

# AN EXPLORATORY STUDY OF THE SUBJECTIVE WELL-BEING OF PEOPLE WHO PROVIDE CARE FOR FAMILY MEMBERS

Nattaya Prapaipanich and Peera Tangtammakur\*

Srinakharinwirot University, Thailand

## ABSTRACT

\*Corresponding author:  
Peera Tangtammakur  
peerat@g.swu.ac.th

Received: 21 March 2020

Revised: 2 July 2020

Accepted: 8 July 2020

Published: 20 July 2021

### Citation:

Prapaipanich, N. and  
Tangtammakur, P. (2021). An  
exploratory study of the  
subjective well-being of people  
who provide care for family  
members. *Humanities, Arts  
and Social Sciences Studies*  
21(2): 338-345.

The objectives of this research are to (1) study the subjective well-being (SWB) of an elderly caregiver who is a member of a family, and (2) to analyze factors affecting their SWB in the Bangkok area. Data from a questionnaire survey were used with the 1,200 respondents in the Bangkok area taking part. Cross-sectional data were collected in 2019 by using probability sampling. The study applied the logit model to estimate factors affecting the caregivers' SWB. The study examined mainly three groups of factors which are family caregivers' internal resources-related factors, elderly-related factors and relationship factors. For family caregivers' internal related factors, the regression results show that females have a lower level of SWB than male caregivers. If the caregivers are aged, their SWB level is lower. Single/divorced/widowed caregivers have a higher level of SWB than married people and this is statistically significant at 95%. Having congenital disease and income received from taking care of an elderly is positively related with the caregiver's SWB. For elderly-related factors, it is found that the aged who are able to perform a number of Barthel Activities of Daily Living (ADL) make the caregiver have a higher level of SWB. An increase in the number of health problems of the elderly is associated with a reduction in the caregivers' SWB level. The impact of inheritance and those caregivers with a genuine willingness to provide care have a strong positive relationship with caregivers' SWB. Moreover, the caregivers who are the children of a care recipient have a higher level of SWB than those who are the daughters-/sons-in-law and grandchildren. Meeting the needs of family caregivers of elderly is an important objective of public policy.

**Keywords:** Health economics; family caregivers; elderly; subjective well-being; Bangkok

## 1. INTRODUCTION

At present, many countries in the world have been moving closer towards an era of a fully-fledged ageing society and Thailand is one of them. According to an estimation of the Office of the National Economic and Social Development Board (2013), Thailand will turn into a complete aged society by 2021 as the elderly population will stand at about 13.5 million, accounting for 20 percent of the total population of the country. This situation is generally considered to be a socio-economic problem and there is a great deal of literature which attempts to research and study this issue in order to find a way in which it can be effectively tackled, whilst also looking at the implications of the policies set in place to handle it. Knodel and Chayovan (2008)

studied and presented a demographic, social and economic background of older persons in Thailand, while Jitapunkul and Wivatvanit (2008) focused on national policies and schemes for the aging population in Thailand. Suwanrada (2008) studied the issue of poverty and financial well-being of the elderlies in Thailand. Tangtamaruk and Chaiwat (2019) estimated that if Thailand becomes a fully-fledged ageing society, the number of homeless people in Bangkok will significantly increase by 57.9%. Jitramontree and Thayansin (2013) presented a social welfare policy for the aging society in Thailand, while Hongthong et al., (2015) investigated factors affecting the quality of life of Thai elderlies in country side of Thailand.

While most studies mainly focus on the elderlies being cared for, this paper takes a close look at another important player who fulfills a vital role in an aging society, and is also directly affected by their involvement, especially in Thai culture. This player is an elderly caregiver who is a member of a family. This issue may not be a major concern in many Western countries which predominantly have a single-family culture, or some families which are able to pay for a professional caregiver to take care of the elderly; however, it is a significant problem for those middle- or low-income families in Thailand. This is mainly owing to the fact that Thailand mostly consists of extended families in which all members depend on each other and follow the Buddhist belief that the grown up children must look after their parents when they are old. Therefore, as the number of older people increases, the demand for caregiving also rises.

