Prevalence and Factors Associated with Depression in the Elderly: A Systematic Review

Rangsima Thipprakmas, MD*

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Abstract

Background: Depression is one of the most common mental illnesses around the world and has significant negative effects on well-being and physical health. The elderly, who have high levels of risk factors including physical diseases, isolation, and lack of social supports, may be particularly impacted by depression. Depression in the elderly is often ignored or overlooked.

Aim: This study aimed to investigate the prevalence and factors associated with depression in the elderly around the world and in Thailand, including sociodemographic, economic, social, and physical health factors.

Methods: A systematic review of recent literatures and data (2015-present) was conducted. The data were collected from academic sources and global health data, including World Health Organization's data. A qualitative review technique was used to examine these findings.

Results/Findings: The review identified several key factors of depression in the elderly, including sociodemographic and economic factors, family relationships, social supports, living environment, mental health, physical health conditions, and overall quality of life. These factors were often co-occurring and could have cumulative impacts.

Conclusion: Depression is a significant health issue that occurs in the elderly around the world, and can have social, demographic, economic, and physical causes. Depression should not simply be accepted as a consequence of ageing.

Implications: Health care and care services for the elderly needs to consider whether patients and clients are depressed, and if so work to remedy conditions of depression as well as provide effective treatment.

Keywords: Geriatric depression; Social and physical factors

* Medical Physician, Senior Professional Level, Rasi Salai Hospital, Si Sa Ket Province
Corresponding author: Rangsima Thipprakmas Email: dangobrav@hotmail.com
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Introduction

Geriatric Depression and Its Prevalence

Depression is a clinical syndrome characterized by symptoms like low mood, low energy and lack of positive emotion, along with sleep and appetite changes, poor concentration and low confidence, and occasionally suicidal thoughts or intentions[1,] Depression is commonly observed in elderly people. Pocklington[1] notes that depression in people over age 65 can be either early-onset (having occurred periodically or chronically earlier in life) or late-onset (with the first symptoms and diagnosis occurring after age 65). In addition to having a negative effect on mood and overall quality of life, late-onset depression can be considered a prodromal factor for developing age-related health problems such as cardiovascular problems and cognitive impairments.[1-5] Thus, identifying depression can help to both improve quality of life for the elderly and allow early identification of developing long-term health problems.

It has been estimated through a quantitative meta-analysis of global studies that the lifetime incidence of depression in all individuals is 27 percent, although rates of depression are much higher for women than for men.[3] Estimates of geriatric depression (or depression occurring in those over 65) vary depending on the environment and culture, but it has been estimated that in the United States and other regions, late-onset depression (or geriatric-onset depression) may occur in between 3 percent and 5 percent of the population [4]. In Thailand, there have been several studies which estimated rates of geriatric depression at much higher rates, ranging from 9.6 percent[6] to 32.9 percent.[7] There was a wide variation in these incidences of depression at least in part because of the differences in the living situation and health of the populations studied. While some of the studies investigated people living in a strong social network and in relatively good health, other studies, such as that of Chaiut, et al.[7] investigated the situation of poor, rural elderly people with poor social supports. Thus, there is a serious question as to what kinds of factors influence the development of depression in the elderly since some conditions could be changed to lessen the risk. There is also a significant time gap in these studies, with studies spaced out over a long period of time and few reflecting the development understanding of geriatric depression in Thailand. This research can provide benefits to practitioners and to policymakers in Thailand who are tasked with caring for the elderly, by identifying how and when geriatric depression may be more likely.

Aim of the Research

The aim of this paper was to investigate risk factors in geriatric depression, including demographic and economic factors, social factors, mental and physical health factors, and emotional factors. The study draws on research from elderly populations around the world, but it focuses on research conducted in Thailand, since Thai elderly have specific conditions of life that may affect them.

Methods

Design

The method used was a systematic literature review. The systematic literature review selects for review all articles that meet specific criteria.[8] The purpose of the qualitative systematic literature review is to provide a comprehensive review of the existing literature in a given domain. The systematic literature review process begins with identification of all articles that meet specific criteria, using one or more research databases.[8] Inclusion criteria, including keyword and content search time periods along with quality criteria (for example peer reviewed status) are used for initial selection. Exclusion criteria, which in this case were specific types of articles (editorials, book reviews and single case studies) and incidental mentions of the keywords, were then applied to the studies.

