



A Comparative Analysis of Schoolchildren Participating in Midday Lunch Programs' Nutritional Condition

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ABSTRACT

Inadequacies in one or more of the three primary prerequisites for optimal nutrition—food, care, and health—are the cause of malnutrition in school-age children. It's likely that school-age children who are stunted have had inadequate nutrition when they were little. Stunting rates in the preschool years can be decreased with the use of interventions for school-age children. This study was designed to conduct a comparative analysis of schoolchildren who participate in the midday meal program in terms of their nutritional status. The Thiruvarur District was the subject of the study. A practical random sample approach was used to choose two rural schools (Manimegalai Higher Secondary School and C.S.I Primary School in Thiruvarur). They thereby maintained their poor health. The anthropometric measurements show that schoolchildren have lost a significant amount of weight. So, you should eat the nutritional information for the packed lunch in the proper manner if both of your school-age children participate in the midday meal program. It is concluded that low socioeconomic position and inadequate nutrition affect school-aged children.

Key Words: Children Health, Children growth, Inadequacies, Nutrition.

1. Introduction

In India, various Nonprofits operate a midday food program. The world's largest midday meal program for kids is conducted by the akshaya patra foundation, one of these NGO's. Children at government-run and government-aided schools get midday meals from the foundation as part of the program. In addition to providing children with access to midday meal programs, Akshaya Patra works to ensure that the recommended nutritional amounts are also provided. The mid-day meal program for kids is put into place to address women's malnutrition, decrease classroom hunger, raise school enrollment, enhance school attendance, promote caste socialization, and empower women via work. Many children suffer from malnutrition, thus the midday meal program for kids is a solution to this problem. It is one of the most effective

programs in India for ensuring that kids get healthier meals and, as a result, concentrate better in class (Sethi.S.P.,2013). progressively introducing new foods and offering a wide range of meals for schoolchildren. When presented at the beginning of a meal, schoolchildren are more likely to accept new foods. While many school-aged children continue to reject vegetables and mixed meals, they normally increase the amount and variety of food they consume. Sugar makes up 24% to 25% of the calories in their diets. When unhealthy eating habits are established, they are difficult to modify because they lead to mental and physical issues including irritation, sadness, anxiety, weariness, and disease. Eating habits develop in school-aged children. Many studies on diet and nutrition have been conducted by various researchers to determine the nutritional condition of schoolchildren in developing nations. The findings indicate that the majority of schoolchildren had poor diets. According to national surveys, schoolchildren's health is currently usually great. Nevertheless, children from low-income families are more likely to experience nutritional deficiency diseases than other children (Grow, J.S., 1998). Extreme poverty and social inequality are important contributors to low literacy rates, and a number of initiatives have been started to draw kids into the educational system. A significant nationwide initiative called midday meals has been introduced. not just to draw kids into the elementary school system. It gives the youngsters the nutritional assistance they need to develop the essential interest in school, both physically and psychologically (Raiwant.M. 2015). This study's goal was to conduct a comparative analysis of the nutritional status of schoolchildren participating in the midday meal program. conducted with the goal of examining the socioeconomic profiles of the chosen groups, learning about their eating patterns and eating behaviors, understanding their nutritional status using anthropometrics and how it relates to their health profiles, and researching the nutritional status and complications of school-age children.

2. METHODOLOGY

2.1 Selection of Data

The Thiruvarur District was the subject of the study. A practical random sample approach was used to choose two rural schools (Manimegalai Higher Secondary School and C.S.I Primary School in Thiruvarur).

2.2 Selection of Subjects

A child's typical linear growth is a sign that they are receiving appropriate nutrients and are healthy overall. Schoolchildren at each development phase from the dynamic interaction of diet, physical activity, and normal processes upon the genetically determined. Yet astonishing variety of what is deemed normal. The diet offers a margin of safety above the physiologic need for the majority of children in status, according to the current understanding of the nutrient intake needed by children of different ages for optimal health.

2.3 Formulation of Tools

The approach of creating questions to gather the goal of gathering the necessary data is known as the "questionnaire common." The questionnaire is suitable for the field study. The investigator developed an interview questionnaire approach to get data from the chosen individuals regarding theirs.

