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Meal patterns of secondary school children in Telangana state

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Abstract

The purpose of this study was to examine the meal pattern of schoolchildren. The data was collected by means of a questionnaire distributed to secondary school students (eighth and ninth grade) from government schools i.e., Zilla Parishad High Schools (ZPHS) of Telangana state. An exploratory research design was adopted for this study. A total sample of 320 respondents were purposively selected. A questionnaire was employed to assess the meal pattern of secondary school children. The results revealed that majority of the respondents reported to consume three times in a day and snack was the highest skipping meal compared to other meals. Age, father's occupation and mother's occupation were found to have significant association with frequency of meal intake (at 5% and 1% level of significance), while education with meal skipping habits at 5% level.

Keywords: Meal intake, meal skipping, school children, secondary class, government school and food consumption

Introduction

Malnutrition is the challenging issue around the globe. According to World Health Organization (2021) [3], 1.9 billion adults are overweight or obese, while 462 million are underweight. According to National Family Health Survey-5 data (2022), it was reported that the number of women (aged 15-19 years) with anaemia has increased from 54.1% in 2015-16 to 59.1% in 2019-21. Among 10-14 years girls, anaemia is a severe public health problem in eight states including Jharkhand, Tripura, West Bengal, Assam, Chhattisgarh, Gujarat, Telangana and Uttar Pradesh, while only West Bengal has a severe anaemia problem among 14 years old boys.

Adolescence is the period of life between the ages of 10-19 and usually, school children come under the category of adolescence. Today, there are 1.2 billion adolescents worldwide, accounting for 16% of the global population (UNICEF, 2019) [4]. Adolescence is the transitional stage of life from infancy to adulthood, during which teenagers experience a growth spurt with a rapid increase in height and weight, as well as psychological and cognitive development. Hence, it influences how individuals feel, think, make decisions, and interact with the environment around them, as well as an opportunity to form dietary habits that promote nutritional well-being now and for future generations. This is the critical stage when eating habits and attitudes are being established. If children are neglected, their unhealthy eating habits may persist until adulthood. Hence, the current study aimed to assess the meal pattern of secondary school children from ZPHS.

Materials and Methods

An exploratory research design was adopted for this study. Medak and Mahabubnagar districts of Telangana state located at central and south of India. From each district, three Zilla Parishad High Schools viz., ZPHS Jadcherla, ZPHS Gollapally, and ZPHS Kodgal from Mahabubnagar district, whereas ZPHS Narsapur, ZPHS Pedda Chinthakunta, and ZPHS Reddypally from Medak were randomly selected. The school children studying eighth (n=160) and ninth (n=160) grades with total sample of 320 respondents were purposively selected for the study. To conduct research activity in schools, respective school headmasters were contacted and approval was taken through a formal letter. To assess the meal pattern of school children, a questionnaire consists of 3 statements on frequency of meal intake/day, meal skipping habits and type of breakfast intake. The students were asked to indicate their answer

by writing the letter i.e., a/b/c/d corresponding to their answer in a given bracket. Further, the scores were given as 4, 3, 2, and 1.

Results

As depicted in Table 1, the mean age of the respondents was 14.11 ± 0.97 and majority of them were female (66.56%), followed by male (33.44%). Out of 320 surveyed, nearly half of the respondent's father's occupation was farming (45.94%), followed by self-employment (20.00%), private

sector (12.81%), government sector (7.81%), labourer (7.19%), caste occupation (4.06%) and least% of respondent's fathers were unemployed (2.19%). With regard to mother's occupation, it was found that the more than one-third of the mothers were homemakers (35.00%), followed by farmers (28.44%), labourers (15.94%), self-employment (14.69%), caste occupation (2.19%), while an equal proportion of mothers engaged in government (1.87%) and private (1.87) sectors.

Table 1: Profile Characteristics of the respondents n=320

Profile characteristics	Mean \pm S.D or%
Age	14.11 \pm 0.97
Gender	
Male	33.44
Female	66.56
Father's occupation	
Government sector	7.81
Private sector	12.81
Farmer	45.94
Self-employment	20.00
Caste occupation	4.06
Labour	7.19
Unemployment	2.19
Mother's occupation	
Government sector	1.87
Private sector	1.87
Farmer	28.44
self-employment	14.69
Caste occupation	2.19
Labour	15.94
Homemaker	35.00

Meal intake of school children

Table 2 shows the data of profile characteristic variables according to the respondents' frequency of meal intake. With respect to the age and frequency of meal intake per day, it was observed that majority of respondents (65.63%) in the age of 12-16 years had at least meal intake thrice in a day, followed by twice in a day (18.44), more than thrice in a day (8.44%) and once in a day (7.50%). Furthermore, it was observed that nearly one-third of the respondents in the age group of 15 years consumed meal at least thrice in a day, compared to other age group of the respondents. In terms of gender, nearly half of the female (43.13%) consumed meal at least thrice in a day than males (22.50%). In addition, the similar trend was seen between the eighth and ninth grade students in terms of frequency of meal intake per day. The respondents' whose fathers were farming (28.44%) and self-employment (15.31%) were reported to consume meal at least thrice in a day. When it comes to respondents' mother occupation, more number of respondents (25.94%) whose mothers occupation was homemaker consumed at least thrice in a day, followed by farmers (16.88%) and self-employment (10.94%)

mother's.

