

# Kebiasaan sarapan anak berhubungan dengan persepsi anak terhadap kebiasaan sarapan orangtuanya (studi di Kecamatan Sedayu, Bantul)\*

*Children's breakfast habit related to their perception towards parent's breakfast habits (study in Sedayu District, Bantul Regency)\**

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## ABSTRACT

**Background:** Breakfast plays an important role in ensuring the good health and wellbeing of an individual, especially children. Evidence suggests that breakfast consumption may improve cognitive function related to memory, exam test score and the level of school attendance.

**Objectives:** To determine the breakfast habits and its risk factors in elementary school children in Bantul.

**Methods:** This cross-sectional study was conducted in four elementary schools in the District Sedayu, Bantul with 126 children as subjects. Breakfast habits investigated by interviews to the children.

**Results:** This study showed that there were 33% of children had no breakfast daily, or had skipped breakfast at least once in a week. The major reasons of children skipping breakfast were not having enough time (38.1%), not hungry (30.9%) and no food available in the morning at home (16.7%). A total of 15.9% mothers and 23% fathers were not breakfast daily according to their children. Breakfast habits of children significantly associated with the children's perception towards parent's breakfast habits.

**Conclusions:** Breakfast habits of children significantly associated with the children's perception towards parent's breakfast habits.

**KEYWORDS:** breakfast habit, children perception, parent's breakfast habit

## ABSTRAK

**Latar belakang:** Sarapan memiliki peran dalam menjaga kesehatan dan kebahagiaan seseorang, termasuk anak. Penelitian terdahulu membuktikan bahwa sarapan mampu meningkatkan fungsi kognitif yang berhubungan dengan kemampuan mengingat, nilai ujian, dan tingkat kehadiran di sekolah.

**Tujuan:** Untuk mengetahui kebiasaan sarapan anak sekolah dasar di Kabupaten Bantul, dan faktor-faktor yang mempengaruhinya.

**Metode:** Studi cross-sectional ini dilaksanakan di 4 sekolah dasar di Wilayah Kecamatan Sedayu, Kabupaten Bantul, dengan jumlah subjek sebanyak 126 anak. Kebiasaan sarapan diketahui dari wawancara dengan anak.

**Hasil:** Hasil menunjukkan bahwa sebesar 33% anak sarapan tidak setiap hari, atau dalam seminggu paling tidak 1x melewatkan sarapan. Alasan utama anak melewatkan sarapan adalah tidak punya cukup waktu (38,1%), tidak lapar (30,9%), dan tidak tersedianya sarapan di rumah pada pagi hari (16,7%). Sebanyak 15,9% ibu, dan 23% ayah juga sarapan tidak setiap hari menurut persepsi anak. Kebiasaan sarapan anak berhubungan secara signifikan dengan persepsi anak terhadap kebiasaan sarapan orang tuanya.

**Kesimpulan:** Kebiasaan sarapan anak berhubungan secara signifikan dengan persepsi anak terhadap kebiasaan sarapan orang tuanya.

**KATA KUNCI:** kebiasaan sarapan, persepsi anak, kebiasaan sarapan orang tua

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## INTRODUCTION

Breakfast which defined as meal in the morning, has been widely shown to affect human health, especially children (1). Scientific data increasingly shows that breakfast plays an important role in ensuring the good health and wellbeing of an individual (2). Evidence suggests that breakfast consumption may improve cognitive function related to memory, exam test score and the level of school attendance (3).

