

A SURVEY OF LIFE-STYLE DISEASES OF INHABITANTS OF THAILAND

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Abstract. To elucidate the way to prevent lifestyle-related diseases, such as diabetes mellitus and hypertension, in Asian countries, a comparative study between Mongoloids was conducted at Palau, in Oceania, the Republic of China, Thailand, Mongolia and Japan, from 1998 to October 2002. The survey comprised a social survey, nutrition survey, physical and medical examinations, biomedical analyses, urinalyses, and DNA analyses. This is an interim report for Thailand.

MATERIALS AND METHODS

The survey fields consisted of two sites: one was a business and residential area located 7km from Don Mueang Airport in Bangkok, and another was an agricultural village 65km north of Bangkok City. Fifty-three couples of subjects aged 40 to 69 years were investigated at both sites, as shown in Table 1.

RESULTS

The average ages of the subjects at both sites were 61 years for males, and 57 for females. Family members at the rural site were more numerous than those in the urban area.

As for the occupations in the rural site, 50.9% of males and 37.7% of females were farmers, while the percentages for office workers 39.6% and 35.8%, respectively, as shown in Table 2. At the urban site, 79.2% of males and 49.1% of females were office workers.

As for the physical character of the subjects, the average height of the males in the rural site was 162.7cm, and 164.7cm in the urban site. Female average height was 151.0cm in the rural site and 152.3cm in the urban site (Fig 1). Male average weight in the rural site was 61.7kg and in the urban 66.0kg, while females were 54.9kg and 59.8kg, respectively (Fig 2).

Significant differences in grip strength were found between the two sites in the 40-59 year-old group (Fig 3). Grip strengths of the rural and urban males were

34.3kg and 31.5kg, respectively, and 21.5kg at both sites for the females. The grips of the urban males 60 years old and above were significantly stronger than the same age group in the rural area (Fig 3).

The smoker rate in the rural and urban sites were 47.2% and 17.0% in males, and 11.3% and 1.9% in females, respectively, (Table 3). The rates of customary drinking in the rural and urban sites were 50.9% and 45.3% for males, and 20.8% and 11.3% for females, respectively (Table 4).

The states of obesity at both sites is shown in Fig 4. Body fat was measured by Tanita Body Fat Meter 610 (impedance methods), Japan. The criteria for obesity are as shown in Fig 4 as BMI ≥ 25 , %fat: male ≥ 25 , female ≥ 30 . As a result, the rates of obesity were significantly higher at the urban site than the rural in males aged 40-59 years and females aged 60 years and over.

Table 1
Character of subjects, sex by age and survey sites.

	Site	Age group		Total No.
		40~59 No. (%)	60~ No. (%)	
Male (Husband)	Rural	22 (41.5)	31 (58.5)	53
	Urban	16 (30.2)	37 (69.8)	53
		38	68	106
Female (Wife)	Rural	36 (67.9)	17 (32.1)	53
	Urban	30 (56.6)	23 (43.4)	53
		66	40	106
Total		104	108	212

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Table 2
Occupation of subjects.

Site		Farmer No. (%)	Office worker No. (%)	No occupation, housewife No. (%)	Total No.
Male (Husband)	Rural	27 (50.9)	21 (39.6)	5 (9.4)	53 ^a
	Urban	3 (5.7)	42 (79.2)	8 (15.1)	53 ^a
		30	63	13	106
Female (Wife)	Rural	20 (37.7)	19 (35.8)	14 (26.4)	53 ^a
	Urban	1 (1.9)	26 (49.1)	26 (49.1)	53 ^a
		21	45	40	106
Total		51	108	53	212

^ap<0.01

Table 3
Smoking habits.

Site		Smoking No. (%)	Not smoking No. (%)	Total No.
Male (Husband)	Rural	25 (47.5)	28 (52.8)	53 ^a
	Urban	9 (17.0)	44 (83.0)	53 ^a
		34	72	106
Female (Wife)	Rural	6 (11.3)	47 (88.7)	53
	Urban	1 (1.9)	52 (98.1)	53
		7	99	106
Total		41	171	212

^a:p<0.01

Table 4
Drinking habits.

