



Why Breakfast should be an important meal among school children life?

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ABSTRACT

School age is nutritionally important because it is the prime time to build up the body and store nutrients for the rapid growth. It is also active growing phase for the physical growth and the mental development of the child. Breakfast is a very potential, unique and acknowledged as an important meal for human health. The daily intake of breakfast is a major indicator for healthy living and better quality of breakfast is essential for children, adolescents to hold the fitness. Overall, it brings the changes in metabolism, improvement in the diet quality, good nutrient choices, which influences children's good health and food habits throughout the life peculiarly early development. According to standard nutritional recommendations an idealized breakfast should contain 20 to 35% of daily energy, and this should be obtained from three food groups like milk and milk products, cereals specifically whole grain and unrefined, fresh fruits and their juices without mixing sugar. Scientific evidence have proved that skipping breakfast leads to various health problems and those who have skipped breakfast had comparatively higher rates of mortality, high levels of cholesterol, and changes in the healthy behaviours, changes in the healthy weight as compared to regular breakfast eaters. Hence a healthy breakfast is requiring to schoolchildren which provides essential nutrients for their activities and it should be correlated with improving general nutritional status

Keywords: School health; Nutrition; nutrients; nutritional status; metabolism.

Received: 8-11-2023

Accepted: 15-12-2023

Published: 1-3-2024

INTRODUCTION

School age is one of the active growing phases for the physical growth and the mental development of the child (**Srivastava et al., 2012**). The ages between 6 to 14 years are middle childhood and early adolescence and this time important developmental advances take place which establishes a child's sense of identity. During these period children makes strides towards the adulthood through competent, independent, self-aware spirits (**Eccles, 1999**). Nutrition being a vital component plays a significant role in growth and development of school children. Imbalanced nutrition in the body leads to malnutrition, growth retardation, and poor mental social development (**Agrahar D, 2013**). These conditions lead to a life of poor health and endless sufferings. Hence among all age groups, school age is nutritionally important because this is the prime time to build up the body and store nutrients for the rapid growth. Thus, physical and mental wellbeing of school children achieved by adequate nutrition (**Opoola, Adebisi and Ibegbu, 2016**).

Breakfast is a very potential, unique and acknowledged as an important meal for human health. It is a key component of healthy and ideal nutrition. It also has important universal recognition which helps the consumers to obtain ideal nutritional profile (**Adolphus, Lawton and Dye, 2013**). The daily intake of breakfast is a major indicator for healthy living and better quality of breakfast is essential for children, adolescents to hold the fitness. A person who does not consume morning meal will not have sufficient energy to carry out the tasks, as it is a first meal to take after the long post-prandial time (**Rani, Dharaiya and Singh, 2020**). Also, it is a part of healthy lifestyle produces beneficial impact on health and wellbeing of school children. Studies have been reported that regular breakfast consumption has positive outcomes on cognitive functions, academic performance among school children and adolescents (**Gao et al, 2021**). It also develops the healthy food habits and behaviours among the children, which influences their health in the future and strengthens the age (**Tinsley, B.J. 2003**). Overall, it brings the changes in metabolism, improvement in the diet quality, good nutrient choices, which influences children's good health and food habits throughout the life peculiarly early development (**Giovannini et al., 2008**).

Nutritional importance:

Regular ingestion of breakfast is accompanied with wide variety of advantages in children and adolescents with appropriate amount of macro and micronutrients (**Deshmukh-Taskar et al., 2010**).According to standard nutritional recommendations an idealized breakfast should contain 20 to 35% of daily energy, and this should be obtained from three food groups lie milk and milk products, cereals specifically whole grain and unrefined, fresh fruits and fresh juices without mixing sugar (**Giovannini et al., 2008**).

The significance of cereals in a well breakfast due to the presence of variety of quality nutrients like protein, carbohydrates, and other micronutrients and particularly they are taken along with the milk which is important source of calcium, phosphorous and other essential amino acids (**Keski-Rahkonen et al., 2003**). Several studies have proved that consumption of breakfast with good intake of cereals leads to the physical and mental development, wellbeing and better health.