Mostly school age children have many activities outside house, resulting in delayed or missed breakfast whereas skipping breakfast in children lead to empty stomach and reduced blood sugar levels (hypoglycemia), causing weakness, drowsiness, difficult to accept the lesson, as well as decline in the passion to learn and the ability to respond (4). American study titled Bogalusa Heart Study with the subject as much as 467 children showed that children who skip breakfast tend to have deficient intake of several nutrients calcium, thiamine, iron, folate, zinc, vitamin A and vitamin B6. Some studies also show that people who skip breakfast, it will not be able to compensate for the lack of nutrient intake and energy through another mealtime (5). Several recent studies also showed a statistically significant relationship between regular breakfast consumption and a prevalence of overweight/obesity. The "OKkio-alla Salute" survey also showed children who skip breakfast run a higher risk of being overweight or obese compared to their peers who eat a healthy breakfast (2). This can be explained by evidence that breakfast helps to regulate energy intake during the rest of the day; in fact, due to a heighten feeling of hunger, children and adolescents who regularly skip breakfast tend to eat more food at their next meal especially high-density, high-fat food (6). Furthermore, children who skipped breakfast less frequently fulfilled the recommended daily intake of certain types of food, such as fruit and vegetables (7), healthy food that believed to prevent obesity.

Study in Egypt showed 34.9% of the total 2818 children had missed breakfast (8). A study in Indonesia related to breakfast in Cipto

Mangunkusumo Hospital, Jakarta showed that 22.4% of the 58 subjects had skipping breakfast habit (9). The importance of breakfast and the impact of skipping breakfast are not followed by a significant attention from the public and stakeholders in Indonesia, proven by a lack of data showing the prevalence of breakfast coverage nationally and regionally, and yet there are also data on the average nutrient intake of breakfast.

In 2012 there were 74,572 primary school children in Bantul District who are the future generation of the nation (10). Until now, there is no regional or national data that describe the condition of children's breakfast habits in this area. This resulted in a lack of government and non-government programs focus on breakfast habits, so that the public, especially the parents also become less aware of the importance of breakfast. If this problem is not immediately addressed, the impacts that occur will affect the quality of human resources in the future.

## MATERIALS AND METHODS

This was cross sectional study. Primary schools have been selected by randomization of schools and classes from all elementary schools in the District Sedayu, Bantul Regency, Daerah Istimewa Yogyakarta (DIY) Province. Study began in August of 2013, while the data collection began in September 2013 until October 2013.

Based on the sample size calculation formula (11), the minimum sample obtained is 116 subjects. Based on data from Department of Primary Education of Bantul Regency, number of elementary school in the Sedayu District Bantul were 23 primary schools, public and private with 3,377 students. Used simple random sampling method four elementary schools and the classes were selected (SD Puluhan 4<sup>th</sup> Grade, SD Gunungmulyo 3<sup>rd</sup> Grade, SD Sukoharjo 5<sup>th</sup> Grade and SD 2 Sungapan 4<sup>th</sup> Grade). The numbers of students were 126 students, which mean it has met the minimum sample size that was 116 subjects. Their age ranged from 7 to 12 years old, with a mean 9 years 6 months. Most of the subjects were male (54.8%), but not much different from the

number of female subjects. Most of the subjects were in 4<sup>th</sup> grade (53.1%). Weight, height, dietary habits, socio-demographic data, and breakfast habits was collected by local enumerators, graduated students of Nutrition Diploma. Their perception was equated by training and discussion before they took the data. Weight was measured by digital weight scale Camry© (accuracy 0,01 kg, maximum 150 kg), height was measured using microtoise (accuracy 0,1 cm, maximum 200 cm). Sociodemographic data, and breakfast habits of children and parents were taken using structured questionnaires, interviewed to children, as well as clarification of using student data in schools. The questionnaire was adapted from several sources (12), Utah Education Network [UEN] (2008), and Gibson (2005). Statistic software was used to do univariate and bivariate analysis of *chi-square* and Fisher Exact test.

