

An Evaluation of Breakfast Patterns of Secondary School Children in an International School in Colombo (with a Proposal for Improvement)

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Abstract

It is common knowledge that eating breakfast is essential because it is regarded as the most vital meal of the day. When it comes to schoolchildren, there's a chance that the hectic morning routine will put pressure on both parents and kids to forego breakfast entirely. If nothing else, it might influence the selection of breakfast foods available. This descriptive cross-sectional study's primary goal was to analyse the breakfast habits of secondary school students from international schools in Colombo, Sri Lanka and to provide suggestions for improvement. Data was collected through a questionnaire and it was discovered that half of the kids who participated in the study often skipped breakfast. Merely, only around 33% of them had a typical breakfast. Whilst the greater part of students understood the value of having breakfast, they identified that time constraints in the morning was the biggest primary obstacle that led to either omitting breakfast from their lifestyle or not having it regularly. Therefore, this study puts forward the idea that there should be a time period for having breakfast included in the school's morning schedule.

Key words: *Skipping Breakfast; Children; Pre-adolescence; Nutrition; International School*

Introduction

Breakfast is considered to be the most important meal of the day, with numerous pieces of studies in the past having emphasised that eating breakfast can have many health benefits for growing children and adolescents, including from improved overall dietary quality to enhanced classroom performance, observation and intervention. Furthermore, there is a correlation between breakfast consumption and the cognitive abilities of children. Childhood is a crucial period in which dietary and lifestyle patterns are introduced and these habits can have important impacts and long-term implications in their health. According to Melton (1998), cited in Deshmuk et al (2010), breakfast is 'the most important meal of the day' as nutritionists explain that it's the brain's first dose of fuel for the day as "our brain runs out of glucose, or blood sugar, stored

up overnight." Furthermore Nicklas et al. (1998) cited in Deshmuk et al (2010), highlighted the average daily intake of breakfast consumption patterns in his study, which have shown that breakfast provides important nutrients and that individuals who skip breakfast do not compensate for potential nutrient and energy losses at other meals, deficiencies in vitamins A, B-6, iron, calcium, magnesium, copper, zinc, all of which pose special problems for children. Moreover, it has been identified that non-breakfast eaters failed to meet two-thirds of the recommended dietary allowance. Additionally, if we do not consume breakfast, by mid-morning the sugar gets used up and kids as well as adults can grow tired and irritable, and the effect of glucose deprivation is noticeable by a considerable fall in blood glucose levels, which is rapidly followed by a disturbance

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in cerebral functions. The gradual weakening of insulin and glucose levels could regulate a stress response, which interferes with different aspects of cognitive function, including attention and working memory. Furthermore, Kowtaluk and Kopan (1986) cited in Fugas et al (2013) that 'breakfast is needed to provide one-fourth to one-third of an adolescent's nutritional needs for the day.' Thus, it has been confirmed that breakfast is the most important meal of the day to maintain children's correct physical and psychological development.

Justification

Previous studies have reported health benefits for children and adolescents who consume breakfast. However, skipping breakfast is absolutely common in children and adolescents, and increases as children age. Even though breakfast can positively contribute to daily requirements of key nutrients such as fibre and calcium which help children and adolescents to maintain an overall level of good health. Vazeir et al (2006) stated that the frequency and quality of breakfast can have an encouraging effect on children's academic performance with the strongest effects being on mathematics grades in undernourished children. Thus, creating healthy eating habits early is an investment in the long-term health and well-being of children, and has a major effect on pubertal development. Forbes (1992) stated that remarkable growth occurs in adolescence, which will only be second to the first year of life. Therefore, during this period the energy required will increase and the total nutrient requirement will be higher than at in any other time in the growth cycle. As such, optimal nutritional requirements are necessary to achieve the full growth potential, if not this can affect or delay sexual maturation and slow linear growth. Before children reach puberty both girls and boys require similar nutrients, however, during puberty, biological changes in the body will require gender specific nutrient needs. This will increase with age up until reaching the adolescence stage. Higher nutrient demands will occur during the peak of the growth as nutrient requirement is parallel to the growth rate. Moreover, Biro et al. (2009) has also mentioned that when girls enter puberty, they have high calcium requirements.

Globally, schools are identified as the ideal setting for development, which includes learning healthy eating habits as well as the skills and knowledge necessary for life. Therefore, during school life nutrient deficiency (in important micro-nutrients) and nutrient inefficiency (overall food consumption) can affect the brain and physical body functions. This has also been correlated with lower mathematical knowledge compared to the students who have sufficient meals (Story 1992).

The daily intake of breakfast is paramount for everyone, especially when ensuring the health and wellbeing of children. A traditional Sri Lankan breakfast is normally a home-prepared meal, which is rich in carbohydrates and comprises of a sufficient amount of plant and protein sources of food. Due to the rapid socioeconomic transitions affecting many lifestyle changes especially in urban society, the increase of females pursuing careers outside the home has been noted during the last decade. The traditional family support system has also been changed due to the urbanisation. Due to the increase of the upper middleclass population, the number of private schools have also increased at the same time. Even though private schools are not free of charge, it is known for better, more modern facilities than the public schools in the country. Most parents choose to place their children into private schools were identified as being unable to get a place in a prestigious public school, thus educating their children in English medium with foreign curriculum. This has opened their children to the world as they believe they could fit anywhere in the world as a result of the global exposure they receive through their international education, which will allow them to contribute to the local as well as global economy. Another point made by parents who could afford private education for their children was that it will reduce the pressure on the public education system as it is already overcrowded with an intense competition for entry. On the other hand, one drawback is that the standards between the private/international schools and state schools can vary as the government has not put in place a clear ruling in terms of training, which leads to a questionable quality of education.

