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EFFECTIVENESS OF MOTIVATIONAL INTERVIEWING-BASED ADHERENCE THERAPY WITH FAMILY SUPPORT PROGRAM ON MEDICATION ADHERENCE FOR PERSONS WITH SCHIZOPHRENIA: A RANDOMIZED CONTROLLED TRIAL

PORNPUN SUDJAI

Burapha University

2020

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THE REQUIREMENTS FOR DOCTOR OF PHILOSOPHY
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The Dissertation of Pornpun Sudjai has been approved by the examining committee to be partial fulfillment of the requirements for the Doctor of Philosophy in Nursing Science of Burapha University

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PORNPUN SUDJAI : EFFECTIVENESS OF MOTIVATIONAL INTERVIEWING-BASED ADHERENCE THERAPY WITH FAMILY SUPPORT PROGRAM ON MEDICATION ADHERENCE FOR PERSONS WITH SCHIZOPHRENIA: A RANDOMIZED CONTROLLED TRIAL. ADVISORY COMMITTEE: PORNPAT HENGUDOMSUB, Ph.D., NUJJAREE CHAIMONGKOL, Ph.D. 2020.

Adherence to pharmacological treatment is essential for schizophrenic persons, and maintaining medication compliance, especially in the first 5 years after the initial diagnosis, is recommended. It helps recovery and reduces the incidence of relapse and rehospitalization. This randomized controlled trial study aimed to examine the effectiveness of motivational interviewing-based adherence therapy [MIAT] with family support on medication adherence among persons with schizophrenia. The sample included patients with schizophrenia who met the study inclusion criteria and attended the psychiatric outpatient department at Buddhasothorn hospital. Participants were randomly assigned into intervention (n = 17) and control groups (n = 20). The participants in the intervention group and their family caregivers participated in MIAT with family support program. The program duration was five weeks and comprised six sessions. Medication adherence was assessed through 3 indicators including insight into illness using the Insight and Treatment Attitude Questionnaire, adherence attitude using the Hogan Drug Attitude Inventory, and adherence behavior using the Medication Adherence Questionnaire. These questionnaires had Cronbach's alpha reliabilities of .82, .83, and .82, respectively. Data were collected at pre-test, post-test and 1 month follow-up. Descriptive statistics, t-tests, and 2-way repeated measures ANOVA were employed to analyze the data.

The results showed that after completing the intervention, the insight into illness and adherence attitude of participants in the intervention group was significantly higher than those in the control group ($F_{1,109} = 8.111$, $p = .005$; $F_{1,109} = 4.809$, $p = .030$) respectively. Within the intervention group, there were statistically significant differences in insight into illness, adherence attitude, and adherence behavior from pre-test to post-test to follow-up ($F_{2,105} = 4.735$, $p = .011$; $F_{2,105} = 4.752$, $p = .011$; $F_{2,105} = 10.430$, $p = .000$) respectively. The program could enhance medication adherence, especially insight and adherence attitude. Psychiatric and mental health care nurses should be trained in this program and apply it in their practices in order to promote medical adherence among these persons, especially those in an early stage of illness.

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Pornpun Sudjai

TABLE OF CONTENTS

Page

ABSTRACT v

ACKNOWLEDGEMENTS vi

TABLE OF CONTENTS vii

LIST OF TABLES ix

LIST OF FIGURES xi

CHAPTER 1 INTRODUCTION 1

- Statement and significance of the problems 1
- Research objectives 8
- Research hypotheses 8
- Conceptual framework of the study 9
- Contribution to nursing knowledge 13
- Scope of the research 14
- Definition of terms 14

CHAPTER 2 LITERATURE REVIEWS 16

- An overview of schizophrenia disorder 16
- Medication adherence among persons with schizophrenia 28
- Family support for persons with mental illness 44
- Concept of motivational interviewing-based adherence therapy [MIAT] and related theories 47

CHAPTER 3 RESEARCH METHODS 63

- Research design 63
- Population and sample 63
- Instrumentation 67
- Protection of human rights 79
- Data collection procedures 80
- Data analyses 85

CHAPTER 4 RESULTS 86
Verification of the intervention by testing the effectiveness of MIAT with family support program 86
CHAPTER 5 CONCLUSION AND DISCUSSION 104
Summary of the study 104
Discussion 106
Strengths and limitations 112
Suggestions and recommendations 113
REFERENCES 115
APPENDICES 123
APPENDIX A 124
APPENDIX B 128
APPENDIX C 132
APPENDIX D 135
APPENDIX E 140
APPENDIX F 159
BIOGRAPHY 162

LIST OF TABLES

Tables Page

2-1 The essences of concept with specific approaches to improve medication adherence 35

4-1 The demographic characteristics of persons with schizophrenia in the intervention and the control groups (n = 37) 87

4-2 Characteristics of family caregivers of the intervention (n = 17) and the control groups (n = 20) 90

4-3 Comparisons of the mean scores of insight into illness, adherence attitude, and adherence behavior among persons with schizophrenia between the intervention and the control groups at baseline (Pre-test) 93

4-4 Change over time of mean scores and standard deviation of insight into illness, adherence attitude, and adherence behavior at pre-test, post-test, and follow-up 94

4-5 Main effect of insight into illness between times and interaction between times and groups 96

4-6 Comparisons of estimated marginal mean differences of insight into illness between groups 96

4-7 Pairwise comparison between the mean differences of insight into illness in the intervention and the control groups at pre-test, post-test, and follow-up 97

4-8 Main effect of adherence attitude between times and interaction between times and groups 98

4-9 Comparisons of estimated marginal mean differences of adherence attitude between groups 99

4-10 Pairwise comparison between the mean differences of adherence attitude in the intervention and the control groups at pre-test, post-test, and follow- up 99

4-11 Main effect of adherence behavior between times and interaction between times and groups 101

LIST OF TABLES (Continued)

Tables Page

4-12 Comparisons of estimated marginal mean differences of adherence behavior between groups 101

4-13 Pairwise comparison between the mean differences of adherence behavior in the intervention and the control groups at pre-test, post-test, and follow-up 102

LIST OF FIGURES

Figures Page

2-1 The dynamics of schizophrenia using the transactional model of stress/ adaptation 24

2-2 Identified reasons of medication nonadherence 29

2-3 The conceptual model of CBT 48

2-4 The elements of Motivational Interviewing [MI] 53

3-1 Summary of sample recruitment 66

3-2 The back translation process 71

3-3 The data collection procedures 84

4-1 Change in insight into illness between the control and the intervention groups at pre-test, post-test, and follow-up 97

4-2 Change in adherence attitude between the control and the intervention groups at pre-test, post-test, and follow-up 100

4-3 Change in adherence behavior between the control and the intervention groups at pre-test, post-test, and follow-up 102

CHAPTER 1
INTRODUCTION

Statement and significance of the problems

Schizophrenia is a severe disruptive disorder associated with significant abnormalities and the progressive deterioration of a wide variety of cognitive, psychosocial, vocational, and behavioral functioning (American Psychiatric Association [APA], 2013). Although episodes of remission may occur, schizophrenia is chronic. The World Health Organization [WHO], (2018) defined schizophrenia as a syndrome characterized by distortions in thinking, perception, emotions, language, sense of self, and behavior which is caused by the imbalance of neurotransmitters and defects in the psychosocial development phases. Statistics released in 2018 show that more than 23 million people worldwide are affected by schizophrenia (WHO, 2018). In Thailand, a report of Ministry of Public Health in 2017 found that schizophrenia disorder was one of top five in mental disorders. An indication of incidence is that 480,266 new patients with schizophrenia diagnosis received treatment at Thai mental health and psychiatric hospitals. The numbers of persons with schizophrenia are between 1% to 2% of the total population. (Department of Mental Health, 2017 a).

Presently, there is no cure for schizophrenia, but this illness can be treated and managed. The most effective treatment for these persons is pharmacotherapy. According to a meta-analysis of 65 clinical trials in patients with schizophrenia stabilized on antipsychotic medication, treatment with antipsychotics significantly reduces rates of relapse, as demonstrated by a significant improvement in positive and negative symptoms over 6 weeks, with a proportionately increasing treatment effect in patients with acute schizophrenia (Chien & Yip, 2013). The use of antipsychotic medication in acute, chronic, and maintenance stages of the illness for symptom reduction, improvements of psychosocial functioning, and relapse prevention in these psychotic patients is widely accepted. Adherence to pharmacological treatment is essential for persons with schizophrenia. In particular, maintaining the medication taking for the first 5 years of the initial diagnosis is the critical period. It would lead to the good prognosis for the persons with schizophrenia. It helps recovery like usual

people and it also help reduce the incidence of relapse and rehospitalization (Fortinash & Holoday, 2007; Wai, Mui, Cheung, & Gray, 2015). Consistent with the study of Fanning et al. (2012) which indicates that if the persons with schizophrenia remain with in chronic condition for a long duration without appropriate medication taking. This would lead to residual symptoms with negative symptoms, such as isolation or withdrawal from society, anhedonia, and thought retardation which causing of poor prognosis.

Nevertheless, WHO (2013) has reported the ratio of medication adherence as merely around 50% in people with a chronic disease and nonadherence to medication is a major problem with a rate of 20%-60% in psychiatric patients (Mert, Turgut, Kelleci, & Semiz, 2015). Consistently, systematic reviews on clinical trials have suggested that levels of adherence to oral antipsychotics among these patients in developing countries were generally poor with average adherence rates of 30-50% (Wai, Mui, Gray, & Cheung, 2016). For Thailand, according to the report of Ministry of Public Health in 2016, it was found that two out of five patients with schizophrenia are unresponsive to treatment including nonadherence in medication and losing follow-up (Department of Mental Health, 2017 a). Therefore, developing nursing intervention for promoting schizophrenic patients to adhere with antipsychotic medication is necessary, it helps them have good prognosis and maintain better quality of life.

