VARIABLES	DEPENDENT VARIABLES
1. Sex 2. Age 3. Religion 4. Type of family 5.. Education 6. Income	1. Midday meal Menu 2. Attendance record 3. Responses of Questionnaire 4. Nutrition of midday meal menu





**3.7 Statistical Analysis:-** The Midday meal programme is for school going children run by central government. State government implement the scheme as per govt. guidelines. In the scheme school going children attendance is important factor and purpose to improve attendance of children in school. The scheme monitor nutrition of children also Themid day

meal survey included 1000 sample size and frequency of respondents is 500 sample size for male and 500 size for female respondents from both district of total 1000 respondents from rural and urban area.

The percentage of male and female respondents is 50% from 1000 population . The midday meal programme for school children objectives are to provide meal to children and maintain the attendance of children in school and absentees are less. More children are educated by this scheme in Sarva Shiksha Abhiyan.

Different Parameters Observation, Interview, Questionnaire method was use to collect information and collection of data. Data on Midday meal programme in schools would be collected. The information of school management and beneficiaries of Midday meal programme was collected. For statistical analysis Chi square test method was use. P value was calculated based on data structure and information collected.







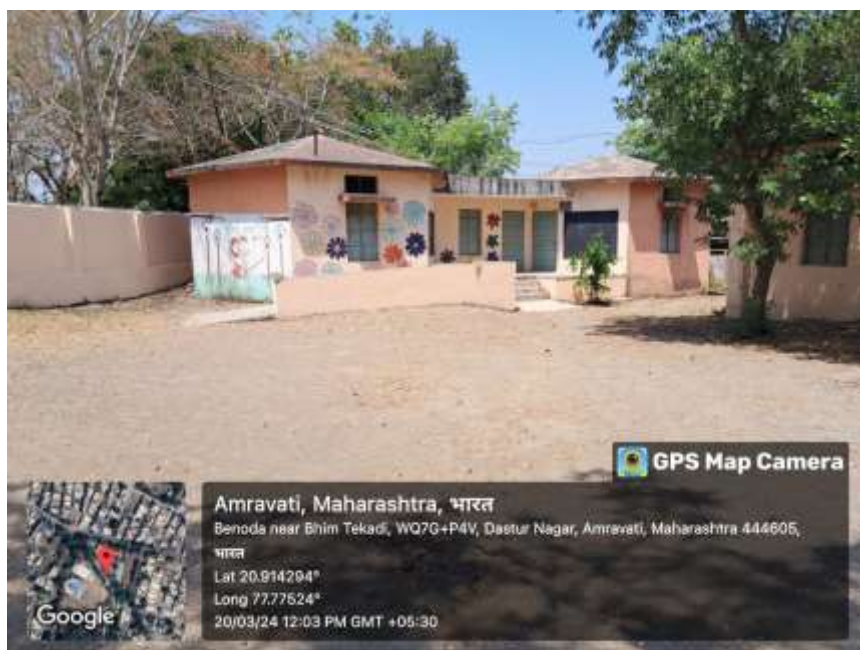










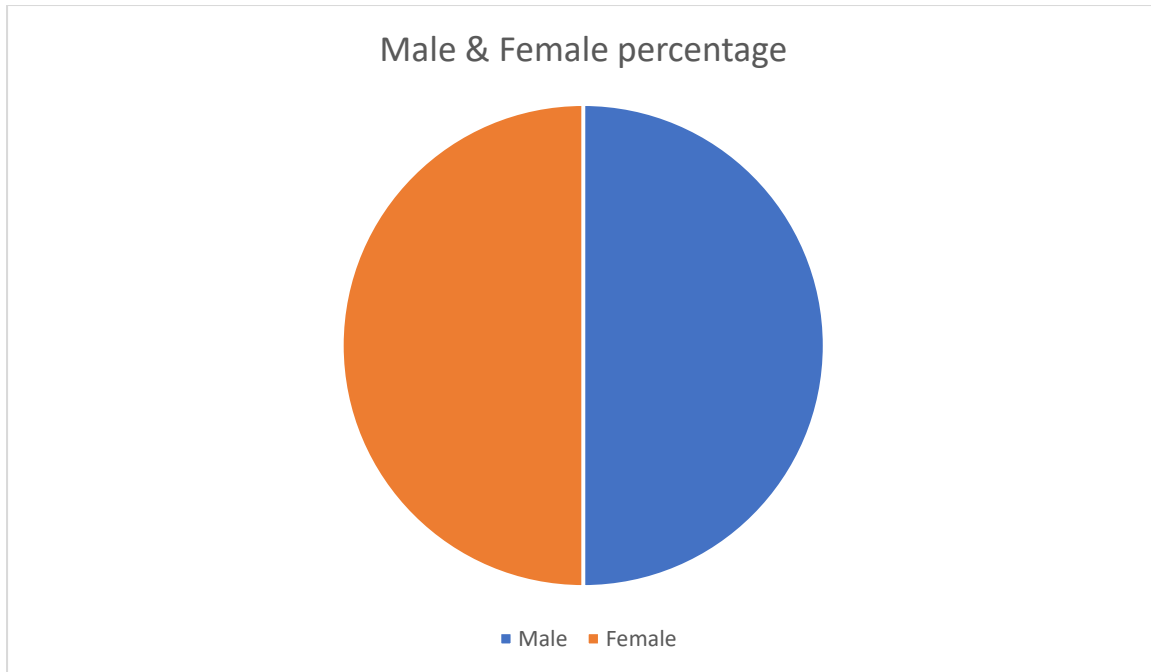


Data an

Table No. 1 Showing frequency and percentage of male and female respondents

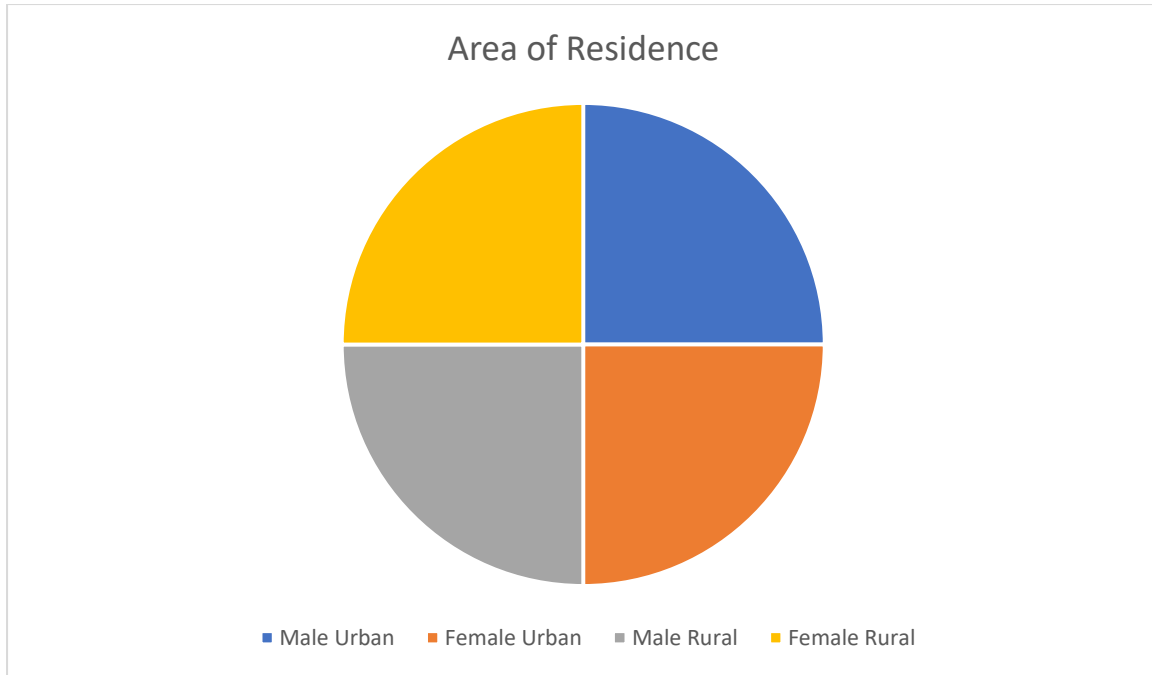


Gender	Frequency	Percentage
Male	500	50%
Female	500	50%
Total	1000	100%



**Table No. 1 Showing frequency and percentage of Urban and Rural male and female participants**

Area of residence	Male	Female	Total
Urban	250	250	500
Rural	250	250	500
Total			1000