## RESULTS

### Subjects Characteristic

Mean of subject's mother age was 36.9 years old, with a minimum age of 26 years, but there was also a 60 years old mother who was the adoptive mother of the subject. Most of the mothers reached formal educations until senior high school/equivalent (45.2%), with only 5.6% were reach diploma/higher. This showed that the education level of mothers in this region was still relatively low. Most mothers role as housewives (43.7%). Father's age on average 40.3 years with a minimum of 29 years old, and a

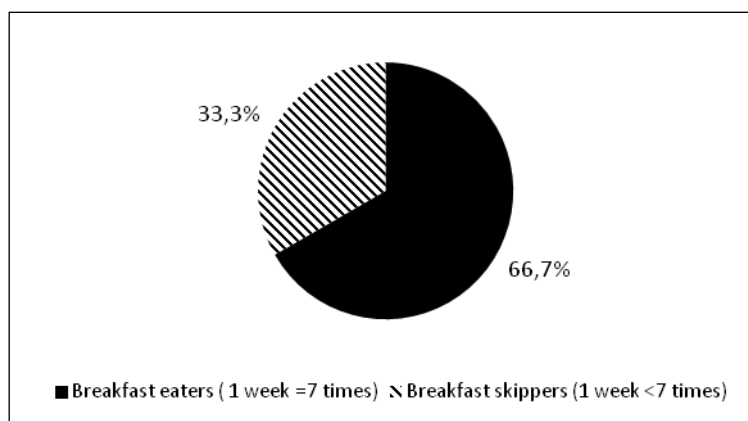
maximum of 70 years, who is the adoptive father of the subject. Not very different with mothers, the majority of fathers are reach Senior High School/ equivalent (50%) and work as labors or farm workers (48.4%).

### Breakfast habits of elementary school children

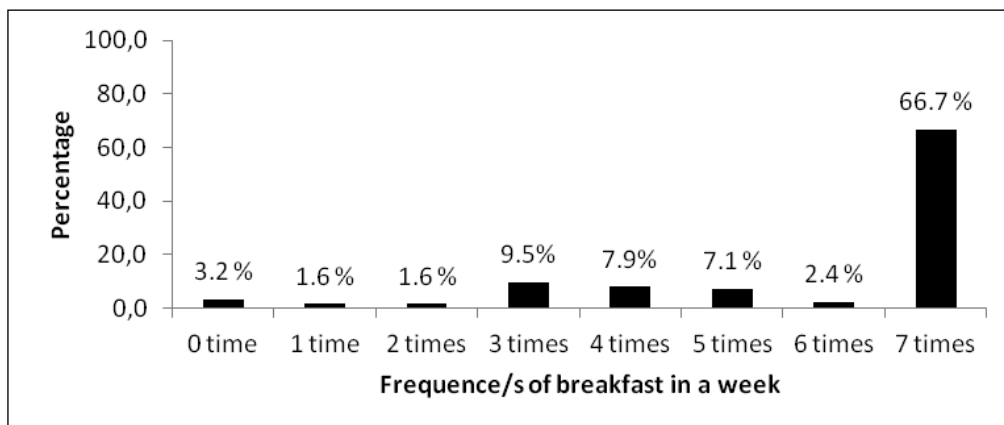
Of the 126 students, only 33.3% reported that they skipped breakfast for at least 1 day in the previous school week (**Figure 1**). The frequencies of breakfast in a week of elementary school children in Sedayu District, Bantul Regency can be seen at **Figure 2**. Based on the data at **Figure 3**, the most common responses reported by students for not having breakfast were not having enough time (38.1%), not being hungry (30.9%) and breakfast were not available at home (16.7%) at morning.

