

Effects of Preventive Program for Depression among the Older Adults in the Rural Community of Thailand: A Quasi-Experimental Study

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Abstract:- Depression is the common mental health disorder in the older adults. It is affecting daily life and health status. The study was a quasi-experimental study aimed to evaluate the effects of preventive program for depression among the older adults in the rural community of Thailand by using community participation. The samples consisted 35 of older adults who were aged 60 years old and older and lived in the rural community of Thailand. The preventive program for depression among the elderly were developed by the surveying stage to investigate the factors associated to depression in the community which consisted of family relationship, social support, participate in community activity, sufficiency of income and perceived of severity illness. Conclusion, the preventive program for depression was conducted the activity to enhance the knowledge about protective and self-care behaviors from depression, establish the activity to reinforce the mutual learning skill depression between the elderly, family member and community leader to build up the good relationship and communication skills. Furthermore, conducted the activity to develop the career and lead to improve the sufficient of income and provide activity to improve the self-care knowledge for changing the perceived of illness followed by their health problems. The instruments were developed by the literature review and relevant theories consisted of 8 parts. Data were analyzed by using descriptive statistics, chi-square test, paired t-test. The result showed that after intervention, the elderly was increased the knowledge and self-care skill on depression ($p < 0.001$) and the depression score was decreased by comparing with the score of depression before intervention which using the Thai geriatric depression scale for assessing the depression score ($p < 0.001$). The finding suggests that the results from the study resulting in knowledge to preventive depression in elderly by using the community participation and collaborating from the local administrative organization and civil society network for creating baseline data and

guideline to promote the healthy status for prevent depression and lead to develop the health policy.

Keywords:- Depression; Preventive; Intervention; Elderly.

I. INTRODUCTION

The change of the structure of Thai population in the past 2-3 decades reveals that the number and the proportion of older population have been increasing swiftly while the proportion of childhood population has been decreasing. The life expectancy at birth have increased to be 73.3 and 80.3 years old in man and woman, respectively [1]. In other words, the proportion of older population is 6.8 % in the year 1994 and increased to be 9.5 %, 10.7 % and 18.1% in 2002, 2010 and 2020 respectively [1]. This situation makes Thailand being an “Aging Society” with the proportion of the population 60 years old or older increased to be over 10% [2].

The rapid increase of older population affects the healthcare support which needs to be improved and developed in Thai society. Older population is a group that needs more attention because older persons have multi-dimensional changes physically, psychologically, and socially. The physical fitness and resistance to diseases decrease in older people. This leads to an increase in health problems especially chronic diseases such as diabetes mellitus, hypertension, cardiovascular disease, cancer and etc. [3]. Also, older people suffer mental health problems especially depression which is a common mental health problem in this age group. Depression has an effect on economics and healthcare system by the disability that makes older adults requiring other people to help in their daily function. Therefore, to promote better healthcare for older people, it is necessary to prevent and proper management the illnesses especially chronic diseases including depression.

Depression is the mental health problem which a sufferer has feeling sorrow, despair, pessimism, low self-esteem, self-abuse, and worthlessness [4]. It is interested worldwide because it is a problem that can affect everyone. World Health Organization reported that depression is the disease with the projected prevalence of 121 million people suffering depression around the world and it is also the main cause of disability in the world population [5]. In 1999, World Health Organization reported the result of which was studied with Harvard University and the World Bank that depression was the 4th cause of disease severity contributing disability to life, and was predicted that in 2020, depression will be the disease second to heart disease which causes distress to the population. [6].

According to the survey of Department of Mental Health, Ministry of Public Health, the number of patients with major depressive disorder who received the health service from Department of Mental Health in 2006 was 94.90 per 100,000 population and increased to 168.28 per 100,000 population in 2010 [7]. Moreover, the data reported that the proportion of depression the elderly was 25.2 in the year 2018. So, older adults who were lived in the rural community have complex problems different from patients in other age groups. Also, there are multiple pathologies. However, many health-related problems are often overlooked and misperceived as the normal change in the old age. The preventive treatment is also crucial to conduct for making them can take care themselves and slow down the severity of depression that can occur in everyone.

