FOOD CONSUMPTION AND HABITS IN RURAL MALAYSIAN VILLAGES RECENT FINDING AND SØME THOUGHTS FOR IMPROVEMENT

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INTRODUCTION

Although there has been no nation-wide food consumption and food habits survey in the country, several localised and scattered studies have been countinuously reported. The studies of Manderson (1981a,b,and c) in five states in Peninsula Malaysia, Chen *et al.* (1981) in Sabah, East Malaysia, Zanariah (1982) in Pendang of Kedah state, Segamat in Johore and Dungun in Trengganu, and the various studies by this Institute between 1979 and 1982 (described below) are some recent attempt in understanding food consumption patterns and dietary habits particularly of the rural communities in the country.

In the first ASEAN Seminar workshop on Food Habits held in Manila in 1978, the subject of Food Habits in the context of existing malnutrition problems had been discussed in some detail. The workshop had emphasised the need for in-depth studies of food habits. In response to this, the Institute has carried out several nutrition surveys wherein studies into the food consumption pattern, food beliefs and practices formed important components of these surveys. These studies were carried out on poverty village in various parts of the country, namely Kota Baru in Kelantan (1979), Mersing in Johore (1981), Benkoka Peninsula in Sabah (1982) and Baling in Kedah (1982).

This report summarises and reviews, the findings of food beliefs and pratices and food consumption in the last three named communities. An attempt will then be made to analyse the important findings of these recent studies with a view of suggesting possible actions and modifications for nutritional improvement.

RECENT STUDIES ON FOOD HABITS

Subjects and Methodology

Results of three recent studies are presented here. The first was a study of two padi-growing villages in Mersing in the southern state of Johore, carried out in 1981. Visits were made to 111 houses (49% of total houses) to study the food habits and food consumption pattern of these household. Baling,

in the north-western state of Kedah , was the site of the second study, carried out in 1982, to be discussed. A total of 146 houses , or 44% of the total households in four villages, were studied. These villages were engaged in a mixture of padi-growing and rubber-tapping. Subjects of these two studies were exclusively Malays. The third study was undertaken in Bengkoka Peninsula, in the north-east part of Sabah in East Malaysia, in 1982. Forty-four household, comprising 46% of the total houses in the three villages were visited for the purpose of the study. The inhabitants were a mixture of Rungus, who are Christians, and the muslim Bajaus. They were engaged mostly in fishing and padi-growing.

In all these studies, information on food beliefs and practices were obtained by interviewing the heads of the household and/or their spouses. Household food consumption was quantitated by determining the daily, weekly or monthly purchases of foodstuffs. The economic and environmental conditions of the communities were also studied to provide a better understanding of the ecology of the subjects. These studies formed part of larger nutrition surveys which covered other aspect including anthropometric, clinical and biochemical investigations and have been reported (IMR,1981 and 1982; Kandiah *et al*, 1982).

Food Beliefs and Practices

Enquiries were made into the food beliefs and practices amongst the vulnerable groups of the communities, namely infant, pre-school children and women during the three important physiological stages of pregnancy, postpartum and lactation. Results obtained for the three studies are summarised and discussed below. Specific differences obtained between the various communities will be pointed out.

A total of 64 mothers with infants were interviewed with regard to infant feeding practices. Fourty (63%) of the infants were being breast fed, 12 (19%) were fed on the bottle and remining 12 were on a mixture of breast and artificial milk. Only 4 out of the total of 24 infants who were bottle fed used sweetened condensed milk. Breast feeding when practiced, was generally continued beyond infancy. Supplementary feeding was most frequently started between 4-6 months.

When interviewed on what foods were felt to be beneficial for their babies, breast milk was most frequently mentioned by these mothers. Next came commercial instant cereal products which were thought to be superior to rice porridge, even amongst the more isolated communities of Bengkoka Peninsula of Sabah.

The majority of the respondents felt that the adult family food was suitable for the toddlers and pre-school children regarded separate and special preparation unnecessary for these children. Milk whenever given to these children, was commonly sweetend condensed milk. In between meals,

these children snack on whatever they could get hold of, the most common of which were sweets, biscuits, chocolates and crispies, and home-made cakes in the case of the children in Bengkoka Peninsula. Although the parents of these children were aware that eggs, milk, vegetables and fruits are beneficial, these were not consumed in practice.

