

DEMENTIA IN ELDERLY MALAYS - PRELIMINARY FINDINGS OF A COMMUNITY SURVEY

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ABSTRACT

This is a study of the prevalence of dementia in elderly Malays living in the Eunos district of Singapore. The subjects included all Malays 65 years and more living in public housing, and they were first interviewed and screened for any cognitive deficit using the Malay version of the Elderly Cognitive Assessment Questionnaire (ECAQ). All those who scored 5 or less in the ECAQ were assessed again with a more detailed questionnaire called the Geriatric Mental State (GMS) schedule. This is the preliminary results of 149 subjects interviewed - 77 men and 72 women. Data from the GMS were analysed by a computer diagnostic programme, AGE CAT. There were only 6 cases of dementia and the overall prevalence of dementia in the sample was estimated as 4.0%. In the age group 65 to 74 years the rate was 2.5% and this increased to 10.3% in those 75 years and more. The prevalence of dementia in elderly Malays is higher than elderly Chinese in Singapore, but it is similar to the results of studies in New York and Liverpool. All the subjects with dementia were living with their families and they had good social resources.

Keywords: Dementia, Malay, Elderly

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INTRODUCTION

There is a dearth of data on the functional status of elderly Malays in Singapore. Previous gerontological studies have concentrated mainly on elderly Chinese^(1,2). In Malaysia, Chen⁽³⁾ examined a sample of 1,001 elderly Malays, Chinese and Indians, but did not provide statistics for the individual groups. Moreover the study focused on symptoms only and made no attempt to categorise them into diagnostic syndromes. Presently there is no information on the epidemiology of dementia in the Malay population in South-East Asia, although they are one of the predominant ethnic groups in this region. Studies of dementia in the mental hospital⁽⁴⁾ or general hospital⁽⁵⁾ reflect a biased sample because in these institutions there are only a few elderly Malays and their number is not representative of the proportion in the general population.

The selection of a random sample of elderly Malays living in the community is ideal in an epidemiological study. But because their number is small and scattered in different districts, there can be problems in logistics during the survey. Since 80% of Singaporeans live in public housing estates, it was decided that a rational approach would be to survey a housing estate where there is a preponderance of Malay people and if possible, where there is an elderly day care centre. In Singapore, the Malay communities are concentrated around the Geylang and Eunos districts. The latter was selected because of the presence of an elderly day centre administered by the Home Nursing Foundation.

The aims of this study were:

1. to ascertain the prevalence of dementia in elderly Malays and
2. the care of patients with dementia in the community.

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METHODOLOGY

All the Malay households in the Eunos housing estate were surveyed by a Malay field investigator. The study was conducted in July 1990 and included only those who were 65 years or above. Besides demographic characteristics of age, sex, marital status and living arrangement, the families were asked about social relationships. The social resources questionnaire (Appendix I) examines social relationships with family and friends, availability of help if needed, loneliness and visitation by relatives and friends. The overall rating of social resources is divided into 4 categories, ie good, mildly impaired, moderately impaired and severely impaired. This scale is adapted from the Older American Resources and Services⁽⁶⁾.

The assessment of cognitive deficit was conducted by a two-phase design. The first phase screening utilised the Malay version of the 10-item Elderly Cognitive Assessment Questionnaire or ECAQ⁽⁷⁾ as shown in Appendix II. We have found that other screening questionnaires like the Mini-mental State⁽⁸⁾ and Mental Status Questionnaires⁽⁹⁾, are less appropriate for Asian elderly because of cultural difference or low literacy. The ECAQ assesses two facets of cognitive functions, namely memory and orientation-information. The suggested cut-off on the ECAQ for 'case' and 'non-case' is a score of 5/6. Table I compares the validity coefficient of the Mental Status Questionnaire (MSQ) and the Elderly Cognitive Assessment Questionnaire (ECAQ) as noted in a previous study⁽⁷⁾. It can be seen that the sensitivity of both scales is similar but the ECAQ has a higher specificity and positive predictive value, and lower false positive rate and overall miscalculation rate.

