Attributes of Active Ageing among Older Persons in Thailand: Evidence from the 2002 Survey

Active ageing groups were found mostly among males, "younger" and married elderly, with a rather high prestige occupation and high levels of education, suffering from no chronic illnesses.

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Thai people's life expectancy has risen from 59 to 72 years between 1964 and 2005 (Prasartkul and Vapattanawong, 2005), while the proportion of persons aged 60 years and over in Thailand has been dramatically increasing, from 4.6 per cent in 1960 to 9.5 per cent in 2000 (National Statistical Office (NSO), 1960 and 2000). It is expected that Thailand will face a "population ageing" crisis in the

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year 2017, when older persons will constitute approximately 14 per cent of the total population, an increase from 7 per cent in 1987 (Jitapunkul, 2000). In other words, the percentage of older persons will double within 30 years and will further increase to 25 per cent of the total in 2035, based on a recent population projection done by the Institute for Population and Social Research, Mahidol University (2006). This means that Thailand has only a relatively short time to prepare to respond to the various challenges brought about the greying of its population and in particular issues related to the health, welfare, housing and long-term care of older persons.

Old age is the period of obvious changes in both physical and mental capacities, which result in many inevitable health problems. Older persons usually fall victim to various illnesses and diseases, both communicable and non-communicable. Hoffman, Rice and Sung (1996) report that 88 per cent of all older adults in the United States of America suffered from at least one chronic condition and that 69 per cent of them had more than one such condition. According to a study conducted by the Health Research System Institute in 1999, older persons in Thailand have been increasingly afflicted by chronic conditions and are facing more and more disabilities. It was found that 74.3 per cent of Thai elderly had at least one chronic illness and that most of them suffered from many chronic illnesses simultaneously (Chooprapavan, 2000). Several studies are showing that the origins of risk for chronic conditions are socio-economic factors, inadequate diet and other established risky health behaviours such as smoking, drinking alcohol and not performing physical activities (Chayovan and Knodel, 1996; Jitapunkul and others, 1999; Chooprapavan, 2000).

Normally, some chronic illnesses can be prevented and controlled by engaging in health-promoting behaviours. However, various studies note that the Thai elderly tend precisely to avoid such behaviours. For example, a study by Chayovan and Knodel (1996) found that less than half (48 per cent) of older persons exercised and only about 31 per cent had regular physical check-ups. The Survey of the Elderly in Thailand conducted by the NSO in 2002 found that most Thai older persons ignored exercise and that only 22 per cent actually did exercise, while only one third had annual check-ups performed. This indicated that Thai older persons rarely nurture their health, which can lead to various health problems in later life. Nearly one fourth of older persons suffered from poor and very poor health, and 3 per cent had disability conditions (Chayovan, 2005). As a result, the Government of Thailand will have a heavier burden in providing health services for older people, especially regarding their illnesses. These conditions also drain a family's financial resources as well as have an adverse effect on the national economy.

Another important problem faced by the Thai elderly is their economic condition. The average annual income of older persons was about 29,000 baht (US$1 = about 36 baht) and the median annual income was about 10,000 baht. One third of older persons had an average annual income of less than 5,000 baht or less than the median income of the Thai elderly population in general and well below the poverty line (Chayovan, 1999). Another study, "Thai Vulnerable Elderly" conducted by Chayovan (2005), found that approximately 14 per cent of older persons in Thailand faced economic problems. Most of them were female, living in rural areas and having little education. In addition, most of those disadvantaged elderly had a lack of the knowledge about how to prepare themselves to face the "golden years", especially possible health and economic problems. Only one fifth had made some kind of preparation for their economic well-being and health before ageing.

Although preparation for a future "ageing society" in Thailand has still not been set as priority item in the national agenda, many laws and various plans for older persons have been promulgated and implemented, such as the Act on Older Persons, 2003, which guarantees the right to receive social welfare services and tax privileges for those who take care of their elderly parents. There was also the first National Plan for Older Persons (1986-2001) which aimed to stimulate public awareness for society's responsibility to take care of older persons and encourage them to retain their roles as "active participants of the societies". The Second National Plan for Older Persons (2002-2021) is aimed at promoting well-being and social security, including preparation for good quality ageing (Ministry of Social Development and Human Security, 2005; National Economic and Social Development Board (NESDB), 2005). As the population ages, there will be increasing demand for policies and plans to encourage more and more individuals to reach old age in good health. Thus, an "active ageing" approach to policy and programme developments has the potential to address the many challenges faced by both individuals and an ageing society (WHO, 2002). This would help to offset the rising costs in pensions and income-security schemes as well as those increasing expenses related to medical and social care.

