The Effect of Buddhist Psychotherapy on Depressive Symptom in Adjustment Disorder Caused by Physical Disease Patients

Wanpen Turakitwanakan MD*, Maethaphan Kitporntheranunt MD**, Patirop Pongpaplud MD*

** Department of Psychiatry, Faculty of Medicine, Srinakharinwirot University, Nakhon Nayok, Thailand*
*** Department of Obstetrics and Gynecology, Faculty of Medicine, Srinakharinwirot University, Nakhon Nayok, Thailand*

Background: *Adjustment disorder with depressed mood from physical disease increased the time for disease to be improved. Therefore, an effective treatment is needed.*
Objective: *To study the effect of Buddhist psychotherapy combined with standard treatment on depressive symptom and quality of life in patients with adjustment disorder with depressed mood from physical disease compared with the control group.*
Material and Method: *It was an experimental study. The subjects with age ranged 20 to 70 years old that had Thai Hamilton rating scale for depression $\geq$8 scores were divided into two groups of 22 patients each. The experimental group received Buddhist psychotherapy once a week for 30 minutes in addition to the standard treatment whereas the control group obtained only the standard treatment. Both groups were tested with Thai Hamilton rating scale for depression, at baseline and every week for four weeks WHOQOL-BREF-THAI at baseline and after the forth weeks. Compare the results of Buddhist psychotherapy by repeated measure analysis and unpaired t-test.*
Results: *Before treatment, the Thai Hamilton rating scale for depression of both groups were not significantly different ($p = 0.826$). After the second week of treatment, the Thai Hamilton rating scale for depression of the Buddhist psychotherapy group was significantly decreased compared to the control group ($p<0.001$), and it continued to decrease in a statistically significant way when compared with repeated measure analysis ($F = 9.55$, $p = 0.004$). Consideration of the differences between WHOQOL-BREF-THAI scores (before treatment minus the results at the last treatment sessions), it was found that the Buddhist psychotherapy and control groups had a mean score of 19.27$\pm$8.36, and 14.36$\pm$7.76, respectively. The results of the unpaired t-test revealed that the Buddhist psychotherapy group had a significantly larger WHOQOL-BREF-THAI score than the control group ($p = 0.049$).*
Conclusion: *The Buddhist psychotherapy is an intervention that can be used additionally with standard treatment to improve the symptoms of depression and quality of life of adjustment disorder with depressed mood from physical disease.*

Keywords: *Buddhist psychotherapy, Adjustment disorder, Depression*

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Adjustment disorder with depressed mood from physical disease increased the time for disease to be improved. As a result of depression, the patient may become less cooperative with health-care providers improving the treatment and accelerate the recovery[1]. Providing care to such patients and using correct methods helps to get the patient's cooperation to treat a physical disease more effectively. The treatment often includes taking medications to correct depression and psychotherapy related to those aspects that make the patient uncomfortable and depressed. The use of effective psychotherapy helps to reduce the amount of antidepressant drugs saving in medication costs and shortens the convalescence period[2]. It enables the patient to return to a normal life. For example the patient is able to return to work, to have better will power, better resiliency, and decreases cortisol levels, which is the source of several diseases. Specifically religiously integrated cognitive behavioral therapy, which uses the religious resources of patients in the treatment of depression, may increase the effects of conventional CBT in patients with medical illness[3,4].

Buddhist psychotherapy is a psychiatric treatment for depressed patients. It consists of a mind training method to develop a connection between patterns of thinking emotions and habits. It enables

Correspondence to:
Turakitwanakan W, Department of Psychiatry, Faculty of Medicine, Srinakharinwirot University, 62 Moo 7, Ongkharak, Nakhon Nayok 26120, Thailand.
Phone: +66-37-395085 ext. 10731
E-mail: wanpen2550@gmail.com