In our paper, we mainly focus on the group consisting of full-time care providers who are members of families considered as being working or middle class. Since most families do not hire professional caregivers to take care of their senile relatives, one member of the family must undertake this duty. There are many possible reasons why this person has to take on this responsibility. In some cases, their assistance could be voluntary, while being unemployed or requested to help by an elder are also factors. In some households the caregivers may be voted for by other family members, or they could simply be the person who has the lowest income in the house. In this case, the individual responsible must stay throughout the day with the elderly, in many cases trading-off her/his former job, time with family or friends, free-time activities, and opportunities to socialize. This makes providing full-time care within the home one of the most stressful, economic problems that many families in Bangkok currently face. Therefore, this paper aims to explore the subjective well-being (SWB) of an elderly caregiver who is a member of a family, and also factors affecting their SWB in the Bangkok area using 1,200 random samples, 412 interviewees, and an econometric analysis in order to understand more about this group. Hopefully, the findings in this paper will be applied to help develop further policies in order to improve the aging situation in Bangkok as well as fill the aging society research gap in Thailand.

## 2. OBJECTIVES OF THE STUDY

The objectives of this research are to (1) study the subjective well-being (SWB) of an elderly caregiver who is a member of a family, and (2) to analyze factors affecting their SWB in the Bangkok area.

## 3. LITERATURE REVIEW

We have considered all the potential influences regarding people who take care of the elderly SWB. These fall under three broad headings: (1) caregivers for elderly related factors; (2) elderlies' factors; (3) and relationship factors. Eight caregivers related factors are reviewed which are age, gender, education level, marital status, number of children, number of siblings, health, and income. Five elderlies related factors are examined which are age, gender, marital status, number of illness problems, and Barthel Activities of Daily Living (ADL). Finally, three relationship factors are explored which are caregiver relationship status, inheritance of the elderly, and the reason for taking care of an elderly person.

Studies show that most people providing care to the elderly in Thailand are in the middle age range between 30-59 years old, e.g., 30-50 years (Yodpetch, 2005); 35-45 years (Gray et al., 2013); 40-59 years (Comin, 2005), and it was found that those in their middle age can cope with pressure well. If the caregiver is aged, their health can often deteriorate and may cause a negative effect on care, causing care to become more burdensome and therefore requiring more assistance than those younger than them. The age of the caregiver thus negatively affects the care of the elderly and their own SWB. According to studies, more women than men are caregivers (Longphasuk et al., 2018; Panyathorn, 2014; Phothidara et al., 2014). According to Deng et al., (2010), a person's education has a direct relationship with their SWB. It means that people with more elevated levels of education have better self-worth. In addition, greater rates of help are evident when single individuals – rather than those who are married – take care of the elderly. If the caregivers are married, in addition to being responsible for the elderly, they are also liable to look after their family (Thapsuwan et al., 2013). In terms of women with children, the higher levels of stress are clarified as far as conventional patterns, requests of society

