ORIGINAL ARTICLE

Prevalence and Associated Factors of Depression Among Karen Hilltribe Elderly Population in Thailand

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ABSTRACT

Introduction: Depression among older population in community has been identified as a significant problem to improve care and quality of life. Although prevalence rates for Thai older population have been established in many parts of Thailand, there are still an under-recognition of depression among ethnic minority older people in Thailand. Hence, this study aimed to investigate depression in Karen older population, one of hilltribe groups in the northern part of Thailand. The objective of the study was to find prevalence rate and associated factors related to depression in Karen hilltribe elderly in Doi-Luang district, Chiang Rai, Thailand. **Methods:** Cross sectional study was carried out in the outpatient primary care clinic of Doi-Luang hospital, a community hospital. Total 174 Karen elders aged ≥ 60 years were randomly selected and PHQ-9 was applied to assess depression by clinician researchers in the Karen version. Demographic characteristics and factors associated with depression were collected by structural questionnaire. **Results:** The average age of participants were 69 ± 8 years. The prevalence of depressive mood was 11.49% (95% CI 7.50 - 17.21). Binary logistic regression revealed that associated factor of depression among Karen older people was marital status (OR = 6.66, 95% CI 2.31-19.23, P<0.001). **Conclusion:** Depression was found to be one of mental health problems in Karen older people. A validated screening tool which considers the Karen culture and language is a useful tool for the detection of depression in the ethnic group elderly leading to its prevention and provision of care.

Keywords: Associated factors, Depressive mood, Elderly, Ethnic group, Prevalence, Thailand

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INTRODUCTION

Depression is an important factor for the worldwide burden of disease that affects people of all ages and genders. Clinical depression presents with depressed mood, feeling of guilt and hopelessness, low energy and low self-worth, loss of interest, lack of sleep and appetite. A long-term persistence of these symptoms could lead to individual's dysfunction and the ability to take care of themselves (1). Hence, depression in the geriatric group is a significant problem for health care and increases the utilization of medical services (1). In Thailand, 3 out of 100 Thais experience depression in their lifetime (2). The prevalence of depression in Thai ageing population ranged from 2.5% to 33%, depending on study areas and tools (2,3,4,5,6). Most of the studies on depression in Thai older adults have been carried out in people of Thai nationality. The factors related to depression among Thai ageing population were female, being single, divorced or widowed, low income, no occupation, illiteracy, low level of family relationship (low attachment and cooperation among family members) and infirmity (2,3,4,5,6).

In Thailand, there are ethnic minority population who have been resettled in all parts of the country particularly in the northern part, there are groups of hilltribe people called Karen who have been dispersed and resides in rural areas of the north of the country. Over the past decades with rapidly change of Thai economics and modern lifestyles, depression is one of the mental health problems that has been found not only in Thai older people, but also in the ethnic elderly groups (7).

Nonetheless, to date, there is scant information on depression of hilltribe older people, specifically Karen group which is a large group of hilltribe in Thailand. Moreover, all existing depression screening tool are developed and used in Thai language which could not directly be applied to ethnic group, in particular the ethnic elders. Therefore, there is a need to formal translate the assessment which is ethnic-cultural sensitivity in order to promote awareness of mental health problems among ethnic ageing population in the community.

MATERIALS AND METHODS

Study area and sample

An analytical cross-sectional study was carried out in 174 Karen elders by a simple random sampling at a primary care clinic in out-patient department of Doi-Luang hospital, a community district hospital in Chiang Rai province, Thailand. This area was chosen due to the presence of a large population of Karen older people in community. Participants were Karen elders aged 60 years old and over with no impairment of communication. Participants were excluded if they had a history of stroke or were receiving medical treatment with psychoactive drugs or had hearing loss. The study protocol was approved by Mae Fah Luang University (ethical number REH-60105).

