Living Arrangements and Elderly Depression : Kanchanaburi DSS, Thailand.

Niphon Darawuttimaprakorn
Sureeporn Punpuing
Institute for Population and Social Research
Mahidol University, Thailand

ABSTRACT

The changes in Thai population age–sex structure over time have resulted in an increasing proportion of elderly, which partly led to changes in living arrangements. In addition, the social and economic development that has motivated the rural-urban migration of labour forces, specifically resulting in larger numbers of elderly being left behind. This study aims to investigate prevalence of depression among older adults in the Kanchanaburi Demographic Surveillance System (DSS), and factors related to depression. The analysis is based on a set of data of the Kanchanaburi DSS in 2006 . It is indicated that 27.5 percent of the studied older adults were living in a depressed condition. Considering the pattern of living arrangements, half of older adults experiencing depression were those living with their grandchildren, followed by those living with their spouses, and those living with their offspring. In a multivariate model depression among older adults was significantly predicted by sex, age, occupation, financial status and chronic disease of the elderly, and sickness/disabilities of their family members. The important finding is that older adults living with their grandchildren are more likely to feel depress than those not living with their grandchildren. This study recommends that interventions to promote improved family relationships between older adults and their grandchildren need to be implemented very soon. Moreover, governmental, non-governmental or any social institution have to set the older population issue as a first priority.

Background

According to the development in medical and public health technologies, fertility level in Thailand has been lower than replacement level (Thongthai, 2005) since 1864. In combination with the fact that Thai people live longer, which life expectancy at birth has been on the rise since 40 years ago. Approximately, Thai people have 10 years longer life expectancy. In 1964, Thai males had an average life expectancy of 57.9 years, while 62.0 years were counted for females. In 2006, life expectancy of males and females was 69.5 years and 76.3 years respectively (Institute for Population and Social Research, 2009). This results in increased both proportion and number of Thai elderly. It is estimated that the number will reach 11.4 million in 2025, which is 17.5 percent of the total population (Institute for Population and Social Research, 2006).

In rural areas, more family members in working age have moved out to urban or industrial areas. This phenomenon causes a decaying relationship in families. Traditional extended families are replaced by single families. In 2003, percentage of extended families was 61.4, which decreased to 58.3% in 2007 (National Statistical Office, 2008). This has impacts on pattern of older adults' living arrangements. Many of them have been left alone or live with young grandchildren. The feeling of being disrespectful is normal among them. Some elderly receive remittance from the out-migration children, and of course, some of those without the remittance face financial difficulties. In worse situations, some elderly need to take care of their grandchildren, which in many cases have to pay for all costs. These phenomena result in loneliness, worries and depression in older adults.

Problems in physical and mental health are common among elderly due to the fact that physical deterioration of ageing undermines eyesight, mobility, hearing and capabilities of the elderly. These problems include being illness prone, inactive and feeling unwanted. According to the World Health Organization, psychological disorders are estimated to rank second from heart disease as a disease effecting work disability in 2020. Similar to the 2003 National Survey on Psychological Epidemiology, depression ranks first among psychological disorders of Thai people.

(Department of Mental Health, 2006). This survey indicates that prevalence of depression in older persons will be increased because of higher number of elderly in Thai society. These above mentioned are rationale for this study to explore more about the relationship between the pattern of living arrangements and depression in older adults living in the Kanchanaburi Demographic Surveillance System.