**Comparison between male and female respondents with respect to responses given to statement no. 1**

**Table 1**

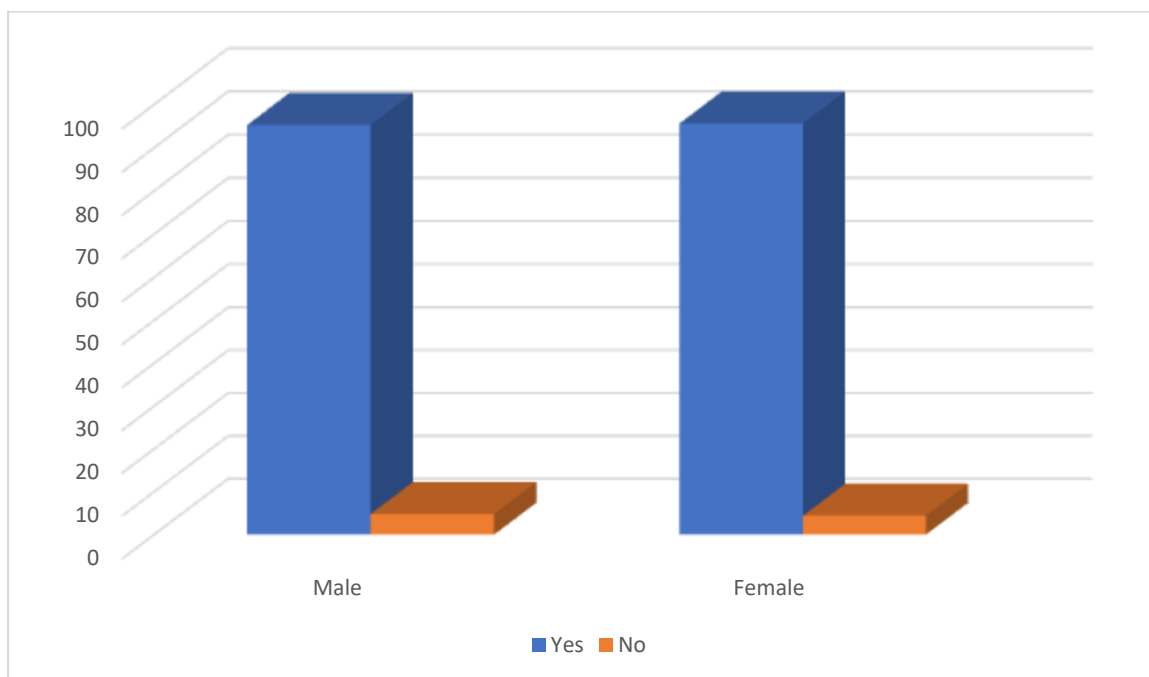
Gender	Frequency count & Percentage	Responses (Q1)		Total
		Yes	No	
Male	Count	476	24	500
	Expected Count	477.0	23.0	500.0
	% within Gender	95.2%	4.8%	100.0%
Female	Count	478	22	500
	Expected Count	477.0	23.0	500.0
	% within Gender	95.6%	4.4%	100.0%
Total	Count	954	46	1000
	Expected Count	954.0	46.0	1000.0
	% within Gender	95.4%	4.6%	100.0%

Chi-square = .091

p-value (0.763) is greater than chi-square value hence non-significant

p-value of 0.763, indicating no significant association between gender and Q1 responses.

Figure No. 1



Comparison between male and female respondents with respect to responses given to statement no. 2