Table I - Validity Coefficient of ECAQ and MSQ

	ECAQ (%)	MSQ (%)
Sensitivity	85.3	88.2
Specificity	91.5	73.2
Positive predictive value	82.8	61.2
False positive rate	17.2	30.8
Overall miscalculation rate	10.5	21.9

ECAQ - Elderly Cognitive Assessment Questionnaire
MSQ - Mental Status Questionnaire

All those who scored 5 or less on the ECAQ were invited for a second phase assessment at the Eunus Day Care Centre. To reduce false negatives, a random sample of a tenth of those who scored 6 or more points were also assessed.

The Geriatric Mental State schedule (GMS) by Copeland et al⁽¹⁰⁾ was used in the second phase mental health assessment. The GMS is a semi-structured standardized interview instrument developed by the Anglo-American team in the London-New York study on the elderly. A shortened version of the GMS has been developed for community survey and the data can be applied to the computerised diagnostic system, AGE CAT⁽¹¹⁾. In this system, each subject is awarded a confidence level from 0 - 5 for the various diagnostic syndromes. A 'syndrome case' is reached at the AGE CAT diagnostic confidence levels of 3 or above. Copeland et al had tested the diagnostic concordance between AGE CAT and psychiatrists, and found an overall kappa values of 0.84 for a mental hospital sample and 0.74 for a community sample. In Singapore the AGE CAT diagnoses had been compared to those made by the psychiatrist and the Cohen's kappa for the overall agreement was 0.85, and the value for organic syndrome was 0.87. However, in Singapore, certain questions in the GMS need to be modified because of cultural differences⁽¹²⁾.

All the subjects diagnosed as probable dementia were further investigated, and this included a full blood count, blood urea and electrolytes, thyroid function test, VDRL, chest X-ray and computerized tomography of the brain.

The diagnostic criteria in the GMS AGE CAT programme are akin to the International Classification of Disorders, 9th Revision⁽¹³⁾.

RESULTS

The preliminary findings of 149 elderly Malays in the Eunus estate are presented. There were 77 men and 72 women; they were divided into two age groups - 65 to 74, and 75 and above (Table II). The age-sex distribution of the sample is quite similar to the 1990 census of population. In marital status, 66.4% were married, 32.2% widowed, 0.7% divorced and 0.7% single.

Nine of the subjects who scored 5 or less points on the ECAQ and fourteen with 6 or more were invited for the second phase interview with the GMS schedule. Of the former group, one was admitted into hospital for lung disease and was not assessed. In the latter group 3 declined further assessment. From the former group, 6 were diagnosed on the GMS-AGE CAT as cases of dementia (AGE CAT category 03) and 2 subcases (AGE CAT category 02). In the latter group all were categorised as non-cases.

Table II – Age-Sex distribution of elderly Malays

Age group	Sample		1990 Census	
	Men	Women	Men	Women
64 - 74	62 (42%)	58 (39%)	5,600 (42%)	6,800 (34%)
75 +	15 (10%)	14 (9%)	1,900 (12%)	2,000 (12%)
Total	77 (52%)	72 (48%)	7,500 (54%)	8,800 (46%)

In the age group 64 - 74 years, 2 cases of dementia were women and only one was a man. In the 75 years and above group, 2 cases were also women and one was a man. The overall prevalence of dementia in the sample was 4.0%, the rate for the 65 to 74 age group was 2.5% and 75 years and above was 10.3% (Table III). The prevalence for men was estimated as 2.6% and women 5.6%.

Of the 6 cases of dementia, 3 had a history of stroke, hypertension and ischaemic heart disease, and their

symptomatology was suggestive of multi-infarct dementia. They had previous admissions to the general hospital and were thoroughly investigated; but no CAT scans were done. Two cases refused any investigations and another had mild diabetes mellitus - the history of these 3 cases was suggestive of Alzheimer's Disease.

Table III – Prevalence of Dementia in Elderly Malays and Chinese in Singapore using GMS-AGE CAT programme

Age Group	Prevalence %	
	Malays (N = 149)	Chinese (N = 612)
65 - 74	2.5	1.2
75 +	10.3	5.0
Overall	4.0	2.3

In social resources and family care, 147 subjects (98.7%) lived with their families and only 2 (1.3%) were living with friends. About 69% of the sample had good social resources, meaning that their social relationships were good and at least one person would take care of them indefinitely. Another 28% of the sample had mild impairment of social resources - good social relationships with only short term help was available. Only 5 subjects (3%) had poor social resources, meaning that relationships were satisfactory but help was available only now and then. All the cases of dementia were living with the families and all of them had good social resources.