‘Adherence’, sometimes used interchangeably with ‘compliance’, means a patient accepts the advice of health care professionals to take medication according to a medical prescription, and it reflects the patient’s perspective regarding the importance and purpose of taking the prescribed medication (Barkhof, Meijer, de Sonneville, Linszen, & de Haan, 2012), while compliance refers to patients taking the medication as directed but without a discussion of the medication or acknowledged agreement between the patient and healthcare provider (Wuthironarith, 2017). Therefore, the meaning of adherence focused on the patient, and centers on whether patients understand and accept illness and treatment leads to sustainable taking medication following a medical prescription. Velligan, Weiden, and Sajatovic (2009) reported a consensus level for adherence, maintaining that patients with schizophrenia can be considered adherent if they take more than 80% of prescribed medications;

partial adherence is defined as taking 50% of prescribed medications, and complete lack of adherence can be defined as being off of medications for 1 week. Partial or complete lack of adherence to medication had an effect on patients and their families in terms of personal suffering with severity of psychotic symptoms (Livingston & Boyd., 2010; Ow & Lee, 2015; Tang &Wu, 2012) and increased risk for relapse leading to rehospitalization. Furthermore, the length of hospital stay is also extended which also increases the average hospital costs (Gray et al., 2016).

In Thailand, it was found that medication adherence behavior can change over time. Fifty percent of persons with mental disorders will become partial adherence in one year follow-up and 75% will become completely nonadherent in two years follow-up. There is correlation with relapse and poor prognosis (Wuthironarith, 2017). Ronnachai and Buranee (2007) found that relapsing symptoms are important factors that cause patients with schizophrenia to be admitted to the hospitals repeatedly and have tremendous health care costs. The cost of care for patients with schizophrenia for inpatients is 372 million baht per year and for outpatients is 171 million baht per year.

Although adherence is an observable behavior, the continuous observing of actual medication ingestion is true gold standard of adherence measurement, by continually observing an individual, recording time, type, and number of pills taken in order to compare with a prescribed regimen. In fact, 24-hour observation of adherence behavior is impractical. So, subjective measures of medication such as via patient-report or interviewer ratings, or assessing influencing factors associated with nonadherence are appropriate (Sajatovic, Velligan, Weiden, Valenstein, & Ogedegbe, 2010). From empirical findings indicated that the influencing factors of nonadherence could be divided into 2 groups, such as intentional or purposeful and unintentional nonadherence. For intentional nonadherence, it was patient-related factors. This is the most significant indicators to adherence with medication include insight into illness and attitude towards medication lead to adherence behavior which occurred simultaneously or in sequence. While unintentional nonadherence, it was practical impairments that affects to patient's ability to take medication such as substance abuse, cognitive impairments, and depression (Velligan, Sajatovic, Hatch, Kramata, & Docherty, 2017). Mallakh and Findlay (2015) found that patients who have insight

and awareness of the need to take medications to alleviate symptoms and avoid hospitalization will have higher levels of adherence, leading to good prognosis and less disturbance in psychotic symptoms. In addition, favorable attitudes toward medications and the expectation that medications are effective in reducing symptoms contribute to adherence (Kumar et al., 2016; Mert et al., 2015; Sariah, Outwater, & Malima, 2014). Some researches suggest that recognition of the benefits of medications in alleviating troublesome psychotic symptoms improves willingness to tolerate the side-effect burden for the sake of mental wellness (Kenji, Teruomi, & Shinsuke, 2015; Wai et al., 2016).

Empirical findings in the past two decades showed the development of interventions for promoting medication adherence among the patients with schizophrenia which can be classified into 3 groups. First, psychoeducation programs which are based on the psychoeducational model of patient care. These are mainly derived from stress vulnerability and coping models. Medication psychoeducation was based on the foundation of the concept that the medication nonadherence in the patients with schizophrenia was due to the lack of knowledge and understanding about the illness and treatment. This program focuses on providing information about the illness, treatment, management of the patient's illness behavior, improving problem-solving, and coping skills in illness management. Psychoeducation related programs have in common for their emphasis on the present situation and improving the future to go along with medication and other psychiatric treatment while avoiding the placing blame on past experiences (Barkhof et al., 2012; Gray et al., 2016; Mallakh & Findlay, 2015; Thiensan, 2016; Wai, Sau, Frederick, Yeung, & Wai, 2013). However, this intervention was least successful in improving adherence to antipsychotic medication (Barkhof et al., 2012; Gray et al., 2016; Thiensan, 2016).

The limitation of nursing interventions that applied only psychoeducation strategies without adjunctive components, such as cognitive behavioral management or family involvement indicated that psychoeducation did seem to enhance knowledge about illness and medication and, although found to be important, it is not sufficient to raise adherence rates. Some studies indicate that psychoeducation alone enhanced patients' knowledge about the illness but could not improve other patients' outcomes, which indicates important factors which support adherence to medication include their

insight into illness, attitude towards medication, and intention to maintain adherence behavior (Thiensan, 2016; Wai & Sally, 2013).

In the later stage, when studying factors that influence nonadherence in patients with schizophrenia. Many researchers found that the nonadherence behavior is caused by the idea that patients had poor insight into illness, negative attitudes towards illness, and lack of motivation to continue taking medication. Based on these significant factors, the second group of the intervention was based on cognitive-behavioral therapy [CBT] for modifying inaccurate beliefs and negative perceptions about medications and emphasizing the need for treatment. CBT is often used in conjunction with motivational interviewing [MI] to resolve ambivalence about taking medications and address perceptions about the importance of taking medications and confidence in the ability to adhere to a medication regimen (Barkhof et al., 2012; Gray et al., 2016; Mallakh & Findlay, 2015; Thiensan, 2016; Wai et al., 2013). Then, the CBT in conjunction with MI is an effective way to eliminate the problem of nonadherence.

Currently, WHO also emphasizes the importance of family caregivers in care provision for the patients with schizophrenia in order to promote adherence behavior. This leads to a third group of interventions that incorporate family intervention. Family-based intervention derived from the family counseling model by improving families' ability to cope with illness management. The intervention processes aims to enhance family members' knowledge, understand illness and medication treatment, eliminate or reduce psychosocial distress, encourage family in partnership with treatment and plan to maintain patients' medication adherence behavior (Barkhof et al., 2012; Gray et al., 2016; Mallakh & Findlay, 2015; Thiensan, 2016; Wai et al., 2013). However, nursing interventions using family intervention program alone showed no considerable effects to significant patient related-factors of nonadherence. Unless they were accompanied by cognitive behavioral components, because cognitive modification directed at insight into illness and attitudes towards medication showed favorable results to prolong adherence behavior (Barkhof et al., 2012; Gray et al., 2016; Thiensan, 2016).

Adherence therapy [AT] was mentioned in the updated adherence guidelines postulated by The National Institute for Health and Care Excellence [NICE] (2009)

and the World Health Organization [WHO] (2003), especially for patients with schizophrenia. AT is a brief psychological intervention developed by Gray et al. (2006) derived from the application of the principles of Motivational Interviewing [MI] and Cognitive Behavioral Therapy [CBT] (NICE, 2009: WHO, 2003). Some studies used this approach as Adherence Therapy [AT] but some emphasized the role of Motivational Interviewing [MI]. Therefore, they named this approach as Motivational Interviewing-based Adherence Therapy [MIAT]. This study obtained MIAT. It is a patient-centered approach with the objective to modify patients' thoughts, beliefs, negative attitudes about diseases and treatment by key therapeutic applications include challenging beliefs, exchanging information, restructuring medication problem solving, and exploring ambivalence to promote positive change. Theoretically, these therapeutic applications amplify the personally relevant benefits of treatment, modify illness and treatment beliefs, and resolve ambivalence towards taking medication leads to reduce symptom severity, increase positive attitude towards medication, and increase adherence behavior (Schulz et al., 2013; Wai et al., 2015). This is consistent with the study conducted by Maneesakorn, Robson, Gournay, and Gray (2007), which also adopted adherence therapy model to promote continuous medication taking in patients with schizophrenia at the inpatient department of Suan Prung Hospital. The results showed that patients in an intervention group had more positive attitude towards taking medicine and were more satisfied with the treatment after completing the program.

A systematic review recommended that nursing intervention which derived from MIAT was effective in symptom control and showed significant improvement in attitudes towards medication and adherence behavior in medium term (6 weeks-3 months) and long term (>3 months-1 year). Conversely, when considering with sustainable medical adherence more than 1 years follow-up; it was found that there is no significant difference because behavior and attitude can change over time due to external factors that may impact a patients' intention to medication adherence. Based on this limitation, it is recommended that healthcare providers should involve family members for encouraging and facilitating patients to maintain appropriate adherence behavior because family members are the main carers for patients in the

community and important key to keep patients persistent sustainability in medication adherence (Gray et al., 2016).

Obviously, family support deficits are risk factors for non-adherence in schizophrenia. Persons who live alone may lack medication supervision and have difficulty accessing medical care. Lack of support from family might hinder persons with schizophrenia in achieving rehabilitation (Wuthironarith, 2017) while support from family promotes adherence in patients with mental illness which aids recovery. Several researches signified that a lack of family support leads to medication nonadherence among persons with schizophrenia (Sariah et al., 2014; Thiensan, 2016; Wai & Sally, 2013). The kind of support they provide to patients include medication, supervision, monitoring the drug intake and taking the patients to mental health facilities regularly (Padma, Suttharangsee, Chanchong, & Turale, 2014). In Thailand, after discharge from a psychiatric hospital, the family often needs to take care of persons with schizophrenia at home and take them for regular check-ups to get medication. Due to the limitation of healthcare center availability in the community as well as sufficient healthcare providers, the role of family caregivers becomes a prime support mechanism (Wuthironarith, 2017). Therefore, the role of family, especially the major caregiver is very important in Thailand, and the family needs to be emphasized to assist with continuous and consistent medication adherence. As mentioned, nursing intervention which derived from MIAT and involving family support would be the robust design which will provide more benefits for persons with schizophrenia. Nevertheless, such intervention have not been undertaken in Thailand.