In addition, depression in older adults were related with the increased risk of disability, suicide, and cognitive decline, social functioning that finally led to the increase risk of death [8]. Thus, depression affects the health, social, and economic aspects. In addition, depression leads to more severe health problems or slower recovery and longer treatment time. The increased illness severity may result in complications or death [9]. Thus, older adults who have depression should be assessed and taken care at the beginning to decrease and prevent the mental health problem including any effect which may happen both directly and indirectly.

In this study, the researcher was chosen to conduct the preventive program of depression which developed from factors associated to depression in the rural community which consisted of family relationship, social support, participate in community activity, sufficiency of income and perceived of severity illness [10]. Conclusion, older adults in the rural community can lead to depression higher than the urban community because the older people in the rural community have several NCD when the older adults have multiple co-morbid diseases which are complicated, probably cause more disability and lead to depression. Thus, it caused any effects both direct effects, such as lower ability to make decisions and solve problems, forgetfulness, immune system to deteriorate and indirect effects such as malnutrition, more serious illness or slower rehabilitation, accident, physical dilapidated, loss of social support and lower functional ability. This intervention was integrated the detail of program from the community participation and were focused on

enhance the knowledge about protective and self-care behaviors from depression, establish the activity to reinforce the mutual learning skill depression and conducted the activity to develop the career and lead to improve the sufficient of income and provide activity to improve the self-care knowledge. The effects of the preventive program for depression were focused to prevent and control the depression that this is the primary prevention stage. The objective of this study was to compare the pre-post of knowledge and self-care skills related to depression in order to depression scores (TGDS) of the older adults in the rural community of Thailand. The local administrative organization and civil society network can apply the to implement for prevention and control the depression and lead to develop the local health policy.

II. METHODOLOGY

This is a pre-post quasi-experimental study to compare the knowledge, self-care skills of depression and TGDS score of depression among the older adults in the rural community of Thailand. The rural community had low-economic status and they mostly had the co-morbidity. The study design was scheduled into 1 group and used pre-post measure. The data collection was conducted between January to December 2019 through an interview and assessment forms. This program was designed to 4-weeks intervention and intervention did not blind.

A. Participants

The participants were recruited from 1 district in SaKeao Province of Thailand. There is locating nearly with the Thai-Cambodia border with the high proportion of older adults who were aged 60-year-old and older (15.50%) and indicated the ageing society [11]. Moreover, the participants were registered in Sakeao Municipality at least 1 year and who were measured the Thai Geriatric Depression Scale less than 13 points. The participants were participated in this study with the consent from and signed the name. The purposive sampling random was used to recruit the respondents as per the inclusion criteria. The inclusion criteria in this study were as follows: 1.(the older adults of both men and women who were 60 years and older 2.(they had good level of consciousness and could communicate in Thai, or to be assessed with all tests 3.(they be willing to participate in the interview and data collection in the study. The exclusion criteria were as follows: 1.(older adults who had been diagnosed as having severe dementia, or had the Thai Mental State Examination (TMSE) less than 12 points. 2.(older adults who gave consent to participate in the study, but were found later to have worsen symptom. For example, they were too tired, did not have concentration or were inconvenient later so that they could not communicate and give the accurate data.

As the sample size of this study was calculated by the G-power program which using the confidence interval was 95% study, allowable error was 5% and effect size was 0.40 [12]. After calculation the sample size by the G-power program, the total sample size was used 45 participants. Based on the purposive random sampling, the older adults in

SaKeao Municipality of Thailand were placed into the program. At beginning, the total 45 of participants were recruited to this study by voluntary. After the baseline measurement, total 40 participants who met the criteria were selected to this study. After finished interventions program, the 35 participants were finished the intervention program and performed post-test measurement.