DISCUSSION

The interpretation of results in comparative studies of population will be difficult if diverse methods are used. Henderson and Kay⁽¹⁴⁾ have indicated that one of the reasons for the wide variation in prevalence studies of dementia in elderly people, is the different interview instruments in these surveys. The GMS schedule has been used in community studies of dementia in New York, London and Liverpool. In the study of elderly people in New York, Gurland et al⁽¹⁵⁾ used a modified version of the GMS. The prevalence of dementia in New York in a sample of 445 subjects was estimated to be 4.9%. In Liverpool, the study of 1,070 elderly living in the community by Copeland et al⁽¹⁶⁾ reported a prevalence of 5.2%.

In Singapore⁽¹²⁾, a random sample of 612 elderly Chinese aged 65 years and above was selected from the electoral roll in 1985. The sample procedure ensured that each group and sex was proportionally represented as in the 1980 census of population. The data from the GMS was analysed by the AGE CAT programme and the prevalence of dementia is shown in Table III. It can be seen that the prevalence for Malays is about twice that of Chinese and is only marginally lower than in New York and Liverpool. In the age group 75 years and above, the prevalence rate of elderly Malays is similar to that of New York and Liverpool. The prevalence of dementia in Chinese men (1.8%) is lower than Malay men (2.6%), and the rate for Malay women (5.6%) is twice that of Chinese women (2.7%). In general, the prevalence rate of dementia in elderly Malays in Singapore is quite similar to the studies in New York and Liverpool, but higher than elderly Chinese in Singapore.

Recently there have been controversies about psychiatric diagnostic criteria. The system of the International Classification of Disorders by the WHO⁽¹³⁾ has been found to be not sufficiently stringent for research, albeit in clinical practice its utility is satisfactory. The American system, known as the

Diagnostic and Statistical Manual III R⁽¹⁷⁾, has laid down strict criteria for specific diagnoses. Of the 9 subjects with less than 5 points on the ECAQ, only 5 satisfied the DSM III R criteria for dementia and hence a prevalence of 3.4%. In the survey on Chinese elderly, the GMS - AGE CAT diagnosed 14 cases in the sample of 612 subjects but only 11 satisfied the DSM III R criteria. Using the prevalence rate of 3.4%, the estimated number of dementia in the elderly Malay population in Singapore today would be about 550 cases. It is expected that with the ageing of the population and with more Malays in the old-old age group (75 years and above) there will be more cases of dementia. There is agreement in all surveys that the prevalence of dementia increases with age. In the meta-analysis of 22 different studies, Jorm et al⁽¹⁸⁾ found that the prevalence doubles every 5.1 years up to the age of 95.

As there are only a few cases of Malay elderly with dementia in the government homes and mental hospital it can be surmised that the majority of these cases are being looked after by the families at home. In the survey, all the cases had good social resources and family carers were not keen to send them to a home or hospital. They lived in with their families and had also good support from other relatives or neighbours. All the families had 5 or 6 children who helped in caring for the elderly parent. Many of the children lived in the vicinity and there were frequent social interactions. Presently, the care of Malay elderly with dementia is well provided by the family. But if the number of family carers dwindles because of smaller family size or because female carers prefer to seek employment outside the home, then there will be an imminent problem of care of the elderly. Unfortunately, the Malay carers do not tend to utilise the day care centres as much as the Chinese - these services will certainly alleviate the stress of caring.

The Elderly Cognitive Assessment Questionnaire is not only used as a screening instrument for survey but it can also be used by nurses, social workers or the general practitioners as a quick mental state test for elderly patients. A score of less than 5 points is indicative of cognitive impairment and further evaluation is necessary to confirm the diagnosis.

APPENDIX I

Social Resources Rating Scale (Adapted from OARS)

1. *Good social resources*
Social relationships are satisfactory and at least one person would take care of him (her) indefinitely.
2. *Mildly impaired*
Social relationships are unsatisfactory but at least one person would take care of him (her) indefinitely.
OR
Social relationships are satisfactory and only short terms help is available.
3. *Moderately impaired*
Social relationships are unsatisfactory and only short term help is available.
OR
Social relationships are satisfactory; but help would only be available now and then.
4. *Severely impaired*
Social relationships are unsatisfactory, and help would only be available now and then.
OR
Social relationships are at least satisfactory or adequate; but help is not even available now and then.

