

Original Article

Contemporary Minangkabau food culture in West Sumatra, Indonesia

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Diet has a strong relationship with food culture and changes in it are likely to be involved in the pathogenesis of newly emergent degenerative diseases. To obtain in-depth opinions about the food culture of Minangkabau people, focus group discussions were conducted in a Minangkabau region, represented by four villages in West Sumatra, Indonesia, from January to March 1999. The members of the discussion groups were principally women aged from 35 to 82 years old. Minangkabau culture is matriarchal and matrilineal which accounts for female gender dominants in the discussions. Rice, fish, coconut and chilli are the basic ingredients of the Minangkabau meals. Meat, especially beef and chicken, is mainly prepared for special occasions; pork is not halal and therefore not eaten by Muslim Minangkabau people; and for reasons of taste preference and availability, lamb, goat and wild game are rarely eaten. However, *rendang*, a popular meat dish, has been identified as one of the Minangkabau food culture characteristic dishes. Vegetables are consumed daily. Fruit is mainly seasonal, although certain kinds of fruit, such as banana, papaya and citrus, can be found all year around. Coconut has an important role in Minangkabau food culture and is the main source of dietary fat. While almost all food items consumed by the Minangkabau can be cooked with coconut milk, fried food with coconut oil is considered to be a daily basic food. Desiccated coconut is also used as a food ingredient on about a weekly basis and in snack foods almost every day. Although there have been no changes in food preparation and there is a slight difference in taste preference between the young and the old generations, there has been a dramatic shift in food preferences, which is reflected in the changing percentage of energy consumed over the past 15 years. The traditional combination of rice, fish and coconut in Minangkabau culture goes back hundreds of years, long before the emergence of the degenerative diseases of the newer economies, and is likely to offer food security and health protection to the Minangkabau for as long as the lifestyle remains traditional. Whether or not a recent increase in energy intake from fat and the quality of fat may contribute to the shift of disease pattern is fundamentally important for the Minangkabau, it seems unlikely the traditional use of coconut and its products was a health issue. Moreover, it was clear from the focus group discussions that the use of coconut encouraged the consumption of fish and vegetables.

Key words: coconut, fish, food culture, Indonesia, Minangkabau, rice, West Sumatra, women.

Introduction

Diet is known to be involved in the pathogenesis of the major health problems of newer economies, namely cardiovascular disease (CVD), diabetes mellitus and osteoporosis and also in the development of obesity and certain cancers. Food behaviour and cuisine constitute the food culture of people and its exploration through socioanthropology, allowing new insight into food–health relationships. Minangkabau food culture provides an unique opportunity to look at the impact of newer economies on a traditional economy and food supply centred on women. In the transitional economy, like those in the Indonesia archipelago, these new health problems are superimposed on a background of food insecurity and deficiency disorders. However, Minangkabau culture, where views and decisions of women are influential and entrenched, has provided and organised the economy with regard to food distribution in family and there are society and there are rare reports of famine.

West Sumatra is inhabited by the Minangkabau people, who are high coconut consumers. Coconut has been reported in several experimental and metabolic studies to be a cause of hyperlipidaemia and atherosclerosis.^{1–3} The prevalence of CVD is increasing in Indonesia. Reports from the Indonesian Ministry of Health revealed that CVD was 13% of all-causes mortality in 1995, increased from 8% to 11% in 1986 and 1992, respectively (for all of Indonesia, except Java and Bali) (Fig. 1).⁴ Compared to other countries, where the increases were greater, such as Singapore and India, CVD mortality

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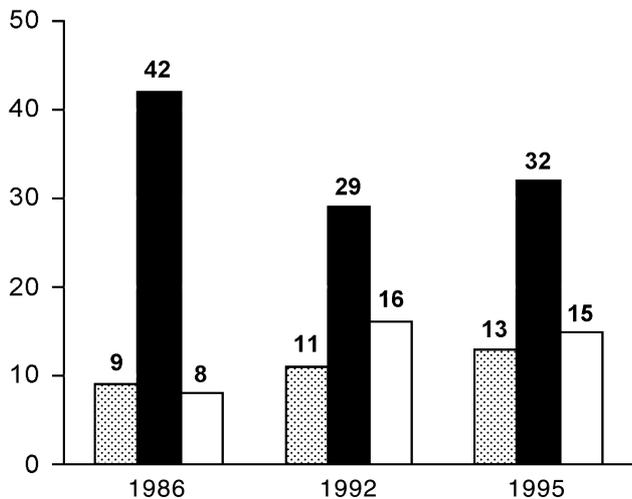