At current state, there is a greater need to develop more effective nursing intervention which promoting the medication adherence among patients with schizophrenia that is consistent with the strategic plan contained in the Mental Health Policy Act of 2017. This policy places an emphasis on patients and their families to improve knowledge, attitude towards mental disorder, and continued medication adherence (Department of Mental Health, 2017 b) because currently nursing interventions in Thailand to improve those problems are limited to psychoeducation which does not produce results as expected (Department of Mental Health, 2014; Wuthironarith, 2017). Although in the study of Maneesakorn et al. (2007) used the concept of MIAT in Thailand. Nevertheless, this study was conducted with

schizophrenic patients with active phase and received inpatient treatment, and its effectiveness was measured through the severity of psychiatric symptoms. This study also did not involve the family caregivers to participate in the intervention.

Therefore, the researcher developed nursing intervention in order to promote patients' insight into illness, positive attitudes towards medication, and medication adherence behavior by taking into account the need to focus with patients who received outpatient treatment and family participation. All of these are an important attributes related to medication adherence. The findings from this study would be beneficial not only for persons with schizophrenia and their families but also for psychiatric nurses and relevant healthcare providers who work in this area.

Research objectives

The objective of this study is to test effects of MIAT with family support on medication adherence among persons with schizophrenia by comparing:

1. The mean scores of insight into illness, adherence attitude, and adherence behavior between the intervention and the control groups at post-intervention (week 5), and the follow-up stage (week 9).

2. The mean scores of insight into illness, adherence attitude, and adherence behavior in the intervention group across the three time periods (baseline (one week before intervention), post-intervention (week 5), and the follow-up stage (week 9).

Research hypotheses

1. The participants in the intervention group have higher medication adherence of insight into illness, adherence attitude, and adherence behavior than those in the control group at post-intervention (week 5), and the follow-up stage (week 9).

2. Within the intervention group, the participants have medication adherence of insight into illness, adherence attitude, and adherence behavior mean score at the follow-up stage (week 9) higher than those at post-intervention (week 5) and baseline (one week before intervention).

Conceptual framework of the study

The conceptual framework of this study was based on the Motivational Interviewing-based adherence therapy [MIAT], family support concept, and empirical findings. MIAT was developed by Gray et al. (2006) which derived from the integration of motivational interviewing [MI] developed by Miller and Rollnick (2013) and cognitive behavioral therapy [CBT] developed by Beck (1976). MIAT is a patient-centered approach based on therapeutic applications of CBT in conjunction with MI. The major focus will be on challenging beliefs, exchanging information, restructuring medication problem solving, and exploring ambivalence to promote positive change for specific target of persons with schizophrenia. This approach should amplify the personally relevant benefits of treatment, modify illness and treatment beliefs, and resolve ambivalence towards taking medication (Gray et al., 2006; 2016; Schulz et al., 2013).

The therapeutic applications of CBT require that the patients review his or her ideas about the illness in order to initiate the process of cognitive restructuring. By challenging the patients to come up with an evidence to prove that their beliefs are real or not, the focus on these essences assists the patient to learn to identify and challenge negative thoughts, and modify the faulty thoughts with more realistic and positive ones. When a patient can modify thought processes which are distortions or misinterpretations, then more appropriate thoughts and perceptions lead the patient to reconsider his or her beliefs about illness and develop positive perceptions about treatment and medication. In addition with CBT combines two kinds of therapies: “cognitive therapy” and “behavior therapy”. The combination of these two techniques would enable the patients to have appropriate thoughts and behaviors as well. Behavioral therapy will improve acceptable alternative coping behavior with medication problem. Therefore, overall therapeutic applications help patients’ acceptance of their condition with good insight and enhance positive attitude towards medication lead to promote positive behavior change (Mallakh & Findlay, 2015; Wai et al., 2013). However, the patients’ perceptions of their problems and behaviors can change over times, and that often happens in schizophrenic patients, if the patient's ambivalence and resistance to change due to various barriers from patient's daily life leads to lack of motivation and determination to stay with medication adherence

(Gray et al., 2006; Wai et al., 2016). Therefore, MIAT has applied the therapeutic application of motivational interviewing [MI] by the process of exploring ambivalence to promote positive change.

The essences of MIAT which derived from MI are eliciting and selectively reinforcing "change talk," by developing discrepancies between the present behavior and the patient's own future goals and encourage patients' opportunities to engage and discuss their ambivalent attitudes towards their illness behaviors, treatments, and possible consequences of nonadherence. These therapeutic applications help patients to explore high resistance or ambivalence to changing behaviors and potential barriers that will hinder motivation leads to patients' perception of and concern for problems that arise from nonadherence. MIAT could help patients' recognize true benefit for themselves, and to maintain the medication regimen (Barkhof, Meijer, de Sonneville, Linszen, & de Haan, 2013; Wai et al., 2015).

From empirical findings indicate that family support also served as a significant moderator for patients to have sustainable medication adherence behavior. Family members could increase patients' acceptance of their conditions, perceiving benefits of medication treatment, and continued medication adherence. This process provides feedback on patient's inappropriate behavior problems that affects the illness and the treatment with empathic understanding, helps the patient solve the problem correctly, reinforces, and encourages consistent medication adherence behavior (Kopelowicz et al., 2012; Thiensan, 2016; Wai & Sally, 2013). The concept of family support as recommended from previous several studies which showed that family support helps patients' compliance with treatment regimens (Thiensan, 2016; Wai & Sally, 2013). Therefore, family is the key to promote medication adherence among patients with schizophrenia. Especial in Thai context with collectivism culture, when the patient received positive support, these could help the patient enhance self-esteem and lead patients to maintain a goal in their life (Wuthironarith, 2017).

The MIAT with family support program could enhance significant attributes of medication adherence. By key therapeutic elements such as thought modification, restructure medication problem solving skills, enhance motivation, reduce ambivalence, and promote family caregivers' competency. This program, includes three steps based on the key therapeutic elements of MIAT and integrated the roles of

family support: 1) initial step, 2) middle step, and 3) termination step (Gray et al., 2016; Wai et al., 2015).

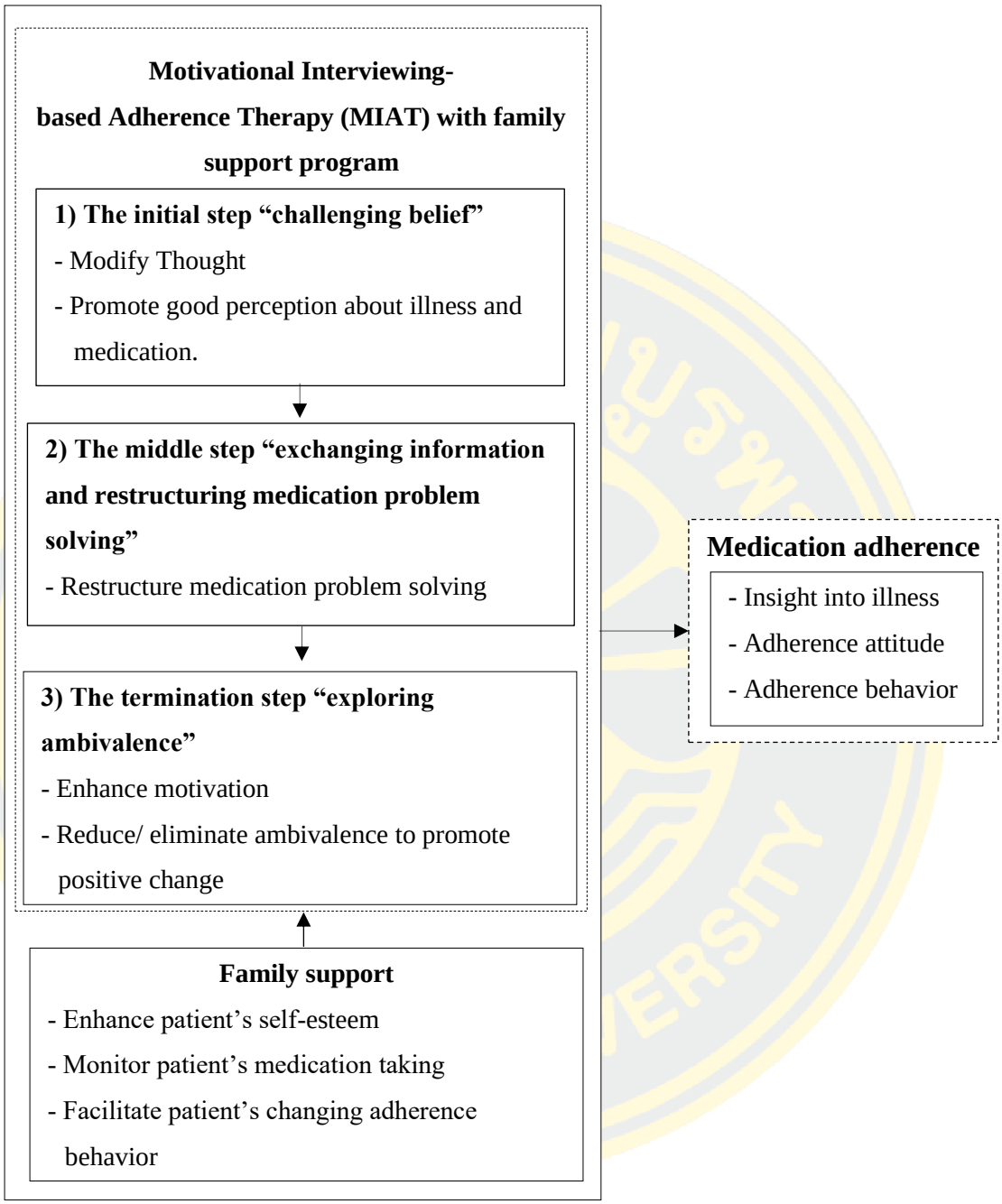
The initial step represents the stage of challenging belief. The aim of challenging belief is assessing the thought process that affects the medication adherence and modification the pattern of thought. The researcher will assigns participants to review past and present states that related to experiences of antipsychotic medication use. The researcher will demonstrate the linkage between medication cessation and relapse of psychiatric symptoms severity for promoting the appropriate thought process and good perception about illness and medication. The participants will analyze their situation that associated with distort thought and negative attitude towards medication and illness based on ABC model. The researcher and participants will collaborate to modify the pattern of thought to be more appropriated lead to increase adherence behavior.

