CHAPTER II

LITERATURES REVIEW

Functional ability is a central focus for evaluation of an elderly individual because it reflects overall health, well-being and health care service utilization. In physical therapy, the term functional status most commonly refers to performance in physical function. It can specifically refer to an individual's ability to perform activities of daily living (ADL) (Linda v.d., Kathryn ER, 1989). Activities of daily living (ADL) are classified as a component of physical function. ADL consist of tasks that are recognized as essential components of everyday life. They are tasks that the person must perform in order to function within the home and society. activities of daily living can be divided into two categories.

2.1. Basic activities of daily living (BADL):

BADL can be divided into two groups; basic mobility and self-care. Basic mobility task include bed mobility, transfers, ambulation include gait and other mobility. Self-care tasks consist of feeding, bathing, dressing upper and lower part of body, grooming, toothbrush, combing hair, toileting, bowel and continence. These tasks are more fundamental and body oriented than instrumental activities of daily living.

2.2. Instrumental activities of daily living (IADL)

IADL are more complex and less body-related activities than BADL. IADL can be divided into two categories: activities perform in the home (such as laundry, housekeeping), and activities performed outside home (such as using of transportation and shopping).

Figure 2.1 demonstrate that a schema of ADL.

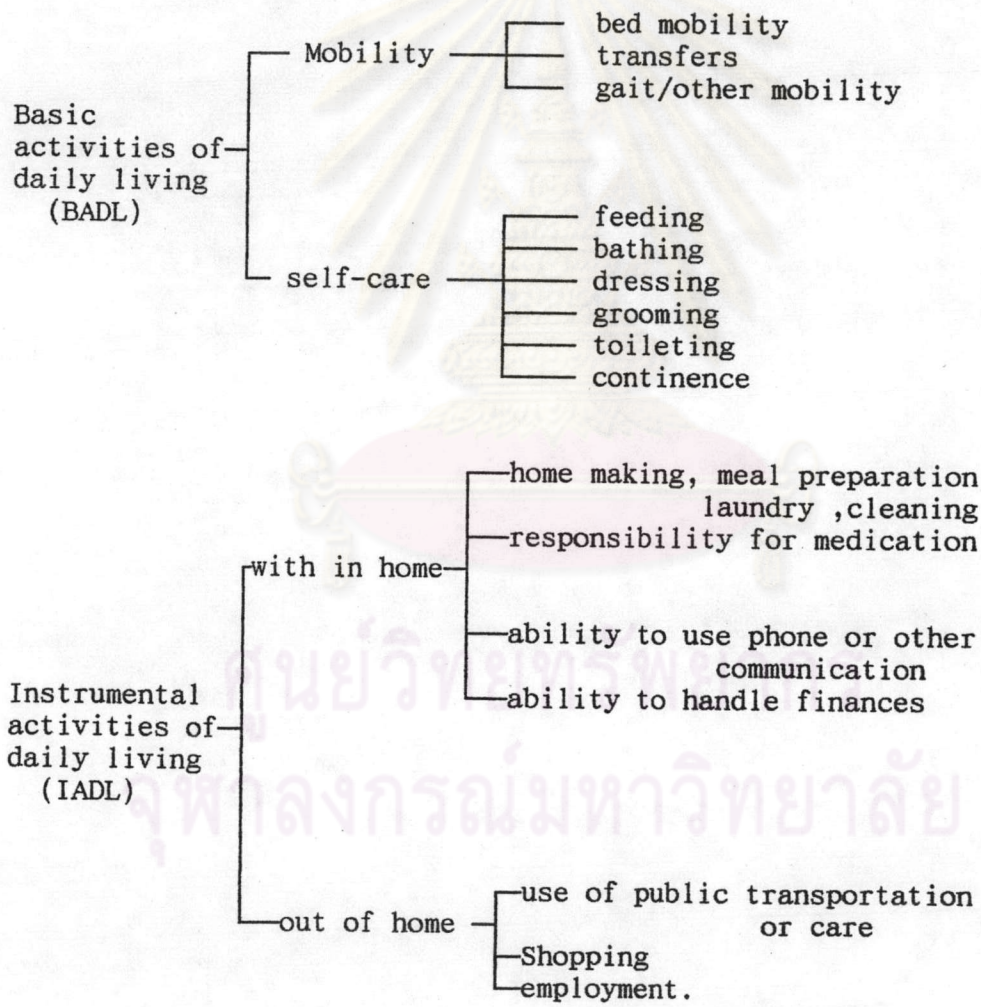

fig. 2.1 **Schemes of activities of daily living**

ADL can be viewed as a hierarchy of skills. Certain physical factors such as muscle strength and joint mobility provide the foundation for the basic mobility, as sit-to-stand transfer. The ability to perform basic mobility combines with motor function as well as certain aspects of mental and emotional function enable a person to perform self-care, as bathing and toileting. Self-care are more complex than mobility. Many self-care tasks have a basic mobility component. For example, toileting involves the ability to transfer. It also involves a person's ability to manage his garment. Thus independent toileting requires that a person must be independent in transfers as well as some aspects of dressing. A person may demonstrate improvement in his ability to toilet independently because he has improved in his ability either to transfer or to rest. It is important to understand the manner in which ADL are inter related when designing and evaluating the effectiveness of treatment program.