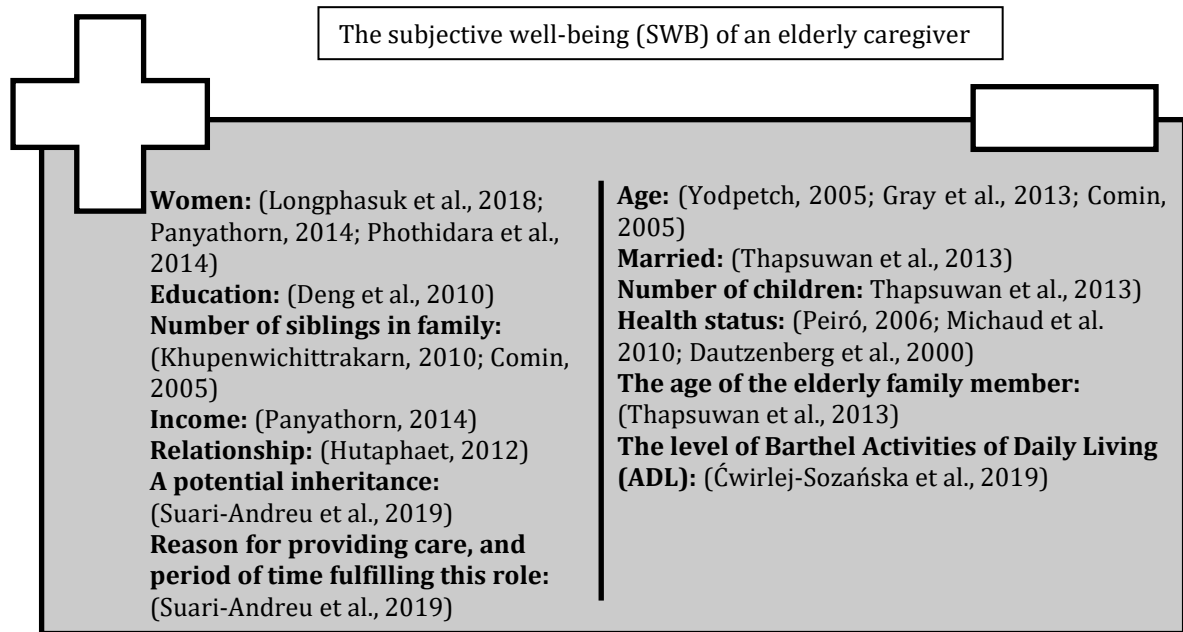
and more jobs and duties appointed to them as parents, wives and homemakers (Thapsuwan et al., 2013). Ideally, providing care for a senior citizen should involve shared responsibilities within the family and mutual support among siblings. While siblings can be enormously helpful and supportive, they can also be a source of stress. One of the reasons is because of the unequal distribution of the care giving duties. The primary caregiver will feel some discontentment for taking on the main responsibility, while it is also possible that the other siblings will feel shut out (Khupenwichittrakarn, 2010; Comin, 2005). Health questions are usually asked in terms of an individual's perceptions of their own health, for example, the number of chronic illnesses they have. These include asking about chronic pain, high blood pressure/hypertension, ear trouble (hearing loss), depression, exhaustion/ sleep difficulty, digestive problems, and weight loss/gain. Studies consistently reveal a strong relationship between health and SWB (Peiró, 2006). They reveal that individuals who have poor health are negatively associated with SWB while good health results in a positive relationship. People with congenital disease experience troubles in some areas of day to day life, for example, sport, work, and travel or driving. They are more likely to be jobless or casual employees. They have sufficient time; therefore, they are out there willing to become caregivers for the elderly (Michaud et al. 2010; Dautzenberg et al., 2000). The caregiver's income is a positive factor for the quality of care and SWB of the caregiver. The caregiver must have various expenses whether it is the cost of the caregiver themselves or the elderly. Therefore, if they have sufficient income for expenses, their SWB will increase (Panyathorn, 2014).

The age of the elderly family member can affect a carer's SWB level as well. It is often the case that the older the person being cared for is, the lower the caregiver's SWB. The lower SWB levels found for caregivers looking after very old individuals could be because of a further truthful sense of unavoidable separation and grief (Thapsuwan et al., 2013). The emotional support and recognition from a very old person receiving care can often fade over time or become distant and result in the caregiver feeling underappreciated and dissatisfied (Longphasuk et al., 2018). To the extent of our knowledge, there is no study on the relationship between elderly's gender and caregivers' SWB. Also, it has not been established as to whether a senior citizen is married or not affects the caregivers' SWB. The ageing process is associated with an increase in medical and psychiatric problems (Deng et al., 2010). A decline in functional capacity and a rise in the amount of ailments elderly people suffer from are associated with a reduction in SWB. Many elderly people have no choice but to rely on others or mechanical means for these basic functions. An inability to execute the functional capacity and a diminish in ADL disturbs the elderly individuals' SWB (Ćwirlej-Sozańska et al., 2019).

