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Functional Assessment in Thai Elderly Patients

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Abstract : In order to identify functional abilities such as activities of daily living (ADL), instrumental activities of daily living (IADL) and ambulation in elderly Thai patients (> 60 years old), a study was carried out at the out-patient clinic of the Department of Rehabilitation Medicine, Siriraj Hospital, from January to December 1995. A total of 155 out-patients (54 males, 101 females) with a mean age of 68 years (range 60-87 years), were interviewed and assessed. Most patients possessed independent activity in ADL and IADL (88 per cent and 68 per cent respectively). Patients with neurological disease had a higher score of dependency than those with musculoskeletal disease. Sixty-three per cent could ambulate without any walking aids or support and only 1 per cent were bedridden.

เรื่องย่อ : การประเมินความสามารถในการประกอบกิจวัตรประจำวันในผู้ป่วยสูงอายุไทย
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สารศิริราช ๒๕๓๕; ๔๘: ๕๗๖-๕๘๒.

ทำการศึกษาความสามารถช่วยเหลือตนเองของผู้สูงอายุในการประกอบกิจวัตรประจำวัน (ADL) รวมทั้งความสามารถด้านอื่น ๆ ที่จำเป็นต่อการมีชีวิตอยู่ในสังคม (IADL) และความสามารถในการเดิน, โดยทำการศึกษาในผู้สูงอายุที่มารับบริการที่ภาควิชาเวชศาสตร์ฟื้นฟู, ตั้งแต่เดือน มกราคม ถึงธันวาคม ๒๕๓๕, จำนวน ๑๕๕ คน เป็นชาย ๕๔ คน, หญิง ๑๐๑ คน, อายุเฉลี่ย ๖๘ ปี (๖๐-๘๗ ปี). พบว่า ร้อยละ ๘๘ ของผู้สูงอายุสามารถช่วยเหลือตนเองในด้านกิจวัตรประจำวัน และร้อยละ ๖๘ สามารถประกอบกิจกรรมด้านอื่น ๆ, โดยผู้ป่วยโรคทางระบบประสาทมีค่าคะแนนเฉลี่ยของความสามารถสูงกว่าผู้ป่วยกลุ่มโรคกระดูกและกล้ามเนื้อ, ส่วนความสามารถในการเดินนั้นพบว่าผู้ป่วยร้อยละ ๖๓ สามารถเดินได้, โดยไม่ต้องใช้เครื่องช่วยใด ๆ เลย และร้อยละ ๑ ไม่สามารถเดินไปไหนมาไหนได้ต้องนอนอยู่บนเตียง.

Functional assessment screening by the physician is useful in evaluating the health status of elderly patients and in determining their needs for inhome assistance, home-health services or institutional placement. In the acute care setting,

functional assessment in selected patients facilitates discharge planning, and it is essential in patients over 75 years of age. The American College of Physicians has recommended that primary care practitioners should incorporate

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within their routine medical management of older adults procedures for measuring functional deficits and identifying dependency needs.¹

Among persons aged 75 or over, restricted activity is twice as common as found in persons aged 45 to 64.² The growing number of the elderly persons who have debilitating chronic conditions demands some shifting of emphasis from the treatment of acute self-limited illness to such chronic problems as occlusive vascular disease, degenerative joint disease, alterations in cognitive function, incontinence, frequent falling, social isolation and poverty. An elderly patient may have several of these conditions, yet still be able to function without extensive use of health care resources. On the other hand, a patient with less advanced disease may have more severe functional impairment. With no assured correlation between medical diagnosis and functional status, measurement of the patient's environment, mobility, ADL and IADL provide the indicators of present and future dependence on health care.

Functional status assessment has proved useful in improving diagnostic and therapeutic outcome.²⁻⁵ Recognition of functional impairment helps in the discovery of previously undiagnosed and often highly treatable conditions. Identification of the patient's specific obstacles to independent living may lead to adoption of less costly and more agreeable alternatives to institutional care. If standard functional status measures are repeated at certain intervals, any change in the needs for nursing care of the patient can be recognized earlier and the prognosis of chronic illness can be more accurately determined.

Objective

To assess the functional abilities in the areas

of basic self care (ADL), higher functions (IADL) and ambulation of the elderly.

