Letters to the Editors

A comparison of dietary intakes of active, healthy Chinese elderly, aged 70 or above, living in Hong Kong and in northern China

In China, as the average life span increases, the population of elderly over the age of 75 will be quadrupled from 8 million in the 1960s to about 31 million (2·5% of the projected population) by the end of this century (Chinese Health Yearbook Editorial Committee, 1989). The elderly population in Hong Kong is also growing at a similar pace. Between 1977–1989 the elderly aged 70 or above increased by 1·5-fold to around a quarter of a million, which represented 4·6% of the total population (Hong Kong Census & Statistics Department, 1987). The data on nutrient intakes of this age group of $\geqslant$ 70 years have been very scanty until recently when Woo *et al.* (1988*a–d*, 1991) and Side *et al.* (1991) reported their results of dietary surveys on this senior age group in Hong Kong and northern China respectively. Their results are compared in Table 1.

The intakes of Hong Kong elderly were very different from those of the same gender group from rural and urban Tianjin. In eighteen of the listed nutrient intakes, differences ($P < 0{\cdot}01$) in more than half of the intakes were noted. Generally speaking, the weight-adjusted energy consumption and the energy contribution from fat were higher among the Tianjin Chinese, whereas the amount of ascorbic acid and the energy contribution from protein were lower. In addition, the elderly men from Tianjin consumed more iron and thiamin than their Hong Kong counterparts. The elderly women from Tianjin consumed more fat and nicotinic acid (both in absolute and relative terms) than their Hong Kong counterparts. These may be partly due to the regional, cultural and socio-economic differences that may give rise to different eating habits, or partly due to the difference in the method of collecting dietary intake data. Woo *et al.* (1988*a–d*, 1991) collected the data with a 24-h dietary recall method, and the authors acknowledged that the data might not be representative of the average intakes. On the other hand, the method of 3-d dietary recall adopted by Side *et al.* (1991) may not necessarily improve the accuracy of the data because it is quite unlikely for this senior age group to accurately recall dietary data, especially of the distant past. The accuracy of the dietary data cannot be checked anyhow, and the discrepancies of the dietary intakes between the two groups of elderly living in northern and southern China may indeed be an artifact due to the inaccuracy of the recall methods employed.

Finally, it seems imprudent to draw the inference that some of the subjects are deficient in some micronutrients because of the sub-optimal level of intake indicated by the dietary recall method. Woo *et al.* (1988*d*) have shown that the level of the intakes correlated very poorly with the profile of these nutrients in blood. Furthermore, physiological adaptation to chronically low levels of intake, the forms of nutrients taken and the possible interactions of various nutrients within the digestive tract all influence the ultimate level in the body. These are difficult to assess in a dietary survey, but must not be overlooked in the interpretation of the data.

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Table 1. *Nutrient intakes for free-living healthy elderly from Hong Kong (Woo* et al. *1988d, 1991) and urban and rural areas of northern China (Side* et al. *1991)*

(Mean values with their standard deviations)

Time of the dietary survey...	June–November 1986				May–November 1988							
Method of the survey...	24 h dietary recall				3-d dietary recall							
Subjects...	Hong Kong elderly Chinese				Urban China				Rural China			
	Men (*n* 102)		Women (*n* 151)		Men (*n* 50)		Women (*n* 50)		Men (*n* 50)		Women (*n* 50)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Age (years)	> 70		> 70		75	4	76	5	75	4	76	5
Energy												
(MJ/d)	7·3	2·3	6·5	2·1	8·06	1·43	7·38*	1·13	7·94	1·33	6·71	0·89
(MJ/kg body-wt)	0·19	0·06	0·2	0·07	0·12*	0·01	0·14*	0·01	0·15*	0·02	0·14*	0·01
Protein												
(g/d)	60·1	21·8	60·4	21·4	59	12	54	9	43*	8	38*	6
(% energy)	14	4	16	5	12·3*	2·1	12·4*	1·7	9·1*	0·8	9·5*	1·1
Fat												
(g/d)	48·1	32·3	34·1	28	65*	13	57*	13	60	12	50*	11
(% energy)	23	12	19	12	30·3*	4·3	31·1*	4·6	28·4*	4·7	28·1*	4·1
Carbohydrate												
(g/d)	263	87	248	88	276	56	250	51	279	49	250	43
(% energy)	61	13	64	12	57·1	5·1	56·4*	4·7	59·8	7	62·3	5·3
Calcium (mg)	278·8	177	341·8	207·5	439*	194	370	138	292	93	254*	76
Iron (mg)	12·6	5·3	12·8	5·7	18*	5·2	16·3*	4	16·5*	4·2	13·6	2·2
Retinol (μg)	561	641	636	635	648	489	617	254	167*	91	116*	87
Thiamin												
(mg/d)	0·98	0·58	0·95	0·5	1·3*	0·3	1·2*	0·2	1·2*	0·2	1	0·2
(mg/MJ)	0·13	0·08	0·14	0·08	0·17*	0·02	0·16	0·02	0·15	0·02	0·14	0·02
Riboflavin												
(mg/d)	0·7	0·36	0·7	0·32	0·8	0·3	0·7	0·2	0·4*	0·1	0·4*	0·1
(mg/MJ)	0·1	0·05	0·11	0·05	0·1	0·03	0·1	0·02	0·06*	0·01	0·06*	0·01
Ascorbic acid (mg)	97·5	68·4	130·9	84·8	59*	32	56*	25	49*	27	44*	23
Nicotinic acid												
(mg/d)	12·25	5·51	11·68	5·06	11·3	3·2	9·6*	1·9	8·8*	1·8	7·8*	1·5
(mg/MJ)	1·67	0·75	1·78	0·78	1·4	0·28	1·31*	0·21	1·11*	0·18	1·16*	0·21

* Significantly different from the same gender group from Hong Kong, $P < 0·01$.

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