Study tools and data analysis

The Patient Health Questionnaire (PHQ-9) is one of the validated tools for depression screening test, a monitoring tool for measuring response of patient's treatment as well as a tool to assist with diagnosis of depression and identification of problem symptoms (8). The PHQ-9 is widely used for depression test in primary care settings as it has been validated in primary care environments (10). PHQ-9, itself, can be administered by clinicians, by telephone, or self-administered (9). The PHQ-9 shows a high cultural sensitivity in various cultures and ethnic groups, hence, it has been translated into many languages (10). In Thailand, it has been used as a gold standard to screen depression (10). Although the PHQ-9 in Thai version has been used in ethnic groups, there has been formal translation into any ethnic language. The formal translation is very crucial in order to prevent misinterpretation in translation and to preserve the concept and validity of PHQ-9 the original version. Therefore, this study translated and validated PHQ-9 from its original (English) version to Karen version and applied it as a screening test. Because of a high number of illiterate participants, PHQ-9 in this study was administered by two clinician researchers. Demographic data such as gender, education, marital status, health behaviours such as drinking and smoking and chronic diseases (diabetes, hypertension and kidney disease) were collected by using interview questionnaires and were analysed by descriptive statistics. A binary logistic regression was used to analyze associated factors of depression.

Translation and validity of PHQ-9 from English to Karen version

The original version of PHQ-9 in English was translated into Karen. WHO translation guideline protocol (11) with the fives processes in translation and validation were followed. Firstly, forward translation: the PHQ-9 in English version was translated into Karen language by two translators who were also mental health experts. They were assigned to independently translate the test. Secondly, synthesis of the forward translation: in this process, the two translations in Karen language were compared, discussed and agreed on any discrepancies that were found. Thirdly, blind backtranslation of Karen version by two lay people. Fourthly, synthesis of the backward translation, both back-translated versions were compared, examined and settled differences in backtranslation. Lastly, validity test, PHQ-9 in the Karen version was tested in 30 participants and showed a very good agreement between two raters (clinician researchers) with inter-rater Kappa (K) level at 0.8, $p<0.001$, 95% CI 0.54 -1.00.

RESULTS

A total of 174 participants with mean age 69+8 years old, 86 (49.4%) males and 88 (50.6 %) females were included. More than half of the participants were illiterate at 61.0% (106). 73.6% were married. The rate of drinking and smoking were found at 20.0% and 25.3%, respectively. The most common chronic disease was hypertension at 23.6% (Table I).

Prevalence of depressive mood among Karen older people screened by using PHQ-9 in Karen version was found at 11.49% ,95% CI 7.50%-17.21%. Marital status was found as a significant associated factor related to depression in Karen older people (OR = 6.66, 95% CI 2.31-19.23), $P<0.001$ (Table II).

DISCUSSION

To the best of author's knowledge, there is only one study that has been previously published on the prevalence of depressive mood among hill-tribe older adults in Chiang Rai. The previous study showed a higher prevalence rate than this study (33% with no report of Confidence Interval) (3). The different rates could be due to differences of participant characteristics and sample size. The previous study was carried out in six hilltribe groups, while this study was specifically in Karen tribe. The screening tool used in the previous study used was Geriatric Depression Scale (GDS) in Thai version with the questionnaire read by interpreters for the participants. They did not report the reliability study on data collection for showing the consistency of translation in each tribe. Nevertheless, this study has strongly agreed with the previous study that there is a need for Thai public health to develop or translate the assessment for depression screening among hilltribe people as there are a significantly large number of hilltribe people who potentially have depression.

When comparing the prevalence rate of this study with the national health survey which used PHQ-9 a screening tool, this study showed higher rate of depression (11.49% vs 8.30%). It is possible that the information of the national health survey is not up to date as it was done in 2014. For that reason, the results from this study were compared with recent studies among Thai ageing population with PHQ-9 screening test (3,5,6). It turned