MATERIALS AND METHODS

This study was conducted at the outpatient clinic of the Rehabilitation Medicine Department, Siriraj Hospital, from January to December 1995. All patients who were 60 years of age or older were assessed. Patients who were non-communicative or unwilling to join the study were excluded.

To determine ADL, the patients were questioned on their eating, dressing, bathing, toilet and transfer abilities. To determine IADL, the patients were questioned about their cooking, shopping, laundering and cleaning, money management and transport abilities. Each of these abilities was classified as independent, needing assistance or support instruments, or inability to perform activities and given a score of 1, 2 or 3 respectively. The higher the score, the greater the dependence classification of each patient. When the patients could not report their physical function due to cognitive impairment, ADL and IADL classifications were determined by the investigator's judgement or by the information obtained from a family member, whenever possible.

To determine ambulation ability, the assessment was made both from a reliable history of the patient and from a physical examination by having the patient walk. Ambulation ability was classified as independent with cane, with assistance, with a walker, with a wheelchair or bed-ridden.

RESULTS

The number of patients studied totalled 155, comprising 54 men (35 per cent) and 101 women

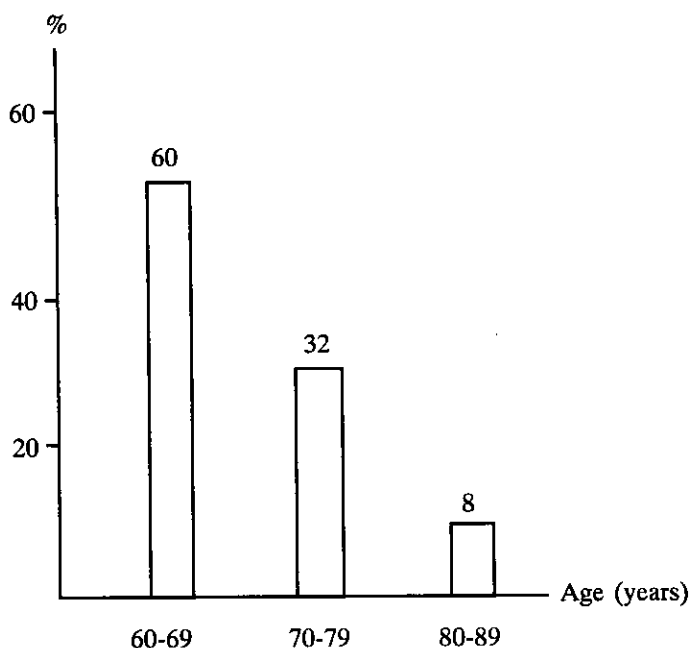


Figure 1. Age distribution of the study group.

Table 1. Prevalence of functional ability in activities of daily living and instrumental activities of daily living.

Functional area	Independent n (%)	Need assistance/instrument n (%)	Unable to perform n (%)
ADL			
Eating	151 (97)	4 (3)	0 (0)
Dressing	139 (90)	14 (9)	2 (1)
Bathing	138 (89)	16 (10)	2 (1)
Toileting	147 (95)	8 (5)	0 (0)
Transfer	147 (95)	5 (3)	3 (2)
IADL			
Cooking	117 (75)	32 (21)	6 (4)
Shopping	109 (70)	40 (26)	6 (4)
Laundering	114 (73)	35 (23)	6 (4)
Cleaning	122 (79)	27 (17)	6 (4)
Managing money	145 (93)	7 (5)	3 (2)
Transportation	121 (78)	28 (18)	6 (4)

Table 2. Ability level of ADL and IADL in the study group.

	ADL No (%)	IADL No (%)
Independent all functions	137 (88)	105 (68)
Some degree of dependence	17 (11)	44 (28)
More dependence	1 (1)	6 (4)