2.3.1 General Information

Name, age, sex, type of family, Income of the family.

2.3.2 Life Style Pattern

Indoor and outdoor games, extracurricular activities, Consumption of water and gaming time.

2.3.3 Health Ststus

State of health related eyesight impairment suffer from cold-related hearing and taste issues. Tonsillitis-related symptoms including throat soreness, work-related discomfort, and chewing difficulty. there was a change in appetite, surgery, and medication.

2.3.4 Clinical Status

We looked at general appearance, including the face, hair, eyes, mouth, lips, tongue color, gums, skin, teeth, and nails. The clinical examination is the most crucial aspect of nutritional evaluation because it provides us with clear evidence of the symptoms and indications of dietary deficiencies that are common among people.

2.4 Collection Of Data

For the purpose of gathering data, the researcher used a self-prepared interview schedule. The art of "interviewing" requires the ability to develop a rapport with the subject and create a report with them. In order to serve as the confidential respondent, this technique of data collection involved face-to-face interaction with the subject of the information. A schedule of interviews was created and carried out to gather data from the chosen subjects.

2.5 Assessment of Nutritional Status

2.5.1 Anthropometric Measurement

Nutritional anthropometry measures the body at different ages and nutritional levels, which aids in determining the severity of subclinical malnutrition. It is known to be a versatile method for locating nutritionally sensitive groups. It is one of the evaluations of development and progress.

2.5.2 Height

One of the most accurate ways to assess a student's general well-being is to measure their height. The responders must stand upright, without slouching or bending down, with their heads gazing straight ahead and their outer corners of their eyes in a line with the floor. In children who are developing, height is an excellent predictor of growth. Long-term nutritional deprivation has an impact on height in a similar way to how genetics does, and is a sign of chronic or long-term malnutrition. The most popular and easily obtainable anthropometric measurement is height.

2.5.3 Weight

A personal weighing scale was used to record the individuals' weight, and the reading was 0.1 kilograms. Not using a spring scale, but a beam balancing scale. As often as feasible, use known weights to calibrate the scale on responders wearing light clothing and no shoes.

2.5.4 Body Mass Index

The body mass index defines the degree of accordance to relationship of weight height and eliminates dependency of frame size. This adjusts for differences in body composition. The collected information on height, weight, and body mass index is included in the appendix.

$$\text{BMI} = \frac{\text{Weight}}{\text{Height (M}^2\text{)}}$$

2.6 Analysis and Interpretation of Data

The collected data was then compiled and interpreted statistically.

3. RESULTS and DISCUSSION

The results of the study, which was titled A Comparative Study on the Nutritional Status of School Children Attending Midday Meal Program, are tallied and explained in the manners listed below.

3.1 Genertal Information and Socieconomic Status

According to Table I, 52% of respondents were between the ages of 10 and 12 while 48% of the samples were between the ages of 6 and 9 years.

Table-I Age Limit of The Selected Respondents

S.No	Age Group	Number of The Sample	Percentage
1	6-9 Year	48	48
2	10-12 Year	52	52
Total		100	100

Table II shows that 37% of the chosen subjects were males and 63% of the chosen subjects were girls.

Table-II Gender of the Selected Subjects

S.No	Gender	Number Of The Sample	Percentage
1	Female	63	63
2	Male	37	37
Total		100	100

According to Table III, 78 percent of the subjects were in nuclear families, whereas 22% of the subjects belonged to mixed families.

Table-III Type of Family of the Selected Subjects

S.No	Type of Family	Number of the Sample	Percentage
1	Nuclear family	78	78
2	Joint family	22	22
Total		100	100

According to Table IV, 26% of the subjects had educational levels in the 1-2 range, 29% had educational levels in the 3-4 range, 35% had educational levels in the 5-6 range, and 10% had educational levels in the 6-7 range.

Table-IV Consalident Of The Educational Level Of The Selected Subjects

S.No	Educational Level	Number of the Sample	Percentage
1	1-2 Stand	26	26
2	3-4 Stand	29	29
3	5-6 Stand	35	35
4	6-7 stand	10	10
Total		100	100

According to Table V, 48 percent of households had three to four people, while 29 percent had two to three members and 18 percent had five to six. Five percent of families had more than six members.