### Socio-demographic, children perception towards parent's breakfast habits, and children's breakfast habits

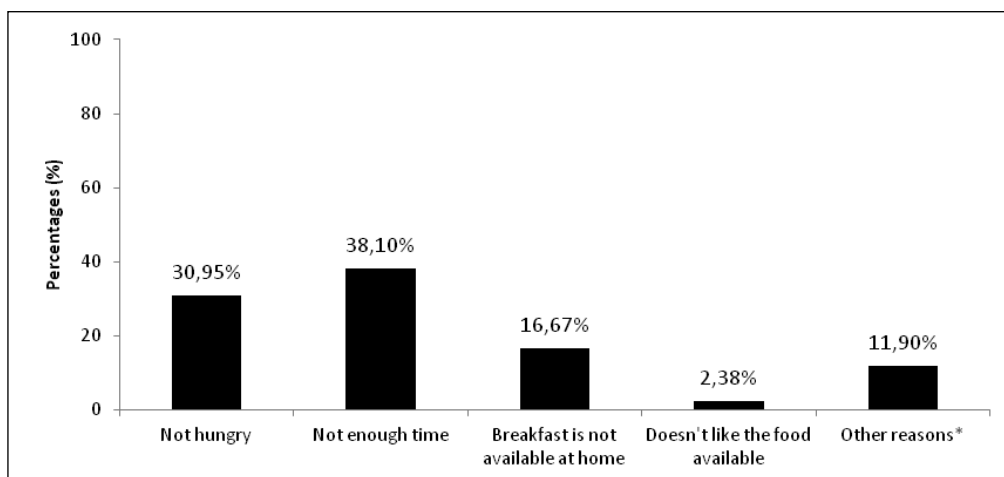
**Table 1** showed that children's age and sex of the child were not significantly related to their breakfast habits ( $p > 0.05$ ). Characteristics of parent respondents include education and employment also showed no statistically significant relationship with the child's breakfast habits ( $p > 0.05$ ). There were significant relationship between perception of children towards father's breakfast habits with children breakfast habits ( $p < 0.05$ ), PR 2.8. This prevalence ratio describes that children who perceive their fathers were regular breakfast eaters



**Figure 1. Prevalence of breakfast eaters and breakfast skippers of elementary school children in Sedayu District, Bantul Regency**



**Figure 2. Frequency/s of breakfast in a week of elementary school children in Sedayu District, Bantul Regency**



**Figure 3. Reasons for not having breakfast**  
 \*Other reasons: feeling lazy, choose for playing, and already drink coffee

will have 2.8 times greater chance to have good breakfast habits than children who have father with irregular breakfast habits. Same pattern also occurred in the relationship between children perception toward their mother’s breakfast habits and children breakfast habits with prevalence ratio 3,8 ( $p < 0.05$ ).

**Breakfast habits of elementary school children**

Of the 126 students, 33,3% reported that they skipped breakfast for at least 1 day in the previous school week (**Figure 1**) and most of them (9.5%) skipped breakfast for 3 days in a week (**Figure 2**).

The prevalence of breakfast skippers in this study was not much different from study in UK to 4,326 school children aged 10-16 years that

showed that as many as 25 % of children often skip breakfast, and 7% did not eat breakfast (15), but lower when compared with a UK study on 264 children aged 10-13 years-old which showed that as many as 55% of children who were not breakfast everyday (16) and from a study of 426 children aged 10-14 years-old in Hong Kong, which showed that 30.5% of children skipped breakfast at least once in a week, and 33.7% of them more often, so there was only 35% of children who ate breakfast everyday (17). Research in Italy at the elementary and junior high school, stated that there were 48% of children who were breakfast skippers (18). According to a review of 47 observational studies about eating habits conducted in the United States and Europe, from 10 to 30% of children and adolescents regularly

**Table 1. Bivariate analysis of socio-demographic, children perception towards parent's breakfast habits, and children's breakfast habits**