the patient to restrain the mind to avoid negative thoughts, which are the cause of depressive mood, and to change the behavior of the practitioner. It is a method that combines behavioral therapy, practice of awareness, and changes the thinking according to the content of Buddhist teaching (Dharma)[1, 5]. From the cognitive aspect, it gives the patient an understanding of depression and practice of awareness focusing in on thoughts and emotions as they arise, learning to accept them without reacting to them. Like cognitive behavioral therapy (CBT)[6], Buddhist psychotherapy is based on a theory that a person experiencing depression will sink in an automatic thinking process that fosters depression[7]. The objectives of Buddhist psychotherapy are to obstruct the automatic negative thinking and learn to contemplate them with calm attitude[7]. Through these actions, the patient notices that negative thinking arises automatically and one can stay with them peacefully[8]. Suffering makes humans incapable to carry out normal activities. And at the same time, everyone has different strategies to adapt to suffering. It also depends on the family and social environment of the patient. The health-care provider should consider the mental health of the society that surround the patient and provide suitable treatment, accordingly. The aim of this study is to investigate the effect of Buddhist psychotherapy on depressive symptoms in adjustment disorder caused by physical disease patients.

Material and Method

Participant

This study was approved by the Human Ethics Committees of the Faculty of Medicine, Srinakharinwirot University (SWUEC/EX 43/2556). The subjects were required to meet the DSM-IV-TR criteria for adjustment disorder with depressed mood from physical disease and have a Thai Hamilton rating scale for depression $\geq$8 scores. Regarding the selection of volunteers to join the project, volunteers must be willing to participate in the project comprised of 44 persons with age ranged 20 to 70 years old at the HRH Princess Maha Chakri Sirindhorn Medical Center, Faculty of Medicine, Srinakharinwirot University, Thailand. Inclusion criteria were as follow: 1, people who able to be treated with Buddhist psychotherapy; 2, adjustment disorder with depressed mood from physical disease (endocrine, cardiovascular, musculoskeletal disease) that have scores in the Thai Hamilton Rating Scale for depression $\geq$8 points. Exclusion criteria including person who: 1, have auditory or visual hallucination; 2, have been diagnosed with a psychiatric disorder; 3, have a physical impediment to receive psychotherapy. Discontinuation criteria included: 1, people who cannot complete the course of intervention for 4 weeks with Buddhist psychotherapy once per week, each time 30 minutes; 2, persons who have incomplete data before or after the treatment.

Procedures

This is an experimental research using 44 volunteers divided into two groups as follows:

Group 1: Received the standard treatment, according to the following steps: 1, during the first meeting with the physician the patient completed the personal information, Thai Hamilton rating scale for depression and WHOQOL-BREF-THAI questionnaires. 2, after receiving treatment during weeks 1-3, the patients completed Thai Hamilton rating scale for depression. 3, after the 4th week of treatment, the patients completed Thai Hamilton rating scale for depression and WHOQOL-BREF-THAI questionnaires.

Group 2: Received standard treatment and Buddhist psychotherapy. It was done following the same steps as for group 1.

The standard treatment (the selective serotonin reuptake inhibitor antidepressant drug, benzodiazepine and psychoeducation), no co-intervention (massage, music therapy, aromatherapy) SSRI, and benzodiazepine dosing which was dependant on clinicians' judgment for efficacy and liability.

Thai hamilton rating scale for depression

This questionnaire was translated into Thai by Professor Manot Lortrakul et al[9]. The test consists of 17 items concerning depression in its many aspects that include physical symptoms, the reason the author used this test. Each item consists of 4 choices. From the research, the questionnaire was tested in 50 depressed patients using Thai Hamilton rating scale for depression as an external standard. The internal reliability and concurrent validity were good (Cronbach alpha = 0.858; r = 0.72). The subjects were evaluated using the Thai Hamilton rating scale for depression every week for 4 weeks.

WHOQOL-BREF-THAI

The Thai version of the brief form of the WHO quality of life assessment instrument (WHOQOL-BREF-THAI) was developed from WHOQOL-100; this questionnaire was translated into Thai by Suvat Mahatnirunjul et al Department of Mental Health,

Thailand[10]. It is an objective test. This test consists of 26 items, each with 5-point Likert scales including 4 domain, physical domain (7 items), the reason the author used this test, psychological domain (6 items), social relationships domain (3 items),and environment (8 items). From the research, the questionnaire was tested with the samples (208 men and 459 women) using WHOQOL-100 as an external standard. The internal reliability and concurrent validity were good (Cronbach alpha =0.8921 and 0.8406; r = 0.6516). We evaluated the WHOQOL-BREF-THAI questionnaire at the first time and the last time.

