

## REVIEW ARTICLE

**Breakfast practices in the Asian region**

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Studies on changing dietary patterns throughout the Asian region have focused largely on overall alterations in nutrient intakes and changes in the consumption of various food groups. Changes in individual meal patterns have received little attention. Although country and regional differences occur, the first meal of the day, breakfast, tends to take the form of a traditional meal in most south-east Asian countries. Grain and cereal products, such as rice and wheat and rice noodles, appear to be dietary staples at breakfast. In some countries, the more traditional grain products are being replaced by alternative cereals, such as bread. Lifestyle changes and accompanying urbanization together with rising affluence, appear to be largely responsible for dietary alterations. The health implications of these changes require further investigation.

**Introduction**

Many Asian countries are now undergoing rapid developmental changes. While such changes have improved the economic standing of these nations and the living standards of their people, those related to increased urbanization and alterations in traditional eating habits have been implicated in the rising prevalence of chronic degenerative diseases, usually associated with the more prosperous countries.

A nation is regarded to have achieved the status of a modest level of economic development when its per capita gross national product (GNP) reaches between US\$3000 and US\$4000. Some Asian countries that are yet to attain such a status are Malaysia (US\$2965, Thailand, Philippines, Indonesia and PRC (US\$360). In contrast, the per capita GNP of the more prosperous Asian-Pacific nations are Japan (US\$27 326), Hong Kong (US\$16 382), Australia (US\$16 310), Singapore (US\$15 200), Taiwan (US\$10 215) and South Korea (US\$6 635).

Studies show that a trend away from traditional to more westernized eating practices is usually accompanied by an increase in fat and protein intake and a reduction in unrefined carbohydrate and dietary fibre intake. As GNP increases, there is also a gradual reduction in the intake of unrefined carbohydrates and a corresponding increase in dietary fat from animal sources<sup>1</sup>. The relative proportion of free sugars,

especially sucrose and glucose syrups, in the diet also tends to rise. The World Health Organization (WHO) reports that the most striking difference in dietary patterns between societies differing in affluence is the variation in starchy foods and animal fats, with the former being significantly lower and the latter higher in countries with higher GNP<sup>1</sup>.

Analysis of the age-adjusted mortality for both men and women shows a dominance of the dietary related disorders such as cardiovascular disease and cancer in countries with a high and a modest GNP (the latter taken to be US\$3000–4000 pa). The incidence of dietary related diseases is nearly as great in countries with a modest GNP as it is in those countries with a GNP three times higher.

Therefore, modest increases in prosperity in nations with a low GNP are associated with the most marked increase in the incidence of dietary related diseases. This has major long-term implications for the burden placed on health services in these countries.

Breakfast habits may be one indicator of the trends in eating habits and hence the changes in nutrient intakes occurring in Asian countries. Scientific studies on the physiological, endocrinological and neuropsychological implications of breakfast omission vary in their findings and conclusions<sup>2–8</sup>. Nevertheless, it has generally been

acknowledged that breakfast consumption is important in the provision of energy and nutrients<sup>9-11</sup>. Breakfast usually follows a fast of 10-12 hours. Studies have shown that nutrients which are missed at breakfast are not generally compensated for later in the day<sup>9-12</sup>.

This paper explores normal breakfast habits in eight Asian countries (Japan, Korea, Thailand, Malaysia, Singapore, Hong Kong, Philippines, Indonesia) and briefly addresses the nutritional implications of altering breakfast habits in these countries.

### Methodology

The main data on breakfast habits and consumption were obtained from personal interviews by trained interviewers from a multi-centre attitudinal survey conducted in 6 Asian countries in June, 1992. Subjects were women living in urban areas aged 20-54 years. These findings have also been supplemented with data from household expenditure surveys, national and small scale dietary surveys, as well as returns from a breakfast questionnaire survey.

### Findings

The findings across the region indicate that most people consider breakfast to be important. The incidence of breakfast skipping varies by country. For the purpose of this paper breakfast skipping is defined as having less than 100 kcal (420kJ) in the first two or three hours of waking. This definition excludes a breakfast consisting of coffee, tea or water only.

Japan is the only country in the region which has collected information on actual missed breakfast occasions in the National Dietary Survey<sup>13</sup>. This data showed that the incidence of missing breakfast averages 14% in men and 9% in women.