Selection criteria and data collection

There were several selection criteria applied for articles. These selection criteria included: publication in a peer-reviewed journal (SSCI or EI listed); publication date between 2015 and 2020; and focus primarily on incidence and causes of depression in the elderly or older adults (termed geriatric depression in some articles.) Although articles from Thai populations were preferred, the selection also included those from global populations as long as they met these criteria. The keywords used included: geriatric depression, late-onset depression, elderly depression, depression in older adults, and senior depression. Additional optional keywords including Thailand and Thai elderly were also used to narrow the geographic scope, though they were not used to exclude studies.

Searches were conducted on ScienceDirect and JSTOR databases, as well as Google Scholar, as not all Thai journals are indexed on major databases. The initial review of articles identified 328 possible candidates for inclusion. After removing articles that did not relate to the core themes and articles where full text was unavailable, a total of 33 articles were included in the survey. These articles were then subject to a qualitative literature review. Figure 1 shows the flow of the literature review process, including

keywords, paper search and other factors. As this shows, while there were nearly 20,000 sources initially identified in the search, the majority of sources were eliminated based on the initial inclusion criteria. Afterward, the successive application of exclusion criteria reduced the number of articles. The final process resulted in a final total of 33 articles.

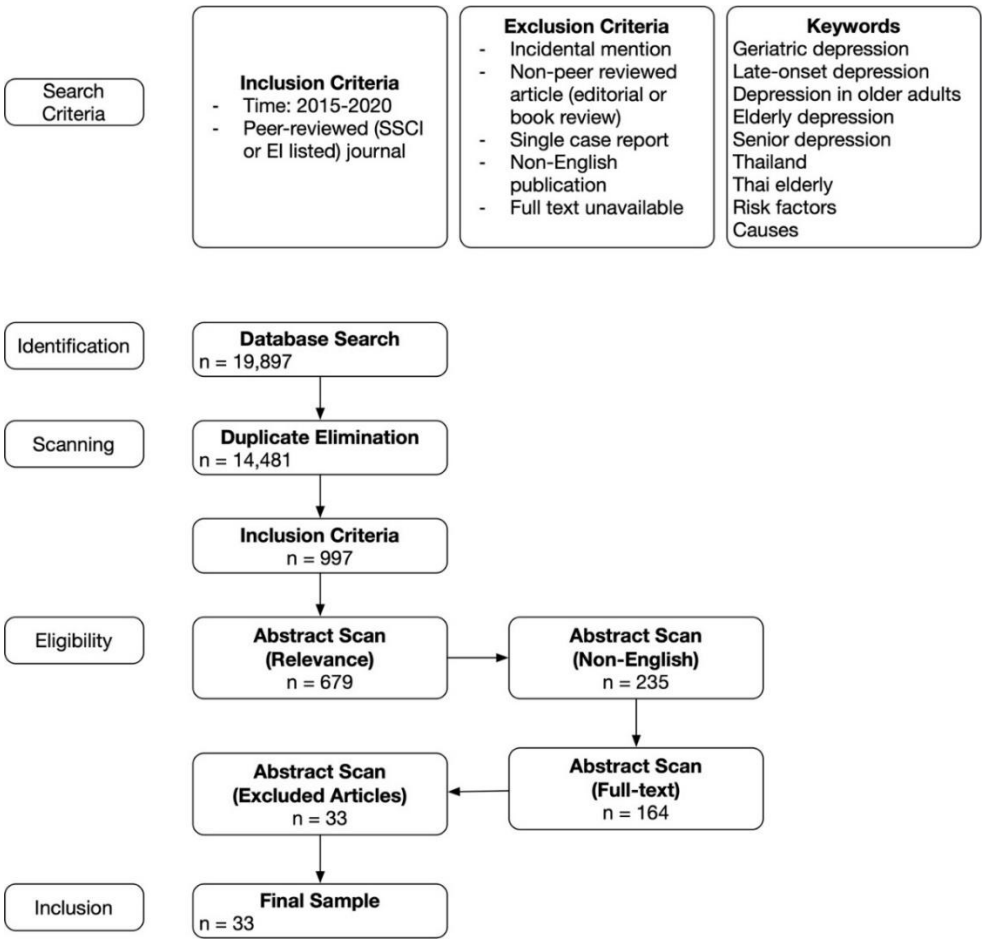

Figure 1 The Flow of the Literature Review Process

Ethical considerations

The research relied on secondary data (existing published journal articles) and therefore there were no major ethical issues stemming from the conduct of the study. The main ethical obligation is accurate reporting and effective analysis of the article findings.

