

## Coronary Heart Disease Mortality in Peninsular Malaysia

Sir,

In a review of mortality statistics in Malaysia for the period 1950-1989, Khoo K.L. *et al*<sup>1</sup> had used causes of death as percentages of total certified and inspected deaths among the three main ethnic groups in Malaysia. Although their analysis showed that the proportion of cardiovascular death was highest among the Indians, the difference was not so remarkable, when compared to the differences found among Indians, Chinese and Malays in Singapore<sup>2</sup>. This apparent lack of differences in the former findings could be due to different rate

of medical certification among the three ethnic groups in Malaysia. In 1990<sup>3</sup> the proportion of certified deaths among the Malays, Chinese and Indians were 29%, 51% and 56% respectively.

In Malaysia every death has to be reported by requirement of the law. Deaths that occur in the hospitals or health facilities are inspected and certified by medical doctors or qualified medical personnel. In such cases the death certificates would have the cause of death certified by such personnel, and coded using the International Classification of Death. On the other hand, the deaths that occur at home will not be inspected by such personnel, where the cause of death would be recorded as reported by the informant. Table I shows the trends in certified and uncertified deaths in five-year intervals from 1970 to 1990, among Malays, Chinese and Indians. The percentage of

**Table I**  
Percentage of medically certified and inspected deaths among ethnic groups, Peninsular Malaysia, 1970-1990. Data are percentages (no. of deaths)

Ethnic group	1970	1975	1980	1985	1990
Malay	15.3 (5391)	20.8 (7179)	24.0 (8115)	26.6 (9952)	29.1 (11464)
Chinese	52.8 (10773)	54.1 (11253)	51.8 (11057)	50.4 (11018)	50.9 (11610)
Indian	55.8 (4291)	57.0 (4742)	57.1 (4677)	56.1 (4856)	56.3 (4907)
Others	45.3 (231)	39.9 (165)	54.7 (226)	44.5 (208)	43.8 (238)
Total	32.3 (20686)	36.4 (23339)	37.9 (24075)	38.1 (26034)	39.5 (28219)

Sources: Vital statistics, Peninsular Malaysia for 1970, 1975, 1980, 1985 & 1990.

**Table II**  
Percentage of total deaths in urban areas among ethnic groups, Peninsular Malaysia 1970-1990. Data are percentages (no. of deaths)

Ethnic group	1970	1975	1980	1985	1990
Malay	16.7 (3839)	41.1 (14207)	16.1 (5435)	23.4 (8744)	24.1 (9485)
Chinese	45.4 (8598)	77.7 (16163)	53.4 (11248)	59.9 (13114)	60.2 (13735)
Indian	34.7 (2519)	66.0 (5494)	37.0 (3033)	45.5 (3940)	48.1 (4192)
Others	47.5 (198)	49.3 (204)	33.3 (138)	30.2 (141)	33.5 (182)
Total	30.6 (15154)	56.3 (36068)	31.3 (19854)	37.9 (25939)	38.6 (27594)

Sources: Vital statistics, Peninsular Malaysia for 1970, 1975, 1980, 1985 & 1990

**Table III**  
**Mortality rate (per 100,000 population) due to arteriosclerotic and**  
**degenerative heart disease, Peninsular Malaysia 1968-1971**  
**(urban areas)**