Meal skipping habits of school children

The distribution of respondents according to their meal skipping habits was shown in Table 3. The data revealed that nearly half of the respondents were skipping snacks (40.63%), followed by dinner (27.50%), lunch (16.25%) and breakfast (15.63%). Among the age of 12-16 years, snack skipping to be more likely in 14 years, followed by 15 years, 13 years and the least were observed in 16 years and 12 years. Female had the highest snack skipping habit (27.81%) than male (12.81%) and majority were in eight grade (22.81%). When it comes to father's occupation, highest% of snack skipping habits was observed in the respondents whose fathers were farmers (21.56%), followed by self-employment (7.19%), private sector (4.69%) and government sector (2.19%). With regard to mother's occupation, snack skipping more likely to be in those respondents' whose mothers were homemakers (13.75%) and farmers (12.50%). It was also highlighted that dinner was the second highest meal skipping by the respondents.

Table 2: Profile characteristic variables according to respondents' frequency of meal intake n=320

Profile characteristics of school children	Frequency of meal intake/day (%)			
	More than thrice in a day	Once in a day	Thrice in a day	Twice in a day
Age				
12 years	0.63	0	1.56	1.56
13 years	2.50	1.25	15.31	5.94
14 years	2.81	2.19	20.31	7.81
15 years	2.50	3.44	24.06	2.81
16 years	0	0.63	4.38	0.31
Gender				
Female	4.69	6.56	43.13	12.19
Male	3.75	0.94	22.50	6.25
Grand Total	8.44	7.50	65.63	18.44
Education				
Eight grade	4.38	2.19	33.75	9.69
Ninth grade	4.06	5.31	31.88	8.75
Father's occupation				
Government sector	1.25	0.94	4.69	0.94
Private sector	0.94	1.25	9.69	0.94
Farmer	4.06	2.81	28.44	10.63
Self-employment	1.25	0.63	15.31	2.81
Caste occupation	0.94	0.63	1.56	0.94
Labour	0	0.63	4.38	2.19
Unemployment	0.00	0.63	1.56	0
Mother's occupation				
Government sector	0.00	0.63	1.25	0.00
Private sector	0	0.63	1.25	0
Farmer	2.19	2.19	16.88	7.19
Self-employment	1.56	0.63	10.94	1.56
Caste occupation	0.63	0.63	0.94	0.00
Labour	0.63	1.88	8.44	5.00
Homemaker	3.44	0.94	25.94	4.69
Grand Total	8.44	7.50	65.63	18.44

Table 3: Profile characteristic variables according to respondents' meal skipping habits n=320

Profile characteristics of school children	Meal that respondents skip (%)			
	Breakfast	Dinner	Lunch	Snack
Age				
12 years	0.31	0.63	0.94	1.88
13 years	3.44	5.63	5.63	10.31
14 years	3.75	10.94	4.38	14.06
15 years	7.81	8.44	4.69	11.88
16 years	0.31	1.88	0.63	2.50
Gender				
Female	10.94	17.81	10.00	27.81
Male	4.69	9.69	6.25	12.81
Education				
Eight grade	5.31	12.19	9.69	22.81
Ninth grade	10.31	15.31	6.56	17.81
Father's occupation				
Government sector	1.25	3.44	0.94	2.19
Private sector	3.13	4.38	0.63	4.69
Farmer	6.88	10.31	7.19	21.56
Self-employment	2.50	5.94	4.38	7.19
Caste occupation	0.31	0.94	0.94	1.88
Labour	1.25	2.19	2.19	1.56
Unemployment	0.31	0.31	0.00	1.56
Mother's occupation				
Government sector	0.31	1.25	0.00	0.31
Private sector	0.31	0.63	0.00	0.94
Farmer	4.69	7.50	3.75	12.50
Self-employment	2.19	3.75	2.50	6.25
Caste occupation	0.31	0.63	0.63	0.63
Labour	2.50	2.81	4.38	6.25
Homemaker	5.31	10.94	5.00	13.75
Grand Total	15.63	27.50	16.25	40.63