B. Material and Procedure

The older adults were recruited from the screening test. At the beginning, total 40 participants were checked the Thai geriatric depression scale between 0-12 scores meant no depression. Because, this intervention was focused on prevent and control depression which designed to postpone the stage of clinical disease. The program was established from factors related to depression from the pilot study in the rural community and developed by the literature review and relevant theories on depression. From the results of pilot study in the rural community, the factor remained significant with depression were consisted of family relationship, social support, participate in community activity, sufficiency of income and perceived of severity illness. All of related factors were explored from the study area by using the multiple logistics regression. This program was architected to 4-weeks and scheduled to perform the preventive program for depression among the older adults on every month between 10 a.m. to 4 p.m. by the researcher and co-researcher. The trained co-researchers were measured, recorded and collected all tool and all parameters at the baseline and after intervention program. The intervention was conducted on 4-weeks intervention program included the component of 1.) the activity to enhance the knowledge about protective and self-care behaviors from depression 2.) the activity to reinforce the mutual learning skill depression between the elderly, family member and community leader to build up the good relationship and communication skills 3.) the activity to develop the career and lead to improve the sufficiency of income and 4.) the activity to improve the self-care knowledge for changing the perceived of illness followed by their health problems.

C. Instrument of this study

The instruments of this study were face to face interviewed and medical recorded. This program was used the measurement tool for assessing the outcomes. The instrument was used the structural interview form interview. The program was measured the validity by peer from 3 experts on mental health and health behavior and reported the IOC value. The IOC value was ranged more than 0.80. The reliability was tested in 30 elderlies in the same area as the study area whose characteristics were similar to those of the participants. The reliability of Cronbach's alpha coefficients was more than 0.90, it was acceptable of tool. The detail of tool can describe as follows:

Part I Demographic data questionnaire: this part was to record demographic data about older adults such as gender, age, marital status, education level, occupation, income sufficiency, source of income, family financial status, living arrangement, health insurance, caregiver, support equipment and the number of drugs used. The researcher was collected

data from interviewing. Diseases/health problems and history of dementia were evaluated by medical record review.

Part II Thai Mental State Examination: TMSE; Thai Mental State Examination is a screening test to be used for screening older adults whether they have cognitive impairment in community or clinic. It was developed by Train the Brain Forum Committee [13]. This examination is the question and order to practice by dividing into 6 parts as follows: 1.(Orientation 2.(Registration 3.(Attention 4.(Calculation 5.(Language and 6.(Recall. The researcher used Thai Mental State Examination (TMSE) as an instrument to measure the older adults whether they had cognitive impairment because it is easy, quick, sensitive, reliable and validated in Thai. Currently, TMSE is a test that has been applied in 14 Medical nationwide institutes. However, TMSE may have limitations especially in terms of education. The TMSE has the total score of 30 points with low scores indicating worse cognitive impairment. The score of less than or equal to 23 points means cognitive impairment. In this study, the Thai Mini-Mental State Examination (TMSE) was examined to confirm its clarity by reliability. It was tested in 30 older adults whose characteristics were similar to those of the sample. The reliability of Cronbach's alpha coefficient was 0.84.

Part III The Perceived Severity of Illness Assessment Form: It was used for evaluating perceived severity of illness. Older were requested to indicate any number judged by their own feeling. In this study, the researcher used the instrument of Ratthanapun, S. [14] which is a linear analog scale)0-100(divided into 10 scales equally. Low scores mean low perceived severity of illness, and high scores means high perceived severity of illness.

