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Breakfast consumption pattern of school children in selected areas of Coimbatore

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ABSTRACT

Eating breakfast has an important role in growth and educational promotion. The objective of this study is to assess breakfast skipping pattern among the school children. Totally 454 students comprised of 268 (59%) boys and 186 (41%) girls aged 12 - 18 years from two schools in Coimbatore were selected randomly. 82% of the study population considered breakfast as an important meal of a day. Results of the study contradictorily revealed that 39% of the population skipped breakfast regularly. Common reasons for skipping breakfast are lack of time (44%), less appetite (32%), getting up late (15%) and others factors (9%). Findings indicated that four out of 10 children go to school without taking breakfast. On the basis of children's statements, lack of appetite and time were the most important factors for skipping breakfast. Creating awareness through nutrition education could improve the eating pattern and thereby enhance the nutritional and health status of the school children.

Key Words : School children, Breakfast skipping, Lack of time and time

INTRODUCTION

Breakfast is a central component of nutritional well-being, contributing to total daily energy and nutrient intake (Nicklas *et al.*, 1993). Eating a nutritious breakfast regularly is an important contributor to a healthy lifestyle and health status. After overnight fasting body requires nutritional elements required for brain, skipping of breakfast leads to subsequent reduction in mental function. Health and academic performance of school children were strongly influenced by eating pattern such as skipping breakfast and frequency of meal eaten away from home (Shaw Mary, 1998).

Daily breakfast consumption with healthy food choices should be encouraged in growing children and adolescents to prevent adiposity during these critical years of growth. Adolescents who consume breakfast on a regular basis are likely to have a lower Body Mass Index

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(BMI; calculated as kg/m^2), and thus are at a lower risk for obesity compared to those who skip breakfast (Merten *et al.*, 2008 and Ogden *et al.*, 2007). Findings of Amber *et al.* (2007) suggested that the consumption of breakfast may modestly contribute to the prevention of weight gain as compared with skipping breakfast in middle aged and older men.

It has been contended that skipping breakfast has deleterious effects upon various aspects of cognitive functioning. Pelican, O'Connell and Byrd-Bredbrenner (1985) mentioned that hungry children are more likely to be apathetic, inattentive and disruptive. Findings also support that children are better able to concentrate and absent less from school when consuming a breakfast meal before going to school (Edward and Evers, 2001 and Abalkhail and Shawky, 2002). Thus, breakfast can positively impact children's health and wellbeing. For school-age children, in particular, skipping breakfast has been associated with lower cognitive abilities that may result from nutrition deficits and poor health. It is becoming more and more evident that a healthy breakfast is beneficial to improve the student's health and academic status.

Eating breakfast must be particularly important during adolescents since they have high nutritional needs, due to brain development and physical growth. Considering these facts, the present study was carried out in selected schools of Coimbatore among children between the age group of 12 – 18 years to identify the extent of breakfast skipping among school children. Keeping in view of this the study has been focused to study the socioeconomic status of selected school children and to identify the breakfast consumption pattern of the selected participants.

METHODOLOGY

Selection of area and sample :

A list of schools of Coimbatore city was obtained from All India School Education survey, Ministry of Human Resource Development. There are around 1031 (urban) and 801 (rural) schools available in Coimbatore. Using systemic random sampling a sample of 20 schools were selected from that, considering the good response and familiarity of the area, researcher selected the schools in Coimbatore from two different areas (East and west of the city). A total of 454 children both male and female in the age group of 12 – 18 years were selected from the study. Of these, 268 were boys and 186 were girls. Since the age group for the study ranged from 12 – 18 years, all the students studying from 8th standard to 12th standard were selected for the study.

Conduct of the study :

In order to fulfill the objectives of the study, an interview was conducted to elicit the background information of the children. The questionnaire was formulated which embraces the details on demographic data which included address, area of residence, type of family, occupation of the parents, monthly income, size of the family etc. Details on meal pattern, most important meal in a day, skipping pattern of breakfast and frequency of skipping breakfast, reasons for skipping and how they feel if they skip breakfast, their preference towards ready to eat breakfast cereals were included. Anthropometric measurements of the selected participants were taken by the standard procedure. From the recorded weight and height of

the participants, Body Mass Index (BMI) was calculated.