One of the most important issues that the related government agencies plan to promote to set the direction for addressing the needs of older persons in the future is "active ageing" (National Commission on the Elderly and Bureau of Empowerment for Older Persons, 2004; NESDB, 2005). This initiative is in line with the Policy Framework for Active Ageing launched by WHO in 2002. WHO defines "active ageing" as "the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age". Active

ageing enables people to realize their potential for physical, social and mental well-being throughout their life course and to participate in society according to their needs, desires and capacities. The word "active" refers to older persons who are independently and continuously interacting with others, both family members and others in the larger society – not just those who are physically active or who participate in the workforce. In addition, active ageing is also important for improving the quality of life in later life. Thus, individuals should be aware and should prepare themselves in order to maintain health, independence, security and produce some benefits for society (WHO, 2002: 12).

In Thailand, "active ageing" is still not a concept widely accepted by all sectors. However, Jitapunkul (2001) coined an expression in the Thai language, *phleutta palang*, which corresponds in meaning to WHO's concept, and he mentions that active ageing should be considered as representing a new direction in older persons' development.

Although concepts of "active ageing" refer to all ages and require multidisciplinary study on ageing, in many countries, including Thailand, only fragmented research on health, participation and security of older persons has been carried out. Research using the WHO framework based on the integration of these three basic factors represents a challenge. In Thailand, such research on active ageing using the WHO framework is still limited to a very small number of studies. A study by Yatniyom (2005) for example, explored active ageing among elite Thai older persons, but involved only a case study using a qualitative approach. The present paper is the first to use the latest national survey data of the Thai elderly. The findings from this latest study will constitute the ground for further research to construct an appropriate active ageing conceptual framework and build a knowledge base useful for shaping policies on active ageing in Thailand.

Objectives

This study aims to assess active ageing attributes of Thai older persons in relation to sociodemographic characteristics and active ageing-related factors using the WHO framework, which consists of three components: health, community participation and security.

Methodology

Data source

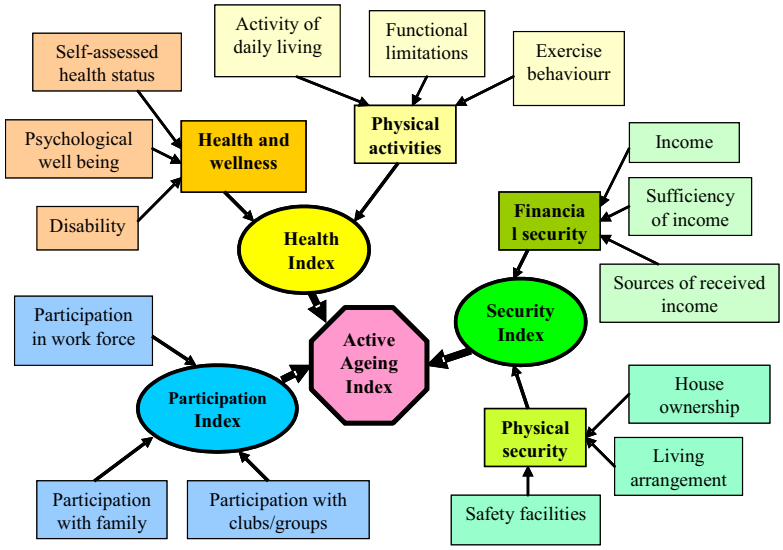
The source of data was the 2002 Survey of the Elderly in Thailand conducted by NSO. The population in the survey covered all persons aged 50 years and over

who resided in the sample households. Stratified two-stage sampling was employed to produce nationally and regionally representative samples. Seventy-six provinces in five regions of Thailand in the year 2002 were allocated to the stratum, and each province was divided into municipal and non-municipal areas, according to the administrative classification. The first sampling, in which units were blocks selected from the municipal area and villages selected from the non-municipal area, was conducted by using probability random sampling in all 109,966 blocks/villages. The first samples consisted of 5,796 blocks/villages. The second sampling units were private households selected by using systematic random sampling from the list of all enumerated households in each block/village of the first sampling. Sample size was determined by selecting 15 households per block in municipal areas and 12 households per block in non-municipal areas; there were 79,560 household samples. All persons aged 50 years and over in selected households were interviewed. Data were collected from April to June 2002, yielding 43,447 completed interviews. In this study, the analysis was restricted to the older population aged 60 years and over, which reduced the number of the samples to 22,825 persons. Sample weights were applied in order to make the sample nationally representative. In this paper, results were appropriately weighted by calculating new weight so that the number of older persons used in the analysis was equal to the actual samples.