Table 1

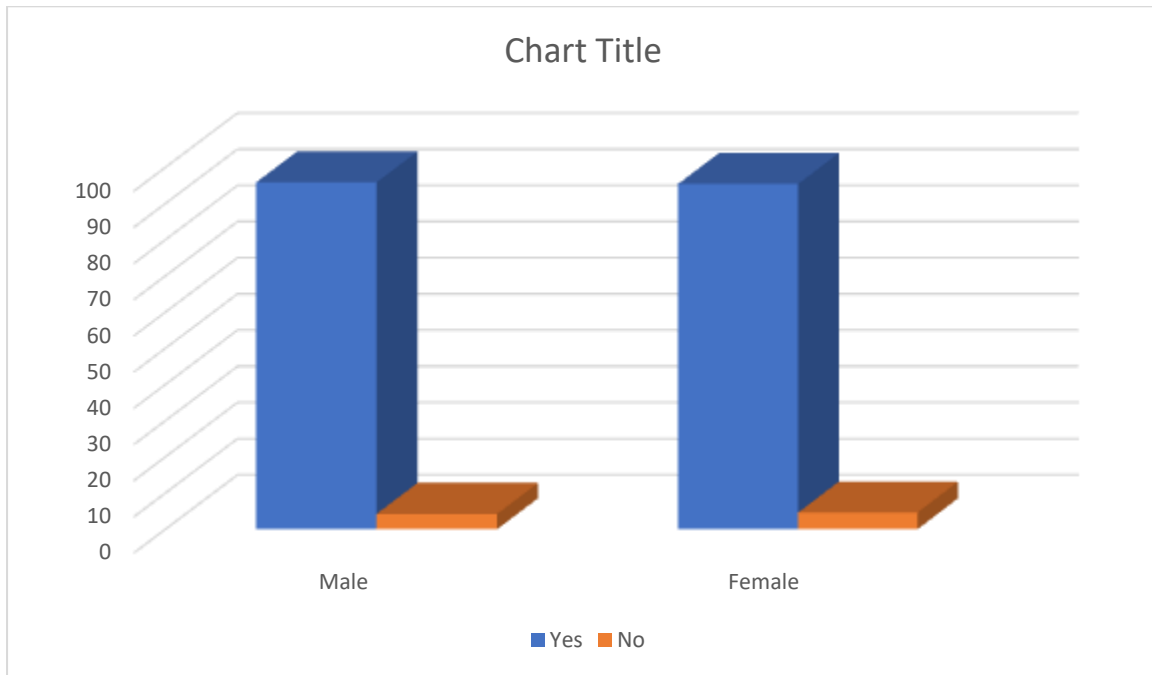
Gender	Frequency count & Percentage	Responses (Q2)		Total
		Yes	No	
Male	Count	479	21	500
	Expected Count	478.0	22.0	500.0
	% within Gender	95.8%	4.2%	100.0%
Female	Count	477	23	500
	Expected Count	478.0	22.0	500.0
	% within Gender	95.4%	4.6%	100.0%
Total	Count	956	44	1000
	Expected Count	956.0	44.0	1000.0
	% within Gender	95.6%	4.4%	100.0%

Chi-square = .095.

p-value (0.757799) is greater than chi-square value hence non-significant

p-value of 0.757799, indicating no significant association between gender and Q2 responses.

Figure No. 2



Based on the provided data, here's a summary and analysis of the comparison between urban and rural respondents with respect to their responses to statement no. 2.

**Conclusion**

The analysis demonstrates that there is no statistically significant difference in the responses to Question 2 between urban and rural respondents. Both groups show a similar pattern of responses, with a large majority responding "Yes" and a small minority responding "No." This result suggests that the factor of being from an urban or rural area does not influence the responses to the specific statement in Question 2. Based on the data provided in the image, here is an analysis of the comparison between male and female respondents with respect to their responses to statement no. 4.

Comparison between male and female respondents with respect to responses given to statement no. 3

Table 3

Gender	Frequency count & Percentage	Responses (Q3)		Total
		Yes	No	
Male				
Female				



Male	Count	413	87	500
	Expected Count	418.5	81.5	500.0
	% within Gender	82.6%	17.4%	100.0%
Female	Count	424	76	500
	Expected Count	418.5	81.5	500.0
	% within Gender	84.8%	15.2%	100.0%
Total	Count	837	163	1000
	Expected Count	837.0	163.0	1000.0
	% within Gender	83.7%	16.3%	100.0%

Chi-square = .887

p-value (.346) is greater than chi-square value hence non-significant

No significant difference exists between male and female respondents on Q no. 3 in this manner respectively all 20 questions on evaluation should be considered.

This was a cross-sectional study. The area was divided in a way that each region schools from each area were randomly selected for this phase. Specific objectives of this phase were:

1. To study the implementation of Mid-Day Meal Program at the school level
2. To investigate the storage, food handling and cooking practices in the centralized kitchen
3. to study the attendance and menu prepared in mdm program in school.
4. to study the policy perspectives of scheme.