Objective

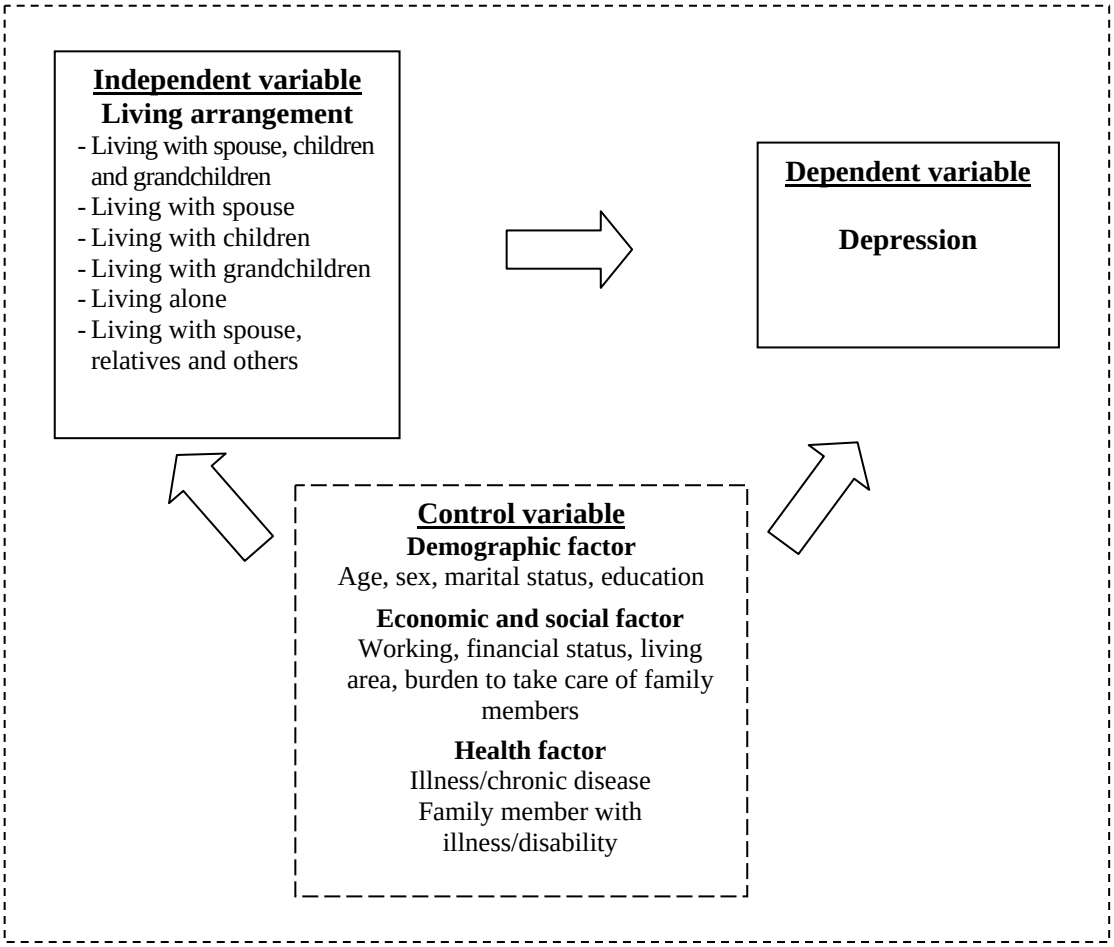
1. To study a prevalence of depression in older adults in the Kanchanaburi Demographic Surveillance System (KDSS)
2. To investigate relationship between patterns of living arrangement and depression in older adults living in the KDSS

Elderly living arrangement and depression

Many studies had explored the patterns of living arrangements and factors related to depression of aging populations. Male elderly are found less likely to live with their children than female elderly (Chantamoon,1996; Knodel and Chayovan, 1997; Gray, 2005). Age of the elderly has negative effects on the living with their children—i.e. the older, the elderly, the less the chance of living with children. The studies also showed that the depression was more likely to happen to the younger elderly comparing with the older old. Health conditions of the elderly were also found to be associated with patterns of living arrangement, particularly living with children. Mental health of the elderly living with their children were better than those not living with their children (Knodel and Chayovan, 1997). While studies revealed that children played significant roles in looking after their aging parents, the elderly whose spouse are still alive (and living together) are less likely to live with their children. Therefore, the elderly parents are more likely to take care of each other. The elderly in rural areas often live with their children, comparing with those in urban area (Rakchanyaban, 1996). In the extended family where different generations of family members living together, the elderly normally receive better care from their children/or grandchildren than elderly in other patterns of living arrangements (Phetcharanuruk, 1994; Copeland, 2004). Moreover, relationships of persons who lived with the elderly is significantly related

to the depression conditions of the elderly, that is, living with those who are not family member or relatives could cause the feeling of being abandoned and loneliness. Also, living alone is leading to bad mental health and Depression (Chantamoon, 1996). The Department of Mental Health revealed that the Depression is one of the top-rank causes of suicides and hurting themselves among the Thai older population (Department of Mental Health, 2006).

Conceptual framework



Hypotheses

1. The living arrangements of elderly are associated with the depression among the elderly.

Data

This study utilized secondary data from the Kanchanaburi Demographic Surveillance System (KDSS), which focus study on "depression, disability and socio-economic position among older adults 'left behind' by out-migration: a multilevel study in KDSS" in 2006**.** It was a collaboration study between Institute for Population and Social Research Mahidol University and Institute of Psychiatry, King's College London, UK. This study based on 898 older adults aged 60 year and over lived in the KDSS area, which involved 100 villages/ blocks in 13 districts of Kanchanaburi Province

Research methodology

A quantitative approach was applied in this study. Descriptive statistics which are frequency, percentage, mean and standard deviation were employed for data analysis. In addition, chi-square technique is used to investigate relationships between depression and patterns of elderly living arrangements, elderly's demographic, economic, social and health factors. Then, multivariate analysis was obtained to explore net effect of living arrangement on the elderly's depression .