The greatest incidence of breakfast skipping is seen in young males with 35% of 20-24 year olds and nearly one in three 25-29 year olds missing breakfast at least once in three days.

High percentages of high school students (18%) also miss breakfast with the figure falling to just 4% in elementary school children.

Lack of time and poor appetite are the most commonly given reasons for missing breakfast, especially in young men who maintain very late working hours.

A recent study from Korea (Jeil Communications Survey of Korean eating habits, 1992) on 6000 people aged 13-59 in five major cities (Seoul, Pusan, Taegu, Teajun and Kwangju) found that 31% of respondents regularly miss breakfast. Young age and unmarried state were positively correlated with missing breakfast.

In other countries, the incidence of missing breakfast regularly appears to be low ranging from 1% in Indonesia, Korea, the Philippines and Singapore to 13% in Thailand (Frank Small and Assoc., unpublished data). However significant differences in age groups are observed.

Reasons for skipping breakfast vary by locality. In poorer rural and urban countries, especially in the Philippines<sup>14</sup> it is often a matter of there being no food available to consume. In the more developed countries such as Singapore and Malaysia, lack of time is usually given as the main reason for failure to eat breakfast.

### Food items eaten

The type of food consumed at breakfast varies by country and is largely dependant on culture (Table 1).

In Singapore, a multicultural society, breakfast habits can be split by ethnic grouping<sup>15</sup>.

Among the Chinese, breakfast is usually a hot meal consisting of either noodles (fried or in soup) or rice/rice porridge. These are taken with simple meat/vegetable dishes, dim sum and bread. Buns and local cakes are also popular breakfast choices. These foods are taken with strong black coffee or coffee sweetened with condensed milk (Yap M, unpublished data).

The Malay population of Singapore also prefers a hot breakfast usually consisting of rice or noodle dishes with vegetables and a curry gravy. Nasi lemak is a popular Malay dish in which rice is cooked in coconut milk and eaten with fried egg or fried fish. Malay cakes (Kueh-Kueh) are also frequently taken at breakfast time. Coffee or tea sweetened with condensed milk are the most popular beverages (Yap M, unpublished data).

Rice is also a staple for the Indian population. Rice cakes with eggplant or Thai curry, puto mayam (string hoppers) with coconut and brown sugar and roti prata or roti chanai with curry or vadai with coconut chutney are other popular choices. As in the other Singaporean groups, coffee with sweetened condensed milk accompanies the food.

In Malaysia, a more westernized style of breakfast appears to be commonly consumed at home, at least by white collar workers in urban areas<sup>18</sup>. In a recent survey in Malaysia (Chong YH, unpublished data) the most common at-home breakfast was bread or toast with butter or margarine and jam or kaya (coconut egg jam). This was generally taken with coffee or a chocolate beverage with milk and sugar. Sweetened condensed milk was the most commonly consumed milk product while whole milk, egg, fruit juice and fruits were not commonly taken. For those subjects consuming breakfast outside of the home, cooked hot foods were generally chosen. These breakfasts included rice or wheat noodles in soup with meat/shrimps/fish/vegetables or fried noodles with egg/meat/shrimp/cockles and vegetables. Rice porridge (with meat or fish slices) and traditional dishes such as nasi lemak or roti chanai (a wheat pancake taken with a thin dhal or fish/chicken curry) are also popular. Coffee or tea sweetened with condensed milk is generally taken with these breakfasts. It would seem from the data available that there is a similarity in the type of breakfast eaten in Singapore and Malaysia. This is not surprising given the close proximity of these countries and the common cultural and ethnic origins of the two populations.

In the Philippines, rice forms the basis of a traditional breakfast<sup>16-21</sup>. This is accompanied by fried or scrambled egg or fish, pandesal (bun) or bread, and margarine. Coffee is the predominant beverage generally taken with sugar.

Rice with hot soup and one or two side dishes such as fried eggs, fried vegetables and/or meat curry, constitutes a typical Thai breakfast. Rice porridge, noodles, or rice with one side dish, is the main breakfast taken at street stalls or small food shops. More westernized items such as bread, pastry, coffee and milk are also starting to appear on the breakfast menu in urban Bangkok (Tontsirin K, Review of Thailand's breakfast habits, unpublished).