Evaluation of MDM at school level. This phase was conducted in the selected schools. All the children studying in 5th to 8th standard were enrolled in the study after obtaining a written consent. Data on anthropometry, socio economic status as well as practices and perceptions regarding MDM, sanitation at cooking place were collected. through spot observations implementation of MDM at school level was also studied. Data on COVID condition record of school during pandemic period. Raw food distributes, like chana chole, mug dal, green gram, dal, Rice and money transfer in students parent account also.

#### Socio Economic Status

class

- 45 boys% and 55%girls from target population and study group
- Practices and policy perspectives and Perceptions regarding Midday Meal
- Most (93%) of the children consumed MDM in schools



- Main reason for not consuming MDM was not liking the taste among those who reported that they didn't eat MDM at school.
- Khichadi vegetable fried rice is the most liked item (28.7%) and chana (24.6%) was the most disliked item served under MDM, among children.
- Three fourth of the children opinioned that MDM is beneficial for them. The main benefit of MDM as reported by the children, was improvement in health (28.7%).

### **Practices and Perceptions regarding kitchen**

All the children reported to be washing their hands before handling or consuming food, after eating and after using toilet,

- Only 43.2% children were washing hands after going home from outside followed by 31,5% washing their hands after doing household chores.
- The food cook is hygienic and clean and ready to eat in safe condition.
- The utensils like plates used are clean and serving pots are good.
- Only 38.9% and 48.2% of the children are met the nutrient energy and protein in required amount as per their age. More boys consumed amount of MDM that met nutrient norms as compared to girls.

### **Observations findings of MDM at School**

- Regular supply of safe drinking water in the schools was recorded in most of the observations.
- Open spaces like corridors, play grounds and open shaded dining areas were used for serving MDM in the schools. carpets to sit for children at mealtime lunchtime use in school daily.
- Serving was done by MDM helpers and senior students in the schools.
- Serving spoons being used in the schools were of different sizes. Jugs and other utensils were also used in some schools for serving.
- Plates for consuming MDM were provided from school. Somewhere tiffins are brought by children for mdm menu.
- It was observed that teachers were present at the time when meals were started being served. However, presence of teachers for monitoring throughout MDM serving as well as



motivation by teachers were lacking. Waste-bins for collecting plate waste, were present in all the schools.

Phase 1 B: Evaluation of MDM at centralized kitchen

Some schools specifically Gramin, use vegetables grown at school from kitchen garden and in mdm cooking and some have not kitchen garden.

**Major findings of the analysis are given below.**

- The MDM lunch menu provided by the centralized kitchen included curry-based items (dal and subji), rice-based items (jeera rice, chana rice, vegetable pulao, peas pulao and khichadi) as well as roti and thepla,
- In addition to this, snack items such as fried groundnuts, sukhadi, bataka poha, idli
- Energy content of rice-based items ranged from 65 Kcal/100 gm for khichadi to 173 Kcal/100 gm for chana rice, Curry based items had lower calories per 100 gm as compared to rice-based items and rotis like puri, Aloo subji had the lowest caloric content (37 Kcal/100 gm). All the snacks served as MDM breakfast were high calorie foods, except for Idli (159 Kcal/100 gm.). Fried groundnuts had the highest calorie content (whole groundnuts-643 Kcal/100 gm and split groundnuts-597 Kcal/100 gm.). The Kitchen Garden, parasbag develop in some school near about 35% school having their own parasbag. Student of school grown leafy vegetables there and use them for MDM menu. These activities can be useful into the existing MDM programmer to ensure adequate knowledge on nutrition, health and hygiene among children. prevalence of under nutrition is found by observation method only among children studying in Government run primary and upper primary schools of rural Amravati and Nagpur schools

**Recommendations:**

The Kitchen Garden, parasbag develop in some school near about 35% school having their own parasbag. Student of school grown leafy vegetables there and use them for MDM menu. These activities can be useful into the existing MDM programmer to ensure adequate knowledge on nutrition, health and hygiene among children. prevalence of under nutrition is found by observation method only among children studying in Government run primary and upper primary schools of rural Amravati and Nagpur schools



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