Measurement of variables

Although the 2002 Survey of the Elderly in Thailand was not designed to capture the specific concept of "active ageing", the information in this survey did cover the major components of this concept, namely, health, community participation and security. The indicators for active ageing recommended by the Active Ageing Taskforce of the Western Australian Government (Active Ageing Taskforce, 2003) were applied to measure the active ageing of Thai older persons. The composite indices of health, community participation and security were constructed first. Then the active ageing index was constructed by combining these three above-cited indices. They consisted of a total of 15 indicators: six indicators for health (three indicators for health and wellness, and three indicators for physical activities), three indicators for community participation, and six indicators for security (three indicators for financial security and three indicators for physical security). These are illustrated in figure 1:

Figure 1. Active ageing index: 3 dimension indices and 15 indicators



Each dimension of active ageing (health, community participation and security) was constructed using a weighted score for each of the indicators. Each composite score was the sum of answers to several indicators within each dimension. However, since there was variability in the range of possible answers to the questions within a single composite, a simple summation of answers would not have insured equal contribution of all questions, and there would have been an obvious inequality in the contribution of the total variability of the composite score. In order to correct this, the method to adjust each composite for the answer range of each indicator and for the total number of indicators in the composite was applied (McGahan and others, 1986). For example, the composite score on the health dimension is composed of six indicators (X_1 – X_6). This is done mathematically as shown in the formula below:

$$\text{Composite score} = X_1/MxT + X_2/MxT + X_3/Mxt + X_4/MxT + X_5/MxT + X_6/MxT$$

Where: X = the score of the each indicator

M = the maximum answer value of each indicator

T = the total number of indicators of a dimension

$$\text{Composite score of health} = X_1/5x6 + X_2/3x6 + X_3/1x6 + X_4/1x6 + X_5/1x6 + X_6/1x6$$

Then an index of each dimension (health, community participation and security) was constructed. To calculate these dimension indices, minimum and maximum values (goalposts) were chosen for each underlying indicator. Performance in each dimension is expressed as the minimum and maximum value between 0 and 1 in accordance with the construction method of the Human Development Index developed by the United Nations Development Programme (UNDP, 2005) as follows:

$$\text{Dimension index} = \frac{\text{actual value} - \text{minimum value}}{\text{maximum value} - \text{minimum value}}$$

According to the WHO's concept of active ageing, health, participation and security are inextricably linked. The active ageing index (AAI) is computed in a straightforward manner. It is a simple average of these three indices according to the formula below:

Active ageing index = 1/3(health index) + 1/3(participation index) + 1/3(security index).

Each index was classified into three levels based on the UNDP criteria of human development level, which constitutes an indicator of the quality of life, as follows:

(1) Index score less than 0.5 is low level;
(2) Index score between 0.5 and 0.79 is moderate level;
(3) Index score equal or higher than 0.8 is high level.

Table 1. Description of indicators and dimensions for constructing active ageing index

No.	Component	Indicators	Description	Measurement scale	Frequency (per cent)
1	**Health index**	Self-assessed health status	Self-assessed health status is an individual's own assessment of his or her health.	5=very good 4=good 3=Fair 2=poor 1=very poor	5.2 39.3 29.0 22.4 4.1
2		Psychological well-being	The perception of sense of mental wellness in term of self-esteem.	3 = high 2= moderate 1=low 0= no	42.3 36.3 4.0 17.4
3		Disabilities	The numbers of handicaps such as paralysis, blindness and deafness.	1 = no 0 = 1 or more	92.0 8.0

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Table 1 *(Continued)*

No.	Component	Indicators	Description	Measurement scale	Frequency (per cent)
4		Activity of daily living (ADL) limitations	ADL limitations consider inability in performing one of these three activities: eating, dressing, and bathing.	1 = no 0 = 1 or more	92.8 7.2
5		Functional limitations	Physical limitation, such as squatting, lifting up object weighing 5 kg, walking about 1 km, and climbing stairs (2-3 steps).	1 = no 0 = 1 or more	54.0 46.0
6		Exercise behaviour	Older persons having performed any exercise 6 months prior to the interview.	1 = yes 0 = no	18.3 81.7
7	**Community participation index**	Participation in work force	The elderly still participates in paid and unpaid work.	1 = yes 0 = no	35.4 64.6
8		Interaction with family members	The elderly's support to family members, e.g. food supply, house keeping and child care.	1 = 1 or more 0 = no	59.0 41.0
9		Participation in clubs/groups	The elderly takes part in activity proposed by various groups, i.e. elderly group, funeral group, vocational group, house wife group, cooperatives group, and volunteer scout group.	1 = 1 or more 0 = no	40.6 59.4
10	**Security index**	Income	An average income categorized according to poverty line.	2 = > poverty line 1 = < poverty line 0 = no income	77.2 20.5 2.3
11		Sufficiency of income	The self-assessment by the older persons on whether his/her income is sufficient for a living.	2 = sufficient 1 = not sufficient 0 = no income	66.9 30.8 2.3