The paper of Hutaphaet (2012) has directly influenced our writing in terms of the ideas and empirical data in Thailand. She studied the issue of caregiver and elderly relationship status in a Thai context and found that if the caregivers are a child of the elderly, they tend to have a higher SWB than a person providing care who is also the spouse of the person being looked after. The main reason for this is that the child of an elderly person is more often than not still young and energetic. The theory of strategic bequest motive has influenced this paper significantly. The term 'strategic' bequest motive or the possibility of being included in an inheritance can often be a motivating factor for the person providing care to the aged. This could be seen as an intentional, strategic incentive, or simply a genuine appreciation of the care the elderly person receives (Suari-Andreu et al., 2019). One area that is often overlooked is the relationship between caregivers' SWB level and the willingness to be family caregivers to look after the elderly. They may have to sacrifice their current jobs, time, and social life. Also, the impact of caring for elderly people for quite a long time tends to be a negative rather than a positive one. The main problem that the caregiver suffers from is stress (Surbone et al., 2010; Marks et al., 2002).

#### 4. RESEARCH METHODOLOGY

In order to measure the subjective well-being of the caregiver, we used the Thai Mental Health Indicator from the Mongkol et al., (2007) which separates the subjective well-being into 3 levels: level 1 when the carer's SWB is less than the SWB of other ordinary people, level 2 when their SWB is equal to the SWB of other ordinary people, and level 3 when their SWB is more than the SWB of other ordinary people. However, we found that this data did not pass the proportional odds test in ordered-probit estimation. So we needed to reduce our dependent variable from 3 choices to binary choices as well as switch to a logit binary choices model estimation.



**Figure 1:** Conceptual Framework

A caregiver's SWB = f (Caregiver-related factors, Elderly-related factors, Relationship between an elderly caregiver and an elderly-related factors)

Figure 1 shows the conceptual framework of the study which divides the independent variables into 2 groups based on their expected relationship (positive or negative) with the caregiver's SWB, and Equation [1] presents the function that we use to estimate factors affecting the subjective wellbeing of the care provider. This is a dependent variable which is equal to 1 when a caregiver's SWB is equal to, or more than the SWB of other ordinary people, and equal to 0 when the SWB is less than the SWB of other ordinary people. On the other side of the equation, a set of care provider related factors (age, gender, education, marital status, number of children, number of siblings in family, health status, and income received from taking care of an elderly person), a set of elderly-related factors (age, gender, having a spouse, health problems, and the level of Barthel Activities of Daily Living (ADL)), as well as a set of relationship factors (the relationship between a carer and the person being cared for, a potential inheritance, reason for providing care, and period of time fulfilling this role) serve as independent variables. The criterion used for independent variables selection is based on theoretical and literature review (See Figure 1). We use both quantitative data and qualitative data so as to generate a comprehensive econometric model. It is important to note that gender, education, marital status, health status, having a spouse, relationship between the carer and the recipient and an elder factor, inheritance, and motivation of the carer, are qualitative data which can be transformed to the dummy variables in the model. 1,200 elderly carers, are randomly surveyed in Bangkok and the maximum likelihood estimation is used to analyze the effect of these independent variables on the care provider's SWB. In order to create credibility or validity in the model, we also test for econometric problems such as multicollinearity and specification error of the model. Additionally, we also used the information from our in-depth interview with 412 voluntary participants during the survey in order to find reasons supporting an estimation relationship.

## 5. RESULTS

This section presents the results from the 2019 random sampling survey conducted in Bangkok of 1,200 elderly caregivers who provided care within their own families. In addition, 412 of the 1,200 participants agreed to be interviewed and gave us extra detail about themselves. Table 1 presents the factors affecting the subjective well-being of family caregivers of elderlies.