Depression assessment

The Depression GMS Euro – D Scale was the tool used for assessment. This European standardized measurement was developed for developing countries such as China, India and South Africa (Prince et al., 1999). In Thailand, its validity was assessed by the use of doctor's diagnosis and the Mini International Neuropsychiatric Interview (M.I.N.I). Inspection of psychometric indices at different cut-points suggests a cut-point of 5/6. The area under the receiver operating characteristic (ROC) curve was .78 (95% CI 0.70-0.85), the kappa was 0.4 and internal consistency for the total scale measured by Cronbach's alpha was 0.72.(Jirapramukpitak et al., 2009)

Definition

Depression is defined as a psychological disorder expressed through emotions, thoughts and behaviors. Through emotions, people with depression often feel unworthy, tearful, down hearted and weary. Through thoughts, they thought of being

unworthy or bad. About behaviors, they are aggressive or isolate themselves. There are several types of depression, namely adjustment disorder, dysthymia and major depressive disorder. Additionally, depression may co-exist with other psychological disorders (Department of Mental Health, 2006).

Limitation

Because this study was based on the cross-sectional survey, there were uncontrollable factors at the time of the study. What elderly people were experiencing or worrying before the time of data collection was unknown. These factors had effects on the depression scale.

Data analysis and discussion

Table 1 presented number and percentage of older adults by the pattern of living arrangements and related factors. Generally, most of older adults lived with their families and relatives (87 percent). Very few older adults lived alone (13 percent). These findings were similar to the finding of the 2007 national survey conducted by the Thai National Statistical Office (NSO) revealing that most of them lived in extended families. Considering the pattern of living arrangements, most old people were found living with their spouses, children and grandchildren (36 percent). About 24 percent lived with their children only, while some lived with their spouses only (19 percent).

Among studied elderly, females outnumbered males (55.7 and 44.3 percent respectively). Most were 60 – 64 years old (28.6 percent), followed by those in 65 – 69 years old (25.5 percent). However, the average age was 70 years. The lowest age was 60 years old while the highest was 92 years old. Over half of them was currently married (52.8 percent), while widowed elderly ranked the second (39.9 percent).

Nearly half (47.1%) had completed elementary education, Around 28.8 percent were accounted for the uneducated. Nonetheless, the proportion of older adults who currently worked and did not work resembled, at 51 percent and 49 percent respectively. About elderly workers, 39.0 percent were agricultural workers and non-agricultural workers were 12 percent.

The majority lived in rural areas (80.8 percent). The rest lived in cities (19.2 percent). About half had debts (52.1 percent). Approximately, one-fourth had burdens from children or grandchildren in their care (27.5 percent). About half (50.8 percent) suffered from illnesses for more than 3 months, and about 20 percent reported that their family members also had got health problems.

Table 1 Number and percentage of older adults by the pattern of living arrangements and demographic, economic and social factors

Pattern and factor	Number	%	Pattern and factor	Number	%
Pattern of living arrangements			**Working status**		
Live with spouse, children and grandchildren	324	36.1	Work	440	49.0
Live with spouse	168	18.7	Do not work	459	51.0
Live with children	212	23.6	Agricultural sector	350	39.0
Live with grandchildren	48	5.3	Non –agricultural sector	108	12.0
Live alone	116	12.9			
Live with spouse, relatives and others	30	3.3	**Financial status**		
			Do not have financial problem	468	52.1
Sex			Have financial problem	430	47.9
Male	398	44.3	**Illness/chronic disease**		
Female	500	55.7			
			Do not have illness/ chronic disease	442	49.2
Age			Have illness/chronic disease	456	50.8
60-64 years	257	28.6			
65-69 years	229	25.5	**Family member with illness/disability**		
70-74 years	201	22.4			
75-79 years	120	13.4			
80 years and over	91	10.1	Do not have family Member with illness/disability	719	80.1
			have family member with illness/disability	179	19.9
Marital status					
Married/have partner	498	55.5	**Type of family**		
Single, widowed, divorced, Separated	400	45.5			
			Single family	601	66.9
Education level			Extended family	297	31.1
Never schooling	259	28.8	**Burden to take care of children/grandchildren**		
Did not complete elementary Education	143	15.9			
Completed elementary education	432	47.1	Do not have burden	651	72.5
Completed secondary education or higher	73	8.1	Have burden	247	27.5
Living area			**Total**	**898**	**100.0**
Urban	172	19.2			
Rural	726	80.8			

Analysis of the pattern of living arrangements and depression condition

To examine a relationship between living arrangements and depression in elderly. Model 1 investigated relationships between patterns of living arrangements and depression, and Model 2 included control factors, which are demographic, economic and social and health factors. This model analyzed net effect of the elderly's living arrangements on their depression.