Table-V Number of Members In Your Family

S.No	Number of Family Members	Number of the Sample	Percentage
1	2-3	29	29
2	3-4	48	48
3	5-6	18	18
4	Above	5	5
Total		100	100

According to Table VI, every single chosen respondent participated in extracurricular activities at their school. 4 percent of respondents reported being active in gardening, 16 percent reported participating in sports, 48 percent reported sketching, and 32 percent reported painting. Daily exercise is very vital for maintaining health since it builds a strong body and increases resistance to disease. Adequate relaxation, both mentally and physically, is also highly necessary (K. Ronald, 1996).

Table-VI Extra Curricular Activities of the Selected Subjects

S.No	Extra Curricular Activities	Number Of The Sample	Percentage
1	Sports	16	16
2	Drawing	48	48
3	Painting	32	32
4	Gardening	4	4
Total		100	100

Table VII shows that 52% of the sample is in Type B and 48% of the sample is in Category A (stress) (Cool or Calm).

Table-VII Personality Type of the Selected Subjects

S.No	Personality Type	Number of The Sample	Percentage
1	Type A (Stress)	48	48
2	Type B (Cool And Calm)	52	52
Total		100	100

According to Table VIII, 48 percent of respondents spend a half-hour studying, 39 percent spend an hour studying, and 13 percent spend two hours studying.

Table-VIII Time Spends For the Studying by the Selected Subjects

S.No	Time Spend For Studing	Number Of The Sample	Percentage
1	½ Hour	48	48
2	1 Hour	39	39
3	2 Hour	13	13
4	3 Hour	-	-
Total		100	100

Table IX indicates that 6 percent of the subject slept for six hours, 15 percent slept for seven hours, 29 percent slept for eight hours, and 50 percent slept for more than eight hours.

Table-IX Time Spend For the Sleeping by the Selected Subjects

S.No	Time Spend For Sleeping	Number Of The Sample	Percentage
1	6 Hour	6	6
2	7 Hour	15	15
3	8 Hour	29	29
4	Above 8 Hour	50	50
Total		100	100

According to Table XI, 86 percent of respondents did not have any problems with weight loss, while 14 percent of respondents had symptoms of poor weight loss, and 92 percent of respondents did not have any problems with nau. Additionally, 82 percent of respondents did not have symptoms of frequent infection, while 18 percent of respondents did not have any problems with frequent infection.

Table-XI Health Status of Selected Respondent

S. No	Health Status	With Problem	Percentage	Without Problem	Percentage	Total
1	Frequent Infection	18	18	82	82	100
3	Weight Loss	14	14	86	86	100
4	Fatigue	10	10	90	90	100
5	Nausea and Vomitting	8	8	92	92	100

According to Table XI, 86 percent of respondents did not have any problems with weight loss, while 14 percent of respondents had symptoms of poor weight loss, and 92 percent of respondents did not have any problems with nau. Additionally, 82 percent of respondents did not have symptoms of frequent infection, while 18 percent of respondents did not have any problems with frequent infection.

Table-XI Health Status of Selected Respondent

S.No	Health Status	With Problem	Percentage	Without Problem	Percentage	Total
1	Frequent Infection	18	18	82	82	100
2	Vision problem	12	12	88	88	100
3	Weight Loss	14	14	86	86	100
4	Fatigue	10	10	90	90	100
5	Nausea and vomiting	8	8	92	92	100

Table XII reveals that just 2% of respondents—who make up the maximum 23 percent of respondents—are taller than 140 cm. The majority of respondents—54 percent—are between 120 and 130 cm tall, while 21% are between 130 and 140 cm tall.

Table-XII Nutritional Status of Anthropometric Measurement Height of the Selected Subjects

S.No	Height	Number Of The Sample	Percentage
1	110-120	23	23
2	120-130	54	54
3	130-140	21	21
4	140-150	2	2
Total		100	100

Table XIII shows that only 7% of respondents had a weight of 35-40 kg, while the bulk of respondents (50%) had a weight of 20-25 kg, 21% had a weight of 25-30 kg, 22% had a weight of 30-35 kg, and the remaining % (21%) had a weight of 25-30 kg.