RESULTS AND DISCUSSION

Totally 454 students from two Government aided schools were included in the study. Table 1 shows the socio-demographic profile of the study participants, of whom 59 per cent

Table 1 : Demographic profile of the study participants

Particulars	Total (N = 454) (%)
Sex	
Boys	268 (59)
Girls	186 (41)
Age	
10 – 12 yrs	14 (3)
13 – 15 yrs	282 (62)
16 – 17 yrs	158 (35)
Class/Standard	
8	103 (23)
9	86 (19)
10	87 (19)
11	70 (15)
12	108 (24)
Type of family	
Nuclear	66 (15)
Joint	388 (85)
Size of family	
Small (<5)	314 (69)
Large (>5)	140 (31)
Family Income	
Less than Rs. 5000	134 (29.5)
Rs. 5001 – 10000	228 (50.2)
Rs. 10000 – 15000	63 (13.8)
Rs. 15001 – 20000	15 (3.3)
Rs. 20001 – 25000	7 (1.5)
Rs. 25001 – 30000	4 (0.9)
Beyond Rs. 30000	3 (0.6)
Type of job	
Fathers Occupation	
Business	72 (15.8)
Skilled jobs	183 (40.3)
Drivers	78 (17.1)
Daily wages	69(15.1)
Clerical jobs	52 (11.4)
Mother's Occupation	
Housewives	327 (72)
Tailors	93 (20.5)
Daily wages	27 (5.9)
Teacher	7 (1.6)

were boys and 41 per cent were girls. About 62 per cent (37 % boys and 25 % girls) of the school children were in the age group of 13 – 15 years. In all the classes from 8th to 12th standard, boys were in higher percentage compared to girls. Residential detail of respondents indicated that the selected students were from different parts of Coimbatore. The type of family of the respondents depicts that 85% of them belonged to nuclear family and 15% were from joint family system.

Occupational status of their father showed that 40 per cent were doing skilled jobs like electrical; plumbing etc. and 15 per cent were businessman. Among the mothers, 72 per cent were housewives. The average monthly income was less than Rs. 5000 in 30 per cent and between Rs. 5001 and Rs. 10000 per month in 50 per cent of the selected families.

Table 2 depicts the dietary pattern of the selected adolescents; it shows that 46% of the students had regular three meals per day. Around 25% of selected students missed at least one meal per day. Majority of the adolescents had consumed regular food items like idly, dosa, chapathi, puri and rice with dhal for their breakfast. Some had only beverages like milk, coffee, tea and other health drink.

Table 2 : Breakfast skipping pattern of study participants

	Parameters	No. of boys (%) n – 268	No. of girls (%) n – 186	Total no. of respondents (%) n – 454
Meal pattern	< 3 meals a day	69 (15)	45 (10)	114 (25)
	3 meals a day	126 (28)	83 (18)	209 (46)
	> 3 meals a day	73 (16)	58 (13)	131 (29)

*Number (Percentage)

The present study indicates that almost all the respondents included milk in their morning time, such as tea, coffee, plain milk and health drinks. A study by Gajre *et al.* (2008) revealed that seventy per cent children consumed cereal based or cereal pulse based breakfast and 10% consumed cereal plus milk based or cereal, pulse and milk combination or just milk.

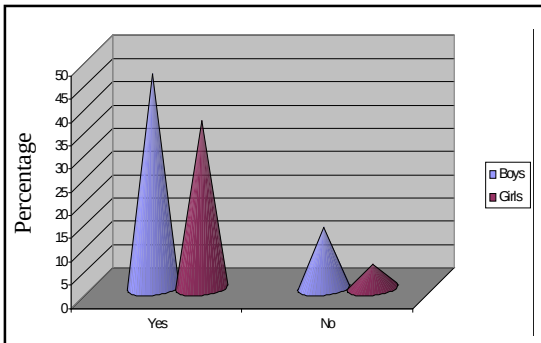
A decline in regular breakfast consumption by children has been reported in Asia. For instance, approximately 10% of school-aged children and adolescents in Hong Kong were reported to be skipping at least 4 times a week (So *et al.*, 2011).

In Scotland, 83% of children ate breakfast on all 4 days. Of the 17% of children who did not eat breakfast everyday 10% skipped on only one of the four days, 4% skipped breakfast on 2 days, 1% skipped it on 3 days and 2% did not eat breakfast on any of the four days (Macdiarmid *et al.*, 2009).

Skipping of breakfast was found to be quite high as 29% among respondents of Kualalumpur, conducted by Moy *et al*. (2009). Veghari and Mansourian (2012), indicated that one child out of 11 goes to school without taking breakfast.

From the Fig. 1 and 2, it is clear that 82% (46% boys and 36% girls) of the population responded that breakfast is an important meal in a day for our day to day activity. Among them, majority (39%) of the students feel breakfast is very much important meal in a day.

About 39% of the respondents skipped their breakfast regularly. Among them, nearly 13% of adolescents never had their breakfast whereas 37% had their breakfast only once or



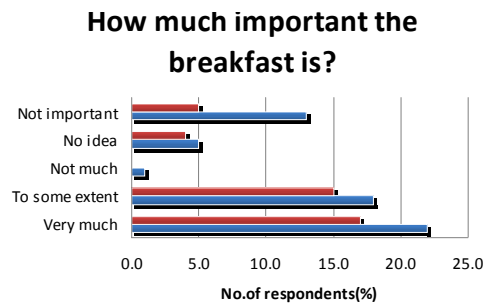


Fig. 1 and 2 : Is breakfast important?