Part VI: The Modified Barthel Activities of Daily Living Index (MBAI). This instrument was used for measuring or evaluating functional ability. It was developed by Jitapunkul et al. [15], which was translated and adapted from Mahony and Barthel [16]. The instrument originally consisted of 10 questions for evaluating basic activities such as feeding, personal hygiene, bathing, dressing, stair climbing, defecation control, urination control, toilet use, walking, and moving. The scores ranged from 0-20 points. It was evaluated through the observation/interview by the researcher. The scores were rated in three levels as follows: the 0-8 points meant older adults had poor activities of daily living, 9-11 points meant older patient had moderate activities of daily living, 12-20 points meant older patient had good activities of daily living. In this study, the Modified Barthel Activities of Daily Living Index (MBAI) was examined to confirm its reliability in a pilot of 30 older adults whose characteristics were similar to those of the sample, and the reliability of Cronbach's alpha coefficient was 0.83.

Part V The Family Relationship Evaluation Form: it was used to measure family relationship. It was designed by Chinsangnet, P. [17] based on theory of Friedman [18] and Morrow & Wilson [19] for evaluating feeling and opinion of older adults regarding family relationship. The instrument

was conducted by the interview in multiple aspects such as love and care, interaction among family members, respect among family members, unity among family members and relaxation among family members. The instrument form contained 15 questions consisting of 12 positive questions and 3 negative questions. Each question has 3 answer choices: “Yes”, “Unsure”, and “No” as follows: The score ranged from 15-45 points. The high total scores indicated good family relationship. The scores were rated in three levels as follows [17]: scores 15-26 points represented poor family relationship; scores 27-36 points represented moderate family relationship; scores 37-45 points represented good family relationship. In this study, The Family Relationship Evaluation Form was examined to confirm its clarity by reliability. It was tested in 30 older adults whose characteristics were similar to those of the sample, and the reliability of Cronbach’s alpha coefficient was 0.80.

Part VI The Thai Geriatric Depression Scale: TGDS. It was used for evaluating depression of older adults. It was developed by Pongvarin et al. [20]. This instrument was used to screen depression in older adults in community or geriatric clinic in hospital. It was simplified and consumed short time in the evaluation. The researcher asked the older adults to answer the questions. The score ranged from 0-30 points to assess the feelings of older adults prior to the interview for one week. It took 10.09 minutes to complete this evaluation. The TGDS contains 30 questions, each question has 2 choices: “Yes”, and “No”. It consists of 10 positive questions such as items 1, 5, 7, 9, 15, 19, 21, 27, 29, and 30 and 20 negative questions such as items 2-4, 6, 8, 10-14, 16-18, 20, 22-26, and 28. When answer “yes” in a positive question, the score 0 was given, while score 1 was given in the answer “no”. On the other hand, when answer “yes” in a negative question, a score 1 was given, while 1 score was given in the answer “no”. The assessment of depression is classified into 4 levels by Pongvarin, N. et al. [20] as follows: scores of 0-12 points meant no depression, scores 13-18 meant mild depression, scores of 19-24 points meant moderate depression, scores 25-30 points meant severe depression. In this study, The Thai Geriatric Depression Scale (TGDS) was examined to confirm its clarity by reliability; it was tested in 30 older adults whose characteristics were similar to those of the sample and the reliability of Cronbach’s alpha coefficient was 0.90.

Part VII The social support assessment form: it was used to measure social support and designed by Rattana, W. [21] based on theory of House. The instrument was conducted by the interview in multiple aspects such as facilities, information behavioral assessment and emotional. The instrument form contained 21 questions. Each question has 5 answer choices: “Most”, “Much”, “Moderate”, few”, and “least” and the scores were given 5, 4, 3, 2, and 1, respectively. The score was ranged from 21-105 points. The high total scores indicated good social support. The scores were rated in three levels as follows [21]: scores 21-62 points represented poor social support; scores 63-84 points represented moderate social support; scores 85-105 points represented good social support. In this study, the social

support assessment form was examined to confirm its clarity by reliability. It was tested in 30 older adults whose characteristics were similar to those of the sample, and the reliability of Cronbach’s alpha coefficient was 0.91.