Findings

Factors in Geriatric Depression

Sociodemographic factors

Sociodemographic factors, including gender and income, were frequently found to influence occurrence of geriatric depression. In relation to gender, it is known that females are at a higher risk than males for depression and experience more symptoms of depression throughout the lifespan[9]. This difference continues into late life. Girgus, et al.[9], who studied 85 previous research studies on gender and depression, found that women were significantly more likely to experience depression late in life than me in 81 of these studies. Psychosocial factors, including lack of social supports, widowhood, and living alone, accounted for some of these differences, but did not fully explain it. Furthermore, their research included studies from around the world, indicating that this is a general tendency rather than dependent on culture or other factors. A study of adults aged 60 and over in north-eastern Thailand also found significant gender differences in depression.[10] This study found that females had an incidence rate of 17.6 percent, compared to 12.3 percent for males. A study in rural Thailand also found females had higher incidents compared to males (OR = 2.78).[11] Thus, gender (female) can be confirmed as a risk factor for depression.

Socioeconomic status (specifically income) also appears as a factor in depression in older adults in Thailand, although this is not always found. One study, which was conducted in elderly of hill tribes in Northern Thailand, found that 88.8 percent had income under 5,000 baht/month.[7] Two other studies, which investigated depression in elderly living in care homes, also found that poverty was a risk factor.[12,13] Thus, although low income is not always identified as a risk, there is evidence that it influences depression among the elderly of Thailand.

There are also a variety of other sociodemographic factors that may influence depression. One of these is education, including educational level (which has a negative effect on depression)[6,14,15] and illiteracy (which has a positive effect on depression).[7,11,16] Marital status may also influence depression, although this relationship is uncertain as various studies have shown that married, unmarried, and widowed people may have higher rates of depression.[5,15,16] Thus, while this is very likely to have an effect, it is uncertain what this effect would be.

Family relationships

Family relationships are another factor in depression among older adults, in Thailand and elsewhere. Overall, strong family relationships appear to have a protective effect against depression. One study, investigating elderly residents in care homes, noted

that residents of these care homes often either had no remaining family or had significant family conflicts.[13] In this study, social supports, including family support, was a significant predictor (negative) of depression (OR = 0.963). Another study investigated rural elderly residents.[11] This study found that 'imbalanced' family types, or those with poor alignment or weak attachments between family members, increased the risk of depression significantly (OR = 4.52). This was a higher odds ratio than other factors. Studies from other countries have also supported the importance of family relationships in depression among the elderly. One of these studies, which took place in South Africa, found that living alone, widowhood and lack of family relationships had a significant effect on depression, especially for women [17]. Another study investigated intergenerational relationships among Chinese families and its effect on depression among Chinese elderly.[18] These authors found that elderly who had strong family relationships were less likely to experience depression than those without such relationships. Overall, these studies support the overall role of family relationships as a protective factor for depression in the elderly, with those with stronger family relationships having a significantly lower incidence of depression.

Social supports

While family relationships are one form of social supports, broader social and community support is also a significant protective factor. Li, et al.,[18] studying Chinese elderly, found that family social supports specifically had a negative effect on depression incidence. Another study in China also emphasized the importance of social supports.[19] These authors investigated loneliness and social supports, finding that social supports fully mediated the relationship between loneliness and depression. A study in Spain, focusing on social networks, found that high social interaction frequency and large social networks were associated with a lower incidence of depression.[20] A study in Ireland found that social isolation had a positive association with depression, while social interaction had a negative association with it.[21] Studies in Thailand have also supported the importance of social supports. One of these studies examined social networks of elderly in northern Thailand [22]. Diverse social networks were those with a wide variety of connections, including both family and non-family connections within the community. The authors found that there was a significant negative relationship between social network diversity and depression incidence. For elderly in care homes, there was also a negative effect of social supports on depression, indicating that social interactions had a protection effect.[13] A second study in Thailand found that low levels of social supports were a significant risk factor in depression (OR = 3.30).[10] These studies indicate that a large and diverse network of social connections and supports is a protective factor against depression in the elderly.