The age of caregivers is one of the factors that influence the ability to take care of the elderly. It is because age can indicate psychological maturity, the ability to understand or make decisions in various situations and coping with problems. Older caregivers, being themselves aged, are likely to encounter a drop in socioeconomic standing that always accompanies retirement along with chronic diseases which can lead to isolation, dependence, lonesomeness and psychological distress. All of these issues increase the burden of caring for somebody (Gray et al., 2013; Yodpetch, 2005; Comin, 2005).

**Table 1:** The Factors Affecting the Subjective Well-Being of Family Caregivers of Elderlies

Factors	The Logit Model <i>Dependent Variable: Subjective Well-being (SWB) of a caregiver who is a member of the family</i> <i>Y = 0, When a caregiver of the elderly has less than SWB of other ordinary people</i> <i>Y = 1, When a caregiver of the elderly has SWB is equal to or more than SWB of other ordinary people</i>	Marginal Effect	Level of Significance
	Constant	-5.452	***
<b>Caregiver-related factors</b>	Age (Years)	-0.00813	
	Gender (Male = 1)	-0.09954	
	High school education (Having high school degree = 1, No education or less than high school is a based variable)	-0.00032	
	University education (Having university degree = 1, No education or less than high school is a based variable)	-0.08930	
	Single (Single = 1, Married is a based variable)	0.16841	**
	Divorced (Divorced = 1, Married is a based variable)	0.13265	*
	Widowed (Widowed = 1, Married is a based variable)	0.08867	
	Number of children	-0.0423	
	Number of siblings	0.05212	
	Has congenital diseases (Has = 1)	0.24555	*
	Income received from taking care of an elderly	0.00785	***
<b>Elderly-related factors</b>	Age (Years)	0.00590	*
	Gender (Male = 1)	0.10236	
	Having a couple (Has = 1)	0.00645	
	Number of health problems	-0.25149	*
	Barthel Activities of Daily Living (ADL)	0.1485	**
<b>Relationship factors</b>	Elderly's daughters/sons' in law (Being an elderly's daughters/sons' in law = 1, Being an elderly's child is a based variable)	-0.1273	*
	Elderly's grandchildren (Being an elderly's grandchildren = 1, Being an elderly's child is a based variable)	-0.17913	**
	Elderly's heritage (Has = 1)	0.45585	***
	Reason for taking care of an elderly (Volunteer = 1)	0.14298	**
	Period of time spent providing care	-0.00125	
	Number of observations	1200	

Note: \*, \*\*, \*\*\* mean statistically significant at 90%, 95%, and 99% confident interval, respectively.

As a result, the age of the caregiver negatively affects their own SWB. According to our interviews, most of the respondents believed that women across the world spend a larger amount of time on free of charge care work than men. The role of the caregiver is predominately assumed by women (Longphasuk et al., 2018; Panyathorn, 2014; Phothidara et al., 2014). In the case that a male has the responsibility of providing care, they often described having a greater number of unmet needs and more sense of burden than females, especially in terms of overall strain. This leads males to have less SWB than females when fulfilling this role. Caregivers who are more educated feel their responsibilities are more of a burden to them. According to our interview, this is due to the fact that they prefer to spend their time elsewhere, as they have the opportunity to have careers that come with a higher income. Our results show that caregivers who are married have a lower SWB than those of other statuses and statistical significance. Married caregivers are associated with the lowest level of SWB compared to being single, divorced or widowed or separated because in addition to being responsible for the elderly, they are also liable to look after their family (Thapsuwan et al., 2013). Any negative consequences due to the number of children are because of an increase in overall family financial burden; for example, each child results in additional expenses relating to necessities such as food and education. It is also true that expenses will typically increase as a child grows up. A high number of children in a family is associated with a lower SWB for the caregivers. However, the results do show that the number of siblings in a family can have positive effect on the caregivers' SWB. Having siblings can help the distribution of responsibility when providing day-to-day care for the elderly. The results show that the relationship between people with congenital disease and their SWB is positive and statistically significant at 90% confident interval. The reasons are because being caregivers make them feel self-worth, important, and needed. Being able to make an income from taking care of the elderly can give the caregiver a real peace of mind. The results show that caregivers who receive income from caregiving have a greater SWB than those who do not receive any income and is statistically significant at 99% confident interval.