The middle step consists of exchanging information for providing knowledge towards schizophrenia disorder and its treatment. And combined with restructuring medication problem solving for identify barriers with medication adherence and promoting effective coping strategies. Participants and researcher will discuss about knowledge related to illness and treatment according to the actual problems and needs of patients and families. The researcher will ask participants to weigh up the benefits and drawbacks of treatment for proper understanding about illness and treatments. Participants will analyze a medication problem based on SOLVED technique. The researcher will give positive reinforcement in order to promote patients' self-efficacy for confidence in their potential to solve of medication adherence problems.

The termination step involve exploring ambivalence in order to promote positive change for eliminating ambivalence to adhere with medication, stigma reduction, and created a commitment to maintain medication adherence. Participants will asked to identify barriers of medication adherence. The researcher will develop discrepancy for increase the patient's intrinsic motivation for change. The researcher will ask patients and their family about the stigma that impacted on disease and treatment plan of patients. The researcher will use normalizing rationale to deal with

stigma towards the illness and/ or medication. Promoting patients and their families to make commitment for sustainable medication adherence was conducted.

According to this therapeutic elements that obtain in the MIAT with family support program, schizophrenic patients would improve in a better way towards insight in to illness, positive attitude towards antipsychotic medication, and medication taking behavior. The enhancement of family participation is also emphasized. The conceptual framework of this study is illustrated in Figure 1-1.



Figures 1-1 Conceptual framework of this study

Contribution to nursing knowledge

This research findings would be useful for nursing practices and mental health policy as follows:

1. At present, nursing interventions for enhancing medication adherence drawn broadly from psychoeducation theories, leading to patients who later forget or

ignore medication adherence. Therefore, this research intervention can be practically applied to promote patients' and their family's insight into illness, attitudes, and develop ways to cope with barriers to adherence, leading to enhanced medication adherence.

2. The findings will provide alternative guidelines to support mental health policy strategies to solve nonadherence problem. This study would help find a new effective and sustainable nursing intervention that policy makers would able to integrate into operational guidelines of mental health policy strategies, leading to decrease re-hospitalization rate and health care system costs.

Scope of the research

The researcher conducted an intervention study to determine effectiveness of the MIAT with family support for the persons with schizophrenia through the attributes of medication adherence which included insight into illness, adherence attitude, and adherence behavior between the intervention and the control group. Participants were patients with schizophrenia aged between 20- 59 years and their family caregivers who attended the psychiatric outpatient department of Buddhasothorn hospital, Chachoengsao province in 2019.

Definition of terms

The motivational interviewing-based adherence therapy [MIAT] with family support program refers to a set of systematically activities obtained from the integration the concept of motivational interviewing-based adherence therapy [MIAT], family support concept, and empirical findings. It aimed to enhance related indicators of medication adherence included insight into illness, adherence attitude, and adherence behavior. This intervention was developed by the researcher. It consisted of three steps based on the key therapeutic applications of MIAT and these three steps were covered within 6 sessions. Each session took about 60 minutes and was executed by the group process. Each session had specifically objective and was encompassed the family members to participate in this program in session 3 and 6. The initial step was aimed at challenging belief for assessing the thought process that

affects the medication adherence and modification the pattern of thought. The middle step involved exchanging information for providing knowledge towards schizophrenia disorder and its treatment. And combined with restructuring medication problem solving for identify barriers with medication adherence and promoting effective coping strategies. The termination step was exploring ambivalence in order to promote positive change for eliminating ambivalence to adhere with medication, stigma reduction, and created a commitment to maintain medication adherence.

Medication adherence refer to a patient's an understanding and acceptance of illness lead to sustainable taking medication follow medical prescription. It contained 3 components including:

1. **Insight into illness** means a patient's awareness of having a mental illness, recognition of psychotic symptoms, and understanding the need for treatment and its compliance. It was measured by the insight and treatment attitude questionnaire [ITAQ] (McEvoy et al., 1989).
2. **Adherence attitude** means a perspective of persons with schizophrenia which reflects the recognition need of medication and importance of taking the prescribed medication by perceived beneficial of medication on controlling psychotic symptom. It was measured by Hogan drug attitude inventory [DAI] (Hogan, Awad, & Eastwood, 1983).
3. **Adherence behavior** means the patients' action by taking medication in accordance with prescription and medication plan. It was measured by medication adherence questionnaire [MAQ] (Wongsuwan, 2017).

CHAPTER 2
LITERATURE REVIEWS

This chapter presents review related literatures of the relevant concepts, theories, and previous research evidence from the following:

1. An overview of schizophrenia disorder
2. Medication adherence among persons with schizophrenia
3. Family support for persons with mental illness
4. Concept of motivational interviewing-based adherence therapy [MIAT] and related theories

An overview of schizophrenia disorder

The term of schizophrenia was defined in 1908 by the Swiss psychiatrist Eugen Bleuler. The word was derived from the Greek “skhizo” (split) and “phren” (mind) which means fragmented mind (Townsend, 2003). It is well known that schizophrenia is one of the most severe and persistent and debilitating of all the mental disorders. It is a psychotic disorder, characterized by impaired ability to recognize reality, and the presence of hallucinations, and/ or delusions. Schizophrenia significantly affects the individual’s perceptions, thoughts, mood, affect, and behaviors (Fortinash & Holoday, 2007).

Definition, diagnostic criteria, and types of schizophrenia disorder

International statistical classification of diseases and related health problems 10th revision [ICD-10] defines schizophrenia as the mental disorders are characterized in general by fundamental and characteristic distortions of thinking and perception, and affects that are inappropriate or blunted. The most important psychopathological phenomena include thought echo; thought insertion or withdrawal; thought broadcasting; delusional perception and delusions of control; influence or passivity; hallucinatory voices commenting or discussing the patient in the third person; thought disorders and negative symptoms (WHO, 2015).

In terms of diagnosis, according to the American Psychiatric Association based on The diagnostic and statistical manual of mental disorders 5th edition [DSM-V] specified the criteria for diagnosis of schizophrenia as follows (APA, 2013):

1. Two or more of the following symptoms for at least a one-month (or longer) period of time, and at least one of them must be a, b, or c: a) Delusions, b) Hallucinations, c) Disorganized speech, d) Grossly disorganized or catatonic behavior, and e) Negative symptoms, such as diminished emotional expression.

2. Impairment in one of the major areas of functioning for a significant period of time since the onset of the disturbance: work, interpersonal relations, or self-care.

3. Some signs of the disorder must last for a continuous period of at least 6 months. This six-month period must include at least one month of symptoms (or less if treated) that meet criterion A (active phase symptoms) and may include periods of residual symptoms. During residual periods, only negative symptoms may be present.

4. Schizoaffective disorder and bipolar or depressive disorder with psychotic features have been ruled out: a) No major depressive or manic episodes occurred concurrently with active phase symptoms and b) If mood episodes (depressive or manic) have occurred during active phase symptoms, they have been present for a minority of the total duration of the active and residual phases of the illness.

5. The disturbance is not caused by the effects of a substance or another medical condition.

6. If there is a history of autism spectrum disorder or a communication disorder (childhood onset), the diagnosis of schizophrenia is only made if prominent delusions or hallucinations, along with other symptoms, are present for at least one month.

7. Associated Features: there are a number of symptoms that contribute to a diagnosis of schizophrenia; a) Inappropriate affect (laughing in the absence of a stimulus), b) Disturbed sleep pattern, c) Dysphoric mood (can be depression, anxiety, or anger), d) Anxiety and phobias, e) Depersonalization (detachment or feeling of disconnect from self), f) Derealization (a feeling that surrounding aren't real), g) Cognitive deficits impacting language, processing, executive function, and/ or

memory, h) Lack of insight into disorder, i) Social cognition deficits, j) Hostility and aggression, k) Cognitive impairments caused by the disorder may persist when other symptoms are in remission. This contributes to impairments in functioning in employment, interpersonal relationships, and the ability to engage in proper self-care (APA, 2013).

Types of schizophrenic that contained based on ICD-10 under F20 included (WHO, 2015):

F 20.0 Paranoid schizophrenia: Paranoid schizophrenia is dominated by relatively stable, often paranoid delusions, usually accompanied by hallucinations, particularly of the auditory variety, and perceptual disturbances. Disturbances of affect, volition and speech, and catatonic symptoms, are either absent or relatively inconspicuous.

F 20.1 Hebephrenic schizophrenia: A form of schizophrenia in which affective changes are prominent, delusions and hallucinations fleeting and fragmentary, behavior irresponsible and unpredictable, and mannerisms common. The mood is shallow and inappropriate, thought is disorganized, and speech is incoherent. There is a tendency to social isolation. Usually the prognosis is poor because of the rapid development of "negative" symptoms, particularly flattening of affect and loss of volition. Hebephrenic should normally be diagnosed only in adolescents or young adults.

F 20.2 Catatonic schizophrenia: Catatonic schizophrenia is dominated by prominent psychomotor disturbances that may alternate between extremes such as hyperkinesis and stupor, or automatic obedience and negativism. Constrained attitudes and postures may be maintained for long periods. Episodes of violent excitement may be a striking feature of the condition. The catatonic phenomena may be combined with a dream-like (oneiroid) state with vivid scenic hallucinations.

F 20.3 Undifferentiated schizophrenia: Psychotic conditions meeting the general diagnostic criteria for schizophrenia but not conforming to any of the subtypes in F20.0-F20.2, or exhibiting the features of more than one of them without a clear predominance of a particular set of diagnostic characteristics.

F 20.4 Post-schizophrenic depression: A depressive episode, which may be prolonged, arising in the aftermath of a schizophrenic illness. Some schizophrenic

symptoms, either "positive" or "negative", must still be present but they no longer dominate the clinical picture. These depressive states are associated with an increased risk of suicide. If the patient no longer has any schizophrenic symptoms, a depressive episode should be diagnosed. If schizophrenic symptoms are still florid and prominent, the diagnosis should remain that of the appropriate schizophrenic subtype (F 20.0-F 20.3).

