

CHAPTER 5

DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

This chapter is organized into five sections: Discussion, conclusions, implications of findings, limitation of the study, and recommendations for further study.

Discussion

The purposes of this study were to evaluate the effects of using the School-based CBT for Thai Adolescents with Depression on decreasing depressive symptoms, negative automatic thought, and increasing social and adaptive functioning of Thai adolescents with depression. In this section, interpretations of the findings are presented.

Effects of Intervention on Depressive Symptoms

By using Multivariate Analysis of Variance (MANOVA), the findings revealed that there were statistically significant differences found in groups, times, and group and time interaction (see Table 3). Differences were found in both the control and the intervention groups. The results demonstrated that the intervention group had a significantly lower mean score of depressive symptoms than those in the control group at six weeks, immediate upon the completion of intervention (week 12)

and four weeks after the completion of intervention (week 16) (see Table 5). The hypothesis that the intervention group significantly decreased depressive symptoms throughout the course of the program than the control group was supported. The framework of this study was also empirically supported.

The effects of the School-based CBT for Thai adolescents with depression program in decreasing depressive symptoms were supported. Cognitive behavior therapy is a process of changing behaviors (actions), thoughts, and emotions (feelings) (Clarke, Lewinsohn, & Hops, 2000). Participants learned to change behaviors by setting goals, monitoring how they feel (mood), being more active especially in enjoyable or pleasant activities, improving social skills, and developing effective communication, assertive training, compromising, and problem solving (Clarke, Lewinsohn, & Hops, 2000; Curry et al., 2000). These techniques serve to mobilize participants to increase their experience of normal activities with their peers and to prevent the potentially adverse effects of opting out and avoidance for instance in school. Participants can gain some sense of achievement from behavioral tasks as well as potentially learning new skills (Verduyn, 2011). Changing thought is the process of restructuring negative automatic thoughts by addressing more directly the negative elements of depressive thinking and assessing participants in a more realistic of their experience (Curry et al., 2000; Verduyn, 2011). Changing emotions link with changing negative automatic thoughts and changing behaviors (Clarke, Lewinsohn, & Hops, 2000). In the course of CBT, the symptomatic improvement of depression occurred (Bhatia & Bhatia, 2007). This could be explained through the successful engagement of the School-based CBT Program that helped participants in the intervention group to apply CBT skills such as mood monitoring, goals setting,

increasing pleasant activities, problem solving, cognitive restructuring, assertive training, relaxation, etc. to lower their depressive symptoms in their daily life.

This present study accorded with the study of Oei, Bullbeck, and Campbell (2006) that studied change process during a 12-week group cognitive behavior therapy for depression. The results indicated that symptoms of depression reduced significantly at mid intervention (week 7) and at termination of intervention (week 12). The study of Lewinsohn and Antonuccio (1983) and March and colleagues (2004) revealed that the high school depressed students in the intervention group had decreased rate of depression after participating in a CBT program more than the control group. In addition, the finding of Lewinsohn, Clarke, Hops, and Andrews (1990) indicated the effectiveness of CBT program in all dependent variable across treatment conditions. The effects of the intervention on depressive symptoms could be explained as follows:

Firstly, psycho-education about depression and the school-based CBT program was instructed and discussed in the first session. The information of meaning of depression, symptoms, causes, and the pattern of thoughts, emotions, behavior, and biology responses to depression helped participants to examine, understand, and aware of their depressive symptoms. Two main changes in the program was informed that the changes were negative, depressive ways of thinking about themselves, or others, or future, and ways of behaving that don't work well when they are depressed or stressed (Curry et al., 2000). They learned and practiced new skills, overtime they learned to use the skills and took responsibility to be own therapist and overcome depression.

Secondly, mood monitoring is an important skill. Participants learned to understand their mood change and monitored their emotions, thoughts, and situations related to depression once or twice daily. Emotions Thermometer and Mood Monitor are two tools using to overcome depression. Emotions Thermometer is a tool to rate the strong of feelings. Mood Monitor is a form to record situations, events, and thoughts that are connected to feeling daily. In this way, participants became to understand the connections between emotions and thoughts in their own context, sufficiently to become aware and see what is working best for them (Curry et al., 2000). The participants' sense awareness of controlling their behavior and changing their depression increased while practicing mood monitoring.

Thirdly, goals setting in the beginning of the program and through each session helped participants to establish individual criteria or level to be aimed at and put effort towards their goals. Participants learned to evaluate their accomplishment or fail to reach their goals. Information from self evaluation guided participants to manage their skills for the improvement in mood.