A similar pattern is observed in Indonesia, where rice porridge or fried rice and egg (nasi goreng) are common breakfast choices<sup>22</sup>. Common accompaniments include kecap (soy sauce), kerupak udang (shrimp chips) and abon (dried shredded beef). Bread is also increasing in popularity as an Indonesian breakfast choice. Coffee or tea are the normal beverages taken at breakfast. Fresh milk is not generally consumed.

In Hong Kong, bread has become the most popular breakfast food (taken on 52% of breakfast occasions), followed by noodles (21%).

The Korean breakfast tends to be fairly traditional consisting of rice with soup and pickled fermented vegetables. This is generally flavoured with small quantities of meat, poultry or fish (Tchai BS, unpublished data). Consumption of a breakfast of western origin is uncommon.

A traditional Japanese breakfast consists of boiled rice with miso soup. This is accompanied by various side

dishes such as salted dry fish, eggs, cooked and/or pickled vegetables and seaweed<sup>13</sup>. Egg is a very popular choice in Japan, being taken in 40% of all breakfasts on average. Other commonly chosen side dishes include grilled fish, seaweed and pickled vegetables.

The traditional breakfast is still commonly found in urban areas in Japan, although bread is being consumed more frequently, particularly in younger age groups. Milk is commonly taken by children at breakfast while coffee and tea are growing in popularity. Coffee and/or tea are taken by 9.7% of Japanese children aged 12 years and under.

A comparison of food frequency by country (Table 2) shows the differences in food normally eaten at breakfast. In Malaysia, Singapore, Hong Kong, the Philippines and Indonesia, bread and pastries are commonly taken at home amongst urban subjects, especially in the more affluent groups. In Korea and Thailand these food items are infrequently found on the

Table 1. Typical breakfast patterns in selected Asian countries

	Eaten at home		Eaten out	
	<i>Traditional</i>	<i>Western</i>	<i>Traditional</i>	<i>Western</i>
<i>Hong Kong</i>	Noodles, rice porridge	Bread, butter, bread roll, eggs/sausage/ham, milk, soy milk, chocolate drink		Bread, egg, ham, sausage
<i>Indonesia</i>	Rice/rice porridge, nasi goreng	Bread, butter, coffee/tea with sweetened condensed milk	Bubur ayam Bakso kuah Mie bakso	
<i>Japan</i>	Boiled rice, miso soup, salted dried fish or egg, cooked, pickled vegetables or seaweed, green tea/black tea. 'Udon' or 'soba' noodles	Bread, butter, salad, eggs, sausages or bacon sandwiches, coffee/tea with milk		
<i>Korea</i>	Boiled rice, soup, kimchi (salted fermented vegetable) fish poultry/meat	Bread, butter coffee/tea		
<i>Malaysia</i>	Wheat/rice, noodles, in soup or fried egg/meat/shrimp or cockles	Bread or toast, butter/margarine, jam or kayo. Coffee/tea or chocolate drinks with sweetened condensed milk	Noodles (wheat or rice) in soup or fried with meat/shrimps/fish and vegetables. Rice porridge with meat or fish slices, nasi lemak Roti Chanai	
<i>Philippines</i>	Boiled rice pandesal (bun) fried or scrambled egg, processed meat, fish	Bread or toast margarine/butter fried or scrambled egg, processed meat, coffee/tea with milk/sugar		
<i>Singapore Chinese</i>	Rice porridge Dim sum, tea	Bread, buns, local cakes strong coffee (black with condensed milk), tea, hot chocolate or malt drinks.	Rice porridge Noodle dishes	
<i>Indian</i>	Rice cakes egg plant or dhal curry, roti prata, vadai, coffee		Roti chanai Roti prata	
<i>Malay</i>	Rice with vegetables and curry gravy, nasi lemak, noodle dishes, Malay cakes, tea	bread & butter, coffee/tea sweetened with condensed milk	Noodle dishes	
<i>Thailand</i>	Glutinous rice, hot soup or fish paste; one or more side dishes (fried egg/vegetables/meat)	Bread, pastry, coffee, fresh milk	Rice porridge, fried noodles, (rice and one side dish as one plate meal)	

Table 2. Comparison of commonly consumed food items at breakfast by country

Food item	%Subjects eating at last breakfast occasion						
	HK n=302	Indo n=311	Korea n=300	Mal n=307	Phil n=300	Sing n=301	Thai n=300
Bread/pastry	52	33	3	59	48	67	7
Noodles	21	9	—	29	5	27	2
Rice/congee	11	63	87	8	47	11	46
Egg	9	2	—	12	20	6	1
Meat	2	1	—	—	32	—	1

breakfast table with rice or congee remaining the dietary staples.