There did not appear to be widespread pratice of food avoidance for these young children; only 30% of the households replied in the affirmative. The food items restricted were also not severe and not likely to cause much nutritional deficiencies if alternative foods were consumed by the children. The most serious restrictions were on fish, cuttlefish, prawn and other seafood. These foods were thought to cause scabies and other skin ailments or worms in the children. This however was accounted by only about 10% of the respondents. The most commonly observed food avoidance was sour foods, including fruits. Spicy and cold foods were also avoided. All these foods were belived to cause stomach upset in the children.

The women of the communities studied presented differing food habits and pratices during the three different physiological states of pregnancy, post-partum and lactation. During pregnancy, only 10% of the total of 286 respondents practiced some form of food avoidance. The food most commonly restricted were the cooling foods, and those that were thought to be able to cause miscarriages and haemorrhage such as pineapple, sour mangoes and limes; these were the so-called sharp foods. These restrictions are probably of little nutritional significance.

Whilst it is encouraging to note the lack of food taboos during pregnancy, it was note that only half of these women felt that there was a need for special foods during this period. Of the foods listed as beneficial, fruits and vegetables came at the top, followed by meat, eggs and milk. These foods were regarded to be important for the growth of the foetus and for the increse of blood production and health of the mother.

After delivery, during her confinement for 40-odd days, the women followed a different set of dietary habits. Food avoidace was said to be strictly followed during this period. In all the three studies, over 90% of the respondents indicated that they observed some form of food restrictions, especially immediately after delivery. A whole range of vegetables and fruits were considered cold and were avoided for a number of reasons, including fear of heamorrhage, tremors, fits, fever, damage to the uterus and general weakness of the body. Certain types of fish and other sea-foods were also shunned as they were believed to be *toxic* and could prevent the healing of the womb. Quite often, the women were allowed to take only rice with salted or smoke fish and salted eggs.

In attempting to understand the attitude of these women towards the need for special supplements during their period of confinement, some of them

were able to list meats, eggs, milk, fruits and vegetables, and even vitamins, as being important. The majority (over 80%) however stressed on the importance of taking traditional herbal preparation to heal the uterus and bring it back to its normal size, to keep the body warm and restore them to their normal health prior to pregnancy and delivery.

A low presentage (about 30%) of the respondents felt the need for food avoidance when they were nursing their infants with breast milk. Food restrictions were practiced by those mothers who felt that some undesirable factor in their foods might be passed on to their infant through the milk, or could result in reduced milk production. Foods avoided included certain types of fish and other sea-foods; these were labelled as itchy foods and beliv-ed to be able to cause rashes in the infants. Hot spicy food which were thought to upset the babies stomach, windy, cold and sour foods which could cause indigestion and diarrhoea to the infants were also avoided.

A similar precentage of the respondents felt that the lactating mothers needed to take special foods. Food that were felt to be essential during lacta-tion were milk, eggs, fruits and vegetables and herbal preparations. They were primarily believed to be able to increase milk production.

Household Food Consumption

The daily per capita consumption of various foodstuffs obtained from in-terviews of 111 households in Mersing, Johore, 146 in Baling, Kedah, and 44 in Bengkoka Peninsula, Sabah, is shown, in Table 1. The pattern of food availability as given by the Food Balance Sheet for Peninsular Malaysia (FAO,1980) for the years 1971/1977 is also tabulated as a rough comparison but is not intended to serve as a refrence or the ideal consumption paterrn for the nation. The frequency of food consumption of each foodstuff was also determinded in the studies and the highest frequency observed is tabulated in Table 2.

The Mersing and Baling communities presented rather similar food con-sumption patterns. Several important difference however were observed for the cummunities residing in the Bengkoka Peninsula.

From the results presented in the tables, it would appear that there was a fairly good and regular supply of energy-yielding foods. Rice provided the bulk of the energy to the communities studied, with the highest amounts con-sumed in Mersing and Baling and eaten daily by all households.