F 20.5 Residual schizophrenia: A chronic stage in the development of a schizophrenic illness in which there has been a clear progression from an early stage to a later stage characterized by long- term, though not necessarily irreversible, "negative" symptoms, e.g. psychomotor slowing; underactivity; blunting of affect; passivity and lack of initiative; poverty of quantity or content of speech; poor nonverbal communication by facial expression, eye contact, voice modulation and posture; poor self-care and social performance.

F 20.6 Simple schizophrenia: A disorder in which there is an insidious but progressive development of oddities of conduct, inability to meet the demands of society, and decline in total performance. The characteristic negative features of residual schizophrenia (e.g., blunting of affect and loss of volition) develop without being preceded by any overt psychotic symptoms.

F 20.8 Other schizophrenia: An acute psychotic disorder in which the psychotic symptoms are comparatively stable and justify a diagnosis of schizophrenia, but have lasted for less than about one month.

F 20.9 Schizophrenia, unspecified: Had the psychotic symptoms like a schizophrenia but not otherwise specified.

The differential types is made according to the total symptomatic clinical picture presented and associated with the recovery and prognosis of the disease. Some types of schizophrenia also have a better prognosis (paranoid type) than others (undifferentiated type) because clear in psychotic features that is symptoms are positive such as hallucination and delusion leads to patients will cooperation in treatment by not withdrawn or isolative behaviors that is dominant feature of negative symptoms (Fortinash & Holoday, 2007). Moreover, if the duration of illness was more than 5 years, there will be chronic illness with the negative symptoms such as isolation or withdrawal from society, anhedonia, and thought retardation leads to a

barrier to the existence of treatment. This results in poor recovery and prognosis. Therefore, early diagnosed from the onset of schizophrenia not more than 5 years, and provide nursing intervention focused on enhance the insight into illness and maintain adherence behavior will be appropriated. Lead to patient can perform social function and quality of life is equal to normal people (Wai et al., 2015).

Epidemiology and pattern of the schizophrenia disorder

The onset of symptoms typically occurs in adolescence and young adulthood, with a worldwide estimate of its lifetime prevalence and incidence of 1.4-4.6 and 0.16-0.42 per 1,000 persons annually, respectively (Chien & Yip, 2013) consisted with the report of APA (2013) indicated that the lifetime prevalence of schizophrenia is approximately 0.3%-0.7% and the psychotic features of the disorder typically emerge between the mid-teens and mid-thirties, with the peak age of onset of the first psychotic episode in the early to mid-twenties for males and late twenties for females.

Regier and Burke (2000) had identify the risk for developing schizophrenia form studies of twins, adoptees, and families found strongly support the biologic first-born relatives of individuals with schizophrenia have a 10 times greater risk than the general population for developing the disorder. In addition, some studies have indicated that symptoms occur earlier in men than in women and premorbid personality usually indicates social and sexual maladjustment or schizoid, paranoid, or borderline personality characteristics (Fortinash & Holoday, 2007; Townsend, 2003). Understanding the pattern of development of schizophrenia can help healthcare providers plan to care for patients and families appropriately. The pattern of development of schizophrenia, which can be viewed in four phases (Fortinash & Holoday, 2007):

Phase I-The schizoid personality: The diagnostic and statistical manual of mental disorders 5th edition [DSM-V] describes these individuals as indifferent to social relationships and having a very limited range of emotional experience and expression. They do not enjoy close relationships and prefer to be “loners”. They appear cold and aloof. Not all individuals who demonstrate the characteristics of schizoid personality will progress to schizophrenia. However, most individuals with schizophrenia show evidence of having had these characteristics in the premorbid condition.

Phase II-The prodromal phase: Characteristics of this phase include social withdrawal; impairment in role functioning; behavior that is peculiar or eccentric; neglect of personal hygiene and grooming; blunted or inappropriate affect; disturbances in communication; bizarre ideas; unusual perceptual experiences; and lack of initiative, interests, or energy. The length of this phase is highly variable and may last for many years before deteriorating to the schizophrenic state.

Phase III-Schizophrenia: In the active phase of the disorder, psychotic symptoms are prominent. Following are the DSM-V diagnostic criteria for schizophrenia (APA, 2013):

1. Presence of characteristic psychotic symptoms in the active phase: either (1), (2), or (3) for at least 1 week (unless the symptoms are successfully treated):

1.1 Two of the following:

1.1.1 Delusions

1.1.2 Prominent hallucinations (throughout the day for several days or several times a week for several weeks, each hallucinatory experience not being limited to a few brief moments)

1.1.3 Incoherence or marked loosening of associations

1.1.4 Catatonic behavior

1.1.5 Flat or grossly inappropriate affect

1.2 Bizarre delusions (i.e., involving a phenomenon that the person's culture would regard as totally implausible, e.g., thought broadcasting, being controlled by dead person)

1.3 Prominent hallucinations of a voice with content having no apparent relation to depression or elation, or a voice keeping up a running commentary on the person's behavior or thoughts, or two or more voices conversing with each other.

2. During the course of the disturbance, functioning in such areas as work, social relations, and self-care is markedly below the highest level achieved before onset of the disturbance (or, when the onset is in childhood or adolescence, failure to achieve expected level of social development)

3. Schizoaffective disorder and mood disorder with psychotic features have been ruled out.

4. Continuous signs of the disturbance for at least 6 months. The 6-month period must include an active phase (of a least 1 week) during which there were psychotic symptoms. For example, 6 months of prodromal symptoms with 1 week of active psychotic symptoms.

Phase IV-Residual phase: Schizophrenia is characterized by periods of remission and exacerbation. A residual phase usually follows an active phase of the illness. Symptoms during the residual phase are similar to those of the prodromal phase, with flat affect and impairment in role functioning being prominent. Residual impairment often increases between episodes of active psychosis.

The pattern of treatments will depend on the stage of illness. In active phase, patient should receive biomedical treatment include antipsychotic medications injection and/ or electroconvulsive therapy for balance the neurotransmitter at least 14 days to 6 weeks for reduce the severity of mental illness. As a result, in this phase, patients have adverse side effects from treatment such as drowsiness, headache, and forgetfulness moment or psudodementia. These symptoms will affects to the ability of the thinking process and the decision of the patient that not suitable for treatment with psychosocial interventions (Olivares, Sermon, Hemels, & Schreiner, 2013; Schirmer, Steinert, Flammer, & Borbé, 2015; Skarsholm, Stoevring, & Nielsen, 2014). Therefore, healthcare provider should provide psychosocial interventions in residual phase because patients will have a better thinking process and psychotic symptoms are not severe.

Although, different phases of schizophrenia are closely linked with different intervention approaches but it is essential to note that the mainstream treatments and management strategies of schizophrenia are highly reliant on antipsychotic agents as the basic treatment for all schizophrenia sufferers (Chien & Yip, 2013; Wai et al., 2013). Antipsychotics (first- and/ or second-generation antipsychotics) are shown to be effective in reducing overall psychotic symptoms and relapse in patients with schizophrenia. It is therefore recommended in most of the literature as first-line treatment for people with schizophrenia in overall phases of illness. But many patients with schizophrenia often have medication-induced problems leads to medication nonadherence (Chien & Yip, 2013). In the last few decades, various models of psychosocial intervention have been developed and implemented to enhancing

medication adherence especially, patient with high risk group of nonadherence include had history of recurrence or rehospitalization from medication nonadherence, not aware of illness, and refuse treatment (Kenji et al., 2015; Mallakh & Findlay, 2015). The main purpose of these approaches to treatment focused on develop insight awareness, reducing negative thought of illness and treatment, and improving adherence behavior (Mallakh & Findlay, 2015; Wai et al., 2013).

The etiology and the transactional model of schizophrenia

The cause of schizophrenia is still uncertain. Most likely no single factor can be implicated, rather the illness results from a combination of influences including genetics, biochemical dysfunction, physiological, psychological, and environmental factors (WHO, 2015). Therefore, the etiology of schizophrenia come from multiple causation that we called predisposing factors. The predisposing factors of schizophrenia are genetic factors, brain abnormalities, neurotransmitter system dysfunction, prenatal stressors, development/birth-related findings, environmental pollutants, multiple/ varied psychosocial stressors, and viral infections of central nervous system (Fortinash & Holoday, 2007; Townsend, 2003; WHO, 2018). However, from the literature review of Chien and Yip (2013) found that relatives of schizophrenics and chemical disturbance have a much higher probability of developing the disease than the general population.

According to concept of the transactional model which used to analyze mental dynamics of psychiatric patients by considering the predisposing factors and recognizes the combined effects of biological, psychological, and environmental influences on an individual's susceptibility to psychotic illness (Townsend, 2003). The appearance or increase in characteristic schizophrenic symptoms may occur in a susceptible individual when 1) the underlying biological vulnerability increases, 2) stressful life events intervene that overwhelm the individual's coping in social and instrumental roles, 3) the individual's social support network weakness or diminishes, and 4) previously acquired social problem-solving skills diminish due to disuse, reinforcement of the sick role, loss of motivation, or social isolation. The dynamics of schizophrenia using the Transactional Model of Stress/ Adaptation are presented in Figure 2-1.