Table-XIII Weight of the Selected Subjects

S.No	Weight	Number Of The Sample	Percentage
1	20-25	50	50
2	25-30	28	28
3	30-35	15	15
4	35-40	7	7
Total		100	100

Table XIV reveals that 26% had a body mass index of less than 15. 12 percent of respondents had body mass indices between 20 and 25, while 63 percent had values between 15-20. While anthropometry is concerned with measuring physical dimensions and the overall composition of the human body, it is used to determine an individual's nutritional state. (1999; Mary Frances).

Table-XIV Body Mass Index of the Selected Subjects

S.No	Body Mass Index	Number Of The Sample	Percentage
1	< 15	26	26
2	15-20	63	63
3	20-25	12	12
4	Above 25	-	-
TOTAL		100	100

According to Table XV, 48 percent of respondents had poor facial features, 12 percent had poor eyes, 10 percent had bad hair, 27 percent had bad lips, 22 percent had bad tongue color, 18 percent had bad hands and feet, 52 percent had bad skin, and 18 percent had bad nails. Additionally, 49 percent of respondents had a poor appearance, including poor skin, poor skin tone, and poor nails. By taking care of your teeth, having a balanced diet, and going to the dentist frequently, you may prevent clinical signs from appearing when your body is overall in poor condition. Ascorbic acid levels drop to a healthy level of 380 mg, and the skin becomes rough and dry.

Table-XV Clinical Assessment of the Subjects

S.No	Part Of The Body	Good Sign	Percentage	Poor Sign	Percentage	Total
1	General Appearance	51	51	49	49	100
2	Skin	48	48	52	52	100
3	Face	62	62	48	48	100
4	Tongue And Mouth	78	78	22	22	100
5	Hands And Feet	82	82	18	18	100
6	Eyes	88	88	12	12	100
7	Lips	73	73	27	27	100
8	Nails	82	82	18	18	100
9	Hair	90	90	10	10	100

According to Table XVI, 62% of respondents had eaten non-vegetarian cuisine, compared to 38% of respondents who had eaten vegetarian food.

Table-XVI Consumption of Family Meal Pattern by the Selected Subjects

S.No	Type Of Family Pattern	Number Of The Sample	Percentage
1	Vegetarian	38	38
2	Non-Vegetarian	62	62
Total		100	100

According to Table XVII, 54% of respondents reported eating mazza, 23% reported drinking fruity drinks, 2% reported drinking sprite, and 21% reported eating bovonto.

Table-XVII Consumption Health Drinks By the Selected Subjects

S.No	Type Of Health Drink	Number Of The Sample	Percentage
1	Mazza	54	54
2	Fruity	23	23
3	Sprite	2	2
4	Bovonto	21	21
Total		100	100

Table XVIII demonstrates that 15% of respondents left out their meat, 50% of respondents left out their milk, 28% of respondents left out their vegetables, and 7% of respondents left out their fruits.

Table-XVIII Habit Of Skipped The Meal By The Selected Subjects

S.No	Type Of Health Drink	Number Of The Sample	Percentage
1	Meat	15	15
2	Milk	50	50nde
3	Vegetables	28	28
4	Fruits	7	7
Total		100	100

According to Table XIX, the majority of respondents—62 percent—drink one half liter of water each day, followed by one and a half liter and two liters for 32 percent and six percent, respectively. Water needs change with climate, dietary habits, activity, and bodybuilding. While children can become constipated from limiting their fluid intake, their doctor may advise stool softening as this will allow them to drink more fluids (Frances.J.,1967).

Table-XIX Amount of Water Taken by the Selected Respondent

S.No	Amount Of Water Taken	Number Of The Sample	Percentage
1	½ Liter	62	62
2	1 Liter	32	32
3	2 Liter	6	6
4	3 Liter	-	-
Total		100	100

Table XX demonstrates that 31% of the sample had consumed biscuits, 23% had drank cool drinks, 23% had ingested chocolate, and 23% had consumed ice cream.

Table-XX Intake of Snacks Items by the Selected Subjects

S.NO	INTAKE OF SNACK ITEMS	NUMBER OF THE SAMPLE	PERCENTAGE
1	Biscuits	31	31
2	Cool drinks	23	23
3	Chocolate	23	23
4	Ice cream	23	23
Total		100	100

Table XXI shows that 28% of the sample consumes apples, 33% of the sample consumes bananas, 38% of the sample consumes oranges, and 21% of the sample consumes grapes.