This particular private international school was selected for the study mainly since children not only come from Colombo and its suburbs, but also from further away outside of the city. This leads the children to get up early or not live with their parents which could also contribute to their eating habits. Moreover, this school conducts several early morning sport activities which includes basketball, cricket, swimming, athletics clubs etc, which normally starts at 5:45am-6am and finishes just before 7.30am when school starts. This gives the students a very limited time to get ready and be present in the classroom. According to Edise and Sichel (2003), there were concerns about identity and belonging of international school students. Their study identified that international school students were both the perpetrators and victims of social stereotyping. Fugas (2013) conceded that the 'concept of wealth was again split into the rich, English-educated upper class elite category' as well as the 'nouveau riche' who were described as belonging to a lower social class yet were able to gain status in society as a result of 'buying an international education.'

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Breakfast skipping is a silent threat as it is important to have a nutritious breakfast which helps children increase concentration levels, physical performance, positive moods and energy. Despite global studies conducted relevant to breakfast habits, there is still a need for more adequate research to be carried out in Sri Lanka on the same topic. Therefore, this study aims to evaluate the breakfast patterns of secondary school children in an international school in Colombo and then suggest a plan of action to improve the situation.

Literature Review

Asia

Patel et al (2013) conducted a cross sectional study entitled 'Dietary Practices and Food Fads among Adolescent Girls.' The study was done among 400 schools in rural and urban areas in Jamnagar, India. To identify 'healthy' and 'unhealthy' food consumption, they used a questionnaire to collect data about demographics and socio-economic information including age, place of residence, education levels, total family members, type of employment of parents, and approximate monthly income. Information was collected on dietary habits like major meals a day, type of diet, preferred food for breakfast, lunch and dinner, frequency of intake of green leafy vegetables, fruit, egg and meat intake per week, visits to restaurants, beliefs, myths and fads relating to food during menstruation. The results of the study concluded that lifestyle approaches that promote healthy eating are encouraged while unhealthy foods which have an abundance in energy, are lacking in essential nutrients.

A study carried out by Garg et al (2014) assesses and compares the effect of skipping and having breakfast on the nutritional status and cognition of schoolchildren of Udupi district of India. 195 school students aged 10-16 years old were selected and the results showed that the prevalence of skipping breakfast in that demographic was around 23.50%. Additionally, children who skipped breakfast were found to be more overweight compared to those who had breakfast. The intake of cereals, milk, vegetables and fruits were significantly less in breakfast skippers. Another notable difference was seen in the number of parameters like memory and concentration, grades obtained and attendance etc, between breakfast skippers and breakfast non-skippers. The study concluded that skipping breakfast affects both the nutritional status, the school performance of the students and it end by strongly favouring the notion that breakfast plays an important role in providing adequate nutrition for school children and has a major impact on cognition.

Middle East

In 2012, Ghazi et al. carried out a cross-sectional study in Baghdad city, Iraq to assess the nutritional status and nutritional habits of primary schoolchildren and to relate it with the Intelligence Quotient (IQ) score total of the 529 children who participated. They were from 5 different primary schools over 5 different areas in Baghdad city with different socio-economical states. The study concluded that good nutritional habits and breakfast intakes were positively associated with the intelligence levels in children.

Europe

Boschloo et al. (2012) identified the relationship between breakfast skipping and school performance in adolescents in the south of the Netherlands by performing a cross-sectional study. They selected 605 students aged between 11-18 years old from grades 7-12. The study identified that habitual breakfast skipping, and school performance are related: breakfast skippers performed lower at school compared with breakfast eaters. These results have a high ecological validity because habitual breakfast skipping was investigated instead of solely focusing on breakfast skipping on one single day or for one week. It must also be noted that the school performance was measured with end-of-term school grades instead of standardised tests.

Turconi et al. (2015) in Northern Italy investigated how children perceived breakfast meals and their breakfast habits. This was a cross sectional study which was conducted in all public primary schools in Parma city. All pupils of both sexes attending the second year were invited to complete a questionnaire, as well as a breakfast food diary and to draw a picture of their breakfast meal. Turconi et al. concluded the study by finding that most of the children (92.0%) liked to consume breakfast every day with their family and considered it to be a very pleasant occasion. They recommended that the children's positive habits should be encouraged throughout their entire life.

North and South America

Hammons and Rafael (2014) carried out a study to identify the relationship between breakfast consumption and physical fitness in elementary school children in California, USA. This was done using a questionnaire about breakfast and physical activity habits, alongside participating in a researcher-facilitated fitness test performance on an endurance run. They identified that daily breakfast consumers were 3.82 times more likely to be in the healthy fitness zone for the endurance test compared to those who only sometimes

consume breakfast. These findings highlighted the importance of eating breakfast and how it may be a significant component that should be reiterated in physical education curriculums and interventions focused on health. In the study, they recommended that increasing in-classroom school breakfast programs may contribute to improvements in the physical fitness of children.