Buddhist psychotherapy

Buddhist psychotherapy is a psychiatric treatment for depressed patients. It is a method that combines cognitive behavioral therapy (CBT), practice of awareness, and change of thinking according to the Buddhist teaching (Dharma). From the cognitive aspect, it gives the patient an understanding of depression[7] and practice of awareness focusing on the thoughts and emotions as they arise, learning to accept them without reacting to them[8]. Like CBT, Buddhist psychotherapy is based on a theory that a person experiencing depression will sink in an automatic cognitive process that activates depression[8]. The objectives of Buddhist psychotherapy are to obstruct the automatic negative thoughts teaching the patient to contemplate them with a calm attitude[8]. This action makes the patient notice and realize that it is possible to live peacefully with negative thoughts. Recent research supports the use of religious Buddhist psychotherapy in treating depression[7]. In this research, it was done according to the following steps. In the first session, the therapist begins to establish rapport by allowing the client to discuss his or her emotional and medical problems, life circumstances, and religious beliefs, explain the steps of treatment (assessment and case formulation, agenda setting, goal setting, activity schedule, homework) in every session. They are taught how to dispute negative automatic thoughts and develop alternative ways of responding to negative beliefs and change their thinking according to the content of Buddhist teachings (Dharma)[7]. Satta Bojjamke: the way to develop the seven enlightenment factors: 1) Sati- do not be sad about the disease, focus on the thing in front of you, realized that the disease is routine suffering everyone must have it one day in their life and accept it. 2) Vijaya- separate thinking from body sensations without letting the mind bear the burden of physical suffering. The doctor treats the disease and I myself make my mind happy and that increases immunity to make every disease improve as best it can. 3) Viriya- diligence or effort on persistently separating thoughts from organic sensations. Several additions are made at this point to integrate the patient's Buddhist beliefs and practices to help them challenge dysfunctional beliefs and thinking patterns (to be afraid of future, here and now, do the best today autchevakitjamatuppa) let go of identity with the core of the ego. The Buddhist manual teaches the patients in a similar way: surrendering the need to have things be a certain way, which helps us begin the process of letting go. 4) Petisumbojjamkam- joy when separated, it will be joy. Withdraw from suffering. 5) Passatthisumbojjamkam-settled peace. 6) Samadhisum bojjamkam-will be concentrated, not shaken. 7) Ubekkhasumbojjamkam- let go of physical suffering.

Statistical analysis

The sample size was calculated by using n 4 study programs. The mean of Thai Hamilton rating scale for depression in the treatment group and control group was 4 and 7, respectively. The assumed Thai Hamilton rating scale for depression standard deviation in the control group was 4. The type I error was 0.05 and type II error was 0.1. The number of patients needed in each group was 19. Descriptive statistics were used to summarize baseline characteristics as percentages or mean $\pm$ standard deviation (SD). The Chi-square and unpaired t-test were used to compare the groups on demographic and depression and quality of life measures at baseline. The repeated measure analysis and unpaired t-test were used to compare the results of the intervention. A *p*-value of <0.05 was considered statistically significant. Analysis was done using the SPSS software version 22.

Results

Subject characteristics

Most of the subjects are female (72.7% in control group and 63.6% in intervention group). The

Table 1. Depression levels of HAMD score

Depression level	HAMD score
No depression	0 to 7
Mild depression	8 to 12
Less than major depression	13 to 17
Major depression	18 to 29
Severe major depression	30+

personal data and Thai Hamilton rating scale for depression of the two groups were not of statistically significant differences ($p>0.05$) by using Chi-square and unpaired t-test (Table 2).

The basic Thai Hamilton rating scale for depression for both groups did not differ significantly ($p = 0.826$). After the second week of treatment, Thai Hamilton rating scale for depression of the Buddhist psychotherapy group decreased significantly ($p<0.001$) when compared to that of the control group (Table 3). They continued decreasing in a statistically significant way ($F = 9.55$, $p = 0.004$) when compared with repeated measure analysis (Table 3).