The age of the elderly or the care-receiver can have a positive relationship with the caregivers' SWB level in the sense that taking care of a very elderly person can make the former's SWB level increase. Some studies (Hongthong et al., 2015; Hutaphaet, 2012; Jitapunkul and Wivatvanit, 2008) claim that "we feel more miserable as we grow older. Our health may deteriorate and our SWB may go down. But nothing seems further from the truth". Easterlin (2003) has shown that older people are actually happier and can often have a higher SWB level. This phenomenon is also known as the U-curve which means that young people and those considered to be senior citizens are often happier than those in between. According to our interview results, the main reasons which contribute to older people having higher SWB levels are that they are better at living in the present moment and focusing on things that matter now. In addition, they are more accepting of their strengths and weaknesses. The fact that older people have higher levels of SWB has benefits for caregivers. The happier people feel, the less prone to illness they will be. Also, happier people make other people feel better. Consequently, helping an aged person who is content helps improve a caregiver's SWB level. The results show that looking after elderly males, along with a couple of other factors make caregiver's SWB increase although the findings are not statistically significant. In terms of the number of health problems of the elderly and ADL, the results are statistically significant at 90% and 95% respectively. As the marginal effect is -0.25, it means that if the number of health-related issues increase by one unit, the probability of the elderly people's caregivers having a higher SWB will decrease by 25 percentage points. On the other hand, the probability of the caregivers having a higher SWB will increase by about 15 percentage points if those they care for have an increase in ADL by one unit.

Children of elderly people often recognize the duties of caregiving in terms of Thai culture and tradition (Gray et al., 2013). In the context of Thai society, caregivers are often family members and follow Thai social norms that are taught to a child in order for them to have filial piety to their parents. Additionally, as children of the elderly, they should understand how to meet the needs of their parents. This is why the results show that people who provide care to their parents have a positive relationship with their SWB, compared to an elderly person's daughters/sons' in law or grandchildren and are statistically significant at 90% and 95% respectively. As expected, the results find that a potential inheritance has a strong and positive relationship with caregivers' SWB level. The marginal effect implies that if an elderly person intends to leave their carer money or assets after passing away, the probability is that the caregiver's SWB level will increase by 46 percent. Because being a caregiver for the elderly is considered a high responsibility, the task involves sacrificing both time and physical strength. The adult children of the elderly who earn a high salary may remain in the labor market but others whose labor market opportunity costs are relatively low, such as underemployed or labor force nonparticipants are selected from within the family to be an elderly person's caregiver. The job itself is an unpaid role; therefore, volunteering to take on the responsibility is strongly and positively associated with the caregivers' SWB at a 95% level of statistical significance. The period of time spent providing care has a negative relationship with the caregiver's SWB level because most caregivers tend to act alone. Giving care without support or assistance causes fatigue and can have a harmful effect on the carer's mental wellbeing (Marks et al., 2002).