Model 1 showed that older adults living only with their spouse experienced lower depression than those living with their spouse, children and grandchildren. This may be because these adults were able to take care of each other, their spouse also were considered as a friend and the most trustable person. Older persons having only their children in the family were also found lower depression than those living with spouse. This probably, the children are able to provide good care as well as sufficient support to their parents. Having large numbers of family members in an extended family in the uncertain economic and social situation was likely to create burdens from increasing household expenditure and other financial problems. Therefore, depression in elderly from these families tended to be increased. Comparing living in an extended family to living only with grandchildren, the first living pattern produced depression in the elderly more than the second pattern.

After controlling for confounding variables in Model 2, it was found that depression was increased in the elderly living with their grandchildren. In addition, male older persons had lower depression than females. The increasing years of age was directly related to an increasing depression. The uneducated elderly tended to have higher depression than those with secondary level of education. Elderly who worked in agricultural sector are likely to have lower depression than those who did not work. The elderly with debts were prone to depression more than the elderly without any financial burdens. Similarly to older adults in urban areas, their depression was higher than those in rural areas. Being healthy brought less depression to the elderly than being unhealthy. Finally, living with ill or disabled family members made the elderly suffer from depression more than living without these members. However, there relationship between living areas and the burden to take care of children/grandchildren was not significant. Overall, patterns of living

arrangement can explain variation in the elderly's depression only 3 percent (Model 1), however, the degree of explanation increased to 21 percent when selected confounding factors were taken into account in Model 2.

Table 2 Regression coefficients on Depression

	Model 1		Model 2	
Independent variable	**Beta**	**S.E.**	**Beta**	**S.E.**
Pattern of living arrangements (Reference group: Live with married partner, children and grandchildren)				
Live with spouse only	-.842	.269**	.134	.285
Live with children only	-.825	.250***	-.256	.239
Live with grandchildren only	.934	.438*	.962	.406*
Live alone	.011	.306	.292	.305
Live with spouse, relatives and others	-.836	.540	-.411	.508
Demographic factor				
Sex (Reference group: Female)				
Male			-.623	.197**
Age			.039	.014**
Education (Reference group: Never schooling)				
Did not complete elementary education			.111	.274
Completed elementary education			-.256	.218
Completed secondary education or higher			-1.526	.375***
Economic and social factor				
Working (Reference group: Do not work)				
Agricultural sector			-.795	.218***
Non-agricultural sector			-.234	.292
Debt (Reference group: Do not have debt)				
Have debt			1.364	.179***
Living area (Reference group: Rural)				
Urban			-.389	.234*
Burden to take care of children/grand children (Reference group: Have burden**)**				
Do not have burden			.113	.218
Health factor				
Health problem (Reference group: Have health problem)				
Do not have health problem			-.633	.179***
Family member with illness (Reference group: Have family member with illness/disability)				
Do not have family member with illness/disability			-.876	.217***
Coefficient of determination R^2	0.031		0.207	
Adjusted R^2	0.025		0.191	
Df	5		17	
N	898		898	

* P < 0.05 ** P < 0.01 *** P < 0.001

Conclusion and discussion

This paper was aimed to measure a prevalence of depression in older adults and to investigate relationships between patterns of living arrangement and depression among older adults in the Kanchanaburi Demographic Surveillance System. The study was based on 898 older adults living in the KDSS area. Thai Depression Euro – D Scale was a tool depression measurement. It is found that the prevalence of depression among elderly in KDSS is 27.5 per 100 elderly. In another word, one in every four elderly lived under depression.

Generally, the elderly were living with their families and relatives than living alone. One third of them lived with their spouses, children and grandchildren. Few people lived with their children and fewer people lived with their spouses. This finding is similar to the 2008 national survey conducted by the National Statistical Office, which the majority of elderly people lived in extended families.

Female elderly outnumbered males and over the half were entering the early aging period, or 60-69 years of age. Most of them lived with their spouses. Their education was considerably low, which 90 percent of them completed only primary education or lower. However, the number of non-working elderly was not much different from the number of working people, majority of them worked in agricultural sector. Over half of the studied elderly were unhealthy, burdened with debts and lived in rural areas. One fifth of them lived with family members having health problems.

Multiple regression analysis was employed in order to analyze net effect of living arrangement patterns on the elderly's depression. It is found that the depression was increased for the elderly living with their grandchildren. Model 1 examine relationships between living arrangement patterns and depression only, while Model 2 included factors in demography, economic and social and health. The first model showed possibility of low depression in the elderly living with their spouses or children. The second model indicated that living with grandchildren caused higher depression than other patterns of living arrangement. However, there were some elderly characteristics, which are sex, age, education, working status, health, and their debt as well as area of living significantly explaining variation in the depression.

Recommendations

1. There should be activities designed for grandchildren to improve their relationships with the elderly, e.g show kindness towards the elderly, and can for the elderly
2. It is important for public and private organizations and other social actors to campaign for the tradition of gratitude, kindness and care for the elderly.
3. There should be collaboration from families, communities, private and public agencies, local organizations on supporting welfares for the elderly.

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