Intake of fruits in the breakfasts secures the physical and mental health. It has been well reported in the studies that fruits are rich in antioxidants, fibres, various types of vitamins which protects

the body from acute illnesses (**White, Horwath and Conner, 2013**). A study conducted among medical students showed that consumption of fruits in the breakfast brought the happiness, more energy, calmness and positive emotions throughout the day (**Ilesanil et al., 2016**)

It is often considered as a part of essential healthy diet and it is associated with the nutrient intake and nutritional status. It has significant influence on body weight and breakfast meal as an important major factor for the energy regulation (**Wang M, et al, 2016**). A study conducted by Garg et al reported that children between 10-16 years of age who skipped breakfast and consumed more junk foods rich in saturated fats during the break hours led to overweight and obesity. (**Garg, Rajesh and Kumar, 2015**) Another study showed the relationship between breakfast skipping with over nutrition and unbalanced food intake. This results in the overweight and obesity due to the substantial risk of imbalanced nutritional intake (**P. Mathiyalagen et al, 2019**).

The presence of adequate protein in the breakfast is paramount because it is essential for the diurnal rhythm, good amount of sleep and quality of life. The presence of tryptophan is essential as the metabolism of tryptophan during the daytime to serotonin and further conversion of serotonin to melatonin which is a natural sleep-inducing agent (**Harada et al., 2007**) Breakfast encourages more healthful food choices and enhances the children's growth and nutrition by consuming daily nutrient intake, specifically dietary fibres, calcium and helps in the contribution to meet the daily requirements. Children must be given a nutrient-dense, energy appropriate breakfast on a regular basis for the nutritional benefit (**Rampersaud, G. C 2009**).

Effect of breakfast on health of School children:

Besides the large changes and differences in the culture, availability of traditional foods, local foods across the time, breakfast is still one of the important meals in the healthy diet, which provides significant health benefits particularly in school children.

Cognitive performance:

There is growing evidence that breakfast has effect on cognitive performance in school children. Children's have more brain glucose metabolism as compared to adults. In addition, they depend on nutritional effects food for brain activity as well as cognitive outcomes. The depletion of glucose overnight demands the food and to maintain the metabolic rate hence the constant supply of energy specifically from glucose is needed. Therefore, intake of breakfast in the morning is must for the adequate energy (**Adolphus et al., 2016**)

Consumption of breakfast associated with the mental alertness. Studies have proved that breakfast has significant potential benefits on enhancing the mental alertness especially in school children and adolescents. A meta-analysis evaluated the intake of breakfast based on nutrient composition and comparison with the breakfast skipping. There was evidence which showed that breakfast supports the cognitive function, specifically short-term benefits on attention, memory, increased attention, creativity and particularly improvement in the undernourished children (**Gibney et al., 2018**).

Maintains healthy weight:

Many studies have been investigated and found that breakfast intake is associated with the weight status. Regular consumption of breakfast helps to maintain healthy weight and skipping of breakfast have higher association with the overweight and obesity (**Rampersaud et al., 2005**). The mechanism behind the healthy weight is still not clear. However, breakfast ingestion helps in providing satiety, this is possible through different metabolic effects which are related with glycaemic and insulin response, which ultimately leads in lower daily energy intake (**Timlin and Pereira, 2008**). This is supported by the several studies that daily energy intake is higher in breakfast consumers compared with the non-consumers.