## 6. CONCLUSION AND POLICY RECOMMENDATIONS

It can be concluded that there are mainly 7 positive factors that significantly affect the caregivers' SWB and they are: (1) caregivers' single/ divorced status, (2) caregivers having congenital diseases, (3) income received from taking care of an elderly, (4) the increase in elderlies' ages, (5) elderlies' being able to ADL, (6) elderlies' inheritance and (7) caregivers volunteering to take care of an elderly person. Nevertheless, there are also 3 negative factors significantly affecting the caregivers' SWB which are (1) the number/severity of health problems an elderly person has, (2) being elderlies' daughters-/sons-in-law and (3) being elderlies' grandchildren. For the policy recommendation, it is necessary for the government to acknowledge that elderlies' health is an integral requirement for the caregivers to gain higher level of SWB that requires attention from health professionals and policy makers to ensure the elderlies are as healthy as possible. According to the results, the two most important factors that affect the caregivers' SWB are the income received from taking care of an elderly and the elderly's inheritance. For the income received from taking care of an elderly factor, it is recommended the Thai government increase the tax benefit options for the care of elderly parents. Currently, the Thai government gives 30,000 Thai Baht for each care provider as personal exemptions. It is suggested that the Thai government may initiate an increase in tax credits to other tax deductions options as in other countries such as in the United States which offers medical expense deductions. This tax benefit should help the caregivers maximize their tax return as a caregiver for a parent. Furthermore, along with our results, it can be seen that an elderly person's accumulated wealth, which will later be passed on, is one of the most important factors influencing the caregivers' SWB. It implies that the government should encourage saving schemes for old age and financial literacy as important mechanisms to be implemented in our country.

Regarding the recommendation for implementation, the research results reveal that the government and policy makers should stress the importance of the caregiver being an elderly person's child instead of being their daughters-/sons-in-law or their grandchildren. Society at large should accept that elderlies' inheritance and receiving income from taking care of the elderly are significant factors for the caregivers' SWB.

Because of the limitations of time and budget, this study only conducted the survey in the Bangkok area. Future research studies should expand the scope of the survey to cover the rural areas of Thailand because peoples' characteristics may be different from the Bangkokians. There may also be other dissimilar aspects such as family system, cultural behaviors, occupation and income which should be taken into account.

## REFERENCES

- Comin, P. (2005). *Experiences of Care Receiving of Dependent Elderly by Family Caregivers*. Master's Thesis. Chulalongkorn University, Thailand. [Online URL: [cuir.car.chula.ac.th/bitstream/123456789/7149/1/putcharin.pdf](http://cuir.car.chula.ac.th/bitstream/123456789/7149/1/putcharin.pdf)] accessed on September 8, 2018. [in Thai]
- Ćwirlej-Sozańska, A., Wiśniowska-Szurlej, A., Wilmonska-Pietruszyńska, A. and Sozański, B. (2019). Determinants of ADL and IADL disability in older adults in southeastern Poland. *BMC Geriatrics* 19: 297. [Online URL: <https://doi.org/10.1186/s12877-019-1319-4>] accessed on June 19, 2020.
- Dautzenberg, M. G. H., Diederiks, J. P. M., Philipsen, H., Stevens, F. C. J., Tan, F. E. S. and Vernooij-Dassen, M. J. F. J. (2000). The competing demands of paid work and parent care: middle-aged daughters providing assistance to elderly parents. *Research on Aging* 22(2): 165-187.
- Deng, J., Hu, J., Wu, W., Dong, B., and Wu, H. (2010). Subjective well-being, social support, and age-related functioning among the very old in China. *International Journal of Geriatric Psychiatry* 25(7): 697-703.
- Easterlin, R. A. (2003). Explaining happiness. *Proceedings of the National Academy of Sciences of the United States of America* 100(19): 11176-11183. [Online URL: <https://www.pnas.org/content/100/19/11176>] accessed on September 3, 2018.
- Gray, R., Pattaravanich, U., Chamchan, C. and Suwannoppakao, R. (2013). *New Concept of Older Persons: The Psycho-Social and Health Perspective*. Nakhon Pathom: Institute for Population and Social Research, Mahidol University. [in Thai]
- Hongthong, D., Somrongthong, R. and Ward, P. (2015). Factors influencing the Quality of Life (QoL) among Thai older people in a rural area of Thailand. *Iranian Journal of Public Health* 44(4): 479-485. [in Thai]
- Hutaphaet, W. (2012). *The Well-being of the Elderly's Caregivers in Tamaka District, Kanchanaburi Province*. Master's Thesis. Mahidol University, Thailand. [in Thai]
- Jitapunkul, S. and Wivatvanit, S. (2008). National policies and programs for the aging population in Thailand. *Ageing International* 33: 62-74.
- Jitramontree, N. and Thayansin, S. (2013). Social welfare for older persons in Thailand: policy and recommendation. *Journal of Public Health and Development* 11(3): 39-47.