Wheat flour and wheat products were other important sources of energy from cereals for these two communities. Roots and tubers were seldom con-sumed. On the other hand, the communities in Bengkoka Peninsula consum-ed lesser amounts of rice and wheat flour. Roots and tubers were important sources of energy to these communities in Sabah, especially in times of draught and in-between harvest periods. Sugar, fats and oils were consumed

Table 1

Daily per capita food consumption obtained for Mersing and Bailing, Peninsular Malaysia and Bengkoka Peninsula, Sabah

	Food Balance Sheet for Peninsular Malaysia, 71/77	Mersing, 81 (111 house-holds)	Bailing, 82 (146 house-holds)	Bengkoka Peninsula, 82 (144 house-holds)
Rice	306	320	259	235
Maize	-	-	-	59
Wheat flour	68	38	57	25
Wheat products (biscuits, bread etc)	-	67	12	14
Roots and tubers (mainly tapioca)	16	29	12	131
Sugar	93	90	52	36
Fats and oils (separated)	21	31	20	14
Pulses and nuts	18	13	18	6
Fish (fresh and dried)	54	99	67	55
Meat and poultry	57	13	16	26
Eggs	21	7	8	8
Milk	29	25	13	34
Vegetables and fruits	256	70	88	105

note : all weights and grams and given as edible portions of food items.

daily by all the communities studied, with the highest amounts in Mersing and considerably lesser amounts in Bengkoka.

Pulses and nuts did not appear frequently in the diets of the communities studied. Consumption of these sources of plant proteins was particularly poor in Bengkoka. Most of the animal proteins of the communities was obtained from fish. Over 50% of the households consumed fresh fish on a daily basis. It was also obtained that appreciable amounts of fresh and dried fish were being consumed. However, in Mersing and Baling, particularly the latter, most of the fish consumed was in the from of dried fish. In the Bengkoka Peninsula, the fishing communities there consumend more of fresh fish; other sea food were also frequently eaten.

Meat and milk featured poorly in the diets of the communities in Mersing and Baling. In Bengkoka, slightly larger amounts of meat were available, due to the fact that the natives there were still carrying out some hunting of wild animals. Surprising, these communities were also seen to consume more milk, mostly in form of sweetened condensed milk. Poultry and eggs, on the

Table 2

Frequency of consumption of various food items

	Mersing, 1981 (111 households)		Baling, 1982 (146 households)		Bengkoka Peninsular, 1982 (44 households)	
Rice	daily	(100)	daily	(100)	daily	(97.7)
Maize	—		—		once/wk	(53.0)
Wheat	daily	(48.7)	2-4 x/wk	(43.8)	Seldom	(52.3)
Roots & tubers	seldom	(67.6)	seldom	(59.6)	2-4 x/wk	(59.1)
Sugar	daily	(100)	daily	(99.3)	daily	(52.3)
Oil	daily	(95.5)	daily	(95.9)	daily	(70.5)
Pulses & nuts	1-2 x/mth	(54.1)	seldom	(45.9)	seldom	(70.5)
Fish, fresh	daily	(54.1)	daily	(45.9)	2-4 x/wk	(52.3)
Fish, dried	daily	(34.2)	daily	(69.9)	seldom	(38.6)
Ikan bilis	seldom	(36.9)	2-4 x/wk	(29.5)	seldom	(45.5)
Other sea foods	seldom	(69.4)	seldom	(59.6)	once/wk	(34.1)
Meat	seldom	(74.8)	seldom	(47.3)	seldom	(70.5)
Poultry	1-2 x/mth	(58.6)	1-2 x/mth	(48.7)	1-2 x/mth	(56.8)
Eggs	2-4 x/wk	(36.9)	seldom	(29.5)	2-4 x/wk	(36.4)
Milk, fresh	seldom	(98.2)	seldom	(100)	seldom	(100)
Milk, powdered	seldom	(89.2)	seldom	(89.0)	seldom	(79.5)
Milk, sweetened condensed	seldom	(38.7)	seldom	(41.1)	seldom	(52.3)
Vegetables	2-4 x/wk	(58.6)	seldom	(63.7)	2-4 x/wk	(52.3)
Fruits	seldom	(30.6)	seldom	(56.2)	once/wk	(70.5)

Note: On the highest frequency observed for each foodstuff is presented. Percentage of households with this frequency is given in brakets.

other hand, were more regularly consumed in all the communities studied, although in small quantities.

