

Original Research Article

Tiffin habits of school children

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ABSTRACT

Background: The “mid-day meal scheme” is the popular name for the school meal program of India, through which meal is provided to school children studying in the government and government aided schools. In non-government schools, children carry tiffin’s from home. Often, due to lack of time and/or knowledge of the parents and students, the contents of the food are not as per a balanced diet. The objective of the study was to analyse and compare the tiffin habits of primary and senior school children.

Methods: This was a clinic-based study. Parents of 300 school going children were asked about tiffin habits of their children in a predesigned questionnaire. Data was analysed and conclusions drawn.

Results: Most children carried tiffin to school on the majority of days. There was no statistical difference between primary or older children in their tiffin contents. Very few primary school children had a say in the content of tiffin. The senior students spent money in canteen on more days per week, whereas most primary class students spent only once a week or for treats.

Conclusions: It is crucial for schools to establish food committees in school that suggests and monitors tiffin policies and meal plans based on nutrition.

Keywords: Healthy, Junk, Midday meal, Tiffin

INTRODUCTION

A school tiffin also called a school meal or hot lunch, is a meal provided to students and sometimes teachers too at a school, usually in the mid-day. In developing countries, school meals provide food at times of crisis and help children to be healthy adults, and this helps in breaking the cycle of poverty and hunger.

In India, the right to food of children is a human right. Yet, there are children who are permanently undernourished. It is necessary to study the implementation of the “right to food as a human right” to prevent hunger related casualties.¹

The name for the school meal program of India is “mid-day meal scheme”. In 2001, the Supreme Court gave

orders and made it mandatory to give a mid-day meal to all primary and this was later extended to upper primary and government aided schools.² The Mid-day meal scheme has increased enrolment in schools over the years in India. The school lunch program’s main goal is to promote the health of the nation’s children.³ The total cost of providing free meals to students in India is Rs 18000 crore of which 60% is paid by the federal government and 40% is paid by the states.⁴

However, due to a paucity of funds, the meal is supplied only to students studying in government run schools. In non-government schools, children carry tiffins from home. There are canteens in many schools and often there are vendors selling food outside the school campuses. The content of the tiffin varies, depending upon the

households. The food may or may not be nutritious or balanced, depending on household income, time and parents' knowledge about balanced meals or the guidelines issued by the school in relation to tiffins.

The objective of the study was to evaluate the tiffin habits of students, its contents and to compare these between primary class children with senior students.

METHOD

This was a clinic based descriptive study conducted from July 2022 to September 2022. Parents of 300 school going children from class 3 and above attending the outpatient clinic of paediatric department of SMS Medical College, Jaipur were explained about the study and requested to fill the questionnaire. Parents who did not understand the study or whose children who did not carry meals from home were excluded from the study. Informed consent was taken from all. Ethical clearance was taken from the institution.

Besides basic demographic data, the questionnaire included questions about content of tiffin, using money to buy food in school, decision about food to be put in tiffin, etc. Informed consent was taken of all participating parents. All the observations were recorded, statistical analysis done and conclusions drawn. All nominal/categorical variables were expressed as percentages. $P < 0.05$ was taken as significant.

RESULTS

Three hundred students were included in the study. There were 145 boys (48.3%). Primary school children were 41.7%, the rest were class 6 or older. 91.7% children had either none or one sibling only. Since the study was done in a private clinic setting, there were none from lower socio-economic group and 75% belonged to middle socio-economic group (Table 1).

Table 1: Demographic profile of children, (n=300).

Demographic variables	N	Percentage (%)	
Gender	Male	145	48.3
	Female	155	51.7
Class	3-5	125	41.7
	$\geq 6-8$	175	58.3
Children in family	1-2	275	91.7
	≥ 3	25	8.3
Socio-economic status of the family	Low	-	-
	Middle	225	75
	Upper	75	25

Tiffin habits were analysed. Most children carried tiffin to school on the majority of days. Only 3.33% ate school canteen food daily while 13.33% ate once a week and rest ate only as part of treats. 76% shared tiffin with friends. There was no statistical difference between primary or older children in these habits, $p > 0.05$ (Table 2).

Decision about tiffin was by the child, mother or as per school guidelines. The school guidelines were adhered to by 48% of the primary children. Only 20% primary school children had a say in the content of tiffin as compared to 48.57% of the senior children who had a say in what to carry as their tiffin. This difference was statistically significant, $p < 0.00001$ (Table 3).

Majority of children carried healthy food, roti/bread and veg/stuffed paratha or homemade snacks. Their meals also included fresh or dry fruits. Only 5% children carried junk food. There was no statistical difference between younger/older children in contents they carried (Table 4).

Analysis was done regarding the money spent on food in school. There was no statistical difference between children of middle or high socio-economic strata.

Table 2: Comparison of tiffin habits of primary school children with older children.

Variables	Frequency	Total, (n=300)	Children in primary section, (n=125)	Children in $>6^{\text{th}}$ std., (n=175)	P value
Takes tiffin to school/6 days of week	>3	265	100	165	0.089
	<3	35	25	10	
Eat school canteen food/6 days of week	Once	40	15	25	0.984
	2-5	-	-	-	
	Daily	10	5	5	
	Occasionally/ only for treats	250	105	145	
Shares tiffin	never	-	-	-	0.179
	Yes	230	85	145	
Eat food from vendors outside school, after school is over/6 days of week	No	70	40	30	0.3748
	≥ 3	10	5	5	
	<3	20	5	15	
	Only for treats	50	10	40	
	Never	220	105	115	

Table 3: Decision about tiffin of primary school children and older children.

