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## **Physical and Mental Health Problems of the Elderly in Nursing Homes in Kuantan, Pahang**

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### **ABSTRACT**

**Aim of study:** To describe the residents of nursing home for the elderly in relation to their socio-demographic, physical and mental profiles. **Method:** A cross-sectional study design was carried out. The elderly in two selected nursing homes in Kuantan, Pahang were interviewed. The respondents were interviewed using a structured questionnaire which included the biodata, social background, and medical illness, presence of cognition, depression and ability to perform basic activities of daily living (ADL). **Results:** Results are available for 36 respondents out of 41 residents, giving a response rate of 87.8%. Chinese (77.8%), male (63.9%), single or divorced (50%), and low income (69.4%) was consisted the majority. Most respondents (86.1%) suffered from chronic illness, 61.1% were functional dependent (according to Barthel index), 33.3% have cognitive impairment (according ECAQ) and 22.2% have depression (according to GDS-14). The most common functional dependence was mobility on level surface (47.2%), followed by climbing stairs (38.9%). **Conclusion:** This study had identified chronic illness, cognitive impairment, depression, and functional decline as major health problems of the elderly in nursing homes that require greater attention and intervention.

**KEYWORDS:** nursing home, ECAQ (Elderly Cognitive Assessment Questionnaire), Barthel Index, ADL (Activities Daily Living), GDS (Geriatric Depression Scale)

### **INTRODUCTION**

Ageing is a normal progressive process, beginning at conception and ending in death. Ageing is not synonymous with diseases but diseases become more common as age progresses. Usually the diseases present with non-specific multiple symptoms that involve many organs<sup>1</sup>. Increasing age in the elderly is associated with the higher morbidity and frequent use of health services<sup>2</sup>. Their illness tends to be chronic with no simple cure. This makes them more dependent on the family, society and health services.

Demographically the Malaysia's population is relatively young. However this transition will occur in the coming decades. In the year 2000, population aged 60 and over was 6.2 per cent and is expected to increase to 9.5 per cent in the year 2020<sup>3</sup>.

As a consequence of such a demographic transition, the elderly will have to cope on their own and some may have to be institutionalized. Institutionalization is a risk that the elderly face. Such elderly often experience excess morbidity and mortality. They become depressed and withdrawn as a result of lack of adequate contact with family and friends<sup>4</sup>.

In Malaysia, institutional care is delivered by three agencies: namely the government, the private sector and non-governmental organizations. The government provides residential homes and long term care under the Social Welfare Department, while the private sector and the non-governmental organizations (NGOs) provide the Nursing Home care.

Of the numerous nursing homes estimated to be in operation throughout Malaysia, only 188 are licensed by the Social Welfare Department as qualified care centre. Of these, only 29 are nursing homes for elderly, accommodating 1,046 residents. Seven of these homes are run by NGOs and the remaining is operated by individuals. In 2001, the Social Welfare Department has processed another 45 applications from individuals and 20 from NGOs for licensing<sup>3</sup>.

To date in Malaysia there is no study available on the profile of physical and mental health of the nursing home residents. Hence the objective of this study is to describe the residents of nursing home for the elderly in term of their socio-demographic, physical and mental profiles.

## **MATERIALS and METHODS**

This cross-sectional study was conducted in two selected Nursing Homes for the elderly in Kuantan, Pahang. There are five Nursing Homes for the elderly that are registered with the Social Welfare Department in Kuantan. Four of these homes are run by private sector and one by NGOs.

In this study, two Nursing Homes were selected, one from the private sector and one from the NGOs. They were included because they have the largest number of residents. There were 24 residents in the NGOs' Nursing Home and 17 residents in the private sector's Nursing Home that gave total of 41 residents. Out of these, only 38 volunteered to participate. From this numbers, two were excluded because of severe dementia.

Data were collected using the direct interview method from the 20<sup>th</sup> January to the 13<sup>th</sup> March 2006. A single trained interviewer interviewed all the respondents. Two languages were used for the interviews (English or Bahasa Malaysia depending on respondents' preference). The translator from the Nursing Home for Chinese language helped when the respondents could not understand either language.

The structured questionnaire consisted of two parts. First part consisted of socio-demographic factors and part two consisted of health problems. The socio-demographic factors included in this study were age, gender, ethnicity, marital status, educational level and income. Health problems were divided into physical and mental health. The physical health consisted of chronic illness and functional dependence, whereas depression and cognitive impairment were selected to represent mental health problems. Selection of these health problems were made based on their common prevalence among the elderly population.

The chronic illnesses included in this study were Diabetes Mellitus, Hypertension, Ischemic Heart Disease, Stroke, Respiratory Disease (Bronchial Asthma or Chronic Obstructive Pulmonary Disease) and Rheumatism. Presence of chronic illness was made based on the respondent's self-reports of illness that were diagnosed, under follow-up or treatment by medical practitioners in Malaysia.

The functional dependence status was assessed by using the Barthel's Index questionnaire. The questionnaire consists of 10 questions measuring basic Activities of Daily Living (ADL)<sup>5</sup>. Functional dependence in basic ADL implies that the elderly respondent needs assistance in one or more of their ADL<sup>6</sup>.