Breakfast habits of school children

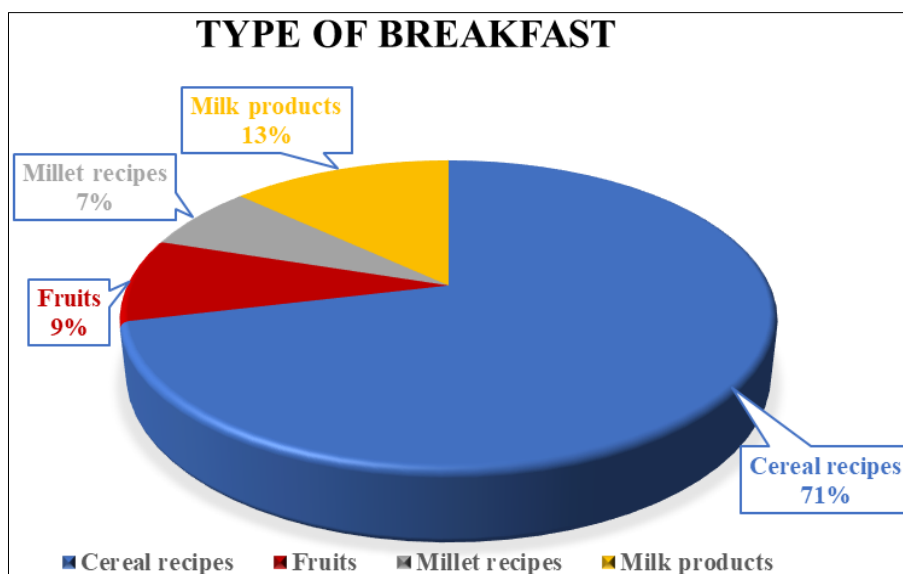


Fig 1: Distribution of respondents according to the type of breakfast intake

The above Figure 1 shows the distribution of respondents according to the type of breakfast intake. The results observed that majority of the respondents (71.00%) consumed cereal recipes for the breakfast, followed by milk products (13.00%), fruits (9.00%) and millet recipes (7.00%). The least consumption was observed in millet recipes, fruits and milk products. During data collection, the cereal recipes such as

rice, idli, pulihora and dosa were commonly reported by the respondents. The other food groups were not consumed by the respondents.

Association between profile characteristic variables and meal pattern

Table 4: Chi-square analysis between profile characteristic variables and meal pattern

Profile characteristics	Frequency of meal intake/day p-value	Meal skipping habits p-value
Age	.032*	.248
Gender	.099	.755
Education	.210	.017*
Father's occupation	.049*	.151
Mother's occupation	.001**	.666

*Significant at 5% level

**Significant at 1% level

Considering the chi-square analysis between profile characteristic variable (age, gender, education, father's occupation, mother's occupation) and meal pattern presented in the Table 4, it can be inferred that there existed an association between age and father's occupation with frequency of meal intake at 5% level of significance. Furthermore, mother's occupation also found to be associated with frequency of meal intake per day. With regard to meal skipping habit, it was found that there existed an association between education and meal skipping habits. No significant association was found between meal skipping habits and other profile characteristic variables (age, gender, father's occupation and mother occupation).

Discussion

It can be inferred from the results that majority of the respondents consumed meal at least thrice in a day. In general, people consume three meals in a day i.e., breakfast, lunch and dinner. In this study, the respondents consumed meals thrice in a day. The reason could be that parents make sure to feed their children with enough food. Also, mid-day meal was provided in the schools, which might have attributed to consume three meals in a day i.e., one meal at

school and two meals at home. These results were in line with Patsa and Banerjee, (2019) [1] who stated that most of the children consumed meals thrice a day, followed by four times a day, five times a day and twice a day. Furthermore, the data showed that more than half of the respondents do not consume snacks. It might be due the reason that majority of parents were farmers and they do not have money and time to provide snacks for their children. The results were supported by the study of Roy *et al.* (2021) [2], they mentioned that snacking was influenced by parental factors, social environment, and children's dietary practices, as well as the availability of snacks at home has a positive snaking behaviour. In addition, high intake of cereal items and low intake of fruits, milk and millets were observed among the respondents. The reason might be due to lack of awareness, affordability and access. It could be the reason to have high intake of cereal item than other food groups.

Conclusion

In this study, the meal pattern was measured and found that majority of the respondents consumed three meals in a day. The association between age, father's occupation, and mother's occupation were all found to be significantly related

to frequency of meal intake. Education was found to have significant association with meal skipping habits. The other variables were all shown to have no significant association with meal pattern. Since the respondents were consuming three meals in a day, the awareness campaigns should be conducted to choose the right food in adequate quantity. There is a need to enhance dietary diversity or food groups, as well as nutritional knowledge among government school children.

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