What do Asian women in Birmingham eat during pregnancy?

By PHYLLIS M. EATON, *Sorrento Maternity Hospital, Moseley, Birmingham* 13

In 1979 a dietary intervention trial was set up at Sorrento Hospital. The subjects were all non-smoking, pregnant Asians from the inner city: predominantly Pakistanis and Punjabis but a few patients also from East Africa, Gujerat and Bangladesh. This paper describes a weighed diet survey to find out what these patients were eating.

Initial permission to weigh came from the husband at a home visit in the evening to explain procedures. The mother-in-law was present in ten out of the thirty-two families participating. Of these, fourteen families could speak no English, two wrote in Urdu, twelve illiterate patients were visited by a dietitian who weighed the main meals. Between meal snacks were recorded by duplicate weighing. Nineteen households comprised more than 1·5 people/room, six families refused initial permission to weigh, some giving family size as a reason, two patients reported the nuisance value of weighing and two refused in the course of pregnancy. The final data comprised twenty-five sets of acceptable completed records and three part sets.

The equipment provided included a pair of scales reading to 1 kg in 5 g divisions, a plastic plate interchangeable with the pan, a plastic one pint measuring jug, two foil containers for hot liquids, a loose leaf notebook and a pencil. Recipes were complex. The number of ingredients, the large quantity per saucepan and the long cooking time made measurement difficult. Even so there was sufficient data to draw up reference tables of recipe composition.

The results showed that the main meal of the day differed according to country of origin but breakfasts and between meal snacks were similar for all groups. Meal times varied, breakfast being from 06.00 to 10.30 hours. In the summer, use was made of daylight and the evening meal was often served after dusk. Bangladeshi patients ate a main meal based on white rice with one or two additional curried foods on the same plate. Pakistani patients based the meal on chapatties, serving a cooked meat or vegetable dish in separate bowls and often including a side salad of vegetables or fresh fruit or both. The Punjabi Sikhs varied in their choice of rice or chapatties as the staple. One of this group was a true vegetarian but her mean protein and energy intake compared favourably with the other patients (73 g protein, 10 MJ (2400 kcal) at 28 weeks). Common snacks were typical 'corner shop' items: sweet biscuits, cool drinks, apples and oranges and occasionally chocolate. Breakfast often included an egg, boiled or fried and eaten alone or with bread or sweet biscuits. Some patients made tea with all milk.

The range of energy intake was wide with some patients having low intakes 3·8 MJ (900 kcal) to 14·3 MJ (3400 kcal) at 28 weeks). Protein supplied 12·3% of the energy at 28 weeks. Table 1 shows the mean intakes of the women at 28 weeks

Table 1. *Comparative intakes from two weighed diet surveys on pregnant women*

	Energy					
	kcals (MJ)	joules (kcal)	Protein (g)	Calcium (mg)	Vitamin D (μg)	Total folate (μg)
Sorrento study: Mean intakes at 28 weeks	7·3	1740	54	916	1·2	134
Thomson*: Aberdeen primigravidae	10·25	2450	75	980	—	—
Recommended dietary allowance	10·0	2400	60	1200 (3rd trimester)	10	500

*Thomson, A. M. (1959). *Br. J. Nutr.* **13**, 190.

and compares them to the recommended dietary allowance and the observed intakes of Aberdeen women. The Birmingham mothers ate substantially less than the Aberdeen mothers.

The over-all values mask differences between different cultural groups. Patients from Bangladesh ate less fruit than those from Pakistan. The mean vitamin C intakes at 28 weeks being 33 mg and 67 mg respectively. Also the white rice-based Bangladeshi diet was low in thiamin compared to the wheat-based Pakistani diet. None of the Bangladeshi women ate more than 0·4 mg thiamin at 28 weeks in spite of an energy intake in excess of 4·2 MJ (1000 kcal).

Those diets with a low protein intake due to eating curry sauce without the meat showed a corresponding lack of iron, riboflavin and nicotinic acid equivalents. A typical subject ate 36 g protein/d at 28 weeks, the mean Fe intake being 8 mg with 0·9 mg riboflavin and 14 mg nicotinic acid equivalents. The main protein contribution in this 3 d period came from a gram curry, an egg and drinks made entirely with milk.

The Moslem fast in the month of Ramadan produced some unexpected fluctuations in intake. The fast requires no food or drink to be taken from sunrise to sunset. Although pregnant women need not fast while carrying the baby, 6 out of 16 weighed diet Moslem patients did fast. This produced the unexpected result that they either ate the same amount as usual or substantially more. While fasting the mean protein intake was 55 g/d (42–68 g) and the mean energy intake 7·6 MJ (1800 kcal)/d (5·25–9·2 MJ (1260–2200 kcal)).

Recommendations for future alterations in the diet must make allowance for the cultural factors that influence eating habits. The men do the shopping more often than the women. Foods are not necessarily eaten in the same combinations as they are in English households. The pregnant woman eats what she is told by other members of the family. Four of the weighed diet patients gave up meat completely in the 2nd and 3rd trimester saying that it was not good to eat meat during pregnancy. This illustrates the overt influence of traditional medical beliefs.

Pregnancy is considered a 'hot' condition and meat is a 'hot' food which should not be given.

Recommendations must be based on those foods which are most easily accepted. This implies using convenience foods from the abundant corner shops. Milk and eggs in sufficient quantity will improve the low-protein intakes. Breakfast cereals as a vehicle for milk and tinned fish are equally useful and acceptable foodstuffs not known to everyone. Margarine should be used rather than butter but because it is virtually impossible to reach an intake of 10 μg vitamin D/d by dietary means, the use of vitamin drops is important. The use of fresh fruit and salads should be encouraged to offset long cooking times. Brown rice should be used in preference to white rice.

The whole family should hear these recommendations and antenatal classes should be at a time when women can get to them. This quite often means in the evening when the husband can come too. Hand-out leaflets may have a place to persuade the husband to alter the shopping basket beneficially.

Printed in Great Britain