Table 3 : Extent of breakfast skipping

No. of days /week - skipped their breakfast	Boys		Girls		Total (N = 277)	
	Number	Percentage	Number	Percentage	Number	Percentage
1	8	5	16	9	24	14
2	16	9	19	11	35	20
3	17	10	12	7	29	16
4	12	7	13	7	25	14
5	18	10	15	9	33	19
6	6	3	2	1	8	4
7	18	9	5	3	23	13

twice a week, and 50% skipped their breakfast for a day or two days (Table 3) in a week.

The reasons for skipping breakfast were depicted in Fig. 3. The major reason reported by majority (29%) of the respondents was lack of time. Probably, breakfast is the first meal to get compromised as a result of poor time management. Further, not feeling hungry (19%)

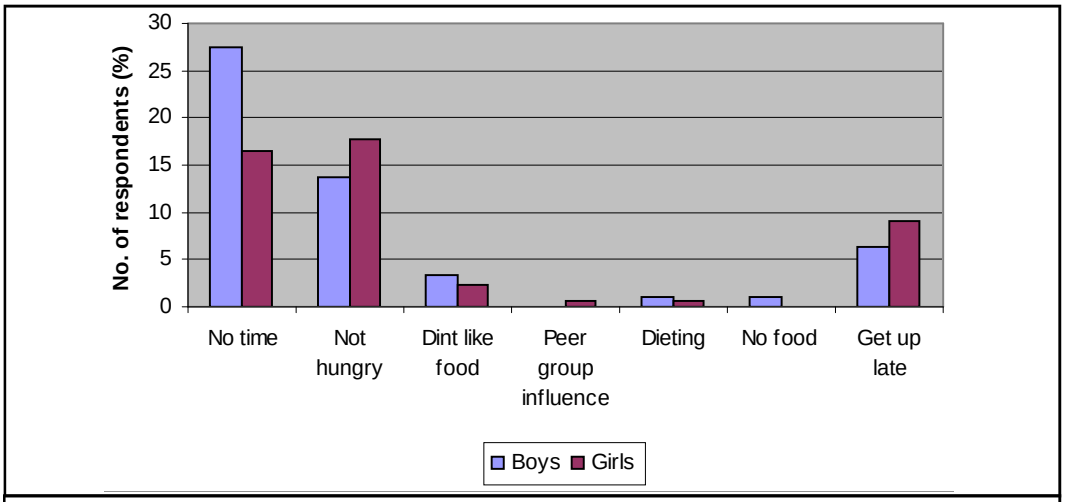


Fig. 3 : Reasons for skipping breakfast

and don't like the regular breakfast items and dieting were other reasons for skipping the particular meal.

The change in regular food item and convenience breakfast would have a chance of reducing the incidence of breakfast skipping. 38% of boys and 26% of girls preferred to have a ready to eat or on-the-go food item for their breakfast.

About 12 per cent of students feel sleepy and 18 per cent experienced inactiveness on the day of skipping breakfast. Headache and difficulty in listening were the other challenges faced by the breakfast skippers. Minority of the students could not find any change even without breakfast.

Higher percentage of (37.7 %) boys identified to be malnourished in comparison with girls (17.2 %) (Table 4). Chitra and Reddy (2007) assessed the breakfast habits of 10-15-year-old school children and quality of meal as well as its relationship to the food consumption pattern for the full day. The study indicates over half of the school children skipped breakfast frequently, the main reason being getting up late. Children who consumed breakfast had higher daily intakes of energy and protein than children who skipped breakfast. These data confirmed the importance of breakfast to overall dietary quality and adequacy in school-aged children.

Table 4 : Nutritional status of selected participants

Criteria	Range	Boys		Girls		Total	
		No.	%	No.	%	No.	%
Underweight	<19	171	37.7	78	17.2	249	54.8
Normal	19 - 24	87	19.2	91	20.0	178	39.2
Overweight	25 - 30	9	2.0	16	3.5	25	5.5
Obese	30 - 40	1	0.2	1	0.2	2	0.4

Conclusion :

Healthy breakfast intervention programs could be introduced among school managements as school children spend most of their time in schools. Active involvement of food providers and health personnel, continuous monitoring and evaluation of the program would be a successful way to impart healthy eating pattern among school children.

This study explored that breakfast skipping is quite common in children aged from 12 – 18 years in spite of that majority of the student population who participated in the study believed that breakfast is an important meal in a day other than any meal. Imparting periodical education programme would provide a positive response in food intake and eating behaviour of youth and bring in sustainable improvement in their eating pattern. School health promotion strategies should be used to encourage all adolescents to eat breakfast regularly. Since, most of the children spend more time of their day in school, providing health education and healthy breakfast could help to prevent them skipping their important meal.

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