Variables, (n=300)		Children in primary section, (n=125)	Children in $\geq 6^{\text{th}}$ standard, (n=175)	P value
Child	110	25	85	0.00001 Sig.
Mother	125	40	85	
School guidelines	65	60	5	

Table 4: Comparison of tiffin of primary school children and older children.

Content of tiffin per 6 days		Total	Children in primary sec., (n=125)	Children in $>6^{\text{th}}$ std. (n=135)	P value
Healthy/ balanced meals					
Roti/bread+ veg/stuffed paratha	Never	-	-	-	0.592
	<3	120	55	65	
	>3	180	70	110	
Idli/poha/pakode/ homemade snacks	Never	30	10	20	0.3
	<3	200	75	125	
	>3	70	40	30	
Fresh fruits	Never	95	25	70	0.2
	<3	70	35	35	
	>3	135	65	70	
Dry fruits	Never	130	55	75	0.6
	<3	100	35	65	
	>3	70	35	35	
Unbalanced/ junk food/ fast food meals					
Roti/bread and jam, pickle, sauce, chutney, bhujia	Never	95	35	60	0.9
	Occasionally	10	5	5	
	<3	140	60	80	
	>3	55	25	30	
Burger/ pasta/ pizza/ Maggi/ chips/package d food/package drinks	Never	160	65	95	0.9
	<3	125	55	70	
	>3	15	5	10	

Table 5: Evaluation of taking money for tiffin to school with socio-economic status and class.

Variables		Total	Takes money to school/ >3 days in a week, (n=43)	Takes money to school/ once a week, (n=61)	Takes money to school/occasionally or only for treats, (n=196)	P value
Socio-economic status	Mid	225	33	41	151	0.289
	High	75	10	20	45	
Children std.	Primary section	125	5	15	105	<0.00001 Sig.
	>6 th	175	38	46	91	

However, there was a significant difference when we compared the money spending habits of primary and senior children, $p < 0.00001$. The senior students spent money in canteen on more days per week, whereas 80% of the primary class students spent only once a week or for treats (Table 5).

DISCUSSION

The time gap between breakfast and lunch is bridged by school tiffin, hence it is an important meal. For a child,

time in school is the most mentally and physically challenging period and child requires energy to be attentive, perceptive and alert. Association has been observed between diet quality and academic performance. All meal of a child should thus contribute towards their daily nutritional needs.⁵

We observed that most children carried tiffin to school. The content was decided by the mother or the child. Eating from canteen or vendors outside school was popular only as a treat and not as a daily routine by most.

Our study did not show difference between children from different social background, but it has been reported that students from poor, middle-class households have a very high junk intake as their parents mostly away for work.⁶

We observed that though some of the junior children adhered to school tiffin guidelines, it was not done so by senior ones. The tiffin was not checked by teachers except in junior school for a few months when they began a new class.

Healthy eating habits can be initiated through school meal programmes by providing wholesome meals. A government report on adolescent nutrition found half of the India's adolescents (10 to 19 years) either short, thin, overweight or obese.⁷ The school food programmes can also help children learn about preventing obesity and learn the social values of respect and sharing.

All macro nutrients need to be in the right proportion in a school meal, to make the child feel full, yet active during the later half of the school day. If the meal has more starch, the child feels sluggish. Excess raw food like salad, etc gives a bloated feeling. Junk like Maggi, chips, mathris, nachos, biscuits etc contribute towards immediate high sugar levels, followed soon by lethargy.

As per the CDC Guidelines, since the students may not be used to and hence may take longer to eat these healthier options, the meal time should be least 20 minutes to eat their meal and socialize.⁸

Under the PM Poshan programme, meals are prepared in schools and served hot. Parents and children are suggested to carry food that does not turn stale quickly. Only fresh and healthy food is to be served in canteens in schools.⁹ As per the scheme guidelines, a cooked mid-day meal should provide 450 and 700 calories and 12 g and 20 g of protein to each child at the primary and upper primary level respectively. Mid-day meal is also to be given during summer vacation in drought affected areas. Mothers are encouraged to take turns to monitor the feeding of children, thus helping to ensure the quality and regularity of the meal.¹⁰

The government regulations prohibit the selling of food and beverages with low nutritional value such as carbonated drinks, chips, pre-cooked packaged noodles, fries etc. within 50 metres of a school campus, including in the school canteen and hostel kitchen. It is felt that if junk food is unavailable in schools, it will help in cutting down its intake in school.⁷

The traditional and native recipes are complete, balanced and time tested and the flavours suit the children palate and are easily acceptable to them.

The limitations of the study were that due to time constraint, the study included only limited number of children and was not multicentric.

CONCLUSION

Educational institutions need to prioritise nutrition and should find inventive ways to involve and educate parents, and develop school curricula to improve children's diets. A food committee that includes school administrators, chefs, nutritionists, parents, and student representatives must be formed in each school.

Schools must have tiffin policies, suggesting meal plans based on nutrition. Junk food of any sort should not be allowed in tiffin boxes and in school canteens too.

Annual health check-ups should be done and students taught about nutrition, food pyramid and the importance of eating right.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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