In both Mersing and Baling, vegetable and fruits consumption was poor and was markedly lower than that observed for Bengkoka. This was particulary true for Baling, where 50% of the households seldom consumed these relatively cheap food.

DISCUSSION AND SUGGESTIONS FOR IMPROVEMENT

Nutrition of Mother and Child. Continual Emphasis on Education

There appears to be no serious adverse infant feeding practices in the communities studied. Breast feeding should however be continually encouraged and the ill effects of sweetened condensed milk clearly pointed out to the mothers. It is not the intention to dwell on the subject of this infamous milk in this forum. However, it is hoped that more serious efforts could be taken to check the usage of this milk. A disturbing point arising out of the

studies is the finding that commercial instant cereal products have established themselves as an important supplementary food for the infants even in the remotest kampungs. Many of these poor mothers would have liked to, if they could squeeze out from their meagre incomes, purchase these expensive foods for their children. In order to arrest such an undesirable trend, a great deal of nutritional education directed at the mothers is required.

The young children in these communities, as is true in many other communities, were left very much on their own. They eat whatever there is on the family table. Although some mothers known the importance of giving fish, eggs, fruits and vegetables to them, no serious efforts are being made to ensure that they do consume at least small amounts of these. These children are normally not seriously attended to unless and until they are ill. Hence, although there were no serious food avoidances or restrictions, the lack of alternative foods make restriction of any food undesirable .

The provision of day-care centers in these communities could perhaps greatly benefit these children. Besides enabling these young children to play and learn together, these centres could provide a forum for the mothers to meet and possibly prepare some foods for these children. Through these avenues, the mothers would be able to realise the importance of paying more attention to the health and food needs of these children.

Although food avoidance does not present itself as serious problem to the women during pregnancy and lactation, the intake of foods to cater for the extra needs during these periods was unsatisfactory. The seriousness of the food restrictions during the post-partum period and the lack of proper meals prevent these women from recovering from the recent pregnancy and delivery and makes her ill-prepared for another pregnancy soon after. It is therefore clear that there is a further need to educate women on their nutritional needs. For such communities, where money has to be carefully budgeted, the educator has to pay particular attention to proper food choice.

Besides the existing MCH clinics, the above mentioned day-care centers could also serve as channels through which contact and discussion with the heads of the households on food utilisation could be carried out. Emphasis could perhaps be placed on proper choice and more varied use of foodstuffs and more interesting ways of food preparation and formulation. This could greatly change the taste and palatability of the monotonous diet these communities have hitherto been living with. Such advice could only be carried out if one knows and understands the dietary patterns of the community.

The Community Development Department (KEMAS) of the Ministry of National and Rural Development has already set up kindergartens (TBK) in various parts of the country. Some of the activities described above are already being carried out. It is hope that these centers could be extended to other parts of the country including new villages and rubber estates. The possibility and feasibility of expanding these centers to include more of the

activities and to admit the toddlers as well should be seriously loked into. KEMAS would be able to play a very important role in socio-economic development and hence nutritional development of the communities.

The widespread use of traditional herbal preparations during post-partum is to be noted, although discussion on this is rather out of the scope of this paper. The active compounds in these preparations remain largely unknown. However, there seems to be a growing interest on the study of medical plants in country.

Household Food Consumption: Increase Home Food Production

The communities in Mersing and Baling have been seen to be very dependent on rice . Tubers and roots and maize were not consumed in appreciable quantities. In fact, very litlle of these foodstuff were grown. Poor management of the padi-fields, draughts, pests and diseases often plague the padi farmers. It would thus be desirable to encourage the growing of such foods as sweet potatoes, yam, tapioca and maize in these villages. Attempts should be made to encourage the consumption of these foods.