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Table 1 *(Continued)*

No.	Component	Indicators	Description	Measurement scale	Frequency (per cent)
12		Sources of income	The number of sources of income that the elderly receives, i.e. work, pension, government living allowance, saving/interest, spouse, children, relatives, or others.	2 = 2 or more 1 = 1 source 0 = no	66.1 31.7 2.2
13		House ownership	The ownership of the dwelling in which older person is living.	1 = yes 0 = no	79.8 20.2
14		Living arrangement	The co-residence of the elderly with family members or others in their household	1 = with spouse, children or others 0=living alone	93.8 6.2
15		Safety facilities	Safety facility denotes to the safe material facilitating in a toilet.	1 = yes 0 = no	5.0 95.0
16	**Active ageing index**	A composite index constructed from 3 dimensions	The positive or active living of the elderly based on the WHO concept (a combination of health, community participation and security indices).	Three level 3 = high 2= moderate 1 = low	22.6 66.5 10.9

Note: In this study, older persons with an annual total income below 10,000 baht (about US$278) are categorized as poor.

Statistical analysis

Univariate analysis was used in analysing characteristics of the respondents. Bivariate analysis, applying the Chi-square test, was used to analyse the distribution of indicators, components of active ageing and active ageing index.

Findings and discussions

General characteristics of respondents

Respondents in this study totaled 22,825 persons aged 60 years and over, with an average age of 69 years, with more than half (58 per cent) being aged 60-69. The number of females was higher than males (56 and 44 per cent respectively). Nearly two thirds of them were married (64 per cent) while one third

were widowed, divorced or separated (33 per cent). For education, 72 per cent had completed primary school. Two thirds of them were not working (65 per cent), and about 17 per cent were engaged in the agricultural sector. Approximately two thirds (66 per cent) suffered from two or more of chronic illnesses.

Health

The health index in table 2 was constructed based on six indicators (three indicators of health and wellness and three indicators of physical activity). Data indicated that the majority of older persons had a health index at a moderate level (69 per cent), nearly one fourth had poor health (21 per cent) and 11 per cent had good health. Moderate and good health was found among males more than among females. Good health decreased with age while poor health increased. Married elderly were generally healthier than those who were single, widowed, divorced or separated.

Table 2. Percentage of Thai older persons classified by health index levels and characteristics

Characteristics	Poor	Moderate	Good	Total	χ^2
Sex					
Males	15.7	69.6	14.7	100	481.1
Females	24.1	68.6	7.3	100	p<0.001
Age group (years)					
60-69	13.4	73.1	13.5	100	1368.0
70-79	25.3	66.8	8.0	100	p<0.001
80 and over	41.8	54.8	3.4	100	
Marital status					
Single	23.2	66.3	10.5	100	499.4
Married	16.4	71.1	12.5	100	p<0.001
Widowed/ divorced/ separated	27.8	65.2	7.0	100	
Education					
No education	30.6	64.7	4.7	100	1289.8
Primary	18.7	71.3	10.1	100	p<0.001
Secondary and above	9.0	59.7	31.2	100	
Occupation					
No occupation	25.4	65.6	9.0	100	998.1
Farmers	8.5	79.8	11.7	100	p<0.001
Merchants	11.5	76.9	11.5	100	
Services/ technician	10.9	74.2	15.0	100	
Civil servants/ professional	8.0	66.5	35.4	100	

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Table 2. *(Continued)*

Characteristics	Poor	Moderate	Good	Total	χ^2
Chronic illness (no. of diseases)					
None	14.3	68.5	17.2	100	360.9
One	15.2	72.4	12.3	100	p<0.001
Two or more	23.2	68.0	8.8	100	
Regions					
Bangkok	16.3	68.1	15.6	100	108.9
Central	20.8	69.6	9.6	100	p<0.001
North	21.9	69.0	9.1	100	
North-East	19.0	70.6	10.4	100	
South	20.2	65.7	14.1	100	
Resident					
Urban	20.3	66.8	12.9	100	168.5
Rural	20.4	72.0	7.7	100	p<0.001
All	**20.4**	**69.0**	**10.6**	**100**	

Older persons who had completed secondary school or higher had better health compared with those who had completed only primary school and with those who had received no formal education at all. The elderly who worked as civil servants and professionals had better health than those who worked as technicians, merchants and farmers or those who had no occupation. The elderly who had no chronic conditions had better health than those who suffered from one or more chronic conditions. In addition, older persons who lived in Bangkok and urban areas were healthier than those living in other regions and rural areas. This is most likely due to the fact that there are a lot of health-care facilities – hospitals, clinics and drug stores, etc. – as well as better sanitation, etc. available in Bangkok and other urban areas, so that people have more easy access to those health-care services. Chi-square tests show a significant difference among levels of health in all characteristics ($p< 0.001$).