Africa

According to a cross-sectional study done by Adole and Markos (2012) to assess breakfast eating habits and its association with the cognitive performance of early adolescents (11-13 years) in Shebedino District, Sidama Zone, Southern Ethiopia. Using a structured questionnaire they identified breakfast eating habits, socio-economic and demographic factors. They also used the Kaufman Assessment Battery for Children-II tests to measure cognitive performance. 211 students were selected randomly and interviewed of which 52% were girls and 48% were boys. According to the study the prevalence of skipping breakfast was 42.3%. There was also a significant correlation between the habit of regularly eating breakfast and the level of the mother's education. The study showed that irregular consumption or skipping breakfast combined with socio-demographic factors have an influence on the cognitive performance of the adolescents. Thus, important predictors of cognitive performance were breakfast eating habits and maternal education. In their study they have highly recommended that parents and adolescents should be educated and trained on healthy breakfast eating patterns and good nutrition practices in order to have a positive impact on their children.

Australia

According to the Australian Bureau of Statistics (2011), breakfast skipping is a silent threat. Every day, 1 in 6 Australian children skip breakfast, including those who answered, 'no time' (52%) and 'doesn't like having breakfast' (44%). Some further confounding factors have been identified such as economic hardship, unhealthy methods of weight control, modelling behaviour after their mother or a best friend, lack of healthy eating education, too tired to eat or not being bothered.

Statement of the Problem

The purpose of this study was to evaluate the breakfast eating habits of secondary stage private international school students as measured by a 12 -item questionnaire, with few recommendations for parents and to the school.

The objectives of this study

To evaluate breakfast patterns of secondary school children in an international school in Colombo, Sri Lanka

Specific objectives:

1. To find out the proportion of student who consume breakfast on a school day.
2. To identify the reasons for skipping breakfast.
3. To obtain knowledge on the types and sources of food consumed for breakfast.
4. To find out if those who skipped breakfast, how would they feel or their health status by mid-morning.
5. To find out if there is a relationship between regular consumption of breakfast and the degree of knowledge regarding the importance of breakfast.
6. Identification of personal and environmental factors that influence regular consumption of breakfast (Family structure/ Home environment)
7. To develop recommendations for parents to encourage a healthy Breakfast for their child and raising awareness regarding the importance of consumption of breakfast.
8. Introduce healthy canteen policy to the school and the regular breakfast program.

Methodology

Design: Cross-sectional study.

Setting: Colombo International private school catering to the children from middle class and upper-class families in Sri Lanka

Sample size: 500 students, age between 10 to 15 years old school children studying in 6th, 7th, 8th, and 9th grades.

Study method: All students of both sexes invited with the consent form to complete a questionnaire Data collected through questioner. Consent form has sent to the parents with the questionnaire to fill and return if they wish to participate.

Questioner was in English language only as all the children fluent in writing and reading due to the fact this school conducted study in English medium from the beginning.

The questions were developed around 5 areas were

1. Frequency of eating breakfast
2. Reasons for eating or not eating.
3. Who Prepared the breakfast?

4. What was eaten?
5. Was breakfast eaten at school?

Questions one through four deals with demographic. These questions answer gender, with whom do they live, who works outside the home, and if so, do they leave the house before the student eats breakfast?

Question five deals with frequency. Students indicating that breakfast is never consumed are instructed to answer two questions: one, as to why they choose not to eat breakfast; two, how do they feel midmorning?

Students who respond with a number for the frequency question continue to give reasons for eating breakfast and list items they had consumed that morning.

Procedure

Pretest was done using 30 random sample children age between 10-15 and asked them to answer the questioner and validated, re-arranged few questions accordingly and clarify any questions they may have regarding the survey.

After obtaining the school's permission to carry out the survey, letters were sent home to parents/ guardian for the permission and it was collected on the survey day, which is 16, and 17th June 2016 by the researcher and two assistants, before filling the questioner.

Limitations/Errors

- These are based on student self-reported behavior; discrepancies may exist between what is recorded and what is eaten.
- Students' accuracy in stating amounts may be a limitation as it is not directly observed or measured in the study.
- Students who generally eat breakfast may not have eaten breakfast on that particular day of due to unforeseen situation or illnesses.
- Possible conditions that may affect the results of the study are:

Unsigned permission slips, absences, interruptions during the morning classroom time. Students may still have had questions even after directions were given.

The breakfast eating was counted from Monday to Sunday that might increase the reliability and validity of our understanding of this phenomenon.

The study was cross sectional, and did not explore the nutritional content or quality and quantity of breakfast consumed therefore unable to assess the nutrient consumption Researcher has to rely on the past evidence and research finding when analysing results to compare the health affect such as, nervousness.

Statistical Analysis

All data was analysed using the SPSS program. The Pearson chi-square test (and t-test when appropriate) was used to determine the factors related to breakfast skipping and to assess differences in the frequencies of food consumption between the main study groups (breakfast skippers versus breakfast eaters). To clearly identify factors independently related with breakfast skipping, logistic regression analysis was applied. Statistical significance was defined as $P < 0.05$. The demographic and breakfast habit section of the survey was evaluated with nominal data that was stated in percentages.

Finding and Analysis

Out of the whole sample of 500 children aged between 10-15 years, 472 returned the questionnaire. Among them, only 460 responses were accepted, and the rest had to be rejected due to a data coupling error.