The figures for protein foods given in Table 2 do not appear to be a true indicator of actual frequency of consumption of these foods at breakfast as meat, fish and egg are normally added to rice congee and noodle dishes in most countries. These figures do not reflect this addition.

#### *Breakfast in urban versus rural areas*

A rapid increase in urbanization is occurring in many Asian countries. Such a change has major implications for the food supply which alters from a home-grown produce supply to a reliance on cash economy. This can have a significant impact on dietary habits; increases in both fat and sugar intakes with the transition to an urban environment have been reported<sup>1</sup>.

The type of breakfast consumed in rural areas is more likely to follow traditional eating patterns. Rice often forms the basis of the rural breakfast and is usually combined with meat and vegetables. Food items commonly seen in western breakfasts, such as breads and pastries, are not generally taken in the rural regions.

Protein sources differ according to regional availability, eg, in rural areas, fish is more commonly used as a protein source at breakfast.

In some countries (Indonesia, Korea and Thailand), the eating patterns in rural areas centre around just two main meals per day, compared to the three meals taken in the urban setting. In these countries, breakfast tends to be a more substantial meal followed in the evening by a large dinner.

Food restrictions related to such stages of the life cycle as puberty, pregnancy and lactation and during illness, are more likely to be practised in rural areas than in urban areas. This may have implications for nutrient intakes.

For example, in Thailand, lactating mothers in rural areas<sup>29</sup> had poor daily energy intakes. The total energy contribution from breakfast was 525 kcal (2200 kJ), predominantly provided by carbohydrate. The percentage energy contributions from protein, carbohydrate and fat were 13:76:11 respectively.

Breakfast consisted of steamed glutinous rice and salted fish or chicken. No fats, fruits or vegetables were eaten during lactation. Such a restricted dietary regime has implications for the mothers health during the lactation period when nutrient requirements are increased.

#### *Differences in breakfast choice by age*

There is limited information on breakfast habits by age group, however some work has been conducted in

school children. There is evidence that the incidence of breakfast skipping is greater in younger age groups. In primary school children in Bangkok, 5.2% have been reported to skip breakfast with a further 29% not consuming a nutritionally adequate breakfast<sup>23</sup>.

In Singapore, children may start school very early, leaving little time for breakfast. A study on the dietary habits of 400 school children was conducted in 1988. It was found that 15.8% of 9-year-olds and 37.3% of 15-year-olds tend to skip breakfast. It has been reported that 10.7% of 9-year-olds and 18% of 15-year-olds in Singapore have breakfast in the school canteen<sup>28</sup>. The canteen is essentially a group of stalls selling cooked foods. In Indonesia, up to 70% of school children take street foods for breakfast<sup>22</sup>.

Studies from Japan suggest that younger age groups are more likely to consume a western style breakfast including bread, rather than a traditional Japanese breakfast. One study in 4- to 6-year-old children residing in the urban area showed that 47.5% took a traditional Japanese breakfast of rice with egg, seaweed, pickled vegetables and sausage. The percentage of children taking a breakfast of bread with egg, salad and sausage was just slightly below those taking the traditional breakfast at 43.4%<sup>25</sup>.

The switch to consuming bread at breakfast appears to occur more commonly in Japanese households in which only two or fewer family generations are residing, suggesting that the influence of older family members on breakfast choice is significant. In families in which three generations resided in the household<sup>25</sup> 40% took a traditional breakfast while 33% chose bread. In families in which two generations resided in the household, only 28% took the traditional rice breakfast with 51% choosing bread.

The authors expressed concern that the breakfast based on bread may not have been adequately 'balanced' in terms of daily nutrient requirements when compared to the more traditional breakfast. One of the dietary recommendations in Japan is to consume up to 30 different food items daily. The researchers found that fewer food items were chosen at breakfast when bread was the dietary staple taken for the meal.

Among Japanese female college students, rice and bread breakfasts appear to be equally popular<sup>27</sup>. Egg and bacon are starting to be taken with increasing frequency in this group while pastries are a more recent addition to the breakfast menu, taken by 18% of the students. Coffee and black tea are becoming more widely taken at breakfast by this age group.