These findings are in accordance with many prior studies such as that of Chayovan, Wongsith and Sangtienchai, (1988), which found that elderly men were generally healthier than elderly women. Self-perception of good health among the elderly declined as their age increased. Elderly women were more likely to feel unhealthy than men (Jitapunkul, 1999; Chirawatkul, 1999; NSO, 2002; Teresa, Knodel and Chayovan, 2003). According to Jitapunkul and others (1999), the Thai elderly suffered increasingly from chronic conditions such as hypertension, diabetes, heart disease and various disabilities. Three fourths (73 per cent) of those

who had chronic illness for more than six months needed full-time care (Chooprapavan, 2000).

Community participation

Community participation, which refers to an older person's active engagement with life, is considered to be one of the important aspects of successful ageing (Rowe and Kahn, 1998). In this study, community participation was measured using three indicators: participation in the workforce, participation in clubs/groups and participation within the family in terms of the support provided to family members. Males participated in the workforce more than females did. Moreover, the participation in the workforce decreased with age. The elderly living in rural areas were more likely to participate in the workforce than those living in urban areas. The findings from other studies, such as that undertaken by Knodel and others (2005), reveal that many of the Thai elderly (especially those in their 60s) remained economically active, and their work was the second most important source of income compared with income from their children. Therefore, providing suitable work for older persons who want to continue working could both reduce family and government economic burdens as well as contribute to a sense of self-esteem and fulfilment among the elderly.

For participation in clubs or groups, the Thai elderly typically participated in six elderly groups: funeral groups, vocational groups, housewife groups, cooperative groups and volunteer scout groups. About 22 per cent, 14 per cent and 4 per cent had participated in one, two and three or more groups, respectively. However, more than half of them did not participate in any such group (59 per cent).

In terms of participation within the family, which was measured in terms of food support and work contributions around the house (e.g., housekeeping and caring for grandchild(ren)), it was found that 41 per cent of older persons did not participate in any aspect of the family's daily chores. The participation of the elderly within the family decreased with age. However, most participation occurred in the period of co-residence and consisted of mutual support between parents and children. When health and physical activities declined according to age, support shifted from children to the elderly (Knodel, Chayovan and Siriboon, 1992). This finding is confirmed by a prior study from a survey of Socio-Economic Consequences of Ageing in Thailand, which found that the support provided by older persons decreased from 23 per cent for those aged 60-64 years to 5 per cent for those aged 75 and over (Chayovan, Wongsith and Sangtienchai, 1988).

Table 3. Percentage of Thai elderly classified by participation index levels and characteristics

Characteristics	Poor	Moderate	Good	Total	χ^2
Sex					
Males	49.8	33.3	16.9	100	461.1
Females	61.2	30.1	8.7	100	p<0.001
Age group (years)					
60-69	44.2	38.0	17.8	100	2215.9
70-79	67.3	26.3	6.3	100	p<0.001
80 and over	85.9	13.1	1.1	100	
Marital status					
Single	63.5	29.6	6.9	100	937.3
Married	49.1	35.0	15.9	100	p<0.001
Widowed/ divorced/ separated	69.1	25.0	5.9	100	
Education					
No education	69.0	24.5	6.5	100	452.4
Primary	52.8	33.0	14.2	100	p<0.001
Secondary and above	53.0	36.7	10.3	100	
Occupation					
No occupation	73.9	23.5	2.6	100	7934.7
Farmers	15.3	48.1	36.6	100	p<0.001
Merchants	12.6	46.3	41.1	100	
Services/ technician	22.9	52.2	24.9	100	
Civil servants/ professional	17.2	51.1	31.7	100	
Chronic illness (no. of diseases)					
None	51.8	34.9	13.3	100	80.9
One	52.2	34.2	13.6	100	p<0.001
Two or more	58.3	30.0	11.7	100	
Regions					
Bangkok	84.3	14.6	1.2	100	1056.8
Central	64.6	27.5	7.9	100	p<0.001
North	49.4	34.8	15.7	100	
North-East	44.6	36.7	18.7	100	
South	59.2	31.3	9.4	100	
Resident					
Urban	60.2	29.9	9.9	100	248.6
Rural	50.9	33.7	15.4	100	
All	**56.1**	**31.5**	**12.4**	**100**	

As for total participation index which was summed up from the three indicators (participation in the workforce, in community groups and within the family) shown in table 3, it was found that the majority of older persons maintained an active engagement with life or participated with others at a low level in the surrounding area. Obviously, low community participation was greater among females than among males and this increased with age, especially among the oldest old. The married elderly had a total participation index at high levels, generally higher than those who were single, widowed, divorced, or separated. The elderly who had received no education participated less than those who had completed primary and secondary school or higher. From table 3, it is obvious that the elderly who were unemployed participated at the lowest level.