Table I: Characteristics of the participants

Factors	Depression	Non-depression	Total	COR (95%CI)	P value
Gender					
Male	6 (7.0%)	80 (93.0%)	86 (49.4%)	1	0.072
Female	14 (15.9%)	74 (84.1%)	88 (50.6%)	2.52 (0.92-6.91)	
Education (primary school)					
Yes	3 (4.4%)	65 (95.6%)	68 (39.0%)	1	0.05
No	18 (17.0%)	88 (83.0%)	106 (61.0%)	4.23 (1.19-15.06)	
Marital status					
Yes	7 (5.5%)	121 (94.5%)	128 (73.6%)	1	0.001
No	13 (28.3%)	33 (71.7%)	46 (26.4%)	6.81 (2.51-18.44)	
Alcohol drinking					
Yes	0 (0.0%)	35 (100.0%)	35 (20%)	undefined	n/a
No	21 (15.1%)	118 (84.9%)	139 (80.0%)	1	
Smoking					
Yes	0(0.0%)	44(100.0%)	44 (25.3%)	undefined	n/a
No	21 (16.2%)	109(83.8%)	130 (74.7%)	1	
Hypertension					
Yes	4 (9.8%)	37(90.2%)	41 (23.6%)	0.84 (0.26-2.68)	0.690
No	16 (12.0%)	117 (88.0%)	133 (76.4%)	1	
Diabetes					
Yes	3 (12.5%)	21 (87.5%)	24 (13.8%)	1.18 (0.32-4.40)	0.868
No	17 (11.3%)	133 (88.7%)	150 (86.2%)	1	
Kidney disease					
Yes	2 (28.6%)	5 (71.4%)	7 (4.0%)	3.31 (0.60-18.33)	0.170
No	18 (10.8%)	149 (89.2%)	167 (96.0%)	1	

COR: Crude Odd ratio, 95%CI: 95% Confidence Interval

Table II: Potential factors associated with depression among Karen older people

Factors	Depression N (%)	Non-depression N (%)	Total N (%)	AOR (95% CI)	p value
Marital status					
Yes	7 (5.5%)	121 (94.5%)	128 (73.6%)	1	
No (single, divorced, widowed)	13 (28.3%)	33 (71.7%)	46 (26.4%)	6.66 (2.31-19.23)	<0.001

AOR: Adjusted Odd Ratio, 95%CI: 95% Confidence Interval

out that the present study showed lower prevalent rate with other recent studies in Thai ageing group. This may be due to the difference of the study areas and the severity of the symptoms in each group of participants. Most of recent studies in Thai ageing groups have been done in urban or suburban areas which tend to show higher rate of depression than rural areas (3,5,6,12).

This study also revealed that Karen older people whose marital status were reported as having no spouse (single, divorced, widowed) had higher chance (6.6 times) of suffering from depression compared to those who were married or living with spouse. This information is relevant to the study of Olpoc (2016) which shows that marital status has significant effect to depression on Thai older people, especially those who are widowed as loss of love ones late life could increase the chance of depression during stressful event. Besides, in remote areas of Thailand, a majority of ethnic older people always turn to their spouse for emotional support because they believe that their spouse shares their fate and helps them emotionally (13). Healthy relationship between the couple is not only promoting peer support but also enhance self-esteem in coping with stress in an individual (13). In addition, some of Karen elders were left behind with their grandchildren whose parents have gone to work in urban areas or capital city. Some elders who have to struggled alone to cope with their teenage grandchildren's behavior, such as violence, alcohol drinking, drug abuse in the long term could have more chance to develop mental health problems (14). This highlights the limitation of this study and the author recommends future study of the relationship between Karen older adults and their grandchildren. This study was focused only in Karen older people at Doi-Luang district, therefore the longitudinal studies in other parts of Thailand will be worthwhile in identifying and validating the casual factors of depression in the ethnic elderly population.

CONCLUSION

This study showed a key strength as it was the first pilot study to report the preliminary results and information on prevalence of depressive mood in Karen older people by using the screening tool which has been formally translated and validated in ethnic language. Moreover, this study intended to promote awareness of mental health problem such as depression among ethnic minority group in Thailand. Therefore, systematic outreach to screen and assesses mental health problem among ethnic older people is recommended for health care providers in the community as well as setting a bilingual or multilingual mental health service to further support and promote mental health care among minority group.

ACKNOWLEDGEMENTS

All participants and the director with all health care staff at Doi-Luang hospital, Chiang Rai, Thailand.

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