Q1- Gender

Among 460, 58% (267) were male and 42% (193) were females.

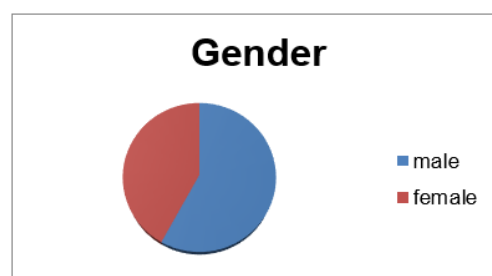


Figure 1: Sample according to the Gender.

On the day on which the survey was carried out, 238 students, which is 52% of the whole sample, had breakfast. A roughly equivalent number, i.e., 222 students, found to have had no breakfast at all on that day. This showed that those skipped the breakfast was a half of the sample, i.e., 48%. The breakfast was skipped by a half of the sample was a disquieting revelation of this study and the author was in view that urgent remedial actions must be taken. (Figure 1)

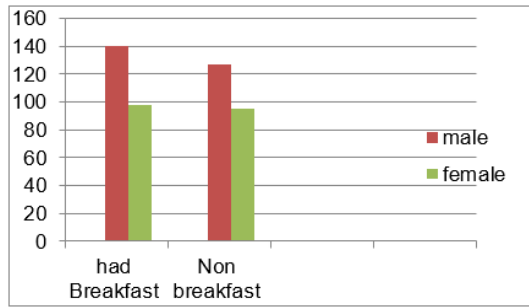


Chart 1: Breakfast eaters vs Non breakfast eaters (Gender wise).

As showed in above Chart 1, taking or skipping the breakfast seemed to be independent of the gender, because skipping was not able to the same extent among both sexes.

Q2. with whom they live with (family status)

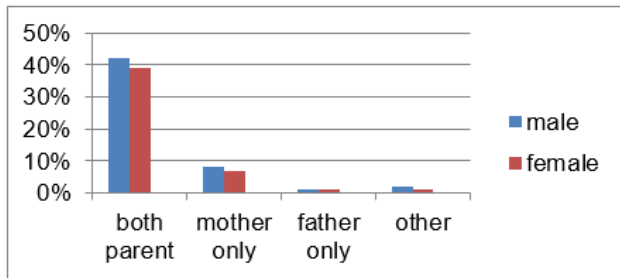


Chart 2: Whom they (students) live with.

A total of 81% indicated that their household included both parents. 15% indicated that they live with mother only and 2 % stated that they lived with father only. 3% did not belong to any of the above categories. i.e., looked after by the extended family or by others. These numbers showed that the vast majority of the pupils lived under the care of both parents, even though half of them omitted the breakfast. Refer Chart 2 Whom they (students) live with.

Q3- Who works outside the home?

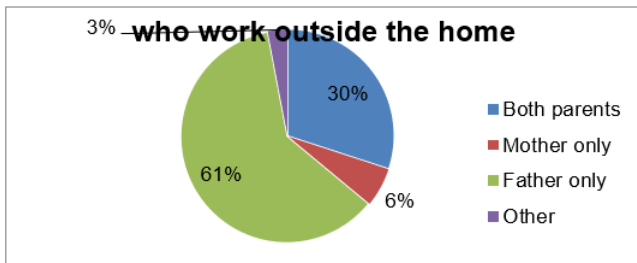


Figure 2: Work outside the home.

By looking at Figure 2 – (Work outside the home) into the answer for this question results indicated more than a half of the children have one parent at home mostly and quarter of them remains without both parents as they work outside. Whether mother works outside or not may have a direct impact on determining whether the child has an opportunity to have breakfast at home. This is because a working mother may not have the time needed to prepare a breakfast and feed the children before leaving for the work.

Q4- Departure time of the parents/guardian

	Before child waking	Before child eating	Same time as child leave	After child eave
Leave For Work	20%	12%	34%	34%

Table 1: Departure time of the parents/Guardian.

Comparison with breakfast eaters versus non breakfast eaters

	Before child Waking	Before child Eating	Same Time child Leave	After child Leaving
Breakfast Eaten	54	24	80	80
Not Eaten	70	47	70	35

Table 2: Breakfast eaters vs non breakfast eaters (Number of students responses).

Among non-breakfast eaters 117 (52%) responds, their parent or guardian leave either before they wake up or before breakfast eating. These results showed (Refer table 2: breakfast eaters vs None breakfast eaters) half of non-breakfast eaters do not have their parents/ guardian by the time of the awake or they have breakfast. Among two third of the breakfast eaters have their parents or the guardian when till they leave home for school.

Q5- Frequency of breakfast eating throughout the week

	Had Breakfast
Everyday	41%
1-2 per week	1%
3-4 per week	2%
5-6 per week	8%
Never	48%

Table 3: Frequency of breakfast eating Throughout the week.

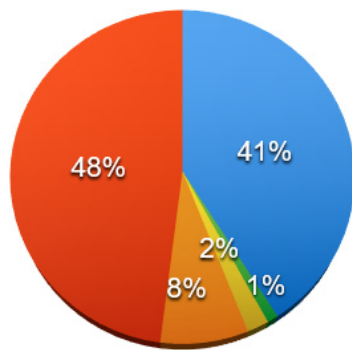


Figure 3: Frequency of breakfast eating.