There are regional variations to be noted, as older persons living in Bangkok had a community participation index at the lowest level while those living in the north-eastern region had a participation index at the highest level, followed by those in the northern region. Similarly, older persons living in rural areas participated in the community more than those residing in urban areas. This might be due to the difference in lifestyle and the environment, social capital and individualism of urban people. Thus, living in rural areas is more likely to enable older persons to participate actively in community activities compared with those living in urban areas. This finding is consistent with a study undertaken by Yodpet (2002), which found that most of the Thai rural elderly played a crucial role as supporters both for their own family and their community. It is clear that the participation of the Thai elderly still stands at a moderate level in Thai society.

Security

Security in this study was considered in terms of income, sufficiency of income, sources of income, house ownership, living arrangements and safety facilities. The average annual income of older persons was 45,178 baht and the median income was 20,000 baht. About 20.4 per cent relied on an annual income of less than 10,000 baht (which is below the poverty line) and 2.3 per cent had no income. Poverty was recorded as higher among females than males, among those living in rural areas than urban areas, and among those at older ages. Previous findings found that over one third of the Thai elderly had an income below the poverty line (Chayovan, 1999); the study found that nearly one fourth of the Thai elderly had an income lower than the poverty line and about 14 per cent of them were facing both poor and insufficient income (Chayovan, 2005).

Economic security was not the only type of security affecting older persons' well-being; physical security – measured by house ownership and co-residence with spouse or children – was also included. It was found that about 80 per cent of

the elderly had guaranteed physical or social security, as most of them owned a house. The majority were living with a spouse or at least one child, particularly females and frail older persons. The reason for this might be the entrenched social norm of caring for and respecting older persons in accordance with both traditional Thai culture and Buddhist practices (Yodpet, 2002). This finding indicated that although the economic security of older persons was low, they nevertheless had high and rather secure living arrangements.

By contrast, physical security in terms of accessing safety facilities for the elderly was found to be quite low. Most (95 per cent) of the Thai elderly had no devices or facilities such as supportive handrails in the toilet and on outdoor steps to prevent accidents. This finding corroborated the result of a study by the Institute of Geriatric Medicine (2001), which found that 96 per cent of the Thai elderly had no appropriate facilities in place in their toilet. This might pose a greater risk of falls (WHO, 2002).

Table 4. Percentage of Thai elderly classified by security index levels and characteristics

Characteristics	Poor	Moderate	Good	Total	χ^2
Sex					
Males	1.9	56.7	41.5	100	103.3
Females	3.0	61.4	35.6	100	p<0.001
Age group (years)					
60-69	1.6	55.9	42.5	100	461.9
70-79	3.0	61.6	35.4	100	p<0.001
80 and over	5.7	70.2	24.0	100	
Marital status					
Single	8.0	77.5	14.5	100	832.2
Married	1.7	53.7	44.6	100	p<0.001
Widowed/ divorced/ separated	3.7	68.7	27.6	100	
Education					
No education	4.0	70.6	25.3	100	722.4
Primary	2.2	58.3	39.5	100	p<0.001
Secondary and above	1.2	38.7	60.1	100	
Occupation					
No occupation	3.5	63.0	33.5	100	679.0
Farmers	0.3	54.6	45.1	100	p<0.001
Merchants	0	56.0	44.0	100	
Services/ technician	0.6	46.1	53.2	100	
Civil servants/ professional	0	42.2	57.8	100	

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Table 4 *(Continued)*

Characteristics	Poor	Moderate	Good	Total	χ^2
Chronic illness (no. of diseases)					
None	3.5	54.9	41.6	100	44.5
One	2.0	58.9	39.1	100	p<0.001
Two or more	2.5	60.3	37.3	100	
Regions					
Bangkok	2.4	47.9	49.7	100	217.7
Central	3.1	55.7	41.1	100	p<0.001
North	2.4	62.8	34.8	100	
North-East	1.7	64.9	33.4	100	
South	2.6	55.7	41.7	100	
Resident					
Urban	2.6	56.1	41.3	100	121.9
Rural	2.3	63.4	34.3	100	p<0.001
All	**2.5**	**59.3**	**38.2**	**100**	

A security index was constructed from six indicators (income, sufficiency of income, sources of income, house ownership, living arrangement and safety facilities) and classified into three levels: low, moderate and high (see table 4). It was found that most of the Thai elderly had security at a moderate level and tended towards a high level. The security at the high level was greater among the male than the female elderly, and decreased with increasing age and level of education. The elderly who had completed secondary school and above had higher security compared with those who had lower education. The highest security was found among the married elderly. Older persons who had been civil servants and professionals had security at a high level, higher than those working in services or as technicians, merchants, those working in agriculture and the unemployed. This can be explained simply by the fact that older persons who had worked as civil servants or as professionals had permanent incomes and retirement pensions. Similarly, older persons living in Bangkok and in urban areas had a higher level of security compared with those living in other regions and in rural areas. From the overall figures in this study most of the Thai elderly enjoyed a reasonable level of security.