Instrumental activity of daily living (IADL) are more complexity. The ability to perform the various IADL is influenced by a variety of factors. There are physical, emotional, mental, and social function. For example, a person to perform shopping independently, he would need to be independent in basic mobility transfers and ambulation, self-care dressing and toileting. For in-home handling finances, and the out-of-home use of transportation must be independent. Inability to perform any one of the ADL independently would prevent a person from shopping independently.

A large number of physical factors influence a person's ability to perform any given ADL. Although ADL are considered a part of physical function, other areas of function also influence a person's ability to perform ADL as well. These are mental, social, and emotional functions. (Fig 2.2).

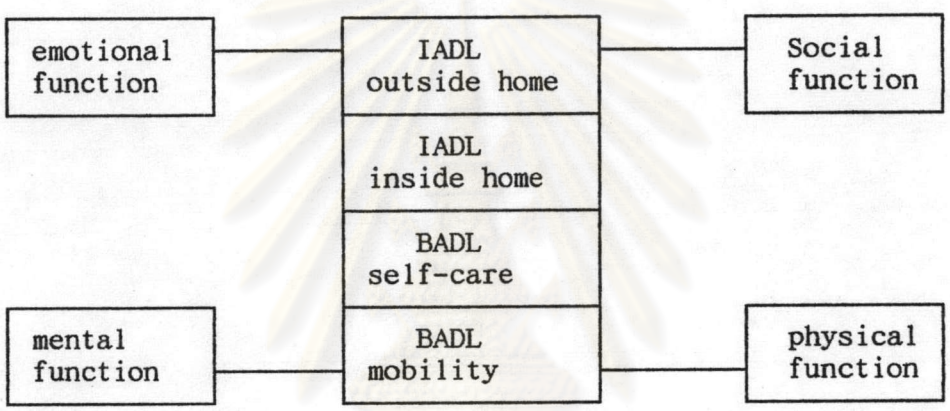

Figure 2.2 **Factors influencing functional status.**

2.1 **Mental function:** This area deals with intellectual or recognitive ability, memory and reasoning capabilities.

2.2 **Emotional function** : Emotional function has been defined in terms of a **person' s affect and effectiveness in coping with life's stress.** Depression, anxiety, and happiness are factors that reflect emotional function. Depressive symptom is probably the most common emotional problem in the elderly.

2.3 **Social function** : This area is involved with a person's ability to do various social roles such as to establish and maintain good human relationships (meeting friends, relatives).

2.4 **Physical function** : This area deals with sensory-motor tasks (as walking, climbing stairs, shopping, doing housework, preparing meal) which are part of Activities of daily living (ADL).

The instruments for measuring ADL (McDowell and Newell, 1987) include: the PULSES profile (Moskowitz, E and McCann, 1957), PULSES represent the following; P, overall physical condition; U, upper limb function, including self-care; L, lower limb function, including mobility; S, sensory status and communication; E, excretory or bowel and bladder control; and S, situational factors. Bathel Index (Mahoney & Bathel, 1965), Index of Independence in activities of daily living (Sidney Katz, 1959), Kenny self-care Evaluation (Schoening, H,S and staff, 1965), Functional Status Rating System (Forer, 1959) etc. Most of the rating scale have been developed based on populations of chronically ill and aging persons, although some have been based on particular disability such as stroke, hip fracture, or arthritis. These general scales provide a measure of overall function but may not be sensitive enough to detect or assess specific functional impairments.