Fourthly, increasing pleasant activities become a process in which participants made a list of enjoyable activities that they engage in. This practice is very helpful because pleasant activities give participants feeling good and gain self-confidence (Clarke, Lewinsohn, & Hops, 2000). Participants increased pleasant activities from their baseline activities. The increased number of pleasant activities was set as a goal that participants should achieve. This is a change of action that is careful self-observation. When participants can do something well, they feel success

and are encouraged doing more things in the future (Clarke, Lewinsohn, & Hops, 2000).

Fifthly, improving social skills are the appropriate skills participants practiced such as social interaction, assertion, and communication skills. The reason of improving social skills is that depressed adolescents sometime stop using their social skills and withdraw from people, or they start using inappropriate responses and begin being more fights, talking negatively, or being rude (Clarke, Lewinsohn, & Hops, 2000). The feedback of using social skills in the CBT group helped participants to notice the good things they did and pointed out some areas that need improvement. This training helped participants to gain control in social situations.

Sixthly, problem solving is a skill depressed adolescents can use when they face a problem such as some social, interpersonal, familial conflicts or disagreement or academic problem contributing to depression. Participants in the intervention group learned steps in problem solving by instruction, modeling, and role playing. Steps in problem solving comprised of brain storming by defining a problem and using analogous questioning negative automatic thoughts to other ways thinking of a situation, not evaluating by generating more possible solutions without evaluating them, evaluating by deciding the best solution with pro and cons, and encouraging by reinforcing participants for having worked through the problem and decided on a solution (Curry et al., 2000). Over time practicing, participants became familiar with this method that they can use them automatically (Clarke, Lewinsohn, & Hops, 2000).

Finally, restructuring thoughts is a method or technique to change and control negative automatic thoughts. When adolescents are depressed, they tend to have more negative automatic thoughts and fewer positive thoughts (Clarke, Lewinsohn, & Hops, 2000). The most effective way to work on negative automatic thoughts is to identify, aware, and record of them (Curry et al., 2000). Once negative automatic thoughts have been recognized and recorded, participants in the intervention group learned to challenge them to see if they are accurate (Curry et al., 2000). The technique to challenge negative automatic thoughts is questioning by using contradictory evidence, Socratic questioning, role playing and role reversing. Then they practiced generating a list of realistic and positive thoughts to “talk back to” their negative automatic thoughts. They practiced to think realistic and positively about others and themselves. These techniques helped adolescents to control and change or replace their negative automatic personal thoughts and negative automatic non-personal thoughts of other people and things with the realistic and positive automatic thoughts (Clarke, Lewinsohn, & Hops, 2000).

Through the first stage (5 sessions) of the program, was aimed at bringing the depression scores back to a normal range by using behavioral techniques to help participants monitor their ability to change their life experiences (The Center of Cognitive Behavior Therapy, 2010). The second stage (after 5 sessions) of the program aimed at the identification and challenge of negative automatic thoughts. These negative thoughts were analyzed and changed by substituting them with valid positive ones, thus changing the depressive symptoms (The Center of Cognitive Behavior Therapy, 2010). Therefore, this present study revealed the changes in depressive symptoms during the intervention (week 6) and immediately post-

intervention (week 12). In addition, the participants expressed in the focus group that they understood the connections among their emotions, thoughts, and situations, and being aware of activities made them feel better. They were also aware they should engage in more activities that would make them more active and happy. They stated that restructuring their thought processes would alleviate their feelings of sadness, guilt, and conflicts and would make them happier.

From data analysis, there were statistically significant differences in depressive symptoms at Time 2, Time 3, and Time 4 lower than at baseline in the intervention group. The findings appeared to show the effectiveness of the intervention at six weeks, immediate upon the completion of intervention, and four weeks after the completion of intervention. The change of depressive symptoms appeared at six weeks after the beginning of the program. That was supported that through six weeks of the program, participants focused on skills aimed to change their behaviors such as goals setting, mood monitoring, increasing pleasant activities, etc. can alleviate depressive symptoms. Depressive symptoms in the intervention group also showed significant declines that were supported, through six weeks to upon the completion of intervention focused on changing their negative automatic thoughts by using cognitive restructuring and changing their behaviors by social skills training, can alleviate participants' depressive symptoms. In addition, the result showed that the effect of the program maintained at 4-week follow up. These major findings and follow up congruence with the study of CBT in depressed high school students of Birmaher et al. (2000); Curry et al. (2000); Hyun, Chung, & Lee (2005); Kahn, Kehle, Jenson, & Clark (1990); Rossello and Bernal (1999) that revealed a decrease in depressive symptoms at post treatment and 1-month follow up.