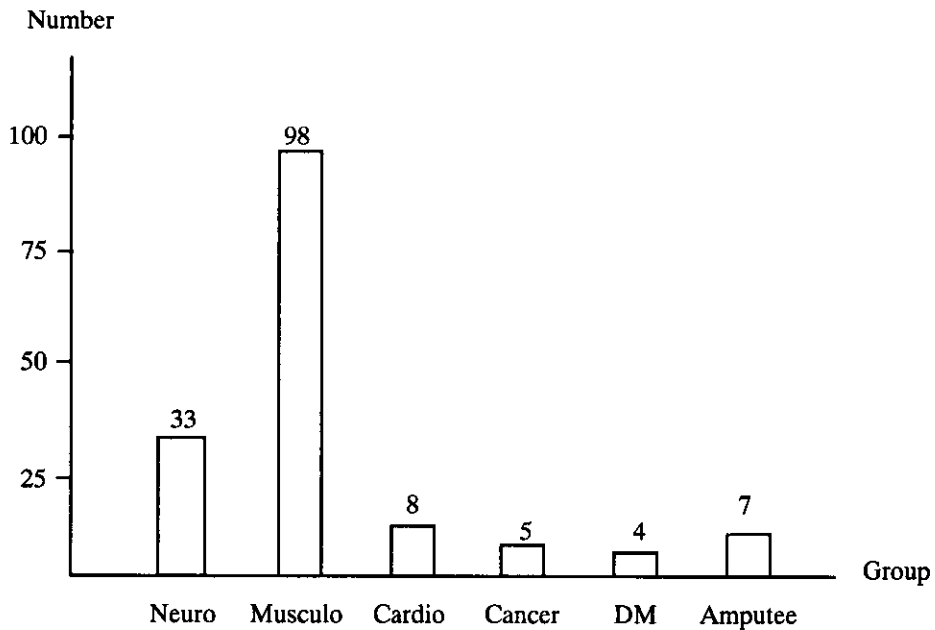


Figure 2. Disease group categories of the study group.

Table 3. Comparison of ADL and IADL scores for patients with neurological and musculoskeletal diseases.

Diseases	ADL score (x ± SD)	IADL score (x ± SD)
Neurological (n = 33)	5.85 ± 1.48	8.00 ± 3.39
Musculoskeletal (n = 98)	5.11 ± 1.76	6.89 ± 2.13
P value*	0.009	0.003

* t-test

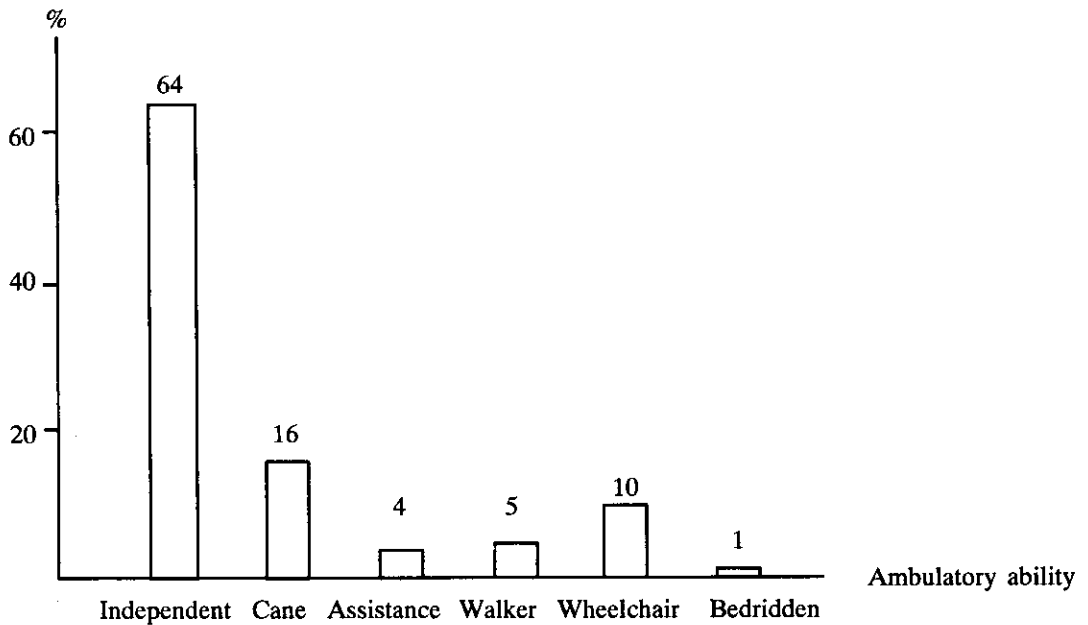


Figure 3. Ambulatory ability of the study group.

(65 per cent). Mean age of the patients was 68 years. The age of most patients ranged from 60 to 79 years (figure 1).