#### *Socioeconomic grouping*

Several studies have shown that breakfast habits vary with socioeconomic status. As average income rises, consumption patterns are affected by changes in the food system. Food habits reflect the impact of many factors leading to a demand for convenience and a shifting emphasis on meal patterns and taste preferences.

In Thailand, the Philippines, Malaysia and Indonesia, poor urban dwellers and lower income students rely heavily on street foods. These are readily available, require no preparation and are reasonably priced. A more westernized style of eating often accompanies an improvement in socio-economic status, although not

always. In Malaysia for example, frequent consumption of street foods is commonly found across all income brackets. In rural migrants to urban areas, early eating patterns are quite traditional, with the emphasis on rice with meat and other side dishes. In upper socio-economic groupings, bread, pastries, coffee and fresh milk are more commonly taken although traditional meals are still popular.

In the mid to upper socioeconomic groups in Bangkok, convenience and ready-to-eat foods are increasing in popularity. Breads, fresh milk and occasionally juice is more likely to be taken for breakfast in these groups although cooked rice with soup remains a popular breakfast choice.

A survey of 40 Chinese households in Singapore<sup>29</sup> found that the consumption of a hot cooked breakfast was more common in households falling into a higher socioeconomic grouping (as determined by type of housing). Households which were more affluent (group 1 households) were more likely to consume a breakfast consisting of bread or cereal with ham, egg or cheese. This type of breakfast was taken regularly by 71% of group 1 households compared to just 22% of the less affluent group (group 2 households). The most popular breakfast choice in the group 2 households was bread or cereal which was chosen by 56.5% of group 2 households surveyed. A traditional breakfast such as cooked noodles was taken by 11.8% of the group 1 households and 17.4% of group 2 households.

#### *Source of breakfast*

Eating out for breakfast is becoming common, particularly in more developed countries. In Hong Kong for example, 56% of those in mid to upper socioeconomic groupings take breakfast outside the home. Corresponding figures on the incidence in other localities are 21% to 50% in Malaysia, 30% in Thailand, 24% in Taiwan, 21% in Singapore and around 10% in Indonesia, Korea and the Philippines (Frank Small and Assoc., unpublished data).

The incidence of eating breakfast outside the home appears to be lowest in Japan where only 4–5% of the population consume breakfast out<sup>13</sup>, however marked differences are apparent in this habit between age groups. In men aged 25–29 years, the incidence of eating breakfast out is as high as 41% with a predominantly western-style breakfast preferred<sup>13</sup>.

An independent five-year study on street foods is currently underway in Indonesia. The study comprises two phases, the first two years of the study (phase one), dealt with base-line data collection on technology and socio-demographic variables while phase two examines the impact of an intervention program aimed at improving various hygienic, technological and economic aspects of the street food system. For the urban poor in particular, labourers and low income students and families, street foods are a major source of low cost, nutritious foods. Breakfast frequently consists of street foods.

School children in Indonesia often spend their allowances on street foods sold in the school yard. It has been estimated that up to 70% of school children take street foods for breakfast. Street foods are introduced to infants from as young as 6 months of age. Bubur ayam

(chicken rice porridge) is the most popular street food for this age group being taken on average eleven times per month.

Consumption of street foods by older age groups in Indonesia varies in frequency from daily to once every ten days. Dishes which are most popular in pre-school children are bubur ayam, bakso kuoh (meat ball broth), fried banana and sweet bread. These foods have been reported to contain colourings and sweetening agents which are not regarded as safe for young children<sup>22</sup>.

Indonesian street foods most commonly taken by school children and adolescents are mie bakso (a wheat noodle soup with meatballs) and bubur ayam. In adults, steamed rice and gado gado (a blanched vegetable salad with spicy peanut sauce) are the most popular choices. Studies on university students from low income families have reported that street foods contribute greater than 80% of both protein and energy intakes and more than 75% of daily iron intakes.

Studies in Bangkok, Thailand suggest that as much as 90% of the population eat most of their meals outside of the home<sup>28</sup>. Eating out is particularly prevalent amongst lower socioeconomic groups who have few if any facilities for cooking. The most popular street foods in Thailand are fried rice with crab meat; fermented rice vermicelli with coconut gravy; rice noodle with pork soup and fried noodles.