<i>Subject's characteristics</i>	<i>Breakfast eaters (1 week=7 times)</i>	<i>Breakfast skippers (1 week&lt;7 times)</i>	$\chi^2$	p	<i>PR (CI)</i>
Age					
7-9 years old	69 (70.4%)	29 (29.6%)	2.778	0.096	2.062 (0.873-4.873)
10-12 years old	15 (53.6%)	13 (46.4%)			
Sex					
Male	45 (65.2%)	24 (34.8%)	0.144	0.704	0.865 (0.410-1.826)
Female	39 (68.4%)	18 (31.6%)			
Father's education†					
Higher	47 (66.2%)	24 (33.8%)	0.041	0.840	0.925 (0.433-1.973)
Lower	36 (67.9%)	17 (32.1%)			
Mother's education†					
Higher	47 (42.7%)	17 (26.6%)	2.683	0.101	1.868 (0.881-3.962)
Lower	37 (59.7%)	25 (40.3%)			
Father's occupation					
Private employer/entrepreneur/ civil servant	41 (71.9%)	16 (28.1%)	1.189	0.276	1.525 (0.713-3.264)
Farmers/labour/farmer's labour/ unoccupied	42 (62.7%)	25 (37.3%)			
Mother's occupation					
Private employer/ entrepreneur/ civil servant	28 (77.8%)	8 (22.2%)	2.800	0.094	2.125 (0.869-5.195)
Farmers/labour/farmer's labour/ unoccupied/housewives	56 (62.2%)	34 (37.8%)			
Children's perception towards father's breakfast habit					
Breakfast eaters	69 (72.6%)	26 (27.4%)	5.955	0.015*	2.843 (1.207-6.697)
Breakfast skippers	14 (48.3%)	15 (51.7%)			
Children's perception towards mother's breakfast habit					
Breakfast eaters	76 (71.7%)	30 (28.3%)	7.608	0.006*	3.800 (1.413-10.220)
Breakfast skippers	8 (40%)	12 (60.0%)			

† Higher : ≥ graduated of Senior High School

Lower : < graduated of Senior High School

\* Significant (p<0.05)

skip breakfast, with a higher percentage among adolescents and the female population (3). In Egypt, breakfasts were consumed by 71.6% of students on daily basis, lowest percentages when compared to lunch and dinner which consumed by 92.6% and 94.6% of students, respectively (19). These evidences showed that breakfast tended to become the meal most frequently skipped.

The most common responses reported by students for not having breakfast were not having enough time to consume it (38.1%), not being hungry (30.9%) and breakfast were not available at home (16.7%) (**Figure 3**). We also found that 15.9% children assumed that their mothers were breakfast

skippers, while 23.0% assumed that their fathers also had that habit.

In this study, which lack of time become the major reasons for children for not having breakfast was in line with the results of research in Hong Kong, which stated that the most common reasons were that do not have enough time for breakfast (61.1%), not hungry (29.5%), and 15% did not like breakfast at home (17). Review by Affinita also stated that the main reasons for children skipping breakfast seem to be related to: lack of time and lack of morning appetite, but for adolescents, the reasons is more concern about their body weight (2). Another reason could be the discrepancy between the parents' work

schedule and the start times at school, so parents do not have time to prepare breakfast, leaving this to children, while these ones from convenience or from the desire to sleep more (20). Regarding the conditions that would enable them to consume breakfast every day, Cheng showed that 59.7% reported that they would do so if they have more time, followed by condition that if they hungry at breakfast time (26.8%) and if there were more foods to choose from (25.5%) (17). This information could be considered to be used as a basic data for intervention.

### **Socio-demographic, children perception towards parent's breakfast habits, and children's breakfast habits**

**Table 1** showed that children's age and sex of the child is not significantly related to their breakfast habits ( $p > 0.05$ ). Characteristics of parent respondents include education and employment also showed no statistically significant relationship with the child's breakfast habits ( $p > 0.05$ ).

Cheng stated that mother's working status did not have a significant effect on breakfast skipping in their children, but lack on parental emphasis on breakfast significantly increase the risk of breakfast skipping (17). In contrary with study in Egypt, daily intake of breakfast was significantly higher among students of vocational schools, of highly educated mothers, and middle socioeconomic status. Low socioeconomic status are associated with less probability of daily intake of breakfast ( $OR = 0.6$ ) (19). The absence of a relationship between education and occupation of parents with children's breakfast habits in this study may be due to the limitations of the study which not assessing the economic level of the family. Economic level may be a mediator of the relationship between education and occupation of parents with children's breakfast habits.