The existence of so many scales implies, each of them has difference aspect of ADL measurement. No scale is cover all ADL and the scale would be fit for difference kind of the elderly in institutional, nursing home or in

community. The PULSES Profile and Bathel Index appear to provide the most potential useful information for functional evaluation the elderly. The PUSES Profile indicator as adapted by Granger et al., provide a measure of general function performance. In addition to the rating of overall mobility and self-care ability, it also evaluates several functions, including medical and psychosocial factors. The Bathel Index is widely used because it has been developed since the 1940s. The measurement focuses on self-care and basic mobility and amount of assistance required to perform each activity. The BI has been used in acute care and rehabilitation hospital. The lack of IADL items and inaccurate rating method in BI, limits its rating to basic self-care and mobility, but the usefulness is much more sensitive in terms of identifying specific difficulties within these key function areas. Wylis and Granger et al. have extensively studied stroke patients using the Bathel index and PULSES Profile as a indicator of response to intensive rehabilitation involvement. In summary, the PULSES Profile and Bathel Index may proved to be useful adjunction clinically, primarily be providing a standardized format for functional evaluation and by providing a sensitive monitor to detect subsequent changes in function in hospital or nursing home.

From the literature survey, there were no ideal scale that measure ADL and fit to the elderly in Thamprakorn home and also there were no scale that categorizes the severity of disability has been developed for the study of the elderly in the institutional care. In this study, modified BI for ADL combining with IADL items that are important and necessary for daily living, and analysis of activities of daily living (Scully, 1989) will be used in

the questionnaires. The scales have been designed to cover the severity of functional disability and for use in an institution. The level of functional disability will be categorized as independence, dependence, need supervision and assistance, more details will be mentioned later.

Related Study of disability.

The National Center For Health Statistic did the community survey about the disable elderly. It demonstrated that 9 % of the total population aged 65 and over " need help" with one or more ADL's and 11 % with IADL's. Of those aged 65 to 74, only 5 % had ADL and less than 6 % had IADL limitations ; the percentage increased to 35 % and 40 % for those aged 85 and higher. Repeated survey in 1982 in the non-instutionalized population showed the prevalence of functional disability is higher among women than men. The rate of functional disability increase with age for both blacks and whites, poor more than non poor.

In developed countries, Schneider found that the factors which have influenced the functional disability in nursing home includes age, personality, life-style, background, religion, culture, ethnic, education, and society (Schneider, L. E., et al., 1985).

The elderly experiences more disability than do younger groups. There is a steady increase in restriction on activity with age, but even among those 85 years old and older, only about half limit their major activity because of chronic condition. Despite of having more chronic conditions and restricted activity, the elderly tends to

report their health as generally good. Most of older person are indeed self-sufficient and able to function on their own or with minimal assistance. Those who need help are likely to be very old. There is a clear progression in limitation of mobility with age. The pattern of ability to perform basic self-care activities showed the same relationship with age. (Federal Council on aging, 1981).

From the national survey of disability in Great Britain in 1987. (Martin, J., Meltzer, H., Eliot, D. 1988).Many disabilities are caused by the impairments that arise as a consequence of the aging process. The survey found that the overall rate of disability rises with age, slowly at first then accelerating after 50 and rising very steeply after about 70. Almost 70% of disabled adults aged 60 or over and indeed nearly half aged 70 or over. The survey showed that there are more disable women than men, partly because women live longer than men and therefore there are greater numbers of elderly women among whose disability rate is high. The rate of disability is higher for women than men.

In Thailand many aspects of the elderly such as aging problem and possible solution in Klong Toey Slum (Sitthi-Amorn C, Bunnag S, 1990), health examination survey of the elderly at Dindaeng, Bangkok (Srithong C, Viputsiri O, Tuttakorn V, et al., 1988), strategies for solving health problem in elderly (Yasamut S, Jivasantikarn P, Jiraveerakul N, et al., 1989), socio-economic consequences of the aging population in Thailand Bangkok (Chayovan N, Wongsith M, Saengtienchai C, 1988), the prevalence of functional disability among elderly living in Klong Toey Slum (Jittapunkul S, Kamolratanakul P;

unpublished). However, there is no study about functional disability among the elderly living in home care for the elderly.