The consumption of protein foods in the communities appeared even less varied than the energy foods. It is dried fish daily for many households in Mersing and Baling with a few times of fresh fish a few times a week. Chicken may be taken once or twice a month by those households which rear them. At the same time, pulses and nuts were little consumed. Increased consumption of beans and nuts would thus be beneficial. The scheme, such as the one in Baling, in which chicks and ducklings were given to households for rearing, could be extended to more villages. Through this scheme, eggs consumption could also be increased, that is if they do not sell them.

The consumption of vegetables and fruits in Mersing and Baling was disappointingly low. Vegetables gardens were extremely few in the villages visited. In the Mersing villages, even fruit trees were not widely grown. Home food production certainly needs to be stepped up. This is true not only for vegetables and fruits, but for other foods as well, such as roots and tubers and maize. It is perhaps necessary first to discuss with the communities the problems encountered in their attempts to set up home gardens. They must than be motivated to produce these foods. Assistance can then be given to set up these gardens and should include proper methods of storage, preservation and processing of perishable food items at the household level so as to optimise food use.

Family Purchasing Power: Socio-Economic Uplift

Price control is an important factor in determining the types of foods set on the family table, aside from home food production. The current system of

price control of some essential food items should be strictly implemented and constantly reviewed, especially during the present times of escalating prices. Even the prices of vegetables and fruits have now discouraged many household from budgeting for these food items, especially amongst the urban poor.

The government has placed great emphasis on the policy of uplifting the economy of the poor in the country. Efforts in implementing the policy should include encouraging and assisting these rural communities to set up more cottage industries, making use of the abundant raw materials available in a particular village and "exploiting" the skills of the particular community. These program could be for the setting up of new "industries" or the improvement in the management of the existing "industries", including assistence in the marketing of the finished products.

Other general intervention needed are the improvement of environmental sanitary conditions. The provision of the clean water and proper waste disposal facilities need no further emphasis.

CONCLUDING REMARKS

Thus, as has often been emphasised, actions and interventions to improve the dietary pattern and hence nutritional status of these rural communities must come from various quarters. Nutrition education through contact and discussions with the villagers on matters related to the food and nutritional needs of the household members must continue to play an important role. Advice on infant and young child feeding practices, the importance of sound nutrition to the expecting, post-partum and nursing mothers must be continually stressed. Education efforts must place emphasis on matters related to food choice, food preparation and usage. Aside from the existing MCH clinics, day-care centers could be extended and expanded to carry out these activities. The communities could then be assisted to practice what has been learned through such discussion sessions. Home food production will greatly increase the quantities and types of foods available to the households. To further increase efficiency of land and material utilisation, assistence could be given to improve the management of cottage industries using raw materials and skills available in a particular community. Aside from such income generating activities to increase purchasing power of the households, an efficient food price control system would also make more food available to the family table.

SUMMARY

In an attempt to further understand the food habits and consumption patterns of the rural communities, the Institute for Medical Research recently

carried out studies in several poverty villages in various parts of the country. This report presents the finding of such studies, namely in Mersing, Johore (1981), Benkoka Peninsula, Sabah (1982) and Baling, Kedah (1982). Important aspects of the finding are highlighted and discussed, with a view towards suggesting possible actions to improve or modify the existing food habits and practices.

A total of 301 households were visited and the heads of these houses and/or their spouses interviewed. Enquiries were made into the food beliefs and practices amongst the vulnerable groups of the communities, namely the infants, pre-school children and women during pregnancy, post-partum and lactation. The consumption patterns of foodstuffs in these households were determined and the amounts quantitated.

The post-partum women during the period of confinement were seen to be the group with the most serious food avoidances and restrictions. Altough there appeared to be less food taboos during pregnancy and lactation, these women did not supplement their diets with the essential food to carter for the additional nutritional needs during these crucial periods of their lives. There were also no serious food taboos for the young children, but their nutritional needs did not get much attention either. Although some of the respondents had a fair knowledge of the need for nutritious foods, food consumption patterns of the households indicated a monotonous dietary intake and a lack of the essential foods.

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