Figure 1. Percentage of major causes of death in Indonesia except Java and Bali, 1986–95. (▨), Cardiovascular disease; (■), infection; (□), respiratory. (Source: Ministry of Health, Indonesia, 1997.)

was much less in Indonesia, mortality rate per 100 000 being 230.8 and 135.5 for Singapore and India, respectively, compared to 67.8 for Indonesia. Nevertheless, obviously there has been an increasing prevalence of CVD in Indonesia (R Boedi-Darmojo, unpubl. data, 1997).

West Sumatra is one of the 26 provinces in Indonesia, bordered by the Indian Ocean in the west, the Jambi and Bengkulu provinces in the south, the Riau province in the east and the province of North Sumatra in the north. According to the 1990 census, the West Sumatra province is inhabited by about 4.3 million people with six municipalities, eight districts and one administrative city. It covers an area of approximately 42 297 km² or 2.17% of the whole land of Indonesia. About 91% of the population are ethnically Minangkabau, while the rest are Chinese, Javanese and Batak.⁵ According to Kato, there are three characteristics often associated with the Minangkabau: a strong Islamic faith, out-migration and matrilineal customs.⁶ The Minangkabau are probably one of the largest matrilineal societies in the world. Other than these three characteristics, another would be their food. Minangkabau food is recognized as one of the best cuisines. Minangkabau food is popular among Indonesians and *Minang-Restaurants* can be easily found in almost every corner of Indonesia. However, little has been written about the Minangkabau food culture. This project seeks to redress this gap.

To obtain in-depth opinions about Minangkabau food culture in regard to manner and the style of food preparation and to understand the nature of dietary pattern, we undertook focus group discussions in some parts of the West Sumatra province of Indonesia.

Methods

The focus group discussions took place in four villages in West Sumatra from January to March 1999. Two of the villages, Naras and Kalumbuk, are located in the coastal region in the municipalities of Pariaman and Padang, respectively. The other two villages, Pincuran Panjang and Kubang, are in the mountainous region in the districts of Padang Panjang and 50 Koto, respectively. Each discussion involved 10–12

participants, predominantly women, half of whom were aged from 35 to 65 years old and the other half were over 65 years old. Each session was tape-recorded and took up to 90 min. Other investigation methods used to obtain data on food culture included informal interviews and observations.

Results

Traditional Minangkabau diet and meal patterns

Basic daily dishes of the Minangkabau consist of steamed rice, a hot fried dish and a coconut milk dish, with a small variation from breakfast to evening meals. Like other parts of Indonesia and South-East Asia, rice is the most important food, along with fish, coconuts, vegetables and chilli. Throughout South-East Asia, although a variety of special dishes play an important role, the prestige food is rice.⁷ In Indonesia and also for the Minangkabau, the word 'rice', *nasi*, is synonymous with food, 'to eat' is to 'to eat rice'.

Three-time meal patterns are common among the Minangkabau, in contrast to two main meals found in rural West Java (NI Lipoeto, unpubl. data, 1997). The meal patterns of the Minangkabau are described in Tables 1, 2, 3. Each meal pattern consists of three basic components: the 'core' or staple items of a particular meal, the 'secondary core' or those items which are either added to or substituted for the basic core and the 'peripheral diet' or those items which are used infrequently by most people.⁸

(a) Breakfast

Almost all participants always have breakfast, especially those in Kubang and Pincuran Panjang who are mostly farmers. A survey conducted in another part of Indonesia, West Java, shows that the incidence of missing breakfast regularly was about 1%.⁹ Breakfast could be either sweet food or hot food which contains chillies (Table 1). Food is usually prepared in the midday and is to be consumed as lunch, dinner on that day and breakfast the following morning. Hot food eaten as breakfast is usually dinner left over from the previous evening, with porridge (*lontong*) with vegetables in coconut milk, or fried rice. Sweet food is made from fried banana with boiled glutinous rice, spread with desiccated young coconut or mung bean boiled with coconut milk, sweetened with brown sugar, or some kinds of traditional cakes made from cassava, rice or wheat flour. Drinks are often plain water, tea or coffee. A drink called *teh-telur*, a mixture of raw egg and tea is very popular amongst the Minangkabau men and it is usually one component of breakfast. Milk is rarely consumed. Breakfast time is 7.00 to 8.00 am. A more westernised breakfast, such as bread and butter, is not common.