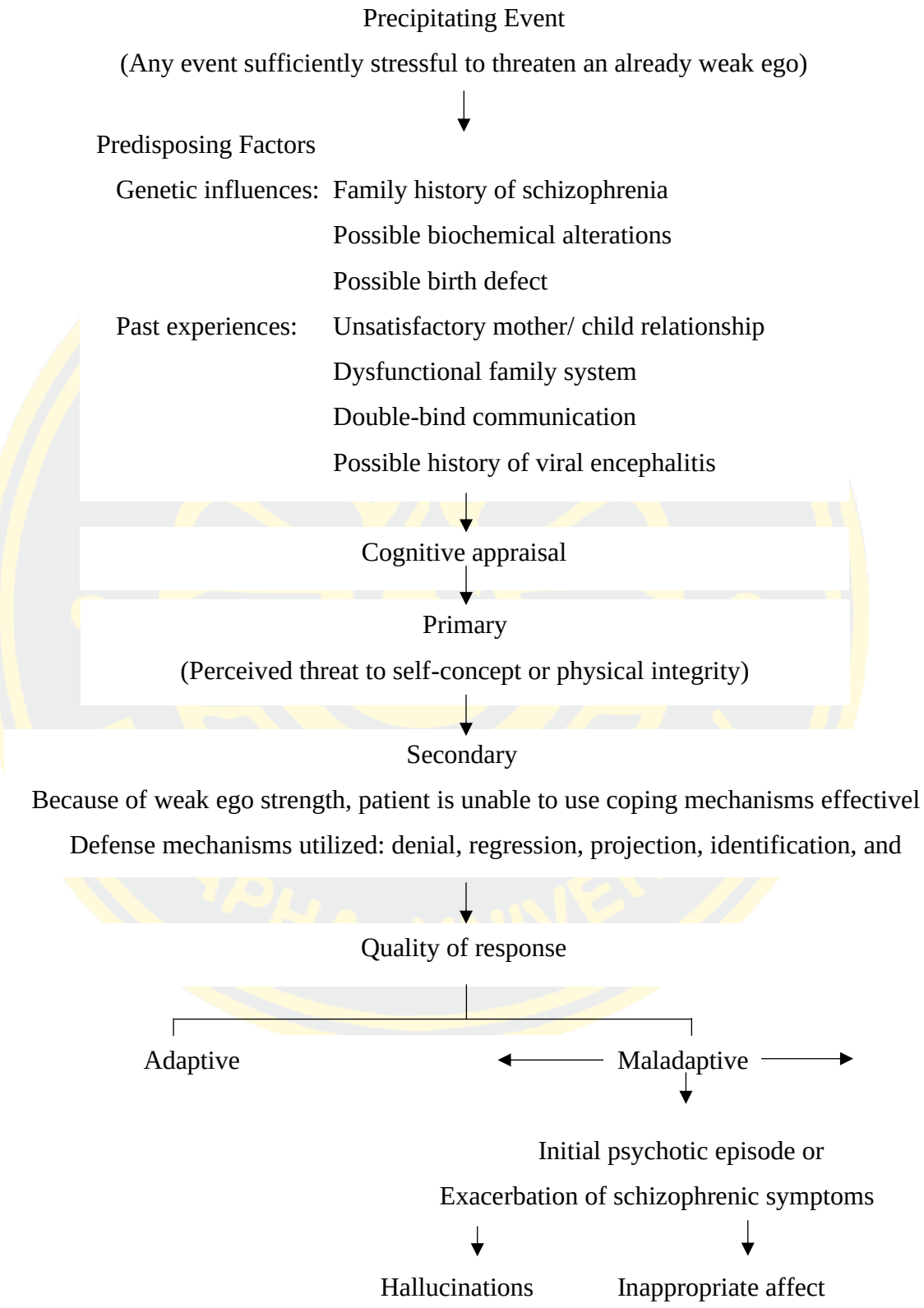


Figure 2-1 The dynamics of schizophrenia using the transactional model of stress/ adaptation (Townsend, 2003)

An increasing understanding of the etiology, psychopathology, and clinical manifestations of schizophrenia disorder leads to continued development of therapeutic treatments for persons with schizophrenia. The antipsychotic medications have been recommended consistently and continuously as the mainstream and standard treatment for nearly all patients with schizophrenia, to provide them with a safe and therapeutic environment and effective symptom control since the introduction of chlorpromazine (the first antipsychotic) in the 1960s (Chien & Yip, 2013). In the last three to four decades, physical treatments such as electroconvulsive therapy (ECT; in the 1930s) and different approaches to psychosocial interventions such as psychoanalysis (in the 1950s), family therapy (in the 1960s), psychoeducation (in the 1980s), cognitive-behavioral therapy (in the 1990s), and cognitive remediation (in the 2000s) have been introduced successively, and their comparative or combined efficacies for schizophrenia treatment have been increasingly evaluated in various clinical trials (Barkhof et al., 2012; Mallakh & Findlay, 2015; Wai et al., 2013).

Pharmacological treatment in persons with schizophrenia

Although schizophrenia often is not curable, it is treatable, and current methods of treatment are effective. Schizophrenia become more manageable with the advent of antipsychotic medication. The group of antipsychotic medications are mainly categorized into first- and second-generation agents and share a similar pharmacological mechanism in blocking the dopamine D-2 receptors. Their blocking mechanisms or actions are linked to their efficacy against positive and disorganization symptoms of schizophrenia. The first-generation antipsychotics [FGAs], or typical antipsychotics (e.g., chlorpromazine, fluphenazine, and haloperidol) were first introduced for the treatment of schizophrenia and relieved the positive symptoms, which was a milestone but did little to target the negative symptoms. Then, the second- generation (atypical) antipsychotics (e.g., clozapine, olanzapine, and risperidone) were believed to be more efficacious and tolerable than the FGAs, and act on the positive symptoms and are often effective in alleviating negative symptoms as well (Fortinash & Holoday, 2007; Chien & Yip, 2013).

1. The first FGA invented-chlorpromazine, has become the well-established and benchmark treatment for people with schizophrenia to facilitate their deinstitutionalization and has been used for more than 40 years. Other commonly

used FGAs such as trifluoperazine, thioridazine, sulpiride, pimozide, perphenazine, and fluphenazine were tested and confirmed to have similar and satisfactory efficacy in symptom reduction-mainly for positive symptoms (e.g., delusions and hallucinations). Most of all, FGAs are a relatively low-cost treatment and commonly used medication. Although, FGAs have adverse effects such as extrapyramidal symptoms [EPS] and neuroleptic malignant syndrome [NMS] (Chien & Yip, 2013). However, there is little evidence to support their efficacy in reducing negative symptoms (e.g., anhedonia, loss of volition, and social withdrawal) and cognitive functioning, which may contribute much to the functional disability of people with schizophrenia (Velligan et al., 2017).

2. Second-generation (or atypical) antipsychotics including risperidone, olanzapine, quetiapine, loxapine, sertindole, aripiprazole, and amisulpride had similar effects to FGAs in terms of reduction of positive symptoms but fewer and lower levels of adverse effects such as movement disorders and cardiac and sedative problems than FGAs (Chien & Yip, 2013). In contrast, there may be higher risks for dizziness, sedation, weight gain, substantial increases in serum prolactin, and tachycardia for individual second-generation antipsychotics (Velligan et al., 2017).

Although, FGAs and second-generation antipsychotics are found to be similar and robust in treatment efficacy among acute and sometimes chronic schizophrenia, particularly against positive and disorganization symptoms. But their efficacy varies according to the course or stage of the illness; people with first-episode schizophrenia can respond faster and better to antipsychotics than those at later stages of the illness (Chien & Yip, 2013). All of them reveal their onset of action within a few days and achieve optimal antipsychotic effect over the course of several weeks. However, antipsychotics substantially decrease patients' relapse from schizophrenia, it is not possible to ensure medication adherence because antipsychotics, particularly FGAs, can have a wide range of undesirable and adverse effects on patients, mainly including neurological, metabolic, cardiovascular, hematological, endocrine, and genitourinary disturbances (Velligan et al., 2017). All of the reviews indicated that the profile of adverse events concerning these adverse effects found in most FGAs (e.g., acute extrapyramidal symptoms and tardive dyskinesia) is substantial and of major concern, thus reducing patients' medication

adherence and treatment efficacy. In the same way, second-generation antipsychotics can induce more weight gain and production of prolactin (Olivares et al., 2013; Sariah et al., 2014; Mert at al., 2015; Velligan et al., 2017). All of adverse effects may affect aspects of patients' lives and medication adherence and satisfaction.

Therefore, pharmacological treatment along with alternative psychosocial treatments for enhance medication adherence is essential for persons with schizophrenia. There are many patients who nonadherence with medication from internal and external factors (Chien & Yip, 2013). Healthcare providers making efforts to develop the intervention for patients in this group to maintain medication adherence.

In this study, the researcher considered the appropriate duration of the intervention process according to the pattern of mental health and psychiatric service systems in Thailand, the number of average length of hospital stay for psychiatric patients is between 45 to 60 days in tertiary mental health service. Then, patients will be referred to secondary hospital which has mental health and psychiatric department (Department of Mental Health. (2017 b). The duration of hospital stays were not suitable with this intervention program because this study was spent a total of 9 weeks for implemented the program and data collection for outcome measured. In addition, to focus on treatment in active phase. Patients were received biomedical treatment included antipsychotic medications injection and/ or electroconvulsive therapy (ECT) for balanced the neurotransmitter at least 14 days to 6 weeks. These were effective to reduce the severity of mental illness, but patient was effected from these treatment included drowsiness, headache, and forgetfulness moment or psudoamnesia lead to the inability of the thinking process (Olivares et al., 2013; Schirmer et al., 2015; Skarsholm et al., 2014). The pattern of development of schizophrenia which residual phase was suitable than active phase because patients had a better thinking process and psychotic symptoms were not severe. These patients could be found in the outpatient department and were in the follow-up phase after the hospital discharge.

Medication adherence among persons with schizophrenia

Many scholars and researches use the term of adherence alternate with compliance. From the concept analysis, adherence centers on the patients. With the focus that the patients must understand and accept their illness and treatment, this would lead to sustainable medication taking with their own will (Barkhof et al., 2012). In opposite with compliance, the focus was placed on the healthcare provider. Patients must take medication strictly according to psychiatrics' command and not participate in decisions about their own treatment plans (Wuthironarith, 2017). Therefore, the term of medication adherence reflects the patients' cognitive pattern and attitude towards medication and treatment plans. This would lead to more consistent and lasting cooperate medication taking behavior.