However, depressive symptom scores in the control group appeared slightly declined between Time 2 and Time 3 ($t = -1.06, p = 0.16$), and Time 3 and Time 4 ($t = -0.94, p = 0.01$). This Time 3 to Time 4 change was statistically significant but still in the range of mild to moderate depression. While the means of depressive symptoms in the intervention group improved from a depressed to non-depressed range. The reason of both groups had improvement because depressed adolescents frequently improved over time even in wait-list control group or usual care conditions (Modenhauer, 2004). Harrington and colleagues (1998) explained the reason of this improvement in their systematic review of efficacy of cognitive behavior therapy in depressed childhood and adolescents. When studies compared group of inactive or an attention intervention, there were more than a third of depressed subjects improved with inactive intervention. This improvement occurred because there is a high rate of spontaneous remission in moderately severe depression.

To summarize, the effect of the school-based CBT for Thai adolescents with depression program which combines cognitive and behavioral strategies to help adolescents with elevated depressive symptoms change their negative automatic thoughts and behaviors, thus alleviating depressive symptoms.

The Effect of Intervention on Negative Automatic Thoughts

By using Multivariate Analysis of Variance (MANOVA), the findings revealed that there were statistically significant differences found in group and time interaction (see Table 5). The results demonstrated that the intervention group had a significantly lower mean score of negative automatic thoughts than those in the

control group at immediate upon the completion of intervention (week 12) and four weeks after the completion of intervention (week 16) (see Table 6). The hypothesis that the intervention group significantly decreased negative automatic thoughts than the control group was supported. Nevertheless, the hypothesis that the intervention group significantly decreased negative automatic thoughts throughout the course of program than the control group was not supported. Negative automatic thoughts did not reduce at week six after the beginning of the program. The reasons that negative automatic thoughts did not change at week 6 may due to two reasons: firstly, the program began with behavioral approaches such as activities scheduling, a systematic appraisal of participants' day-to-day activities and the impact that has on mood and thinking followed by targeted activation. About 5 sessions into the intervention as mood begin to lift, cognitive techniques are used; secondly, participants were introduced to recognize, identify, and label negative automatic thoughts at week 6. They were then shown how to challenge and restructure these thoughts at week 7. It is assumed that the program was responsible for reduction of negative automatic thoughts after session 6 completed. Therefore, there appeared to be no significantly reduction of negative automatic thoughts at week 6 but negative automatic thoughts scores reduced significantly until the completion of the program. Additionally, the negative automatic thoughts scores declined until four weeks follow up.

This present study is not congruent with the study of Oei, Bullbeck, and Campbell (2006) that studied cognitive change process during a 12-week group cognitive behavior therapy for depression. Their intervention began with cognitive approaches from session 1 to 4. Thus, the results indicated that negative automatic

thoughts reduced significantly at mid intervention (week 7) but insignificant at termination of intervention (week 12).

The effects of the School-based CBT for Thai adolescents with depression program in decreasing negative automatic thoughts were supported at week 12 and week 16. Cognitive behavior therapy is a process of changing behaviors (actions), thoughts, and emotions (feelings) (Clarke, Lewinsohn, & Hops, 2000). One important component of CBT is cognitive restructuring that is the process of restructuring negative automatic thoughts (Curry et al., 2000). This could be explained by the following rationale:

Restructuring thoughts is a method or technique to change and control negative automatic thoughts. When adolescents are depressed, they tend to have more negative automatic thoughts and fewer positive thoughts (Clarke, Lewinsohn, & Hops, 2000). The most effective way to work on negative automatic thoughts is to identify, aware, and record of them (Curry et al., 2000). Once negative automatic thoughts have been recognized and recorded, participants in the intervention group learned to challenge them to see if they are accurate (Curry et al., 2000). The technique to challenge negative automatic thoughts is questioning by using contradictory evidence, Socratic questioning, role playing and role reversing. Then they practiced generating a list of realistic and positive thoughts to “talk back to” their negative automatic thoughts. They practiced to think realistic and positively about others and themselves. These techniques helped adolescents to control and change or replace their negative automatic personal thoughts and negative automatic non-personal thoughts of other people and things with the realistic and positive automatic thoughts (Clarke, Lewinsohn, & Hops, 2000).