Active ageing

Table 5 shows the active ageing attribution among Thai older persons, constructed from three dimensions: health, community participation and security. It was found that two thirds (66 per cent) of the Thai elderly had the

attributes of active ageing at a moderate level, 11 per cent at a high level and about 23 per cent at a low level regarding the active ageing index. Active ageing attribution was more likely to be reported among males than females and to decrease with age. Differences in active ageing by sex emerge, perhaps from social and cultural practices as well as legal systems that discriminate against women in terms of access to health care, education and social supportive services, or to resources for improving their quality of life (Brundlant, 2002 cited in Active Ageing Taskforce, 2003). Thus, the factors that result in gender inequality might cause women to have health, economic, or security problems (more likely than with men), particularly those women who are single, divorced, or widowed, and who often have the lowest level of economic security or none at all. This finding corresponds with a study by Chayovan (2005), which indicated that the most vulnerable of the elderly were women, especially those who were widows and who had received low levels of education. Therefore, in the context of active ageing policy, accurate gender analysis is essential to ensure that women will have health, community participation and security in later life.

In addition, older persons who had a higher education or had completed secondary school had higher attributes of active ageing than those with no schooling or those with only primary-level education. Older persons who had been civil servants or professionals had higher active ageing attributes than those working in other sectors. The elderly who had no occupation or who were unemployed had the lowest percentage of active ageing attribution. Similarly, the more chronic conditions that the elderly had, the higher was the percentage of inactive ageing. In terms of place of residence, although the elderly living in Bangkok and urban areas enjoyed a higher level of health and security indices compared with those in other regions and in rural areas, their participation index was lower than those living in other regions and rural areas. Thus, when the active ageing index was constructed with three indices, it was found that active ageing among older persons living in Bangkok and in other urban areas was somewhat less than that of the elderly in other regions.

The concept of active ageing refers to the fulfilment of older persons' life in different domains, namely their personal, family, social and professional lives. This relates to what people do in the later phases of their lives. Active ageing is understood to encompass a socially and individually designed mix of: continuous labour market participation; active contribution to domestic tasks, including housework and provision of care for others; active participation in community life, including voluntary or unpaid activities; and creative activities (Avramov and Maskova, 2003). Values such as health, community participation and security reflect fundamental human aspirations. All people need to have a healthy life for as

long as possible to be able to participate in activities that they choose freely, and to have income security in their old age. This study is confirmed by Yatniyom (2005), who found that active ageing among the Thai elite elderly consisted of three attributes: (a) continuous activity, which means that older persons continued to perform their favourite activities and to participate in activities in the organizations in which they were members; (b) good health, which means that the elderly were able to appropriately care for themselves with regard to physical, mental, social and spiritual levels of health and (c) security, which means that older persons felt safe and free from worries about income, housing and who would take care of them.

Table 5. Percentage of older persons classified by active ageing levels and general characteristics

Characteristics	Poor	Moderate	Good	Total	χ^2
Sex					
Males	17.3	67.1	15.6	100	605.4
Females	26.9	66.0	7.1	100	p<0.001
Age group (years)					
60-69	12.2	72.1	15.6	100	2998.2
70-79	29.7	64.7	5.7	100	p<0.001
80 and over	55.6	43.4	1.0	100	
Marital status					
Single	34.4	60.3	5.3	100	1360.8
Married	15.7	70.0	14.3	100	p<0.001
Widowed/ divorced/ separated	34.9	60.3	4.7	100	
Education					
No education	37.4	57.9	4.7	100	910.1
Primary	19.6	68.3	12.1	100	p<0.001
Secondary and above	11.2	72.8	15.9	100	
Occupation					
No occupation	32.5	64.5	3.0	100	5130.4
Farmers	0.6	70.6	28.7	100	p<0.001
Merchants	1.2	69.9	28.8	100	
Services/ technician	1.3	75.4	23.3	100	
Civil servants/ professional	0.7	65.7	33.7	100	
Chronic illness (no. of diseases)					
None	17.3	68.9	13.8	100	285.6
One	17.8	69.9	12.36	100	p<0.001
Two or more	25.2	64.9	9.8	100	