(b) Lunch and dinner

Lunch is usually similar to dinner (Table 2). Lunch is considered to be the most important meal in the day for the Minangkabau. The core component of lunch and dinner is rice. Other carbohydrate-rich foods include cassava, corn, sago or noodles, although they are considered as snacks. In some parts of Indonesia, such as in the Mentawai islands, the people consume sago. Corn is consumed in the eastern part of Indonesia (some parts of Sulawesi and Malucca). In some parts of Java, rice is substituted with cassava in the harsh times. Noodles, especially instant noodles, are recognized as

Table 1. Meal components and preparation methods: determinants of the breakfast pattern

Core items	Components Secondary core	Peripheral diet	Preparation methods	Meal patterns
Carbohydrate: Rice	Banana Cassava Glutinous rice Mung bean Pumpkin	Noodle White bread	Boiled with or without coconut milk	I Rice Fish <i>Samba-lado</i> Vegetable Water
Protein: Fish Egg		Meat	Frying	II <i>Lontong</i>
Vegetable: Cucumber Green-leafy veg.			Raw Boiled with coconut milk	Vegetable <i>Kerupuk</i> Sweet tea
Beverage: Water Tea Coffee	Tea + raw egg Coffee + milk	Chocolate + milk		III Banana Glutinous rice Grated coconut Sweet coffee

Samba-lado, grated chilli with onions, tomatoes and salt; *kerupuk*, crackers.

Table 2. Meal components and preparation methods: determinants of the lunch and dinner pattern

Core items	Components Secondary core	Peripheral diet	Preparation methods	Meal patterns
Carbohydrate: Rice		Noodle	Boiled	I
Protein: Fish Egg	Tofu/tempeh	Chicken Beef	Frying Boiled with coconut milk	Rice Fish Vegetable Crackers Water
Vegetable: Green-leafy veg. Seasoned veg.			Boiling with coconut milk Stir frying	II Rice Chicken Vegetable
Beverage: Water				Banana Seawage Water
Fruit: Banana Papaya	Seasoned fruit			
Dessert:		Seawage Glutinous rice	Boiling with coconut milk	

a novel food, consumed only for the last 10–15 years, but has become very popular currently.

The protein source consumed daily by most Minangkabau is fish. In the present study, participants in three of the four villages reported consuming fish 4–6 times a week. In the mountainous region of Kubang, most families own a fish pond. In the coastal region of Naras fresh fish is readily available. In Kalumbuk, a village far from the seashore, where in the past, fish was conveniently caught from a river swimming alongside the village, but nowadays there is no more fish in the river and fresh fish has become more

expensive. Therefore, Kalumbuk people use other protein sources in their diet, including tofu (based on soy) or tempe (fermented soy) and egg. In the village of Pincuran, where people did not have fish ponds and it was far from the coast, fresh fish was eaten about 2–3 times in a week and salty fish was more frequently consumed.

Meat is mainly prepared for special occasions. *Rendang*, a popular meat dish from Minangkabau, is a meat-dish cooked with a lot of spices, herbs and a liberal amount of coconut milk. It is cooked mostly 4–5 times in a year, namely the beginning and end of Ramadan, the birthday of the

Prophet Mohammad, and on the Haj day. *Rendang* is one of the ritual foods (*makanan-adat*) for the Minangkabau that are served on the *adat*-occasions and it has been identified as one of the Minangkabau culture characteristics. There are two kinds of *rendang*: dried and wet. Dried *rendang* can be kept for 3–4 months and be still palatable throughout the period, and it is to be served only on the *adat*-occasions or to honour guests. Wet *rendang* can be found in *Minang*-restaurants; and without refrigeration it should be consumed within a month. Other protein sources such as tempe and tofu are novel to the Minangkabau. Originally from Java, tempe and tofu became popular when transmigration programs began in West Sumatra in late 1970. As tofu and tempe are cheaper than fish, they became common on menus since the recent economic crisis of 1997–99.