Table-XXI Consumption of Fruit by the Selected Subjects

S.No	Type Of Fruits	Number Of The Sample	Percentage
1	Apple	28	28
2	Banana	33	33
3	Orange	38	38
4	Grapes	21	21
Total		100	100

According to Table XXII, 25% of respondents reported eating eggs, 48% reported eating chicken, 15% reported eating pork, and 12% reported eating fish.

Table-XXII Consumption of Non-Vegetarian by the Selected Subjects

S.No	Type Of Non-Vegetarian	Number Of The Sample	Percentage
1	Egg	25	25
2	Chicken	48	48
3	Meat	15	15
4	Fish	12	12
Total		100	100

According to Table XXIII, the chosen participants have not had any pizza or burgers, whereas they have consumed Noodles to the tune of 52% and other specified foods to the tune of 48%.

4. CONCLUSION

According to the study's conclusions, the majority of the samples did not have a healthy, balanced diet. To concentrate on extracurricular activities, they were only dependent on watching films, playing games, and television. They thereby maintained their poor health. The anthropometric measurements show that schoolchildren have lost a significant amount of weight. So, you should eat the nutritional information for the packed lunch in the proper manner if both of your school-age children participate in the midday meal program. It is concluded that low socioeconomic position and inadequate nutrition affect school-aged children.

BIBLIOGRAPHY

- Afridi, Farzana (2007) “ The impact of school meals on school participation; evidence from rural india” Syracuse university.
- Afridi.F (2010) child welfare program and child nutrition. Vol.92.
- Banerjee.A (2011) poor economics; rethining poverty and weys to and random house india.
- Becker gray (1974) “ A theory of social interactions”, journal of political economy.82(6); 1063-1093.
- Bocker.K (1997) The endogenous determination of time preference, quarterly journal of economics (112).
- Chhetri vivek (2006,November 14) “scam shadow on meal scheme” The telegraph.
- Corinne robinson.H, “ Normal and therapeutic nutrition”, macmillan publishing company, New York, seventh edition (1992, PP-121-126, 303-309).
- Dreeze.J (2003) Future of mid day meals, economic and political weekly vol.38/no.44.
- Edward migual (2006) “ Anemia and school participation” Journal of human resourses, 41 (4); 692-72.
- Ficci.E.E (2010) proposes food stamps for poor as POS fail to deliver; financing express com/ news/ http/ www.
- Grow Hill. MC, new delhi p: 450.
- Harold coulombe (1987) “ child labor and schooling decisions in Ghana”, manuscript, yale university.
- Kapur.A (2012) “Mid day meal scheme (budget briefs mid day meal, vol.4, issue, new delhi.
- Lalitha.M “Major issues in food and nutrition science.” Kanishka publishers and distribution, new delhi, (1997),pp: 110-112.
- Mhrd.F (2011) “Mid day meal scheme.
- Nambiyar.S Innovation In delivery of mid day meal scheme through private public partnership.
- Paul.R (1983) Bio nutrition, (BS publisher and distribution, Bangalore, 2005,P:250.
- Rajwant.M (2003) Education in the new millennium vol.III annual publications, new delhi.
- Sethi.S (2013) mid day meal scheme at elementary school : A case study, TEEKA retrasfact and prospect, vol.2 and no.182.
- Shankar Subramanian (1996) “The demand for food and calories” journal of political economy (133-162)
- Sharma.S (2011) Evaluation of mid day meal program in MCD schools. Study supported by municipal corporation of delhi, nutrition foundation of india.

- Sikilgar P.C (2011) Mid day meal scheme and school education; planning, implementation and effectiveness new delhi.
- Sinha.A(2010) The impact of mid day meal scheme on nutrition and learning, young liver policy brief.
- Srilakshmi. B “ Dietetic, new age international (p) LID, 2005, P:78.
- Suri.k (2001) “ child labor and schooling in Ghana”, Human development tech. Report (Washington, DC; world bank.
- Swami Nathan, “Food and nutrition, “The Bangalore printing and publicvation (1999,PP: 179).