In regard to frequency of eating breakfast 41 % indicate they have breakfasted every day, 8% in the 5–6-day range while 3% in 3-4 days or less, range .48% indicate they never have breakfast. This result showed in Figure 3 (Frequency of breakfast eating,) that almost half of the responds do not have breakfast at all as practice. Skipping breakfast may result in an inadequate nutrient in take that is not compensated at other times during the day, while at the same time; this result showed that they have the significance rate of breakfast skipping among 10-15-aged children.

Q6- Reasons for eating Breakfast.

	Number of Participants	Male	Female
Hungry	85	40%	45%
Feel Better	32		
Parents Influence	20		
Enjoy eating	8		
Important	88		
Other	5		

Table 4: Number of students responses for reason for eating breakfast.

Chart 4: Reasons for eating breakfast.

The reason given for eating breakfast are shown in the chart: 4 (refer chart 4: reason for eating breakfast), 37% of breakfast eaters indicated they felt that the having breakfast is important. 35% indicating that hunger is their main motivation to have breakfast. 13% felt better having breakfast while 8% indicate they have because of parents influence to have breakfast. Few have indicated that they have enjoyed eating breakfast. Most of them aware of the importance of having breakfast however actual practice Vs knowledge has a gap here. When looking at the at the percentage of the

children who had omitted the breakfast. Vast majority has responds Huger and awareness and how important to consume breakfast is the main reasons to have breakfast.

	Total	Percentage
Fine	21	9%
Tired	76	32%
Starving	98	41%
Headache	36	15%
angry	0	0%
Other	7	3%

Table 5: Number of student responses on feelings after missing breakfast.

Chart 5: responses on feelings after missing breakfast.

Breakfast eaters were also asked how they felt if they missed breakfast. 41% selected option “staving” while 32% were tired and 9% indicated that they felt fine. 15% concluded that they suffer with headache. As a result of this finding, it can be interpreted that mostly felt that they were starving and followed by those who felt tired when they skip breakfast. (Refer Chart 5 Response on feeling after missing breakfast).

The possible explanation could be the gradual decline of insulin and glucose levels could cause a stress response in children, which interferes with different aspects of cognitive performance, such as attention, memory tiredness and headache too. This may be some signs and symptoms that could experience from children by mid-morning.

Q8- What is the reason for skipping Breakfast.

	Number of Participants	Percentage
Not Hungry	7	3%
Time	166	70%
Not like the available food	49	21%
Don't want to Eat Alone	7	3%
no one to prepare	9	4%
Other	0	0%

Table 6: Number of student responses to the reason for skipping breakfast.

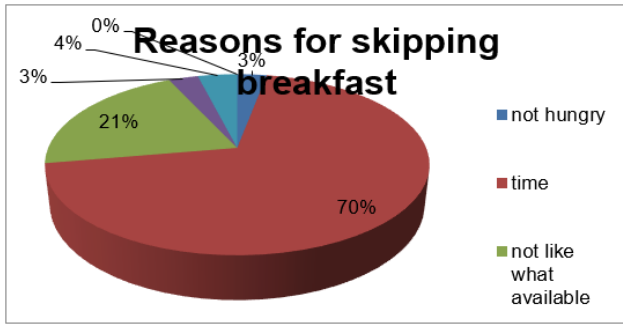


Figure 4: Reason for skipping breakfast.

In that above Figure 4, shows 70% of students not regular with their breakfast, due to the time factor. 21% indicated that they didn't like what was available to eat. 4% respondents said there was no one to prepare breakfast for them therefore they skipped. While 3% did not like to eat alone their morning meals. From above results vast majority stated time was the main factor reason for skipping breakfast and not regular with it. This result more like non-breakfast eaters also as they had mentions that due to the time mainly, they do not consume breakfast.

Q9- Preparation of Breakfast by

	Percentage
Self	29.8%
Parents	62.3%
Siblings	1.5%
School	6.2%
Other	1.2%

Table 7: Number of students responses for who prepares the breakfast.

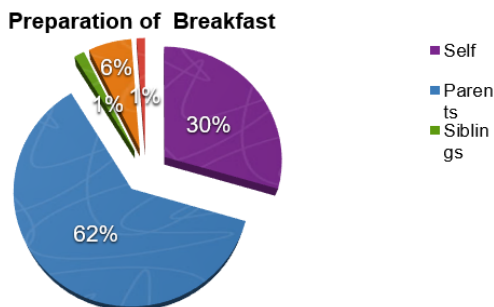


Figure 5: Preparation for breakfast.

The preparation of breakfast as shown in above Figure -5, revealed that 62.2% of breakfast eaters prepare their food by their parents. 29.8% stated that they prepare their own breakfast. 1.5% indicated that a sibling prepares it and 6.2% getting from school. While 1.2% selected the other sources. 2/3 of the responds claimed that someone prepare their breakfast for them, while 1/3 of them preparing for themselves. When either parents or both present and prepare their breakfast, they would have more trends to consume breakfast regularly.

Q10 - What type of food consume for breakfast.

Below table 8 showed, the percentage of the student has been replied to each type of food consumption of the day

	Cereal with milk	Toast/ jam/butter/marmalade/peanut butter	Scrab-ble Egg	Bis-cuit/cookies	Rice and Curry/ Traditional food	Tea/Coffee or Milk Only
Percentage	48%	4%	2.5	5%	18%	12.5%

Table 8: Responses for type of food consumption.