The Elderly Cognitive Assessment Questionnaire (ECAQ) was used to screen cognitive impairment among the respondents. The ECAQ consists of 10 items grouped under 3 categories: memory (3 items), orientation (6 items) and memory recall (1 item). Each item has a score of one mark for correct response. Respondents with total scores of 5 and below were identified as having cognitive impairment<sup>7</sup>.

The Geriatric Depression Scale (GDS) was used to screen for depression. The original GDS was created by Yesavage which consists of 30 questions<sup>8</sup> and the shorter 15 questions version (GDS-15) was later developed for easier use and better acceptability<sup>9</sup>. Both versions has been tested and used extensively to

measure depression among the elderly. In this study, a shorter version of GDS-14 by Teh that consists of 14 questions was used. The item-9 ("Do you prefer to stay at home, rather than going out and doing new things?") from GDS-15 was omitted in this shorter version of GDS-14 that made it more suitable to use for screening of depression in the Nursing Home. This GDS-14 is validated and has in Malay and English version with satisfactory reliability and validity. Scores of more than 5 indicate presence of depression with 95.5% sensitivity and 84.4% specificity<sup>10</sup>. The respondents who have cognitive impairment by using ECAQ are excluded from this question.

The data was analysed using Statistical Package for Social Science version 14 (Chicago, Illinois). The statistical significant level is taken at 0.05.

## RESULTS

There were 41 residents in both nursing homes. Only 36 residents participated in the study giving a response rate of 87.8%.

**Table 1: Demographic and Social profile (n = 36)**

		Number	Percentage
Age	60 – 69	17	47.2
	70 – 79	10	27.8
	> 79	9	25
Sex	Male	23	63.9
	Female	13	36.1
Race	Chinese	28	77.8
	Non-Chinese	8	22.2
Marital Status	Married	4	11.1
	Widowed	14	38.9
	Single/Divorced	18	50
Education Level	Not formal	20	55.6
	Formal	16	44.6
Income	< 500	25	69.4
	500-1000	5	13.9
	>1000	6	16.7

Table 1 shows the socio-demographic of the respondents. There were 63.9% men and 36.1% women aged 60 to 94 with mean aged of 68. The young-old elderly (aged 60 to 69) made up the largest proportion at 47.2% of the group. The majority of the respondents were Chinese (77.8%), followed by Indian (16.6%) and Malay (5.6%). Most of the respondents are single or divorced

(50%). As regards to the educational status, most of them did not have formal schooling (55.6%) and 69.4% have monthly income of less than RM 500.

**Table 2: Physical and Mental Health Problems of the elderly (n = 36)**

		Number	Percentage
Chronic Illness	Present	31	86.1
	Absent	5	13.9
Functional Status	Dependence	22	61.1
	Normal	14	38.9
Cognitive Impairment	Present	12	33.3
	Absent	24	66.7
Depression	Present	8	22.2
	Absent	16	44.4
	Excluded	12	33.3

Table 2 shows the physical and mental health problems of the elderly. Thirty one of the respondents (86.1%) were diagnosed to have chronic illness. Twenty two (61.1%) of respondents were functional dependence. Based on the ECAQ, there were twelve (33.3%) of 36 respondents had scores of 5 or less and thus showed that 33.3% of residents in nursing homes have cognitive impairment. The study found that eight (22.2%) of the residents have depression based on GDS-14 after excluding twelve with cognitive impairment.

**Table 3: Chronic Illness profile among the elderly (n = 36)**

Chronic Illness	Number	Percentage
Hypertension	20	55.6
Diabetes Mellitus	5	13.9
Rheumatism	3	8.3
Respiratory Disease	1	2.8
Stroke	14	38.9
Ischemic heart diseases	2	5.6

Table 3 summaries of medical condition of the respondents. It shows that majority of the elderly suffer from Hypertension (55.6%) and followed by Stroke (38.9%).

**Table 4: Functional Dependence among the elderly (n = 36)**

Activities of Daily Living	Number	Percentage
1) Bowel control – incontinence or occasional incontinence	6	16.7
2) Bladder control – incontinence or occasional incontinence	6	16.7
3) Bathing – unable or needs help	9	25
4) Using the toilet – unable or needs help	11	30.6
5) Transfer to bed – unable or needs help	11	30.6
6) Mobility on level surfaces – immobile or using wheel chair or needs help	17	47.2
7) Climbing stairs – unable or needs help	14	38.9
8) Dressing – unable or needs help	8	22.2
9) Grooming – unable or needs help	8	22.2
10) Feeding – unable or needs help	5	13.9

Table 4 shows the functional dependence among the elderly using Barthel's index. The most common problem identified using this index was dependent on activity in mobility on level surface (47.2%) and followed by climbing stairs (38.9%).