When considering WHOQOL-BREF-THAI at baseline, the two groups have a statistically significant difference ($p = 0.023$) (Table 2). The differences between WHOQOL-BREF-THAI scores (before intervention minus the results at the last treatment sessions), it was found that the Buddhist psychotherapy and the control group have scores of 19.273 ± 8.356 and 14.364 ± 7.755 points, respectively, which are statistically significant ($p = 0.049$) (Fig. 2).

Discussion

In this study, we found that after the second week of treatment, the Thai Hamilton rating scale for depression of the Buddhist psychotherapy group decreased significantly ($p<0.001$) when compared to that of the control group, and they continued decreasing in a statistically significant way up to four weeks ($F = 9.55$, $p = 0.004$). This is in agreement with the study of Ushiroyama, who studied the efficacy of Buddhist psychotherapy in 58 female patients with psychosomatic disorders(11). Their patients received Buddhist psychotherapy 2 times to have them to concentrate their mind to accept the uncertainties of life and look at the reality of the world. The research found that after two weeks of therapy, the patients who received Buddhist psychotherapy, chromogranin concentration, which is an index of mental stress, decreased in a statistically significant way and their results agree with several other studies(4,12). Buddhist psychotherapy is able to lower depression because it is based on a theory that when a person is sad, he or she will sink into an automatic cognitive process that triggers depression(7).

Table 2. Demographic data of sample test

	Intervention		*p*-value
	Buddhist psychotherapy n = 22 (%)	Control n = 22 (%)	
Age			
20 to 60 years	10 (45.5)	12 (54.5)	0.546
61 to 70 years	12 (54.5)	10 (45.5)	
Gender			
Male	8 (36.4)	6 (27.3)	0.517
Female	14 (63.6)	16 (72.7)	
Education			
Higher or equal bachelor degree	12 (54.5)	9 (40.9)	0.432
Lower than bachelor degree	10 (45.5)	13 (59.1)	
Status			
Single, divorce or widow	9 (40.9)	9 (40.9)	1.000
Married	13 (59.1)	13 (59.1)	
Income (bath/month)			
<20,000 bath	12 (54.5)	10 (54.5)	0.546
≥20,000 bath	10 (45.5)	12 (54.5)	
Occupation			
Unemployed	11 (50)	10 (45.5)	0.763
Employed	11 (50)	12 (54.5)	
Hobby			
No	7 (31.8)	8 (36.4)	0.750
Yes	15 (68.2)	14 (63.6)	

Table 3. Thai HAMD and WHOQOL-BREF-THAI

Group	Mean	Standard deviation	*p*-value (unpaired t-test)	Repeated measure ANOVA
Thai HAMD at baseline				
Control	19.09	6.90	0.826	F = 9.55
Intervention	18.64	6.74		*p* = 0.004
Thai HAMD after one week				
Control	16.41	5.67	0.057	
Intervention	13.23	5.12		
Thai HAMD after two weeks				
Control	14.14	5.21	<0.001	
Intervention	8.82	3.17		
Thai HAMD after three weeks				
Control	12.00	4.68	<0.001	
Intervention	6.00	2.64		
Thai HAMD after 4 weeks				
Control	9.32	4.83	<0.001	
Intervention	3.68	2.48		
WHOQOL-BREF-THAI at baseline				
Control	72.95	7.58	0.023	
Intervention	79.32	10.18		
WHOQOL-BREF-THAI after 4 weeks				
Control	87.32	7.34	<0.001	
Intervention	98.59	7.93		
QOL difference				
Control	14.3636	7.76	0.049	
Intervention	19.2727	8.36		

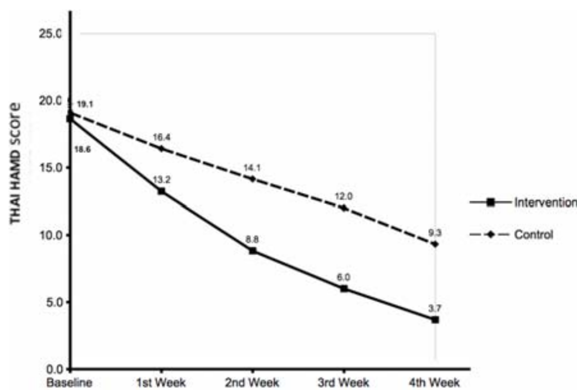

Fig. 1 Comparison ofthe Thai HAMD score between the Buddhist psychotherapy group and the control group from the beginning of the treatment up to 4th week.