APPENDIX II

Elderly Cognitive Assessment Questionnaire - ECAQ

Satu markah bagi jawapan betul

INGATAN

1. Saya mahu anda ingat nombor in (seperti 4517) _____
Saya akan menguji anda dalam masa 10 minit lagi.
2. Berapakah umur anda? _____
3. Bilakah harilahir anda? _____
atau
Tahun bilakah anda dilahirkan? _____

MENGENALPASTI - MAKLUMAT

4. Hari apakah hari ini? _____
Apakah tarikh hari ini? _____
5. Hari _____
6. Bulan _____
7. Tahun _____
8. Apakah tempat ini dipanggil? (seperti, hospital, klinik)? _____
Tidak perlu memberi nama tempat.
9. Apakah pekerjaan dia (seperti jururawat, doctor)? _____

MENGENANG KEMBALI

10. Bolehkah anda ingat nombor tadi? _____
- Total: _____

SCORE

- 0 - 4 Probable case
5 - 6 Borderline case
7 > Normal

REFERENCES

1. Kua EH. The health of elderly Chinese living in the community. Singapore Med J 1990;31:111-5.
2. Phoon WO, Tan SB, Yik TY, Lee HP, Ang SC. Health problems in the older age groups in the community. Ann Acad Med Singapore 1976;5:169-74.
3. Chen PCY. The health of the aging Malaysian. Med J Malaysia 1987;42:146-55.
4. Kua EH, Tsoi WF, Chew SK, Tan KH, Tan CH, Cheng L. Mental illness in the elderly. Singapore Med J 1983;10:136-9.
5. Kua EH. Psychiatric referrals of elderly patients in a general hospital. Ann Acad Med Singapore 1986;16:115-7.
6. Duke OARS. Multidimensional functional assessment: the OARS methodology, 2nd ed. Duke University, Centre for the study of Ageing and Human Development, Durham NC. 1978.
7. Kua EH, Ko SM. A questionnaire to screen for cognitive impairment in elderly people in developing countries. Acta Psychiatr Scand 1992;85:119-22.
8. Folstein MF, Folstein SE, Mchugh PR. Mini-mental state. J Psychiatric Research 1975;12:189-98.
9. Kahn RL, Goldfarb AL, Pollark M, Peck A. Brief objective measures for the determination of mental status in the aged. Am J Psychiatry 1960;117:326-9.
10. Copeland JRM, Kelleher MJ, Kellett JM et al. A semi-structured clinical interview for the assessment of diagnosis and mental state in the elderly: The Geriatric Mental State Schedule. Development and reliability. Psychol Med 1976;6:439-49.
11. Copeland JRM, Dewey ME, Griffiths-Jones HM. Computerised psychiatric diagnostic system and case nomenclature for elderly subjects: GMS and AGE CAT. Psychological Med 1986;16:89-99.
12. Kua EH. A study of mental disorders in elderly Chinese living in the community in Singapore. MD Thesis. National University of Singapore 1991.
13. World Health Organisation. Mental disorders glossary and guide to their classification in accordance with the ninth revision of the International Classification of Disorders. Geneva: World Health Organisation, 1978.
14. Henderson AS, Kay DWK. The epidemiology of mental disorders in the aged. In: Kay DWK, Burrows G. eds. Handbook of Studies in Psychiatry and Old Age. Amsterdam: Elsevier, 1984:53-83.
15. Gurland BJ, Copeland JRM, Kelleher MJ, Kuriousky J, Sharpe L, Dean L. The mind and mood of ageing. London: Haworth Press, 1983.
16. Copeland JRM, Dewey ME, Wood N, Searle R, Davidson IA, McWilliam C. Range of mental illness among the elderly in the community: Prevalence in Liverpool using the GMS-AGE CAT Package. Br J Psychiatry 1987;150:815-23.
17. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorder, (PSM - III R). Washington DC: American Psychiatric Association, 1987.
18. Jorm AF, Korten AE, Henderson AS. The prevalence of dementia: a quantitative integration of the literature. Acta Psychiatr Scand 1987;76:465-79.