**Table 5: Factors associated with functional dependence among the respondents (n=36)**

Factors		Functional Dependence		p-value
		Present (%) n = 22	Absent (%) n = 14	
Age	60 – 69	12 (70.6)	5 (29.4)	0.528
	70 – 79	5 (50.0)	5 (50.0)	
	80 and more	5 (55.6)	4 (44.4)	
Sex	Male	13 (36.1)	10 (27.8)	0.452
	Female	9 (25.0)	4 (11.1)	
Race	Chinese	19 (56.5)	9 (32.1)	0.120
	Non-Chinese	3 (37.5)	5 (62.5)	
Marital Status	Married	4 (100)	0 (0)	0.17
	Widowed	9 (64.3)	5 (35.7)	
	Single/Divorced	9 (50.0)	9 (50.0)	
Education Level	Not formal	10 (50.0)	10 (50.0)	0.126
	Formal	12 (75.0)	4 (25.0)	
Income	< 500	14 (56.0)	11 (44.0)	0.467
	500-1000	3 (60.0)	2 (40.0)	
	>1000	5 (18.3)	1 (16.7)	
Chronic Illness	Absent	1 (20.0)	4(80.0)	<b>*0.042</b>
	Present	21 (67.7)	10(32.3)	
Cognitive Impairment	Absent	12 (50.0)	12 (50.0)	0.054
	Present	10 (83.3)	2 (16.7)	



Depression	Absent	6 ( 37.5)	10 (62.5)	<b>*0.032</b>
	Present	6 (75.0)	2 (25.0)	
	Excluded	10 (83.3)	2 (16.7)	

**\* p < 0.05 = significant**

Table 5 shows the factors associated with functional dependence among the elderly respondents. In this study, chronic illness ( $p=0.042$ ) and depression ( $p=0.032$ ) were found significantly associated with functional dependence among the elderly.

## **DISCUSSION**

### **Socio demographic Profile**

The results of this study showed that there were a higher percentage of elderly Chinese males. This is due to the criteria for admission to the NGO's Nursing Home is limited to those elderly whom are single, divorced or widowed with no relatives and poor financial background. Furthermore it is run by a religious association (Buddha's Temple Association) thus all the respondents are from the Chinese community.

This study also showed a higher percentage of single or divorced residents (50%), followed by widowed (38.9%). This finding is different to the study in Singapore which found a highest percentage of widowed and followed by single residents<sup>11</sup>.

Half the respondents (55.6%) did not have formal schooling. This result corresponded to the study by Shahar (2001) on social and health profile of rural elderly Malays<sup>12</sup>. Majority of the respondents in this study had a low monthly income (< RM 500/month), hence all the residents from the NGO's Nursing Homes also received financial support from the Social Welfare Department.

### **Chronic Illness**

Most of the respondents (86.1%) were diagnosed to have chronic illness. This finding is higher when compared to other studies, which found only 50-60% had chronic illness<sup>13-15</sup>.

The types of chronic illness in this study were Hypertension (55.6%) and followed by Stroke (38.9%) which is inconformity to the study in Singapore that showed 46% and 40% of the residents had Hypertension and Stroke respectively <sup>11</sup>.

The study by Sherina (2004) among the elderly in the rural community also reported high prevalence of chronic illness among the elderly namely Hypertension (22.0%), followed by Diabetes Mellitus (11.3%)<sup>13</sup>.

### **Cognitive Impairment**

The percentage of cognitive impairment was 33.3% among the respondents. This finding is lower than the earlier study in Singapore, which reported 48% of the elderly in the Nursing Home had cognitive impairment<sup>10</sup>. This finding is higher if compared to other studies in the community which showed the results of 7.7% to 22.4%<sup>13-16</sup>.

### **Depression**

The percentage of depression among the elderly in this study was 22.2%. This result is consistent with the study in Singapore that had 21% of the respondents suffering from depression<sup>11</sup>. As expected, the results of this study is higher than other studies in the community which found only 6.3% to 18% of the elderly suffering from depression.<sup>13-15,17</sup> This could be attributed to the family support of the elderly in the community as compared to those in the Nursing Home.

### **Functional dependence**

In this study, significantly high percentages (61.1%) of the elderly were dependent in at least one daily activity (ADL). This result is higher than the study in Singapore that showed only 41% of the elderly were dependent<sup>10</sup>. Other studies among the elderly in the community showed a lower functional dependence ranging between 8.0% to 17%<sup>6,13-15,18-20</sup>. The most common of functional dependence in this study was mobility on level surfaces (47.2%). This percentage corresponds to the study in Singapore that showed 48% of elderly were non-ambulant<sup>11</sup>.

Functional dependence is consistently reported as being associated with aging, females, low educational level, lack of exercise, chronic diseases, impaired cognition<sup>21</sup> and depression<sup>22</sup>. In this study, chronic illness and depression were significantly associated with functional dependence.

The limitations of this study are language barrier and small sample size, which contributed of the non-significant results. Future studies should use the Chinese version of Geriatric Depression Scale (GDS), Chinese trained interviewers and adequate sample size. This will produce statistical significant results.

## CONCLUSION

With increasing cost and difficulties in looking after elderly disabled at home, more studies should be carried out to assess the changing patterns of physical and mental health of the elderly and the factors associated with it. The health problems identified in this study were chronic illness, cognitive impairment, depression and functional decline. Preventive programmes and appropriate management should be instituted to address these problems.

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