- Khupenwichittrakarn, T. (2010). *The Role of Elderly Caregivers in Pluak Daeng Subdistrict Municipality, Pluak Daeng District, Rayong Province*. Master's Thesis. Khonkaen University, Thailand. [in Thai]
- Knodel, J. and Chayovan, N. (2008). Older persons in Thailand: a demographic, social and economic profile. *Ageing International* 33: 3-14.
- Longphasuk, N., Monkong, S. and Sirapo-ngam, Y. (2018). Health conditions and self-care activities of older caregivers caring for bedridden older adults. *Journal Thailand Nursing and Midwifery Council* 33(2): 97-109. [in Thai]
- Marks, N. F., Lambert, J. D. and Choi, H. (2002). Transitions to caregiving, gender, and psychological wellbeing: a prospective U.S. national study. *Journal Marriage and Family* 64(3): 657-667.
- Michaud, P.-C., Heitmueller, A. and Nazarov, Z. (2010). A dynamic analysis of informal care and employment in England. *Labour Economics* 17(3): 455-465.
- Mongkol, A., Vongpiromsan, Y., Tangseree, T., Huttapanom, W., Romsai, P. and Chutha, W. (2007). *The Development and Testing of Thai Mental Health Indicator Version 2007*. Bangkok: The Agricultural Co-operative Federation of Thailand Ltd. [in Thai]
- National Economic and Social Development Board. (2013). *Population Projections for Thailand: 2010-2040*. Bangkok: Amarin Printing.
- Panyathorn, K. (2014). Family caregiving of the elderly in Nongtaguy Village, Maung District Udonthani Province. *Journal of Nursing and Health Care* 32(4): 33-39. [in Thai]
- Peiró, A. (2006). Happiness, satisfaction and socio-economic conditions: some international evidence. *Journal of Socio-Economics* 35(2): 348-365.
- Phothidara, Y., Korcharoenyos C., Somkumlung P. and Chaiyasit Y. (2014). Factors effecting on fatigue in strokes' caregiver. *Journal of Nursing Science & Health* 37(3): 46-55. [in Thai]
- Suari-Andreu, E., Alessie, R. and Angelini, V. (2018). The retirement-savings puzzle reviewed: the role of housing and bequests. *Journal of Economic Surveys* 33(1): 195-225. [Online URL: <https://doi.org/10.1111/joes.12257>] accessed on June 19, 2020.
- Surbone, A., Baider, L., Weitzman, T. S., Brames, M. J., Rittenberg, C. N., Johnson, J. and MASCC Psychosocial Study Group. (2010). Psychosocial care for patients and their families is integral to supportive care in cancer: MASCC position statement. *Support Care Cancer* 18(2): 255-263.
- Suwanrada, W. (2008). Poverty and financial security of the elderly in Thailand. *Ageing International* 33: 50-61.
- Tangtamaruk, P. and Chaiwat, T. (2019). A cohort study on homeless ways of life and happiness in Bangkok. *African Journal of Hospitality Tourism and Leisure* GCBSS Special Edition: 21.
- Thapsuwan, S., Thongcharoenchupong, N. and Gray, R. (2013). Determinants of stress and happiness among family caregivers to older persons. *Thai Population Journal* 4(1): 75-92. [Online URL: <http://www2.ipsr.mahidol.ac.th/ThaiPopulationJournal/index.php/component/phocadownload/category/7-tpj-vol4-no1?download=41:tpj-vol4-no1-issue04>] accessed on December 1, 2018. [in Thai]
- Yodpetch, S. (2005). *Elderly's caregivers in Family*. Bangkok: Thammasat University. [in Thai]