Part VIII The participation of community activities form; it was assessed the participation of community activity among the older adults in the community and designed by Klumrat, K. [22]. The instrument form contained 15 questions. Each question has 5 answer choices: “Most”, “Much”, “Moderate”, few”, and “least” and the scores were given 5, 4, 3, 2, and 1, respectively. The score was ranged from 15-75 points. The high total scores indicated good participating with the community activity. The scores were rated in three levels as follows [22]: scores 15-44 points represented poor community participation; scores 45-60 points represented moderate community participation; scores 61-75 points represented good community participation. In this study, the participation of community activities form was examined to confirm its clarity by reliability. It was tested in 30 older adults whose characteristics were similar to those of the sample, and the reliability of Cronbach’s alpha coefficient was 0.90.

D. Ethical Consideration

This study was approved by the Ethics Review Committee for Research Involving Human Research Subjects. The researcher and co-research were informed the participants about the study protocol and the risk of the intervention program before they signed a written consent form.

E. Statistic Analysis

The descriptive statistic was used to investigate the distribution of characteristic data including number, percentage, range, standard deviation. The Chi-square test and Pearson’s correlation coefficients were used to estimate baseline characteristics between groups. The Shapiro–Wilk test was used to measure the normality test. The results showed that there was the normal distribution in all variables. This study was to compare the knowledge and self-care skills of depression and TGDS score among the older adults in the rural community of Thailand before and after intervention program. The paired sample t-test was used to compare before and after the intervention program within the group. All results were considered statistically significant at 0.05.

III. RESULTS

A total of 40 participants had 5 dropouts during the intervention program. There were 35 participants in the total who participated in this study and measured post instrument. From the analysis of the demographic factors of older adults in the rural community of Thailand, the results showed a total of 35 participants were female more than male (60.0% and 40.0%, respectively). The age range of the participants was 60 to 95 years old with mean age of 74.6 (SD = 8.89) years old. The majority of the sample was married (71.4%) followed by widow/divorce/separation and single (5.0%). From the analysis of the social and environmental

characteristics of older adults in the rural community of Thailand. The majority of the sample were sufficiency of income)68.6%(, stay with other)80.0%(. They mostly had the gold card)72.1%(, for their health insurance. When analyzing health characteristics of older adults in the rural community of Thailand; it was found that the majority of the older adults had diseases/ health problems. Frequent diseases were hypertension, followed by dyslipidemia, diabetes, kidney disease and cardiovascular disease)71.1%, 68.6%, 45.7%, 37.1% and 17.1%, respectively(. In addition, on the part of support equipment, the majority of the samples used eye-glasses and denture)54.3% and 34.3%, respectively(.

Moreover, the samples had cognitive impairment accounted for 65.6%. The scores of Thai Mental State Examination: TMSE) raged from 13-30 with mean of 24.4)SD.= 4.3(. They mostly had 1-2 diseases of co-morbidity, followed by more than 3 diseases of co-morbidity and no co-morbidity)34.4% and 14.2%, respectively(. The perceived severity of illness was rated by the samples to be ranged from 0-100 with mean of 80.1 and standard deviation of 28.1. The majority of the samples had low community activity participation)71.4%(, followed by moderate community activity participation and low community activity participation)22.8% and 8.6%, respectively(. In addition, they mostly had majority of the samples had low community activity participation)71.4%(, followed by moderate community activity participation and low community activity participation)22.8% and 8.6%, respectively(. The score ranged from 15-75 with mean of 39.3)S.D. = 13.3(. The majority of the sample had good family relationship)57.1%(, followed by moderate family relationship and poor family relationship)37.1% and 5.7%, respectively(. The score ranged from 17-45 with mean of 39.3)S.D. = 6.66(. Furthermore, the older adults had moderate social support (62.9%), followed by poor social support and good social support)22.8% and 14.2%, respectively(. The score ranged from 25-100 with mean of 75.2)S.D. = 15.2((see TABLE 1(

TABLE 1. The characteristics of variables and outcome among older adults in the rural community of Thailand. (n=35)