The majority of the group studied were capable of independent ADL and IADL, while the minority were unable to carry out these activities (table 1). Considering the number of patients who were capable of all functions of ADL and IADL activities, 88 and 68 per cent were found capable of functioning independently (table 2). The two most common underlying disorders were musculoskeletal and neurological diseases (figure 2). The mean scores of ADL and IADL activities were higher in patients with neurological than musculoskeletal diseases (table 3). Sixty-four per cent of the patients could ambulate without any walking aid or support, and only one per cent were bedridden (figure 3).

DISCUSSION

An individual's ability to function indepen-

dently accounts for the significant aspects of the quality of life. Two categories of activities which describe the functional abilities of the elderly are activities of daily living (ADL) and instrumental activities of daily living (IADL). ADL functions represent activities that are essential for self-care (e.g., bathing, dressing, eating). IADL functions represent activities that are necessary to adapt independently to the environment (e.g., shopping, cooking, transportation). These abilities are basic activities that the elderly should be able to do by themselves in order to live independently.

In this study, the proportion of patients who were dependent in ADL ranged from 3 to 11 per cent in various activities. Pinholt in 1987⁶ assessed ADL separately, and the patients were classified as functioning independently or dependently. The proportion of the patients who were dependent in ADL in his study ranged from 16 to 33 per cent in various activities. Similar findings on the high

prevalence of functional disability among hospitalized older patients were reported by Warshaw et al,⁷ who found that over 50 per cent of patients aged 85 years or older had impaired ability to perform activities of daily living, whereas between 10 and 20 per cent of patients between 70 and 75 years old were likewise impaired. Thus, the study found a lower prevalence of patients who were dependent than those reports because of the type of patients studied, as in- or out-patients, and the severity of their diseases. In this study, the numbers of patients who could do ADL independently in all functions, with some degree of dependence, and totally dependent were 137 (88 per cent), 17 (11 per cent) and 1 (1 per cent) respectively. Thongsopit and co-workers⁸ studied the patients in Sampran district, NaKhorn Pathom in 1993, and found that 60.8 per cent of elderly were totally independent in ADL. The reasons for the different result could be due to the difference in characteristics of the studied group who may have different life-styles to those of the group covered by the present study.

Considering IADL ability, the number of patients who were dependent ranged from 7 to 30 per cent. Elderly people are more likely to be dependent in certain IADL activities than ADL activities, while those who were hospitalized are dependent both in IADL and ADL activities.⁹ Spector and co-workers¹⁰ studied the relationship between ADL and IADL in the community and two service-based samples in 1987 and found that the percentage of patients dependent in IADL and ADL ranged from 10 to 63, depending on the source of samples selected. In the community-based sample, they found that less than one-fourth (23 per cent) needed help with shopping or transportation and about 10 per cent or less were de-

pendent in ADL. But in the service-based samples, almost all of the subjects needed help with shopping and transportation (94 and 84 per cent, respectively), while 40 to 59 per cent were dependent in one or more ADL. These studies confirmed that the different results among various studies depended upon different characteristics of patients.

With regard to the disease group of the populations studied, musculoskeletal and neurological diseases were the two most common groups. When comparing the mean and standard deviation of ADL and IADL scores among those two disease groups, it was found that the score of patients with neurological disease was higher than those with musculoskeletal diseases. It can be concluded from this finding that the patients in the first group were more dependent.

In assessment of ambulation ability, Pinholt et al (1987)⁶ studied 79 elderly patients in Texas and found that 61 per cent of the patients were able to ambulate unassisted or with the assistance of a cane, 20 per cent were unable to walk more than five steps without the aid of a walker or an assistant, and 19 per cent were bedridden or unable to stand. In this study, we found a lower prevalence of dependency, i.e., 80 per cent of the patients ambulated independently or with a cane, 9 per cent had to use a walker or an assistant, and only 11 per cent had to use a wheelchair or were bedridden. The patients included in the Pinholt et al. study were 70 years of age or older and were hospitalized. The subjects of the present study were 60 years of age or older and were out-patients at the Rehabilitation Medicine Department, thus they were more healthy than the Pinholt group of patients.

CONCLUSION

Functional assessment is beneficial in the evaluation of physical abilities. A total of 155 patients were interviewed and assessed for these abilities. The findings were that the majority of the patients in this study could independently do ADL, IADL and ambulation ability (88, 68 and 64 per cent respectively). The results showed that the

patients possessed more potential for these activities than patients assessed by other studies.

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