Site		Drinking No. (%)	Not drinking No. (%)	Total No.
Male (Husband)	Rural	27 (50.9)	26 (49.1)	53
	Urban	24 (45.3)	29 (54.7)	53
		51	55	106
Female (Wife)	Rural	11 (20.8)	42 (54.7)	53
	Urban	6 (11.3)	47 (88.7)	53
		17	89	106
Total		68	144	212

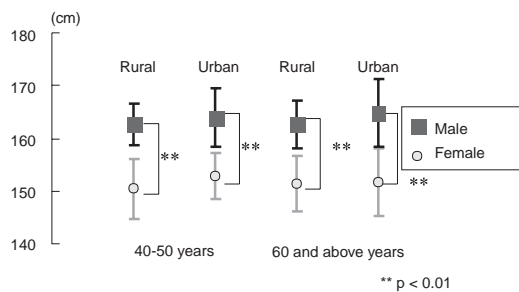


Fig 1- Height

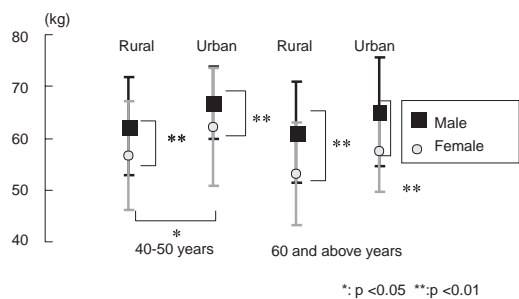


Fig 2- Weight

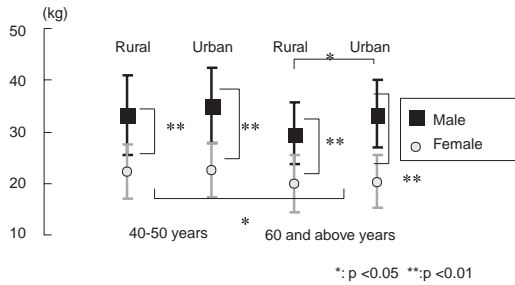


Fig 3- Grip strength.

DISCUSSION

It was unintentional that the average ages of the subjects at both sites were quite similar. Couples were intentionally selected to compare the influences of the family on the bio-chemical data. Even in the rural site, many people were office workers. In the urban site, most males and one third of females were office workers.

As for physical characteristics, the urban people were taller and had heavier and stronger grips than at the rural site. In the rural site, half of males and 10% of females smoked, but there were very few smokers in the urban site. Half of the males at both sites had a habit of drinking, and below 20% of females in both sites drank.

As for obesity, the rate of obese people was higher in the urban area on the whole.

In conclusion, this is an interim report of a Thai survey comparative study between five countries of Mongoloids. Judging from the analysis so far, the subjects at the urban site were taller and heavier in weight, had stronger grip strength than at the rural site, but had a higher rate of obese people. On the other

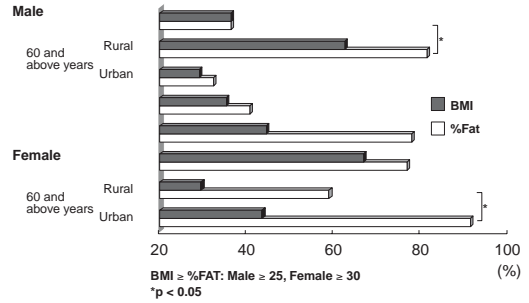


Fig 4- Comparison between BMI and %Fat.

hand, half of the males rural subjects smoked. The causes of the differences in grip strength and obesity between the two sites will be discussed after completion of the analysis.

ACKNOWLEDGEMENTS

We sincerely thank the survey participants at the two study sites for their cooperation, and Mahidol University, Bangkok, Thailand, for its kind support.

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