Age-group (years)	Ethnic group	Urban population		Mortality (ave. no. of deaths)	
		Male	Female	Male	Female
30-39	Chinese	80563	82055	13.3 (10.75)	4.0 (3.25)
	Malay	34050	38567	30.8 (10.5)	12.3 (4.75)
	Indian	16210	17831	97.2 (15.75)	15.4 (2.75)
40-49	Chinese	44011	50725	69.9 (30.75)	16.3 (8.25)
	Malay	26754	30576	123.3 (33.0)	19.6 (6)
	Indian	16858	11833	298.1 (50.25)	50.7 (6)
50-59	Chinese	45503	49979	164.3 (74.75)	47.0 (23.5)
	Malay	20500	20152	273.2 (56)	73.2 (14.75)
	Indian	15886	8591	538.2 (85.5)	139.7 (12)
60-69	Chinese	41773	35806	257.3 (107.5)	92.9 (33.25)
	Malay	11813	10771	279.4 (33)	69.6 (7.5)
	Indian	8916	3404	684.2 (61)	301.1 (10.25)
Total (30-69)	Chinese	211850	218565	105.6 (223.75)	31.2 (68.25)
	Malay	93117	100066	142.3 (132.5)	33.0 (33)
	Indian	57870	41659	367.2 (212.5)	74.4 (31)

certified deaths has increased by only 7.2% during that period. In the same period the proportion of certified deaths among Malays increased by 13.8%, Chinese decreased by 1.9% and the Indians increased by 0.5%.

The pattern of medically certified deaths has been compared to that of deaths in the urban areas for all ethnic groups as shown in Table II. Except for 1975

it can be reasonably assumed that all medically certified and inspected deaths covers most deaths in urban areas and some deaths in the rural areas. This could be explained by the locations of hospitals in Peninsular Malaysia. Each state will have a general hospital and one or more district hospitals. All general hospitals are located in the capital town of the respective state. General hospitals are the referral centres for other hospitals in the state. The General Hospital of Kuala Lumpur caters for the population in the city, but it is also the referral centre for all the general hospitals in the various states.

### Coronary heart disease mortality from 1968-1971

This analysis is based on medically certified and inspected deaths from 1968 to 1971 as reported by the Registrar General, Malaysia. The average number of deaths in specific age groups for Chinese, Malay and Indian males and females for the period between 1968 and 1971 were divided by the estimated urban population of the three races in the specific age groups using the 1970 population census figures to obtain the age specific mortality rate.

In carrying out this analysis the assumptions that have been made are:

- i) The percentage distribution of population in various age groups among the urban population of Chinese, Malays and Indians are the same as in the overall population.
- ii) The male to female ratio of the urban population of Chinese, Malays and Indians are the same as in the overall population.

In the 1970 population census the distribution of urban and rural population was 28.8 and 71.2 per cent respectively, and of the Chinese, Malays and Indians, 47.6%, 14.9% and 34.6% respectively lived in urban areas<sup>8</sup>. Table III shows the distribution of urban Chinese, Malays and Indians population aged 30 to 60 years in ten-year intervals and the mortality rate due to arteriosclerotic and degenerative heart disease (402-422, 7th revision of the International Classification of Diseases and Causes of Death).

Between 1968 and 1971 the mortality rates per 100,000 population in the age group 30 to 69 years, for coronary heart disease in males were 105.6 in Chinese, 14.3 in Malays and 367.2 in Indians. Taking into account the limitation of the population estimates, there is the suggestion that coronary heart disease is more common in Indians. In all ethnic groups, males had a higher mortality rate than the females. Chinese had the lowest mortality rate in both sexes and in all age groups except for females in the 60-69 years group. The differences in mortality rate between Indians and Chinese were highest among the 30-39 age group and fell gradually as age decreased. In the overall age group (30-69 years) for males, the mortality rate among male Indians was 3.5 times that of Chinese and 2.6 times the Malays. The findings of this analysis are comparable to that by Hughes<sup>2</sup> for the Chinese, Malays and Indians in Singapore.

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### References

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2. Hughes K, Lun KC, Yeo PPB. Cardiovascular diseases in Chinese, Malays and Indians in Singapore. I. Differences in mortality. *J Epidemiol & Comm Health* 1990;44 : 24-8.
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## Epidural Blood Patch for Post Dural Puncture Headache

Sir,

The incidence of post dural puncture headache (PDPH) varies from 4 - 60% , while the severity of symptoms varies from a mild headache to the severely