Variables	Number	Percentage
Age (Years)		
60-69	15	42.9
70-79	17	48.6
80 and older	3	8.6
Mean= 74.6, SD.= 8.89, Max-Min= 60-95.		
Gender		
Female	21	60.0
Male	14	40.0
Marital Status		
Married	25	71.4
Single	5	14.3
Widowed/divorced/separated	5	14.3
Income Sufficiency		
Insufficiency	24	68.6
Sufficiency	11	32.4
Health problem*		
Hypertension	27	77.1

Variables	Number	Percentage
Dyslipidemia	24	68.6
Diabetes	16	45.7
Kidney disease	13	37.1
Cardiovascular disease	8	17.1
Health Insurance		
Gold cards	189	72.1
Government	45	17.2
Self-payment	27	10.3
Social security scheme	1	0.4
Living Arrangement		
Living with other	28	80.0
Living alone	7	20.0
Supportive equipment*		
Eyeglasses	19	54.3
Denture	12	34.3
Wheelchair	8	22.9
Co-Morbidity		
None	5	14.2
1-2 diseases	18	51.4
More than 3 diseases and equal	12	34.4
Mean= 2.34, SD.= 1.67, Max-Min= 0-7		
Cognitive Impairment		
Yes)TMSE>23(23	65.6
No)TMSE less than 23and equal)	12	34.4
Mean= 24.4, SD.= 4.3 Min-Max= 13-30		
Perceived severity of illness		
Mean= 80.1, SD.= 28.1, Min-Max= 0-100		
Community activity participation		
Low (15-44 scores)	25	71.4
Moderate (45-60 scores)	8	22.8
High (60-75 scores)	3	8.6
Mean = 39.3, SD. = 13.3, Min-Max = 15-75		
Family Relationship		
Poor (15-26 scores)	2	5.7
Moderate (27-36 scores)	13	37.1
Good (37-45scores)	20	57.1
Mean = 37.9, SD. = 6.66, Min-Max = 17-45		
Social Support		
Poor (21-62 scores)	8	22.8
Moderate (63-84scores)	22	62.9
Good (85-105scores)	5	14.2
Mean = 75.2, SD. = 15.2, Min-Max = 25-100		
*One subject might have more one health problem		

The comparison of all parameters within the group before and after intervention program found that the knowledge and self-skill about depression was at 5.89±4.56 and increased significantly to 9.23±2.22 (p=0.001). The depression score by measuring from the Thai geriatric depression scales was at 12.88±6.90 and decreased significantly to 8.12±4.11 (p=0.001).

TABLE 2. Mean difference of all parameter before and after intervention program. $p < 0.05$

Outcome Variable	n	\bar{x}	S.D.	t	df	p-value
The knowledge and self-skill about depression						
Pre-test	35	5.89	4.66	17.22	34	0.001*
Post-test	35	9.23	2.22			
Depression Scores						
Pre-test	35	12.88	6.90	15.22	34	0.001*
Post-test	35	8.12	4.11			

REMARK: Data were analyzed with paired sample t-test within group.

*Statistically significant at the 0.05 level, p -value < 0.05 .

IV. DISCUSSION

This study was pre-post experimental designed and aimed to investigate the effects of the preventive program for depression for elderly in the rural area of Thailand. The participants were recruited by TGDS between 0-12 score which there were no depression. The intervention program was designed into 4-weeks. The intervention groups showed the TGDS score was decreased significantly within the group after post measured ($p=0.001$) and the knowledge and self-care skill on depression exercise behavior was increased significantly within the group after post measured ($p=0.001$).