Levels of medication adherence can be categorized according to the characteristics of medication taking behavior as follows 1) good adherence refer to patients with schizophrenia take medicine more than 80% of prescribed medications, 2) partial adherence is defined as taking 50% of prescribed medications, and 3) complete lack of adherence mean being off of medications for 1 week (Velligan et al., 2009).

For Thailand, the statistic of past 5 years have 480,266 patients received treatment at Thai mental health and psychiatric hospitals. Two out of five patients in this group were unresponsive to treatment due to non-adherence in psychiatric medications (Department of Mental Health, 2017 a). According to this problem, patients will be the cause of serious mental illness with high risk to violence [SMI-V]. In 2019, it was found that 5,010 schizophrenic patients were the cause of social violence such as self-suicide and harming others due to psychiatric symptoms severity from lack of medication adherence (Department of Mental Health, 2019). Absolutely, this group of patient come to re-hospitalization again and again. Therefore, understanding the factors that affect to medication non-adherence will help the mental health and psychiatric nurses for develop nursing intervention that have therapeutic target to effectively reduce or eliminate these factors.

Factors influencing medication adherence in persons with mental illness

Antipsychotic medication would reduce the severity of serious mental illness [SMI] and improve patient outcomes once the patient follow the medication

prescription. Nonadherence to the treatment of SMI increases the risk of relapse and hospitalization and reduces the quality of life (Mert at al., 2015; Olivares et al., 2013; Sariah et al., 2014; Velligan et al., 2017). It is necessary to understand the factors influencing nonadherence to medication in order to identify appropriate interventions that correlated with reduce of these factors.

A qualitative analysis of data from 36 articles identified 11 categories of reasons for nonadherence (Velligan et al., 2017). The identified reasons for nonadherence were divided into 2 groups (intentional or purposeful and unintentional), reflecting the contrast between personal choice of patients and objective barriers to taking medication as shown in Figure 2-2.

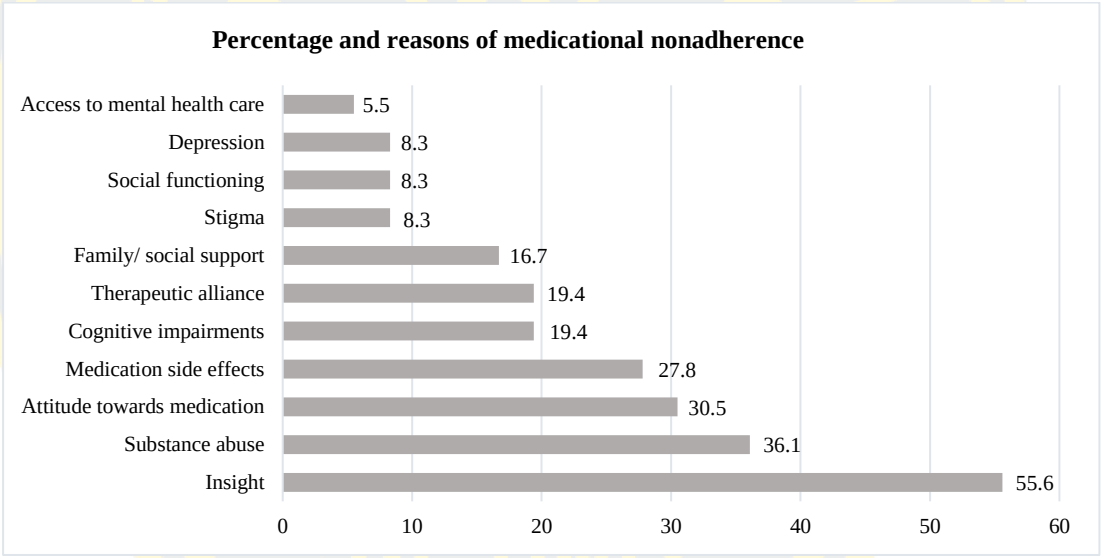


Figure 2-2 Identified reasons of medication nonadherence (Velligan et al., 2017)

Reasons for intentional or purposeful nonadherence

Intentional or purposeful nonadherence refers to a conscious patient decision to stop taking medication or to take less medication than is prescribed. The identified reasons in this category include poor insight, a negative attitude towards medication, distressing medication side effects, poor therapeutic alliance, and stigma (Velligan et al., 2017).

1. Insight, a total of 20 studies analyzed the relationship between insight and adherence. In patients with schizophrenia, including a first-episode illness, poor insight was a significant predictor of nonadherence and was associated with a shorter time to medication discontinuation. When considered with specific domain of insight (3 domains of insight; awareness of illness, awareness of need for treatment, and ability to positively reassess experiences/ symptoms) was assessed, awareness of need for treatment but not awareness of illness was significantly associated with adherence in patients with schizophrenia and schizoaffective disorder (Mert et al., 2015). Awareness of mental illness, acceptance of illness, and correct basic beliefs about illness were important to adhere with treatment because the patient was understanding about illness and acceptance of treatment will lead to medication adherence behavior (Wuthironarith, 2017).

The study of Lincoln, Heibach, and Rief (2007) found the relationship between insight and adherence seems obvious a clear association of insight and adherence because patient with good insight at discharge can predict good long-term adherence while it seems plausible that poor insight leads to poor adherence, it is also possible that poor adherence results in poor insight either directly (e.g., symptoms are denied or mitigated for fear of treatment or mitigated for fear of treatment or future consequences) or mediated by symptom severity.

2. Attitude towards medication, eleven studies analyzed the relationship between medication adherence and attitude towards medication. All demonstrated a significant positive association wherein negative attitudes were associated with poor adherence and patients with first-episode schizophrenia-spectrum psychoses, poor early medication acceptance at study entry and hostility and uncooperativeness at first admission were the most significant predictors of nonadherence (Velligan et al., 2017). In contrast, a positive attitude towards medication at baseline in combination with good psychosocial function was the best predictor of objectively measured mean adherence over a 12-month period in patients with schizophrenia or schizophrenia-like psychosis (Mert et al., 2015).

However, this systematic review found that the relationship between insight and attitude towards medication whether a cross-sectional study of patients with schizophrenia and schizoaffective disorder using a structural equation model.

In that model, the relationship between insight (awareness of illness and social consequences of illness) and adherence was mediated by attitude towards medication, specifically by the dimension of perceived necessity for treatment (Velligan et al., 2017)

3. Medication side effect, ten studies analyzed the relationship between medication side effects and adherence. Severity of medication side effects was demonstrated to be an important factor that resulted in nonadherence. Patients with early schizophrenia who were adherent 6 months after discharge from the hospital experienced significantly more severe side effects compared with patients who were nonadherent. Typical antipsychotic medication are likely to produce extrapyramidal side effects and akathisia, which may directly lead to nonadherence while atypical antipsychotic medication found that weight gain was a side effect most frequently linked to nonadherence by patients who identified themselves as nonadherent (Velligan et al., 2017).

However, it is interesting that although the patients are uncomfortable from the side effects of taking psychiatric medication but if the patient has a positive attitude towards medication whether can promote recovery and confidence in the treatment, Patients will be able to face the side effects of the medication properly and maintain adherence behavior (Wuthironarith, 2017).

4. Therapeutic alliance was the predictor of nonadherence. Therapeutic alliance is a broad concept denoting the quality of relationship between patient and clinician. Seven studies analyzed the association between therapeutic alliance and adherence. Physician reported therapeutic alliance was strongly correlated with adherence at baseline, and improved therapeutic alliance was correlated with improved adherence after 1 year of follow-up (Velligan et al., 2017). In the same way, better patient-reported therapeutic alliance at baseline was associated with better adherence of patients with early-episode schizophrenia 6 months after hospital discharge (Sariah et al., 2014) as same as patients with first-episode schizophrenia and related disorders, the only significant predictor of nonadherence during a 5-year follow-up study was negative therapeutic alliance, which was assessed based on the level of hostility and uncooperativeness at admission and involuntary admission (Mert

et al., 2015). Interestingly, low level of patient reported therapeutic alliance was a significant predictor of poor attitude towards medication (Wuthironarith, 2017).

Reasons for unintentional nonadherence

Unintentional nonadherence occurs when practical problems or impairments related to having SMI interfere with taking medication. Unintentional nonadherence affects a patient's ability to take medication on a regular basis. Using this definition, the following reasons for nonadherence were included in this category: substance abuse, cognitive impairments, depression, family/ social support, access to mental health care, and social functioning (Velligan et al., 2017).

1. Substance use or abuse was the first important factors associated with nonadherence. Thirteen studies analyzed the relationship between substance abuse and adherence. In first-episode schizophrenia or related disorders, misuse of alcohol at baseline and recent drug abuse were significant predictors of nonadherence within 6 months from the patients' first episode because a patient's nonadherence to medication is unintentional during the period of substance use (Velligan et al., 2017).

2. Cognitive impairments, seven studies analyzed the relationship between variables related to impaired cognition and adherence. Patients with schizophrenia who were nonadherent at 3 months exhibited significantly worse time-and event based prospective memory at baseline relative to those who were adherent (Velligan et al., 2017). Prospective memory was a moderator of the effect of insight and psychopathology (Sariah et al., 2014).

3. Family/ social support, six studies assessed family and/ or social support as potential reasons affecting adherence. Among patients with early-episode schizophrenia, greater perceived family involvement in treatment and more positive family attitude towards medication at discharge from the hospital were significantly associated with adherence 6 months after discharge (Velligan et al., 2017). Results from a randomized clinical trial comparing long-term outcomes from integrated and standard treatment interventions of patients with recent-onset schizophrenia or related disorders reported that living in families with high expressed emotions (suggesting poor attitude and feelings expressed by a relative about a mentally ill family member) at baseline was a significant long-term predictor of poor adherence (Wai & Sally, 2013) as same as another study found that low level of social support

was a major predictor of nonadherence in patients with first-episode psychosis (Thiensan, 2016)

Based on cultural perspective in Thailand, families are able to support, encourage and also warns and reinforcement patients to take care of themselves and take medication correctly. The study found that when psychiatric patients perceive care from family members, It helps the patient to enhance self-esteem that good for motivation personal goals and develop hope for maintain a quality life. Patients will try to take care of themselves to meet the personal goals (Wuthironarith, 2017). Moreover, not access to mental health care regarding to economically disadvantaged, socially inactive, and having depressive symptoms were predicting nonadherence also (Velligan et al., 2017).