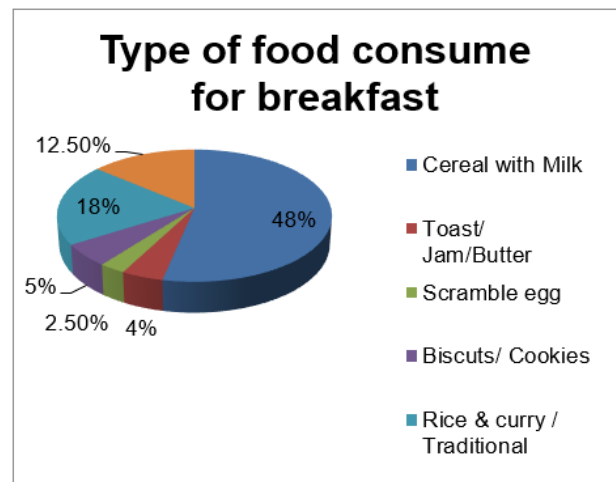


Figure 6: Type of food consumption.

It was reported that 48% of breakfast eaters had ready- to eat cereal on the day of this survey. Only 18% of students consume, Rice and curry or Traditional food for morning meal while 4% and 2.5% had Toast with Jam and butter or scramble eggs on survey day. According to the survey result ready to eat cereal was the most popular food for breakfast among the responds. 5% stated that they had

Biscuits/cookies as for their breakfast while 12.5% indicated they only had milk/ Tea/ coffee as per breakfast, Refer Figure 6 -Type of food consumption.

When analyse above result for the quality of breakfast which children were consuming, not consuming healthy meal can pose serious problems for children daily nutritional intake. Even though tea or coffee or Biscuits will give the calories need to the body it is failed to add essential micronutrients. The deficiencies of important micronutrients such as iron and vitamin B-12 had shown significant impact on children’s cognitive development according to the researched done in past. And again, this will highlight the knowledge gap vs actual practice.

Q11- Non breakfast eaters - reasons for skipping breakfast.

	Not Hungry	Time	Lose Weight	Avail-ability	Eating Alone	Noth-ing Pre-pared
Number of Participants	57	93	9	26	9	28
Percent-age	26%	42%	4.3%	12%	4%	12.7%

Table 9: Number of responses to reasons for skipping the breakfast.

Chart 6- Reasons for skipping the breakfast

The non-breakfast eaters represented in above table indicated that 42%and 26% respectively do not have breakfast due to ‘no time’ and they are not hungry. Again 12.7% not having breakfast as nothing has been prepare for them in the morning while 12% do not consume breakfast as they do not like what had prepared. 4% of them consider of losing weight therefore they skipped breakfast and 4% did not want to eat alone given as a reason for skipping breakfast.

According to the results among majority of non-breakfast eaters had given the reason for not having breakfast as a practice was the time factor. While few numbers of students try to omit breakfast to lose weight which indicated the lack of correct nutritional knowledge among the children which has shown in Chart 6 : reason for skipping breakfast.

Q12- Non- breakfast eaters – how they feel/health status by mid-morning.

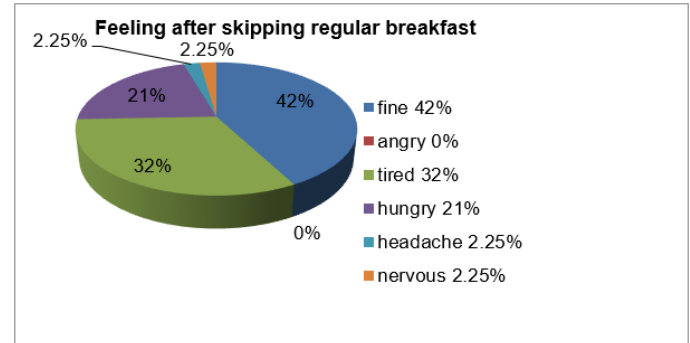


Figure 7: Students health status by mid-morning (feeling).

Chart 7: Health status by mid-morning (feeling)

The result of non-breakfast eating students in figure -7, stated in above chart showed that 42% of non- breakfast eaters state that they feel fine by mid-morning. But 32% feel tired and 21% feel hungry, while 4.5% said they experienced headache or nervousness. As a result of the finding among non-breakfast eaters it can be summarized that half of them felt that they are either tired, hungry, feels headache or nervous towards to mid-morning.

Above result in could be interpreted that when declining the store energy in the body by mid-morning children could experience all the symptoms of body responding to the stress stimulant by signing the headache, nervousness, or tiredness.

Discussion

The results (refer chart 7- health status by mid-morning) of the present study showed that significant proportion which was almost half of the students/ preadolescence attending this selected international private school omitted breakfast, even though breakfast is the first meal of the day. This proportion of 48%is considerably high in this age group.

Furthermore, this study showed that, Half of the non-breakfast eaters’ parents or guardians leave the home either they awake or before they have breakfast. Among two third of the breakfast eaters have their parents or the guardian when till they leave to school. Even though in this study above 75% of majority lives with both parents. But still half of the students omitted breakfast as practice. The American Society for Nutritional Sciences reports (2013) “the consequences of food insecurity at the household level are manifested in physical impairments, psychological suffering, stress was

manifested in decreased interest in food and nourishment. Children's eating habits and attitudes about food develop early and last a lifetime.