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Table 5. *(Continued)*

Characteristics	Poor	Moderate	Good	Total	χ^2
Regions					
Bangkok	36.0	61.5	2.5	100	497.9
Central	26.6	66.0	7.4	100	p<0.001
North	19.0	67.6	13.4	100	
North-East	17.3	67.8	15.0	100	
South	24.6	65.3	10.1	100	
Resident					
Urban	23.9	66.5	9.6	100	63.6
Rural	20.9	66.6	12.5	100	p<0.001
All	**22.6**	**66.5**	**10.9**	**100**	

Conclusion

An assessment of the three components of active ageing (health, community participation and security) showed that the health dimension of the Thai elderly was mostly at a moderate level. Meanwhile, nearly one fourth of the older persons suffered poor health. Interestingly, as regards community participation, the Thai elderly ranked quite low. More than half had very little involvement with community activity. As for security, although economic security of Thai older persons stood mainly at a moderate level, it tended to drop to a low level as age increased. Physical security, by contrast, remained at a high level, particularly in terms of living arrangements. All in all, Thai older persons tend to enjoy moderate to high levels of security.

In terms of active ageing attribution, although the majority of the Thai elderly ranked at a moderate level in this regard, nearly one fourth of them tended to have a low level of activity, particularly females, those who were single, widowed, or divorced, those with no education, the unemployed and those suffering from chronic conditions. The findings indicated that active ageing measures were higher among males than females, the young old than among the older and oldest old and among the married elderly than unmarried ones, those widowed, divorced or separated. Moreover, the level of activity was somewhat greater for older persons who had completed higher education and had been engaged in a higher status occupation (such as civil servants, professionals and technicians), and those who suffered from no chronic illnesses. However, older persons living in urban areas and in Bangkok had active ageing composites somewhat lower than those living in rural areas and other regions due to distinctly low levels of participation in community activities.

Recommendations

Based on the findings of this study, the following issues should be considered and promoted in order to improve the active ageing attributes of the Thai elderly:

1. The more chronic conditions older persons suffered the lower was their active ageing composite. Therefore, there is an urgent need to prevent the onset of chronic conditions by using health promotion initiatives starting in young adulthood. Meanwhile, older persons facing chronic illness should be treated and their conditions should be carefully monitored to prevent long-term care problems and not to constitute a burden for their children and society.

2. The active ageing index was lower among elderly women and older age groups. In the context of active ageing policy, gender analysis is essential to ensure the health, community participation and security of women in their later life. In addition, these groups may need to be supported by family, community and the Government.

3. The elderly who have had no education and no occupation have the lowest level of active ageing. These groups should be provided with opportunities to improve their quality of life, such as life-long learning or participation in paid work. Providing appropriate work for older persons not only helps them increase their income but also decreases their dependency on family and society. In the near future, the size of the workforce in Thailand will decline as a result of the rapid fertility decline in the past, so re-employing active and capable older persons in the labour market may increase national production.

4. The community participation component of active ageing was rather low, especially participation in clubs or groups. Older persons living in Bangkok and urban areas had distinctly lower participation than those in other areas. Therefore, the elderly need to be encouraged to join clubs or groups or to engage in creative, recreational activities with others because such participation promotes active, healthy, secure and positive ageing. The more the elderly are involved, the more they will participate and contribute, and the more experiences they gain, the greater will be their self-esteem.

5. The majority of Thai elderly have economic security at a moderate level. However, some tend to be at a low level, particularly those who are single, lack education or a job, or are suffering from chronic diseases. Although most of the Thai elderly receive financial or material support from their children, society is rapidly changing and the traditional family values with regard to older persons, such as caregiving and financial support, are also evolving along with new attitudes and values. Encouraging the elderly to

prepare to take care of themselves as much as they can economically in later life is an important task for our changing society. Thus, the provision of paid work for them is also greatly needed since this would allow older persons to be more economically self sufficient.

6. Most Thai elderly lack safety devices in their home to prevent accidents, particularly in toilet facilities. These findings correspond to many previous studies, so health education or social welfare support to provide assistance for improving safety at home is essential to prevent accidents and avoid the need for long-term rehabilitation and care. Rightly, personal and domestic security for older persons has been a widespread subject of community concern.

7. According to the World Health Organization's concept of active ageing, the Thai elderly can be classified as having a moderate level of active ageing. Nevertheless, policymakers should strongly promote and support active ageing of the elderly. Furthermore, a study of determinants for active ageing in the Thai context should be carried out in order to construct appropriate and valid indicators and to measure active ageing in Thailand.

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