Living environment

The living environments of the elderly person can also have an effect on depression. There are at least two living environments which may exacerbate depression onset: living in care homes and living in rural environments. Two studies have been conducted on the elderly in care homes in Thailand.[12,13] Both authors noted that elderly within the care homes appeared to have higher incidence of depression than those living at home (either on their own or with family members). Tosangwarn, et al.[13] pointed to the effect of internalized stigma of living in the care home, along with co-factors including social isolation from family and lack of family support, as a possible factor in the increased rate of depression among care home residents. Karuncharernpanit, et al.[12], who investigated a care home in western Thailand, also argued that the care home residents had high rates of depression (up to 41.4percent). Furthermore, their study also pointed to various co-factors that exacerbated depression. Thus, there is strong evidence that both the care home environment itself and its co-factors, such as poverty, isolation and ill health, could influence depression rates. In relation to rural environments, studies in China,[14] India [16] and Thailand [7,11] have all shown that rural living is associated with increased risk of depression. This is typically explained through increased poverty and social isolation, particularly those in 'left-behind' rural areas where younger family members have moved away. Thus, rural living, particularly in isolation, is also a significant risk factor for depression.

Mental health

Pre-existing mental health conditions may also be a risk factor and/or comorbid factor in geriatric depression, although relatively few studies have investigated this in a Thai population and various mental health measures have been used. In a study in Thai care homes, self-esteem was shown to have a significant negative effect on depression.[13] Anxiety and loneliness are also associated with depression among the elderly in an Irish study.[21] These authors did not show a connection between anxiety and depression, but did show that loneliness influenced depression and that anxiety and depression were frequently co-occurring. A study in China showed that anxiety and stress may co-occur with depression and may be causal factors, but on the other hand this is a complex relationship that changes over the course of the lifespan.[3] Furthermore, depression may be a causal factor for some mental health concerns, such as cognitive deterioration.[4] These studies point to a complex relationship between various aspects of mental health and the occurrence of depression in the elderly, which may include causal relationships in both directions, or may be co-occurring problems caused by the same factors such as isolation and loneliness.

Physical health

The individual's physical health conditions is also a factor in depression among the elderly, and it is one of those identified most often.[1] Pocklington's review of depression in older adults pointed to common comorbidities, including cardiovascular disease, diabetes, and other chronic physical illnesses, which may be exacerbated by low activity levels.[1]

Chronic illness is one of the most commonly identified factors in depression. A history of chronic physical illness (all causes) was shown to increase the risk of depression in the elderly in India [16] and in Italy.[23] This has also been shown to be the case in Thailand, where chronic illness was among the stronger risk factors in several studies.[12,14]

There are also other health conditions that may influence depression, such as frailty (or relative physical weakness),[24] chronic pain and inflammation,[25] diabetes,[23,26] a history of physical disability,[15] and visual impairment or blindness.[27] Pain, fatigue and lack of physical function could also cause depression, particularly in the case of injury or long-term deterioration in function such as knee osteoarthritis.[28] Health habits, particularly smoking, have also been frequently associated with depression, with smoking having a positive effect on depression.[7,11,24] The extent of physical activity may also be a factor in depression, showing a negative effect.[14,24,28,29]

There are some conditions for which the link with depression is not as clear. One of the most prominent is that of cardiovascular disease, including hypertension.[26,30] As these authors have explained, there are physiological explanations for comorbidity and possible causal relationships between cardiovascular disease and hypertension on the one hand and depression on the other. However, so far studies have not explained this link, found it consistently or identified which direction the relationship is into a satisfactory degree. Thus, from the state of the research it is only possible to say that cardiovascular disease and depression may be comorbid.

Finally, a few authors have also examined perceived physical health status, finding that it had a negative association with depression.[12,17] In other words, regardless of whether the individual was actually in poor health, if they viewed themselves to be in poor health than there was an increased risk of depression. In summary, physical health may be one of the biggest factors in depression in the elderly.

Overall quality of life

Although it is not the most frequently studied factor, overall quality of life may be a factor in depression in the elderly. However, this relationship is inconclusive based on earlier studies. A study of the elderly of Thai hill tribes showed that there was a higher risk of depression for individuals with low mental quality of life compared to those with high

mental quality of life (OR = 1.77).[7] However, this was not one of the factors with direct causal links that were identified, and therefore the relationship between the two is unclear. Another study of resilience in the elderly showed that quality of life and enjoyment were positively associated with resilience, while depression co-occurred (with a negative significance) but the authors did not directly test a relationship between the two.[31] Several other studies have shown that depression has a negative effect on perceived quality of life, but have not tested the relationship in the other direction.[3,28,32] Therefore, it is possible that there is a relationship of quality of life and depression, but this has not been tested extensively.