Dietetic Association points out that parent need to be role models for children, especially when it comes to eating breakfast. Mealtime is a family matter, and healthy foods to choose from, along with companionship, greatly enhance the probability of eating breakfast. Gemlo et al (1998) had highlighted in his research "companionship at mealtime, a positive home atmosphere, and appropriate, food-related parenting behaviors, such as giving smaller portions when introducing a new food, have been found to improve dietary habits for children. Mealtime can be an important time for family interaction, cited in Fugas et al (2013).

According to the results of the survey only 41% of them which is less than half of reported regular breakfast consumption. 70% of breakfast eaters started that "Not enough time," is the reason for not have breakfast regularly. While 21% not 'like' to eat what available for breakfast were the two main reasons for not having breakfast regularly. Majority off non breakfast eaters also indicate 'time' was the factor for skipping breakfast also 12% stated not "like" what available for breakfast. No one to prepare and do not want to eat alone are other main reasons had been highlighted by both breakfast eaters and non-breakfast eaters for either not regular or skipping breakfast in the morning. Mainly the "Time" factor was the reason for not regular with the breakfast consumption or not having at all. Providing healthy food choices makes it easier for children to choose to eat breakfast. Furthermore, Ready to eat cereals is a good, quick, nutritious way to provide for one's family breakfast. Nicklas, et al. (1998), Siega-Riz et al. (1998) highlighted reasons for the omission of breakfast as lack of companionship to share the meal, lack of desire to prepare breakfast themselves, limited availability of ready-to-eat food, Cited in Pearson (2012). All above literature shows that breakfast eating habits tend to be learned.

The number of Reasons they had been given in this survey why they consume breakfast but majority of 70% indicated that they were aware of importance of having morning breakfast and they feel hungry in the morning. Eating breakfast might be particularly important during early adolescence because adolescents have high nutritional needs, due to brain development processes and physical growth. It has been said that when a meal is prepared by someone else, it always tastes better, in single parent families or households where parents have already left for work, or have not yet returned,

teenagers are active in food preparation and purchasing. Young, (1992) in this study, almost a one third of breakfast eaters prepare their own breakfast and nearly two third get their breakfast prepared by their parents or a sibling in the morning, cite in Vereecken et al (2004)

Ready to eat cereal was the most popular breakfast selection among the breakfast consumers in this age group. 48% reported they have ready to eat cereal on the day of survey. The literature review stated that breakfast should provide 30% of the recommended daily allowances. Ninety-two percent of all ready-to-eat cereals are fortified with essential nutrients also the consumption of ready-to-eat cereals has boosted the consumption of milk. (Contento (2010). According to the results there was a significant number of responds claimed that they had breakfast, 12.5% only consume milk, tea or coffee for breakfast while 5% consider biscuits or cookies as their breakfast, which cannot be accepted as a healthy meal selection even though it gives the calorie needs to the body but poor in essential micronutrients including vitamins minerals.

This survey showed that half of non-breakfast eaters felt that they are either tired, hungry, feels headache or nervous towards to mid-morning, two third of breakfast eaters also felt that they were starving or tired by the mid-morning if they did not consume breakfast. Nutritionists explain that. "Our brain runs on glucose or blood sugar, stored up overnight. If we do not eat breakfast, by mid-morning that sugar gets used up and children as well as adults grow tired and irritable." Melton (1998) cited in Jackson 2013. According to the food Research and Action Center, (Healthy Breakfast for Everyone, 1993), "hunger leads to nervousness, irritability, lack of interesting learning, and inability to concentrate. "Breakfast skipping is not statistically linked to all other eating habits in preadolescents aged 10-15 years. Perhaps these differences in the eating choices explain in some way why breakfast consumers have more balanced and more suitable energy intake compared with breakfast skippers.

Recommendations

1. Children should be educated and raise the awareness among the students regarding the importance of having healthy breakfast by adding topics into their subjects and randomly assess them throughout, to prevent young age obesity, eating disorders, osteoporosis, cardiovascular disease, and all non-communicable disease as future predictions of those are high in numbers in Sri Lanka.

2. With regard to breakfast quality, our study shows that the majority of the students who consumed some form of breakfast, but that the quality was rather low therefore the utilized nutritional education in schools has to be one main strategy to place in their curriculum.
3. Breakfast in the classroom has been widely adopted by school districts across the United States, with the goal of increasing participation and ensuring no child starts the school day hungry, and this will increase the probability that children will eat breakfast," Not only that moving breakfast from the cafeteria the or, pastry shop on the way to school with unhealthy snacks which contain all the 'transfats" to the classroom will provide other benefits as companionship , sharing and meets the families who maintain time is a factor in omitting breakfast from the morning routine. This will have more benefits for the children who are coming very early to the school for certain regular sports practice events.
4. Parent's habits of eating breakfast and establishing good eating habits at an early age set the tone for lifetime healthy habits. Therefore, Parents and guardians should be educated on the benefits of breakfast for children. This should include what makes a nutritious breakfast to ensure that the children are not only fed breakfast but also one that enhances their nutritional status. Schools should arrange parents' teacher meeting more regularly and conduct well-being clinic, or discussion open day which includes Nutritional advice and well-being sessions for overall health status.
5. Parents can encourage, waking their child fifteen minutes earlier to allow for that extra time needed for breakfast or send along a snack breakfast with their child.
6. Healthy canteen policy should be in the school with regular follow up and inspections of food what they are selling by the reliable source.
7. Place posters throughout the school showing foods rich in various nutrients and Healthy food tips in the school newsletter for parents.
8. Provide an enjoyable eating environment.
9. Provide a cooking club and make healthy eating as an enjoyable event.
10. Further research in Breakfast skipping among different age group of school children and different locations/setting is needed.