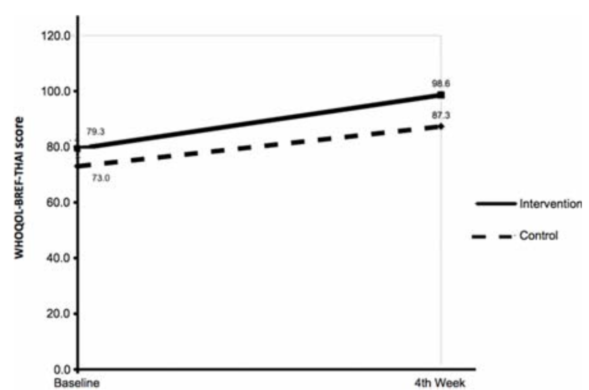

Fig. 2 Comparison of the differences of WHOQOL-BREF-THAI score between the Buddhist psycho therapy group and the control group.

The objectives of Buddhist psychotherapy are to obstruct the automatic negative thinking and instruct the patient to look at it in an indifferent and peaceful way[7]. These actions make the patient realize that it is possible to live peaceful with the negative thinking that arise automatically, and to let the patient change his or her thinking according to the principles of bojjhanga 7, encourage forgiveness, gratitude,

generosity, and altruism and, psychotherapy for depression that utilizes patients' religious resources in therapy to help normalize endocrine and immune dysfunctions[13].

When we considered the differences between WHOQOL-BREF-THAI (before treatment minus the results at the last treatment sessions), we found that Buddhist psychotherapy group had a mean score of 19.27$\pm$8.36 when compared to the control group that had a mean score of 14.36$\pm$7.76. When we considered the differences between the unpaired t-test, we found that the Buddhist psychotherapy group had a larger WHOQOL-BREF-THAI score that was statistically significant ($p = 0.049$). Our results agree with several other studies that found that Buddhist psychotherapy improves the patient quality of life[14,15]. The reason for that is the change in thinking according to the principle of the four noble truths (Ariya sacca), the process of dependent origination (paticcasamuppada), and the three characteristics of existence (tilakkhana). They help to correct the thinking, social relationships, change the environmental which are all items in the WHOQOL-BREF-THAI.

As resulted previously, religious integration has increased better physical health and greater longevity[16]. Religious integration increased immune and normalized endocrine functions. Sephton et al investigated the relationship between religious integration and immune function in 112 women with metastatic breast cancer[17]. Religious involvement was positively related to the total number of circulated T cells[18]. Ironson et al examined the effects of changes in spirituality/religiousness (S/R) following the diagnosis of HIV on CD4 counts (T cells) and viral load during 4 years of follow-up[19]. They found significantly less decrease in CD4 counts and less increase in viral load during the 4-year follow-up, and showed decreased cortisol[20].

This study suggests that the Buddhist psychotherapy can improve depression and may provide a psychotherapeutic option in addition to the standard treatment of acute depression and may be cost effective in comparison to maintenance medications over time if supported by further randomized controlled trials. The limitation of this study was that the results must be interpreted very cautiously since it is limited by being a non-randomized study. The severity of the disease WHOQOL-BREF-THAI at baseline of the two groups have a statistically significant difference ($p = 0.023$); these limitations and lack of randomization would be completed in a full RCT, which we hope to address in our future work. The strength of this study was a Buddhist psychotherapy that is suitable for Thai culture (bojjhanga 7).

Conclusion

The Buddhist psychotherapy should be an additive treatment to adjustment disorder with depressed mood from physical disease.

What is already known on this topic?

Religiously integrated cognitive behavioral therapy is a new method of treatment for major depression in patients with chronic medical illness.

What this study adds?

The Buddhist psychotherapy should be an additive treatment of adjustment disorder with depressed mood from physical disease inThai people.

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Potential conflicts of interest

None.