Table 1 Summary of key findings

Factor	Sub-Factor	Summary of key findings
Demographics	Gender	Women are at higher risk for geriatric depression than men, due to higher incidence of depression in earlier life and lack of social support, widowhood and living alone.
	Income	Poverty and low income is a risk factor for geriatric depression.
	Other factors	Educational level (negative) and illiteracy (positive) influence geriatric depression. Effects of marital status are indeterminate.
Family relationships		Family support negatively predicts geriatric depression. Living alone and widowhood/widowerhood positively predict geriatric depression. Elderly in care homes often lack family relationships, either due to no remaining family or family conflict, leaving them at higher depression risk.
Social Supports		Social supports negatively predict geriatric depression. Social supports (friendships, neighbors, and caregiving relationships) reduce loneliness and social isolation.
Living environment		Elderly living in care homes are at higher risk of geriatric depression, due to social isolation, internalized stigma and lack of family relationships. Elderly living in rural places are at higher risk due to social isolation, family abandonment and poverty.

Table 1 (cont.) Summary of key findings

Factor	Sub-Factor	Summary of key findings
Mental health		Pre-existing mental health conditions, like anxiety, loneliness and stress, are possible co-morbidities and risk factors for geriatric depression. Geriatric depression is a possible causal factor for cognitive deterioration.
Physical health		Physical health condition, including chronic health conditions, frailty, physical impairments, smoking and drinking habits, positively predict geriatric depression. Physical activity negatively predicts geriatric depression. The relationship of cardiovascular disease and geriatric depression is indeterminate.
Quality of life		The relationship of overall quality of life and geriatric depression is indeterminate.

Conclusion and Implications

This study has investigated the most recent academic literature on geriatric depression in Thailand and elsewhere. In doing so, it has identified several possible factors in depression in the elderly, including both risk factors and protective factors. The risk factors that were identified included: sociodemographic factors including gender (female), income (low), education level (low), illiteracy; living environments including in care homes and in rural areas, particularly 'left-behind' rural areas with high depopulation of younger people; pre-existing mental health conditions; and most particularly, a range of physical health conditions including (but not limited to) chronic pain, chronic illness and diabetes, frailty, disability, and health habits such as smoking. Protective factors included family relationships, social supports, and potentially overall quality of life, although this factor did not have as strong a support as the other protective factors.

The evidence level for these factors does vary, and not every individual will have every (or even most) factors. However, these factors do have sufficient evidence that those engaged in caring for the elderly – as family members, as nurses and other healthcare providers, and as care givers whether in the home or in a care home – should be aware that they can lead to depression. Thus, the main implication for practice from this research is that caregivers (particularly professional caregivers and healthcare providers) need to be

aware of the possible causal factors that can lead to depression in the elderly. By being aware that these factors exist, it is possible to identify depression and to provide treatment and mitigate conditions which have caused it, to the extent possible. This will help protect the elderly against the damaging effects of depression on their mental and physical health and quality of life, which can ultimately affect both quality and quantity of remaining lifespan.

There were some limitations to the scope of this article. Because it was focused on the factors that could be identified through social and health practice, it did not include the body of research on genetic and physical markers of depression. This research is fascinating and potentially relevant in future, but it is not today usable by social workers, care home workers and geriatric nursing specialists tasked with identifying and treating depression in the elderly. However, a review of the most recent research in this area would be very helpful for improving understanding. The research was also based in secondary studies, which was a limitation chosen deliberately to provide the broad perspective needed to understand the general direction of the research. This obviously offers an opportunity for more direct study, which the author has taken up through additional research. However, there is still additional space for examination, particularly the more complex areas such as increased risk associated with gender. The suggested method for this research is mixed-methods observational or clinical research in a variety of settings, including care homes, assisted living facilities, and community and home care environments in Thailand. A comparison study of geriatric depression within these settings could help isolate the risk factors that are particularly prevalent in different settings, offering more information for caregivers and clinicians to identify and treat the causes of geriatric depression in their charges.

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