Conclusion

The results of this study showed that the prevalence of breakfast skipping was high, 48% of the survey participants were skipped breakfast. The body needs breakfast. First thing in the morning, the body is low on energy reserves and needs fuel, in the form of food, to get going. Nutritionists recommend that breakfast should provide 30 percent of the daily nutrient requirements. Studies have shown that people who skip breakfast miss out on many vital nutrients, which they are unlikely to make-up for during the rest of the day. Missing breakfast can have a negative effect on general health, both in the short and long term too. Consumption of breakfast is a common practice among the Sri Lankan private international school children. Children who had breakfast generally had significantly higher nutrient intakes than children who did not. Even though the ready to eat cereal was the most popular choice of breakfast in this study encouraging healthy breakfast consumption among school children is a way to ensure that they meet their daily nutrient and energy intakes, therefore rising the awareness of getting a good start to have the Importance of Breakfast among the school children in preadolescence is important. The greatest positive impact of breakfast seems to be on students who are at nutritional risk. Regardless of nutritional status, eating breakfast is linked with improved overall health and wellbeing of school-aged children and Improvements in overall diet quality, which also contributes to stronger academic performance as identified and confirmed by researchers around the world.

The prevalence of breakfast skipping among children age between 10-15years attending international school is quite high, mainly due to the time factor, it is inversely related family environment. The strong relation with nutritional status indicates the importance of this meal in the later course of child health. Breakfast skipping could associate with other poor nutritional habits suggesting that it does not constitute only a strong indicator of unhealthy diet but probably has a considerably negative influence on the food choices of preadolescence. Health education programs therefore needed to encourage breakfast eating, targeting special groups of individuals.

Appendix A

Breakfast Survey/Questioner

Directions

Please answer the following questions as accurately as possible. Put a check mark by the answer that best describes you.

1. Gender ___Male ___Female
2. With whom do you live? ___Both parents (biological, adoptive, or step) ___Mother only ___Father only ___Other_____
3. Who in your household works outside the home? ___Both parents ___Mother only ___Father only ___Other_____
4. When do your parent(s) or guardian(s) leave for work? ___Before I get up in the morning ___Before I eat breakfast ___Same time that I leave for school ___After I have already left for school
5. How often do you eat breakfast during the week? ___1-2 days per week ___3-4 days per week ___5-6 days per week ___Everyday ___Never (If you check this option, please skip to question 11)
6. Why do you eat breakfast? (Please check all that apply to you.) ___I am hungry in the morning ___I feel better if I eat breakfast ___My parents make me ___I enjoy eating ___I feel it is important to eat breakfast ___Other_____
7. If you skip breakfast occasionally, how do you feel mid-morning (9:30 10:00)? Check one that best describes how you feel. ___Fine ___Angry/cranky ___Tired/bored ___Hungry/starving ___Headache/sick ___Nervous ___Other_____
8. If you skip breakfast occasionally, what are the reasons for doing so? (Please check all that apply to you.) ___I was not hungry ___I didn't have enough time ___I didn't like what was available to eat ___I didn't want to eat alone ___No one prepared anything for me ___Other_____
9. Who prepares your breakfast? (Please check all that apply to you.) ___I prepare my own breakfast ___My Father or Mother ___My Sister or Brother ___I eat at school (how many times per week do you eat at school? ___ ___Other
10. Breakfast eaters. What did you have this morning for breakfast? Please list (tick) all of the food and an approximate amount for each.
 - * 1 bowl of Cereal with milk and sugar
 - * 1or 2 slice of wheat toast with butter and jelly 6 oz. Glass of orange juice
 - *scrambled eggs with cheese
 - * Glass of chocolate milk 2 cookies
 - * Rice/ sringhoppers /idly/ dosa and some curiies/ fish/ chicken
 - *coffee/Tea / milk/ yourgert only
 (For any beverage you list, please do the best you can in estimating the number of ounces you drink. A can of pop equals 12 ounces. A half can of pop is equal to 6 ounces. A fourth of a can of pop is equal to 3 ounces. Use this as a guide in determining the ounces.).

Thank you for filling out this survey.

11. Non-breakfast eaters. You checked never to question number (5) Why don't you eat breakfast? Please check all that apply to you.

___I am not hungry at that time of the morning ___I don't have enough time ___I want to lose weight ___I don't like what's available to eat ___I don't like eating alone ___No one prepares it for me ___Other_____

12. When you skip breakfast, how do you feel mid-morning (9:30 to 10:00)? Check one that best describes how you feel.

___Fine ___Angry/cranky ___Tired/bored ___Hungry/starving ___Headache/sick ___Nervous ___Other_____

Thank You for Filling Out This Survey.

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