Vegetables are usually consumed two to three times a day. Green leafy vegetables, such as *kangkung* (*Ipomoea reptans*; swamp cabbage), spinach and cassava leaves (*Manihot utilissima*), are principally consumed. Other vegetables commonly found in the households include cucumber, long beans, cabbage, young jackfruit, gourd, cauliflower, carrots and bean sprouts. Most fruits are seasonally available, except for banana, papaya and citrus (orange and lime) which can be easily found all year round. However, fruit consumption is not a traditional food habit for most Minangkabau. Fruit is consumed as a snack only when available. In the high season of some fruits, such as mango, rambutan (*Nephelium lappaceum*), duku (*Lansium domesticum*)

and durian (*Durio zibethinus*), they are consumed every day in an ample amount.

Food for the Minangkabau has many social roles. This is shown by the prominence of food in ceremonies honouring religious and life cycle rites. In Ramadan, the meal pattern is different from that in other months. Food and drinks are prohibited from dawn to dusk. The fasting day is broken by one obligatory feast, such as the seldom eaten beef and chicken (Table 3). As in Malaysia where Minangkabau culture is also found, the fasting period of each day throughout the month is ended by eating sweet foods exchanged between households before the evening meal is served.¹⁰ The evening meal in Ramadan is often more special than is dinner in other months.

Snacking patterns

For people in the villages, snacks are not often consumed, except during the harvest times, which are two to three times a year and in Ramadan. In the harvest times, snacks are served between lunch and dinner (around 3 pm) for those who work in the rice field. In Ramadan, snacks are consumed before the main menu at dinnertime. For people in the urban areas, snacks are more varied and consumed more often. Sometimes snacks contribute a significant amount of nutrients; among school-age children snacks contribute 38.7% of total daily energy (NI Lipoeto, unpubl. data, 1997). Snacks can be divided into hot and cold snacks. Hot snacks are usually more filling, spicy and are a large serving size.

Table 3. Meal components and preparation methods: determinants of the dinner pattern in Ramadan

Core items	Components Secondary core	Peripheral diet	Preparation methods	Meal patterns
Carbohydrate:				I
Rice	Banana Cassava Glutinous rice Pumpkin		Boiled with or without coconut milk	<i>Kolak</i> Rice Fish Vegetable
Protein:				
Fish	Chicken		Frying	Crackers
Egg	Beef		Boiling with coconut milk	Diluted syrup II
Vegetable:				
Green-leafy veg.			Boiled with coconut milk	<i>Onde-onde</i>
Seasoned veg.			Stir frying	Rice Chicken Vegetable
Beverage:				Ice-tea
Water				Banana
Tea/coffee				
Diluted syrup				
Fruit:				
Banana	Seasoned fruit			
Papaya				
Dessert:				
Banana			Boiling with coconut milk	
Cassava				
Glutinous rice				
Pumpkin				

Snacks can be consumed as desserts or consumed between two main meal times in the morning or afternoon. Coconut milk is often used in a dessert with glutinous rice, cassava, rice-flour, wheat flour, and mung beans, and is sweetened with sugar or brown sugar. Table 4 shows a list of traditional snacks that are commonly found in West Sumatra.

Changes in meal patterns

Changes in meal patterns in West Sumatra appear to have occurred in part because of the ease at which food could be obtained and the acculturation process. According to older people, when they were young (50–60 years ago), sometimes rice was eaten only once a day; they consumed more cassava and more green vegetables which were cooked with coconut milk and more salty fish mixed with desiccated young coconut. They seldom bought cooked food. Presently, the young generation can easily purchase cooked food, such as noodles and meatball soup. According to a report from the Centre of Bureau of Statistic of West Sumatra, 10% of total expenditure in 1996 was for cooked food and increased from 6.7% and 8.6% in 1990 and 1993, respectively.⁶

The participants in the focus group discussion indicated that the elderly nowadays were healthier than their ancestors, stronger and sick less often than their parents. They suggested that this could be because their parents worked harder and were more physically active. However, they also recognized that food was more available at the present time than before; this may also play a role in health preference.

Food preparation

Although the Minangkabau is a matrilineal society, the preparation of food provides further elaboration of gender difference in food culture. Similar to Indonesians in Bali, Minangkabau women cook everyday meals, while men would

prepare beef dishes for special occasions.¹¹ The head chefs in every *Minang* restaurant are always men. Meals for breakfast, lunch and dinner are generally cooked once in a day, normally in the morning between 9 am to 12 noon and, for dinner, only rice is cooked.