Participants from focus group stated that their negative automatic thoughts decreased after they learned to identify, encounter, and change them. They became increasingly aware of their thoughts and situations. They interpreted their negative thoughts in more flexible and restructured them to positive and realistic thinking.

From data analysis, there were statistically significant differences in negative automatic thoughts at Time 3 and Time 4 lowered than at baseline in the intervention group. The findings appeared to show the effectiveness of the intervention at immediate upon the completion of intervention and four weeks after the completion of intervention. That was supported that through week 1 to week 4 the program focused on changing behaviors. Week six and seven the program focused on recognizing, identifying, challenging and restructuring thoughts. Thus, the negative automatic thoughts appeared no significant difference at week 6. While as week 6 to week 7, the program focused on changing their negative automatic thoughts by using cognitive restructuring included monitoring and evaluating thoughts, detecting negative automatic thoughts and reality testing these negative automatic thoughts by examining the evidence for and against and searching for alternative explanations. It made use of thought record, verbal challenging and eliciting alternatives in the sessions by the use of contradictory evidence and Socratic questioning (Baily, 2001; Curry et al., 2000). Birmahir and colleagues (2000) compared negative automatic thought between adolescents who recovered and who did not recovered from depression and found that adolescents who recovered from depression had fewer negative automatic thoughts at post-CBT intervention. In addition, the result of present study showed that the effect of the school-based CBT program maintained at 4-week follow up. These major findings and follow up congruence with the study of

Kaufman, Rohde, Seeley, Clarke, and Stice (2005); Rohde and Seeley (2006) that revealed a decrease in negative automatic thoughts and depressive symptoms at post treatment (10-12 weeks) and follow up (1-6 months) in depressed adolescents..

However, negative automatic thoughts scores in the control group appeared an increase from Time 1 to Time 2, slightly increase between Time 2 and Time 3, and slightly decrease Time 3 and Time 4. The means of negative automatic thoughts in the control group were not improved. While the means of negative automatic thoughts in the intervention group improved from Time 2 to Time 4.

To summarize, the effect of the school-based CBT for Thai adolescents with depression program which combines cognitive and behavioral strategies to help adolescents with elevated depressive symptoms change their negative automatic thoughts and behaviors, thus alleviating negative automatic thoughts.

The Effect of Intervention on Social and Adaptive Functioning

By using Multivariate Analysis of Variance (MANOVA), the findings revealed that for social and adaptive functioning there were a main effect found for group (see Table 7). The results demonstrated that the intervention group had a significantly higher mean score of social and adaptive functioning than those in the control group (see Table 8). That was supported that through 12 weeks of the program, participants focused on skills aimed to change their social and adaptive problem behaviors led to social and adaptive function difficulties such as goals setting, mood monitoring, increasing pleasant activities, social problem-solving, social interaction, assertion, and communication skills to overcome the social

withdrawal, behavioral inertia, relationship problems with family, school, peers that frequently accompany depression in adolescents (Baily, 2001). The teaching of emotional regulation and relaxation help adolescents to monitor their mood. In addition, participants expand on their functions by increasing pleasant activities and social contacts. To solve social problems and skill deficits, specific skills for conversation, assertive skills for problem interactions, and methods for communicating effectively were learned. Moreover, the instruction to use problem solving skills before selecting a choice with the best possible outcomes helped solve social problems (Gallagher, 2011).

These skill strategies help participants to reverse the negative balance of reinforcement, a heightened state of self-awareness that can lead to self-criticism and behavioral withdrawal (Antonuccio, 1998). Thus, the intervention provided social competence skills and self assured behaviors and explore and change their negative thoughts caused depressive symptoms and social and adaptive functions improved. As participants expressed in the focus group they applied learned skills from the program to begin using their social skills to stop withdraw from people, start using appropriate techniques with parents and teachers, and talking positive and polite to others. Participants also stated the improvement of relationship with teachers and friends and the improvement of school and home duties.

The results of this study provided support for the effectiveness of school-based CBT program for depressed adolescents in Thailand. The school-based CBT program was structured. Investigator developed leader manual and workbook based on the literature review and CBT manual of Curry et al. (2000) which were compatible to Thai school setting, learning style, and culture. Participants went

through the group sessions by participating, discussing, testing, experimenting, practicing new skills, and homework assignments. The change in depressive symptoms, negative automatic thoughts, and social and adaptive functioning related to the increase in the use of the cognitive and behavioral strategies that have been learned by participants during group processes (Wong, 2009).