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ผลของการรักษาภาวะซึมเศร้าที่มีสาเหตุจากการปรับตัวต่อโรคทางกายด้วยวิธีจิตบำบัดแนวพุทธ

วันเพ็ญ ธุรกิตต์วัณณการ, เมธาพันธ์ กิจพรธีรานันท์, ปฏิรพ ปองประพฤทธิ์

ภูมิหลัง: *ภาวะซึมเศร้าที่เกิดจากการรับทราบว่าตนเองเป็นโรคทางด้านร่างกายและปรับตัวไม่ได้อย่างถูกวิธีจะทำให้ใช้เวลามากขึ้นในการรักษา จึงมีความจำเป็นต้องหาวิธีการรักษาที่มีประสิทธิภาพ*

วัตถุประสงค์: *เพื่อศึกษาการทำจิตบำบัดแนวพุทธต่ออาการซึมเศร้าและคุณภาพชีวิตของของผู้ป่วยที่มีภาวะซึมเศร้า สาเหตุจากการปรับตัวต่อโรคทางกาย เทียบกับกลุ่มควบคุม*

วัสดุและวิธีการ: *เป็นการวิจัยที่มีการทดลองกลุ่มตัวอย่างมีจำนวน 44 คน อายุระหว่าง 20 ถึง 70 ปี มีคะแนน Thai Hamilton rating scale for depression ≥8 คะแนน แบ่งเป็น 2 กลุ่มๆ ละ 22 คน คือ กลุ่มควบคุมและกลุ่มทดลองทั้ง 2 กลุ่ม รักษาด้วยการรักษาตามมาตรฐาน แต่กลุ่มทดลองได้รับการทำจิตบำบัดแนวพุทธอาทิตย์ละ 1 ครั้ง ครั้งละ 30 นาที เป็นเวลา 4 สัปดาห์ ผู้เข้าร่วมวิจัยได้รับการทำแบบทดสอบ Thai Hamilton Rating Scale for depression ในครั้งแรกที่มาพบแพทย์และติดตามอาการทุกอาทิตย์เป็นระยะเวลา 4 สัปดาห์ และ WHOQOL-BREF-THAI ในครั้งแรกที่มาพบแพทย์และหลังสัปดาห์ที่ 4 เปรียบเทียบผลการรักษาจากการวิเคราะห์ข้อมูลด้วย repeated measure analysis และ unpaired t-test*

ผลการศึกษา: *ทั้งสองกลุ่มมีคะแนน Thai Hamilton rating scale for depression score ก่อนการรักษาไม่แตกต่าง อย่างมีนัยสำคัญทางสถิติ (p = 0.826) หลังสัปดาห์ที่สองคะแนน Thai Hamilton rating scale for depression ของกลุ่มจิตบำบัดแนวพุทธลดลงอย่างมีนัยสำคัญทางสถิติ (p<0.001) เมื่อเทียบกับกลุ่มควบคุมและลดลงต่อเนื่องจนถึงหลังสัปดาห์ที่สี่ เมื่อนำมาทดสอบด้วย repeated measure analysis พบว่ามีความแตกต่างอย่างมีนัยสำคัญทางสถิติ (F = 9.55, p = 0.004) คะแนนความแตกต่างของ WHOQOL-BREF-THAI score (ก่อนทดลองลบด้วยผลการรักษาครั้งสุดท้าย) พบว่ากลุ่มจิตบำบัดแนวพุทธมีค่าคะแนนความแตกต่าง 19.27±8.36 คะแนน ขณะที่กลุ่มควบคุมมีค่าความแตกต่างของคะแนน 14.36±7.76 คะแนน เมื่อนำมาทดสอบความแตกต่างด้วย unpaired t-test พบว่ากลุ่มจิตบำบัดแนวพุทธมีคะแนน WHOQOL-BREF-THAI มากขึ้นอย่างมีนัยสำคัญทางสถิติ (p = 0.049)*

สรุป: *การทำจิตบำบัดแนวพุทธเป็นการรักษาเสริมที่เหมาะสมสำหรับผู้ป่วยที่มีภาวะซึมเศร้าสาเหตุจากการปรับตัวต่อโรคทางกาย*