Fish is usually fried or boiled with coconut milk. Some herbs and spices, including turmeric, ginger, galanga, chilli, onions, turmeric leaves, lemon grass, small green chilli and lime, are mixed with fish before they are cooked with coconut milk. The most important herbs and spices, used in almost every coconut milk dish, are chilli, turmeric, ginger and galanga. In meat preparation, herbs, spices and coconut give flavours and are useful for preservation. Meat could be deep-fried, boiled with or without coconut milk or grilled (as satay). *Rendang* is an example of meat preparation that is cooked with a full range of herbs and spices and a large quantity of coconut milk. The meal is made up of minced meat cooked with ginger, galanga, chilli, onions, garlic, turmeric leaves, lemon grass, *salam* leaves and lemon leaves. In other parts of West Sumatra, *rendang* is also mixed with cloves, cinnamon, nutmeg, coriander and white pepper. Usually four pieces of coconut are used for one kilogram of meat, but only one piece of coconut is used with one kilogram of fish. The meat is simmered slowly with light heat until the coconut milk is dried. The entire process takes about 3–4 h, but it may take longer to make dry *rendang* which could be kept for months. *Rendang* can be made either from beef, chicken or some vegetables such as jackfruit or cassava. For reason of taste and availability, lamb, goat and wild game are rarely eaten. Pork is not halal and therefore not eaten by Muslim Minangkabau people. Tempe and tofu sometimes are combined with fish or some kind of beans, such as red beans, green beans or young banana, and then cooked with coconut milk or fried with a large quantity of hot chillies.

Table 4. Some traditional cakes and snacks made or sold in West Sumatra

Food name	Description
Made of rice	
<i>Lontong</i>	Rice porridge, hardened and then cut into compact squares. Eaten with young jackfruit or other vegetables cooked with coconut milk
<i>Tapai pulut</i>	Fermented red glutinous rice
<i>Nasi Kuning</i>	Glutinous rice cooked or steamed with coconut milk coloured with turmeric
<i>Ketupat</i>	Glutinous rice covered in coconut leaves cooked with coconut milk
<i>Lemang</i>	Glutinous rice put in bamboo, mixed with coconut milk and baked
<i>Bika</i>	Rice flour mixed with grated coconut and sugar, then baked
<i>Lepat Bugis</i>	Rice flour mixed with grated coconut and sugar, covered with banana leaves, then steamed
<i>Onde-onde</i>	Round of glutinous rice flour and water; centre-filled with brown sugar, boiled, coated with grated coconut
<i>Kue talam</i>	Rice flour, coconut milk, brown sugar put into a square plate, steamed.
Made of manioc	
<i>Kolak</i>	Manioc cooked with coconut milk, sweetened with brown sugar, could be mixed with banana, mung bean
<i>Kerupuk balado</i>	Manioc fried in deep oil, rolled in grated chilli and sugar
<i>Tapai Ubi</i>	Fermented manioc
<i>Tumbang</i>	Round-boiled manioc, centre-filled with brown sugar, coated with grated coconut
Made of banana	
<i>Pisang goreng</i>	Fried banana, coated with flour, eaten with boiled glutinous rice spread with grated coconut
<i>Nagasari</i>	Small slice of banana mixed with rice flour, sugar, covered with banana leaves, steamed
Other	
<i>Sate</i>	Beef boiled with spices, cut into small slices and grilled, eaten with lontong and rice flour sauce
<i>Soto</i>	Beef boiled with spices and herbs, eaten with rice
<i>Martabak Kubang</i>	Beef mixed with wheat flour and spices, herbs and stirred with a little cooking-oil

Almost all vegetables in West Sumatra can be cooked with coconut milk. Particularly in Naras and Kubang where coconut is used more frequently, vegetables are cooked with coconut milk and flavoured with fish or a small quantity of meat. In Padang Panjang and Kalumbuk, vegetables are usually stir-fried with a small amount of coconut oil, while fresh salads or boiled vegetables are rarely consumed. Another vegetable dish that is common is *anyang*, in which the vegetables are boiled and then mixed with desiccated coconut, chillies, onions and salt.

(a) Coconut usage

Coconut has an important role in Minangkabau food culture. For those not familiar with West Sumatra, Minang food may be identified as food which is cooked with coconut milk (*gulai*). All participants in the focus group discussion agreed that coconut was an important ingredient. Characteristic expressions were made, included the following: (i) coconut improves food flavour, (ii) coconut is a trademark of Minangkabau dishes and (iii) coconut is used in most dishes of Minangkabau food. In Naras and Kubang where the lands are fertile, coconut trees can be found easily in villages where most households would use at least one coconut in a day. To make dishes, the coconut is pressed for the milk and the flesh is cooked with fish, vegetables, meat or chicken.