K., Panthong and P., Dangdomyouth [23] whose studied the effective of resilience quotient emphasizing mindfulness-based program on depression in older persons with major depressive disorder. The results show that the depression in older persons with major depressive disorder was significantly lower, at the .05 level, after receiving the resilience quotient emphasizing mindfulness-based program as compared to before receiving the program. Moreover, depression in older persons with major depressive disorder who received the resilience quotient emphasizing mindfulness-based program was significantly lower than those who received routine nursing care at the 0.05 level. Similarity with B. Suksawat, P. Hengudomsub, C. Nabkasorn [24] whose studies the effects of group cognitive behavioral modification program on depression among community-dwelling older adults. The results revealed that the mean scores of depressions at post- test and 1 month follow-up in the experimental group were significantly different from the control group ($p < 0.01$). In the experimental group, the mean scores of depressions at posttest and 1 month follow-up were lower than at pretest ($p < .001$). Moreover, N., Rachchaboot [25] whose study the socio-cultural program for mental health promotion and depressive prevention in the elderly Donmon Sub-district, Satuek District, Buriram Province. The results showed that the mental health average score of the elderly who participated in the program increased more than others. The risk of depressive was reduced. When comparing average score of the mental health before and after using the program, it was found that the average score of the experimental group was significantly different ($p < 0.05$), as well as the average score of the mental health between the

experimental group and the control group after the program was also significantly different ($p < 0.05$).

This finding might explain that; firstly, the older adults who were received the depression prevention program. They were trained in strengthening mental skills that emphasizes the practice of mindfulness and helping the elderly to understand more about depression. This protocol can make to increases the skills of mental strengthening and decreases the depression scores. Secondly, this prevention program was developed to target populations with risk factors, which are known to be related to the onset of depression. From the pilot study, the factors related with depression of older adults in the rural community were family relationship, social support, participate in community activity, sufficiency of income and perceived of severity illness. It indicates that this program was established based on all factors associated with depression in their community and developed through participation in brainstorming, planning and designing by using the community participation. The components of intervention program were included the activity to enhance the knowledge about protective and self-care behaviors from depression, the activity to reinforce the mutual learning skill depression between the elderly, family member and community leader to build up the good relationship and communication skills, the activity to develop the career and lead to improve the sufficient of income, and the activity to improve the self-care knowledge for changing the perceived of illness followed by their health problems. The program design was covered the factor influencing with depression, it makes the depression score was decreased and increased the knowledge and self-care skill of depression after they received the intervention program. Thirdly, it may be due to the elderly who were participated with the group intervention. It makes the elderly can learn and participate in various activities. It is also an opportunity for the elderly to express their opinions and encourage each other, promote mutual value and acceptance able to modify both thoughts and behaviors to be appropriate, promote the positive thinking. This is a protocol for assessing the effects of preventive depression program on older adults in the rural community of Thailand. The incidence of depressive symptoms and depression is frequent and the prevalence is high in older adults with the growth of the older adult population worldwide [26]. This depression prevention program would be an option. The health personnel working in the community can learn and apply by organizing a psychological care program for the elderly. The results of this research can also be used as a guideline for the development of promotion for mental health of the elderly who were lived in the community which consisted to the policy of the proactive health agency as well as to promote role of village health volunteers in community health care to be sustainable. The future study should focus on multi-component of preventive program for depression consisted of the skill training interventions, physical exercise interventions, group support interventions, reminiscence interventions. Moreover, the study design should use 2-group compare for confirming the results from the intervention program.

V. CONCLUSION

There were 2 limitations in this study. Firstly, both study areas from intervention and control group are in rural area. Thus, the results of this study cannot generalize to the urban area due to differences in lifestyles, socio-demographic and economic status. Secondly, the participants were conducted 4-weeks of preventive program of depression and did not use follow-up period. This study had short duration of the program; the future study should apply this program to longer follow-up time (3 or 6-months) after finishing the program to determine the sustainability of the preventive program. This preventive program for depression was designed as the group program for the older adults. The results showed that the participants had depression scores with an average of 12.88 points before implementation of the intervention program. After post-test measurement, the depression score was decreased to 8.12 points. Aggregating, the intervention program can reduce the TGDS score and improve knowledge and self-care skill score. For this program implementation, this finding indicated that public health providers could integrate the preventive program for depression with usual care to prevent depression symptoms in the elderly.

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