There were significant relationship between perception of children towards father's breakfast habits with children breakfast habits ( $p < 0.05$ ), PR 2.8. This prevalence ratio describes that children who perceive their fathers were regular breakfast eaters will have 2.8 times greater chance to have good breakfast habits than children who have

father with irregular breakfast habits. Same pattern also occurred in the relationship between children perception toward mother's breakfast habits and children breakfast habits with prevalence ratio 3.8 ( $p < 0.05$ ).

This result was is line with study in adolescent by Pearson which gives results that adolescents who perceive that their mother often skip meals, more risky to skip breakfast ( $OR = 1.48$ ,  $p < 0.05$  for men and  $OR = 1.93$ ,  $p < 0.001$  for women) (21) and also with Keski-Rahkonen which showed that parental breakfast eating was the statistically most significant factor associated with adolescent breakfast eating (22). Children of breakfast-skipping parents were much more likely to skip breakfast than children of regular breakfast eaters.

Parents represent the basic environment in which children live, grow up and develop, so they watch and imitate the adults around them, look at them in order to learn the proper behavior for everything, from saying "please" and "thankyou", to learn about computers, sports or nutrition (23). Children model the behaviors of those around them, and when children are young, parents (and sometimes siblings) are the main role models in their lives (24). Therefore children are likely to adopt the same eating habits as their parents. Since parents have this biggest influence at this time in a child's life, it is important that they set good examples (25). Parents have a high degree of control over the environments and experiences of their children. Food preferences are shaped by a combination of genetic and environmental factors (24). This suggests that breakfast skipping is not a problem that can be solved solely by approaching teenagers or children only, breakfast endorsing programs that address the entire family or just parents maybe more effective (22).

Findings from this research indicate that parent's presence at the meal time especially breakfast, are very important for improving positive breakfast habits of children (26). Cheng revealed that lack of perceived parental emphasis on breakfast and not believing that breakfast could help concentration in class were significantly related to breakfast skipping (17). The family meal

represents an important moment of interaction and control. The presence of at least one parent during the evening meal is associated with a lower risk of skipping breakfast and in addition also supports healthy eating habits, such as a lower risk of poor consumption of fruit, vegetables, and dairy foods and in adolescents (26). Merten also found that one of the important factors of adolescent eating breakfast was having at least one parent home in the morning (27).

Skipping breakfast reflects more than simply meal timing preferences. It appears to be one component of frequently co-occurring health-compromising behaviors. Individuals who skip breakfast may care less about their health than individuals who always eat breakfast (22), presume that parents who skip breakfast might be careless to the health of their children compared to parents who are breakfast eaters.

## **CONCLUSIONS AND SUGGESTIONS**

As many as 33% of school children in District Sedayu, Bantul Regency were breakfast skippers, with major reasons were not having enough time, not hungry and no food available at home when breakfast time. Children's age and sex were not significantly related to the breakfast habit of children, as well as education and occupation of parents. Breakfast habit of children significantly related to the children's perception towards breakfast habit of parents. Children who have the perception that parents routinely breakfast tend to be routine for having breakfast everyday also.

It is necessary to do some comprehensive school-based promotion and education, for parents, teachers, and if possible also for children. Parents and teachers need to understand the importance of breakfast and the adverse effect of skipping breakfast to children. Parents are the main role models of children, getting the parents to eat breakfast regularly may be a step toward getting their children to eat breakfast as well. Regarding the most reasons of skipping breakfast were lack of time and the unavailability of breakfast at home, thus parents need to manage and discuss with

children, so children may wake up earlier in order to have enough time for breakfast, and parents also need to create supportive home food environment by providing nutritious foods at home in the morning. Children might have desire for breakfast, but if there is no food, of course they would dismiss their intention.

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