In Padang Panjang and Kalumbuk, coconut milk was used less frequently compared to the other two villages. Coconut trees in the villages were cut down and replaced by houses. The villagers had to purchase coconuts in the market. In these villages, almost all dishes are fried with cooking oil and then mixed with a moderate amount of hot chillies. Since 1995, coconut oil has been replaced by palm oil due to the increasing price of coconut oil. According to some participants, fried dishes are easily made and more economical than coconut milk dishes. In addition, some younger participants mentioned that their children preferred fried dishes to coconut milk dishes. In the harsh times during the recent economic crisis, coconut milk dishes were not used at all. According to the participants, an average of 250 g of cooking oil was used in a day in a household with three or four children.

(b) Changes in food preparations

All participants agreed there are no differences in food preparation between the two generations interviewed. The younger of the two generations continues to use the same ingredients and the same processes in food preparation. The possible changes are in cooking utensils, such as electric utensils like rice cookers, blenders and gas stoves can be found in many households in the villages.

Taste preferences

All participants agreed there was little or almost no difference in food taste between the two generations interviewed. Minangkabau traditional food was still the first choice. Taste preference among Minangkabau people were a combination of the hot and spicy taste, the flavour of herbs and spices, and a little bit of salt. Western foods such as McDonald's are hardly known to the villagers. However, the older generation mentioned that, compared to 40–50 years ago, more food was available. Restaurants and food outlets

are found everywhere. There has been an introduction of novel foods, such as instant noodle, tofu and tempe, which were now commonly used by families.

Integrated sociocultural view of contemporary Minangkabau nutrition

In health-seeking behaviour research in sociocultural context, basic anthropological field methods should be utilised.¹² The focus group discussion method has been widely used as one of the basic anthropological methods. The focus group approach is a qualitative research methodology used to provide insight and understanding of a target group's perceptions and beliefs regarding a particular topic or program.¹³

In the present study, the focus group discussion method was not used to obtain opinion about a new topic or program, but to obtain in-depth opinion of the Minangkabau themselves, especially about their food patterns, cooking and taste preferences. This method enabled us to document their food culture and to determine any changes in dietary pattern among the people. It also found that other methods including informal interviews and observations, along with the knowledge of the Minangkabau investigators (NIL, FO, ZA and MM), could successfully complement the focus group discussion, to obtain useful and valid information.

Although there was only a slight difference in meal patterns, similar food preparation methods or taste preferences were evident between two generations interviewed. Yet there was a dramatic change in food usage as shown in the changing of the percentage of energy consumed over the last 15 years. Carbohydrate is still the main source of energy for the Minangkabau. However, it was reduced from 79.7% of energy in 1982 to 66.2% in 1996.^{14,15} However, about the same time, from 1984 to 1996, protein consumption increased from 8.3% to 10.4% and fat consumption was doubled from 10.6% to 21.7%.

Although high coconut consumption remains in the Minangkabau, the combination of rice, fish and coconut may provide protection against CVD, as long as dietary fat intake is not greater than current international recommendation (up to 25–30% of total energy). Fish is known as a source of n-6 polyunsaturated fatty acids, which favourably affect lipoproteins and reduce the likelihood to cardiac events.^{16,17} Other protective foods, such as vegetables, fruits and tea, in the Minangkabau diet also contain antioxidant and dietary fibre, both of which are associated with lower CVD risks.^{18,19} In addition, a mixture of various herbs and spices is also one of the characteristics of the Minangkabau food culture. Such ingredients may also have a health benefit because of their content of phytochemicals which are antioxidants, anti-mutagenic, immunomodulatory and oestrogenic.²⁰

Conclusions

Rice, fish, coconut, green vegetables and chillies are the basic foods for the Minangkabau, with a small variation from breakfast to evening meals. In religious and life cycle rites, food has an important role in the Minangkabau community. The food preparation methods and taste preferences remain remarkably consistent in recent generations, although the amount of food consumed has changed and novel foods have been introduced from other parts of Indonesia. So far there

has been little influence of western food to the Minangkabau people. Until 1997 no western fast food was available in West Sumatra, and this would be of great importance in monitoring changes in food pattern in the immediate future.

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