#### **Discussion**

Although regional differences are apparent, breakfast tends to take the form of a traditional meal in most countries in south-east Asia. Rice, wheat and rice noodles, soup and egg appear to be dietary staples throughout the region. Coffee, tea and hot chocolate drinks are also popular.

In spite of the continued popularity of traditional Asian breakfasts, shifts in eating habits are becoming apparent in some countries. The introduction of bread and pastries on a regular basis to the breakfast menu in urban Singapore, Malaysia, the Philippines, Thailand and Indonesia suggests that the first meal of the day is altering consistent with the lifestyle changes accompanying urbanization and industrialization.

Gender roles have been affected with women in many countries undertaking the combined role of housewife and paid worker. Lack of time and higher incomes militate against the use of staple foods (such as raw grains) at breakfast which are time-consuming to prepare.

The separation of work and home lives appears to have marked effects on the composition of breakfast and normal breakfast behaviour. It appears that younger age groups are the population groups which are more likely to change to a western style of breakfast such as breads and cereals in preference to a hot cooked traditional breakfast.

Fruits and fruit juices are not generally taken in any of the Asian countries studied, even in those groups favouring a breakfast of western origin. Traditionally, fruit is consumed at other times of the day and this practice seems to persist even when other breakfast habits alter.

The high incidence of eating breakfast out is of interest. Breakfasts taken from street stalls or restaur-

ants provide convenient, palatable foods at moderate cost. The nutrient density of these foods varies greatly; however, most dishes provide some protein. Some of the foods such as fried noodles, are high in fat while most are relatively poor sources of dietary fibre.

The safety of street foods is also a problem in some regions. Lack of hygiene in food handling and inadequate washing and drainage facilities may pose risks to consumers of street foods.

More westernized fast food outlets providing hamburgers are becoming popular with some younger age groups. Staff and school canteens are also more commonly used for the first meal of the day than in the past. In Japan, vending machines, with electrolyte drinks and a variety of foods, provide yet another breakfast choice.

The implications in terms of nutrient intake on changing eating patterns are great. Studies show that the incidence of chronic dietary-related disease increases with increasing affluence. Data from more developed countries in south east-Asia, show a progressive rise in non-insulin dependent diabetes mellitus, overweight, coronary heart disease and diet-related cancers such as cancers of the colon and breast. There is a major difference between health patterns in urban and rural areas in Asia and is has been suggested that the actual incidence of diet-related diseases in urban areas has been underestimated in many Asian countries due to the tendency to use country statistics<sup>1</sup>.

The rising incidence of diet-related diseases correlates with an increase in fat, particularly saturated fat, intake and a reduction in the intake of unrefined carbohydrates and dietary fibre.

There is a growing trend towards urbanization in Asia and this trend is occurring even in developing countries. Changes in diet and lifestyle accompanying such urbanization require careful consideration in terms of long-term health implications.

Breakfast habits need to be examined in terms of contribution to overall dietary intake. Any change in meal patterns will have an impact on overall nutrient intake and needs to be balanced against the average daily intake. For example, a reduction in unrefined carbohydrate and dietary fibre and an increase in fat and animal protein, at lunch or dinner, due to a change in eating patterns may signal the need for a high carbohydrate, high fibre breakfast. Normal breakfast habits need to be evaluated against this.

Data on the differences between week-day breakfasts and the breakfasts taken at weekends when people tend to have more time is lacking. In many other countries, hot cooked breakfasts are often eaten at weekends with more convenient breakfast choices such as breakfast cereals and/or bread/toast being chosen during the week. The primary reason for this is time constraint in the morning. With similar problems emerging in Asian countries, a study on the incidence of traditional or hot cooked breakfasts during the week versus the weekend may be enlightening.

Future studies should examine daily nutrient contribution of various breakfast choices. The growing tendency to eat meals, including breakfast, outside of the home suggests a trend towards convenience foods which are filling and readily prepared. Although no nutrient analyses were undertaken in this review, breakfasts

eaten outside the home tend to provide more fat and energy than those taken at home. Data from Malaysian food tables<sup>36</sup> suggests that typical street food breakfasts in Malaysia and Singapore provide 250–400 kcal (1050–1680kJ) while the typical breakfast taken at home (two slices of bread with spread and a beverage) provides no more than 250 kcal (1050 kJ). The nutritional implications of this trend require further study.