A study conducted among urban students in Delhi, India reported that regular breakfast consumption contributes to the less overweight and obesity and it also improves the healthy dietary and physical activity behaviours. The study also showed that consumption of dairy products, fruits and vegetables, was higher among regular breakfast consumers and they had good nutritionally important food selection which helps in promoting healthy behaviours. These benefits when taken into the consideration, may help to prevent the development of childhood obesity (**Arora et al., 2012**)

Effect of breakfast on psychosocial health:

Psychosocial health is interconnected with socioeconomic elements, which consists of both psychological and social psychological factors. Consuming breakfast at home play's vital role in the intake of breakfast, because it consists of better quality of food including dairy, cereal and fruits. Among children who takes breakfasts at home are more likely to have along with their family members (**Mullan and Singh, 2010**). A study showed that among children aged between 7 to 12 years who taken breakfast among with their family members once in a week, borderline or abnormal psychosocial health status significantly observed as compared to those who had breakfast seven times in a week (**kameyama et al., 2021**). Another study reported that regular consumption of breakfast along with the family has vital role in psychosocial health This is due to reason that family meals can promote the parents to connect emotionally with their children through the closeness and belonging, this in turn leads to identify any existing and changes in the behavioral performances . This proves that there is a positive correlation between diet quality and physical, emotional, and mental energy, and supports for the intake of breakfast as a favourable strategy (**Agathao et al., 2021**) And scientific evidence have shown that regular intake of breakfast provides multiple advantageous effects such as improved memory, other cognitive function, higher levels of physical activity and overall psychosocial and healthy behavioural patterns

Effect of breakfast on Academic performance of children:

There is growing evidence that breakfast has significant impact on school performance. Breakfast increases attention, supports in performing the tasks during class lessons. Simultaneously changes in cognitive functions are effective in the school and academic performances. Hence regular habituated breakfast increases a child's ability to concentrate and to recollect the information's during the class hours. Along with this breakfast impacts on the class behaviours in terms of engaging the class activities, to sustain attentiveness in the class which creates a healthy environment which brings greater academic outcomes among children

It is also observed that regular breakfast eaters have good enthusiasm, interest, energy, mental alertness, will power, happiness, and more prominent from morning to afternoon. This helps to increase the capacity to focus, and to decrease attention failures during the class hours (**Cueto S., 2008**).

A study reported that breakfast has favourable effects on task-behaviour during the lessons especially children less than 13 years. It is also observed that there is a positive association between habitual breakfast frequency and quality on school performance scores (**Adolphus et al., 2013**)

Another study compared the academic performance of breakfast eaters and breakfast skippers and noted the significant difference within parameters like memory, concentration, and tests scores. Breakfast skippers had faced difficulties an achieved low level of school performances. Regular consumption of breakfast leads to beneficial outcomes and skipping breakfast effects negatively in the academic performance (**Handuwala et al, 2021**)

Adverse effect of not having Breakfast:

Breakfast is regarded as one of the important meal of the day, which helps to start the daily metabolism. Scientific evidence have proved that skipping breakfast leads to various health problems. Many studies have reported that individuals those who skipped breakfast had comparatively higher rates of mortality, high levels of cholesterol, and changes in the healthy behaviours. In addition, some studies have found that regular breakfast consumption, has promising effects like improved satiety, reduced food cravings, enhances cognitive function and improves the academic performances (**Hoyland, Dye and Lawton, 2009**). Among children, studies have been found that skipping breakfast has adverse effects on cognition, motivation, academic performances and exam scores of the children. In addition, skipping breakfast reduces the individual's energy which required throughout the day and it is difficult to remunerate this energy by having the nutrients with other meals of the day. The growing evidence shows that breakfast skippers begin their day with higher intake of fats and significantly lower in the intake of vitamins and minerals, which leads to the digestive problems in the future. This suggest that breakfast skipping decreases the amount of carbohydrates in the early meals and lowers the blood sugars which are good of energy source (**Schusdziarra et al., 2011**). This significantly affects the performance of day, affects the mental health and reduces the physical activity.

CONCLUSION

A healthy breakfast provides essential nutrients for school children for their activities and is correlated with improving a person's general nutritional status. It supports in replenishing the supply of glucose to boost energy levels and alertness, protects the health. Skipping breakfast leads to low energy levels and it affects our mood, concentration/focus, and cognitive function. Hence a balanced nutritious breakfast can be effective in health and academic performance. Regular breakfast consumption can have better concentration, perform better on tests, and maintain a healthy weight among school children.

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