The effectiveness of the result of the school-based CBT program is congruent with the study of Clarke et.al. (1999) and Rohde et.al. (2004) which delivered a CBT program for high school students, showed substantial advantage in reducing self-reported depressive symptoms and social and adaptive functioning when compared to the control group. Also the results of this present study were similar to the study of Modenhauer (2004) that utilized manualized CBT coping with depression course in depressed adolescents and found that participants who were randomly assigned to the intervention group showed significantly greater reductions in depressive symptoms, negative cognitions, and problematic behaviors than the control group.

Even though this study showed the effectiveness of the school-based CBT program on outcomes, the process of running the program need nurses with CBT training. However, workshop, training books and materials are becoming more available such as websites. With diligence and care, nurses with CBT knowledge and experience can add treatment that is the effective package. Another thing, the program was quite time consuming. Therefore, a shorter version of this program, but still covering the essential details, is recommendable.

The school-based CBT program yielded benefits in terms of decreasing depressive symptoms, negative thought, as well as enhancing social functioning. The

results of this study point to avenues for enhancing CBT strategy among depressed adolescents in Thai school settings. Growing evidence now supports the effectiveness of interventions that encourage depressed patients to regulate, treat, and improve themselves.

Conclusions

In conclusion, the school-based CBT for Thai adolescents with depression intervention demonstrated positive main effects on depressive symptoms, negative automatic thoughts, and social and adaptive functioning. The finding provided support of the conceptual framework of the present study. The major effect of the school-based CBT for Thai adolescents with depression intervention on depressive symptoms, negative automatic thoughts, and social and adaptive functioning is changing and modifying patterns of behavior through skills acquisition and restructuring negative automatic thoughts, in turn, with changes in depressed mood, negative automatic thoughts, and social and adaptive functioning followed. Participants evaluated and expressed benefit they received from participation in the intervention. The benefits described were value and effects of information presented in the program on depressive symptoms, thoughts, and behaviors, application skills presented in the program, program management: steps, lengths of sessions, overall 12 weeks, and suggestions about the program.

In summary, in this study, the designed intervention demonstrated the positive outcome on the scores of depressive symptoms, negative automatic thought, and social and adaptive functioning. In addition, participants in the intervention

group expressed benefits from participating such as improvement on depressive symptoms, negative automatic thoughts, and social and adaptive functioning. Participants also reported the use of program skills such as thought restructuring, problem-solving, and social skills to reduce their symptoms.

Implications to Nursing

The results of this study added to existing knowledge of adolescents with depression in Thai schools context. The implication can be made for nursing practice and nursing education as follows:

Implication for Nursing Practice

It was known from this study that the school-based CBT was an effective program in reduction of depressive symptoms and negative automatic thought, and enhancement social and adaptive functioning after completion of the treatment in the school settings. Thus, the protocol of intervention program can be integrated to the school mental health care. School nurses should be trained to begin school-based in their settings.

Implication for Nursing Education

The findings of the present study can be adopted to teach nursing students at the undergraduate by extending their knowledge and skills in psychiatric and mental health nursing related to adolescents with depression in schools. For master level, nurse educators should provide knowledge of adolescents' depression screening and early interventions as a part of nursing care. In addition, school-based CBT training program for nurses who work or will work involving school settings should be conducted to enhance their ability to apply CBT strategies to depressed adolescents.

Recommendations

The following recommendations for further nursing research are derived from the findings of the present study.

1. Future replication of the school-based CBT program for Thai adolescents with depression should be conducted with parental involvement in the program because the participants in this study expressed the need for their parents to understand their depression and the CBT program.
2. Replication of this study that employs a randomized clinical trial with different age groups and a wide range of schools need to be conducted in order to demonstrate the intervention effects.
3. A prospective follow-up study of effectiveness of the effectiveness of the school-based CBT program for Thai adolescents with depression should be conducted for long-term follow up at 3, 6, and 12 months.

4. A short-term school-based CBT program should be developed to reduce time consuming, such as five to eight sessions, but on that still covers the essential details.
5. A training guideline for school-based CBT for school nurses should be developed in order to train school nurses to implement school-based CBT programs in schools.

Limitations of the Study

The study had some limitations as presented below.

1. The sample was obtained only from public high school adolescents.

Therefore, the findings cannot be generalized to adolescents attending a private school, vocational college, commercial school, or not attending school.

2. It may have a result in a threat to internal validity because in the present study the investigator conducted the focus group. Thus, the focus group needs to have an external evaluator to conduct the focus group discussion.