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### Glossary

Aban	: dried shredded beef
Bakso kuah	: meat ball broth
Bubur ayam	: chicken rice porridge
Gado-gado	: blanched vegetable salad topped with spicy peanut sauce
Kecap	: soy sauce
Kerupak udang	: shrimp chips
Kueh-kueh	: Malay cakes
Mie bakso	: wheat noodle soup with meat balls
Rice congee (porridge)	: rice cooked with a large volume of water for a long time
Nasi goreng	: fried mixture of rice, egg, chicken/meat, cabbage, chillies, topped with fresh tomatoes and cucumber. Soya sauce is generally added to taste.
Nasi lemak	: coconut milk rice, served with fried peanut, ikan bilis, sambal, prawns and chilli sambal. Packed in banana leaf.
Pandesal	: Filipino bun made from wheat flour.
Porridge, teochew	: rice porridge – Teochew. Thin bland porridge with sharp, salty and preserved dishes like salted eggs, vegetables and fish accompanying it.
Puto mayam	: rice flour mixed with water, extruded through a sieve and steamed. Served with grated coconut and palm sugar.
Roti chanai	: wheat pancake (wheat dough with margarine and egg, pan fried); eaten with thin dhal or fish/chicken curry.
Roti prata	: Indian bread prepared on the spot. Dough is stretched, oiled and folded into a square then pan fried in a special flat pan. Eaten with dhal curry or sugar.
Vadai	: Balls of ground yellow or black dhal mixed with chilli, onions and spices and deep-fried.

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## 亞洲人的早餐習慣

## 摘要

全亞洲飲食方式的研究，主要是著重於全面營養素及食物組類攝取之改換。對於每餐進食方式並不如何重視。雖然國家區域有所不同，一般上東南亞人民的早餐都以傳統的食品為主。米類及谷類食品如米、麥和面食，是主要的早餐食品。在某些國家，傳統的谷類食品已逐漸被面包等代替。生活方式隨著城市化及富裕而改變，是導致飲食方式改換的主要因素。這些變化對於健康的影響有待進一步的研究。

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การศึกษาการเปลี่ยนรูปแบบการบริโภคอาหารในภูมิภาคเอเชียที่ผ่านมา ส่วนใหญ่จะเน้นไปที่การเปลี่ยนแปลงของการได้รับสารอาหารและการบริโภคอาหารหมู่ต่างๆ การศึกษาการเปลี่ยนแปลงของการบริโภคอาหารแต่ละมืดยังมีน้อยมาก แม้ว่าจะมีความแตกต่างกันระหว่างประเทศและภูมิภาค อาหารมื้อแรกของวันหรืออาหารเช้าได้มีรูปแบบที่ปฏิบัติกันเป็นที่คุ้นเคยในภูมิภาคเอเชียตะวันออกเฉียงใต้ ธัญพืชและผลิตภัณฑ์ที่เกี่ยวข้องเช่น ข้าว ข้าวสาลี ก๋วยเตี๋ยว ยังเป็นอาหารหลักของมื้อเช้า ในบางประเทศอาหารเหล่านั้นกำลังถูกแทนที่โดยรูปแบบอื่นของธัญพืช เช่น ขนมปัง

วิถีชีวิตที่เปลี่ยนแปลงควบคู่กับการเป็นสังคมเมืองมากขึ้น และการมีความเป็นอยู่ดีขึ้น เป็นสาเหตุสำคัญที่ทำให้การเปลี่ยนแปลงในการบริโภคอาหาร เพื่อให้เข้าใจถึงผลกระทบต่อสุขภาพของการเปลี่ยนแปลงนี้คงต้องมีการศึกษาเพิ่มเติม

本研究はアジア地域の食事パターンの変化について、主として栄養素摂取の全体的変化及び各食品群の摂取状況の変化に焦点を当てて行われたものである。個々人の食事パターンの変化については言及しなかった。一日の最初の食事、朝食は国や地域によって差が見られるものの、多くの東南アジアの諸国では伝統的食事の傾向がみられた。米、小麦、ビーフンのような穀類、穀類加工品が主要な朝食となっている。

いくつかの国では伝統的穀類加工品が、パンなどに置き換えられているところもみられる。豊かさや都市化とともに変化したライフスタイルは、食事の変化の大きな原因となっている。これらの変化に関わる健康状態については、今後の研究がまたれるところである。

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