Regarding the variables that showed a significant association with intentional nonadherence in most studies were insight into illness, attitude towards medication, and therapeutic alliance. More detailed analyses that examined the relationship among these variables suggested that the effect of insight and therapeutic alliance on adherence is indirect and likely mediated by attitude towards medication (Velligan et al., 2017). Therefore, attitude towards medication seems to be a key reason for intentional or purposeful nonadherence and a mediator of effects of other critical variables, such as insight and therapeutic alliance. Moreover, medication side effects may be linked to attitude towards medication by affecting both the necessity and concern dimensions, the deterring impact of side effects versus willingness of patients to accept the discomfort of side effects in exchange for medication benefit. Among the reasons for unintentional nonadherence, lack of family/ social support is another factor that may contribute to intentional nonadherence. Positive family attitude to treatment and active family involvement in treatment of patients with schizophrenia were significantly associated with adherence; this effect may be indirect and possibly mediated by other variables, such as patient insight or attitude towards medication (Velligan et al., 2017).

From the above information, it can be considered that the insight into illness and positive attitudes towards medication were the significant related indicators of adherence behavior. Consistently with Kamal et al. (2013) indicates that liner relationship exists between level of adherence and medication attitudes and insight,

the poor adherence persons have significantly lower level of insight and attitude towards medication than regular persons. Therefore, this study will focus on eliminate the intentional or purposeful nonadherence consists of poor insight into illness and negative attitude towards medication which impact to adherence behavior. For unintentional nonadherence should requires a multidisciplinary approach to long-term care planning.

Current mainstream psychosocial interventions to improve medication adherence

Because of antipsychotic medication is held to be the major treatment of patients with schizophrenia, antipsychotics are effective in reducing psychotic symptoms, in preventing psychotic relapses in maintenance therapy and in improving psychosocial functioning (Barkhof et al., 2012; Chien & Yip, 2013). In fact, partial adherence or complete nonadherence frequently occurs because patients with a low degree of illness awareness and insight into their illness. Also, related with distort general belief and negative attitudes towards medication (Velligan et al., 2017). Therefore, current mainstream psychosocial interventions was developed to address specific problem with adherence by the goal of identifying and modifying cognitive and motivational barriers to adherence (Mallakh & Findlay, 2015; Wai et al., 2013)

Form literature reviews were conducted to identify the specific approaches to improve medication adherence in persons with schizophrenia in the past decades between 2000-2015 found that nursing intervention derived from 3 major concepts that are significant to improve medical adherence included Psychoeducation programs, cognitive behavioral therapy [CBT] often used in conjunction with motivational interviewing [MI], and Family (or family-based) intervention (Barkhof et al., 2012; Mallakh & Findlay, 2015; Wai et al., 2013). The essences of each concept is related to target problem, theory foundation, main concept, general procedure, and limitation as shown in the Table 2-1.

Table 2-1 The essences of concept with specific approaches to improve medication adherence

Essences of concept	Psychoeducation program	Cognitive therapy in conjunction with Motivational Interviewing	Family-based intervention
Target problem	Lack of knowledge and deficit of coping with illness and medication treatment.	Misperception about illness and medication/ negative attitudes toward illness and medication/ bad experience of symptoms and medication/ and ambivalence or resistance to taking medication.	High expressed emotion in family, social stigma, burden of illness, and psychosocial distress in family that affect the persistence in the treatment of patients.
Theory foundation	Learning theory derived from stress vulnerability and coping model.	Cognitive behavioral theory (CBT) and principle of Motivational interviewing [MI]	Model of family-based intervention derived from stress reduction and coping models.
Main concept	Emphasis on providing information in the present problem situation and improving the future while avoiding delving into the past and placing blame and promote collaborative relationship with patient	Help patient cope with their psychotic symptoms and medical treatment by examining and reevaluating their thoughts and perceptions of experiences (from misinterpretation to correctly thought) and realized that patterns of adherence may be unstable over time. So, motivation to stay with adherence behavior is essential.	The effects of the family's expressed emotion in relation to the course of the illness and relapses but the intimate relationship can improve patient outcomes and family's ability to cope with the illness management and promote medication adherence.

Table 2-1 (Continued)

Essences of concept	Psychoeducation program	Cognitive therapy in conjunction with Motivational Interviewing	Family- based intervention
General procedure	1. Providing information about the illness and treatment. 2. Develop problem-solving and coping skills in illness management.	1. Against the distressing belief. 2. Challenging the habitual patterns of thinking about the belief, and using reasoning and personal experiences to develop rational and acceptable coping. 3. Develop alternative problem solving related the illness. 4. Discussion about ambivalent of taking medication, identify barriers to taking medication and created committing to a life-long medication regimen.	Family counselling with focused to family had 1. Understanding about the nature of the illness. 2. Ways of coping with psychotic symptoms. 3. Methods of medication and illness management. 4. Psychological support and practical assistance during times of crisis. 5. Getting links to community mental health services.

Table 2-1 (Continued)

Essences of concept	Psychoeducation program	Cognitive therapy in conjunction with Motivational Interviewing	Family- based intervention
Limitation	It help enhance only patients' knowledge but could not improve other perspective outcomes such as insight into illness, attitude towards medication, and maintain adherence behavior.	Effective in symptom control and showed significant improvement in attitudes towards medication and adherence behavior in medium term and long term. But, when considering more than 1 years follow-up; there is no significant difference.	Enhance family members' knowledge about the illness, reduce family burden and patients' relapse up to 2 years, and improve patients' medication compliance but difficulties in employing family intervention in everyday clinical practice because inadequate mental health care service, staff training, and resources/ lack of members' time and transport on attending groups.

However, systematic review recommended that nursing intervention which derived from CBT in conjunction with MI was effective in symptom control and showed significant improvement in attitudes towards medication and adherence behavior more than other intervention which derived on other concepts (Barkhof et al., 2012; Mallakh & Findlay, 2015; Wai et al., 2013). Conversely, when considering sustainable medical adherence more than 1 years follow-up; it was found

that there is no significant difference since behavior and attitude can change overtime due to external factors that may impact a patients' intention to medication adherence. Based on limitation of empirical findings, it is recommended that healthcare providers should involve family members for encouraging and facilitating patients to maintain appropriate adherence behavior because family members are the main carers for patients in the community and important key to keep patients persistent sustainability in medication adherence (Gray et al., 2016). Especially, in Thailand, after discharge from a psychiatric hospital, the family often needs to take care of persons with schizophrenia at home and take them for regular check-ups to get medication (Wuthironarith, 2017). Therefore, the role of family, especially the significant caregiver is very important, and the family needs to be reminded to assist with continuous and consistent medication adherence. As mentioned, nursing intervention which derived from CBT in conjunction with principles of MI and involving family support will be predictable as very beneficial for persons with schizophrenia, but such intervention have not been undertaken in Thailand.

Measurement of psychiatric medication adherence

Nonadherence is a serious problem in psychiatric treatment and compromises effectiveness. In schizophrenia, complete or partial nonadherence can exceed 60% and is associated with relapse, hospitalization, and elevated health care costs (Gray et al., 2016). Accurate measurement of medication adherence is important not only in adherence research but also in clinical trials in which medications are being evaluated and in clinical practice where failure to detect nonadherence results in premature medication changes, unnecessary polypharmacy, and greater likelihoods of functional deterioration and hospitalization (Velligan et al., 2017).

Sajatovic et al. (2010) reviewed of psychiatric treatment adherence methods and measures arising from a meeting on "Methodological challenges in psychiatric treatment adherence research" held on September 27-28, 2007, in Bethesda, Maryland, and organized by the National Institute of Mental Health [NIMH]. This reviewed indicated that "adherence" is an observable behavior, the continuous observing of actual medication ingestion is true gold standard of adherence measurement, by continually observing an individual, record time, type, and number of pills taken in order to compare with a prescribed regimen. In fact, 24-hour

observation of adherence behavior is impractical. So, subjective measures of medication such as via patient-report or interviewer ratings, or assess influencing factors associated with nonadherence are appropriate for currently used in research and clinical practice to estimates of actual medication ingestion. From empirical findings signifies that measures of medication adherence fall into two basic categories: 1) objective indicators of medication-taking such as pharmacy record, pills counts, electronic monitoring, and blood plasma level, and 2) subjective measures of medication use via patient-report or interviewer ratings. In addition to measure of adherence behaviors, there are also measures of adherence attitudes. These typically assess proximal factors associated with nonadherence including inight into illness and treatment attitudes (Kamal et al., 2013; Sajatovic et al., 2010; Toll, McKee, Martin, Jatlow, & O'Malley, 2007). The details of each category was summarize as follows:

Objective adherence measures

Objective adherence assessments are widely utilized, quantifiable measures of treatment adherence. One or more of these methods, sometimes in conjunction with standardized attitudinal and self-report scales, may be utilized in clinical studies that have a primary or secondary focus on adherence assessment. The objective indicators of medicatin-taking included (Sajatovic et al., 2010):

1. Pill counts, a "low tech" method to measure adherence that may be applied to any patient or population and which do not require expensive equipment or highly trained personnel. Pill counts determine how many pills are missing from a container, and this number is compared to the number of pills that should have been taken within a specified time period, resulting in an estimated percentage of adherence. A reliable and valid method for conducting pill counts is to count pills in the individual's home, at unannounced and randomly scheduled visits by longer follow-up periods and random home visits should occur at short intervals (counting pills every 3-4 weeks). However, the burden of random home-based pill counts was disadvantage of this method.

2. Technology-assisted monitoring

There are several types of electronic devices that capture when pill containers are opened and closed to estimate the specific timing of doses, identify patterns of medication use, and calculate adherence rates such as MEMS and eCaps

contain an electronic chip in the bottle cap that records the time and date each time the bottle is opened. However, individuals may prefer to remove multiple pills from the devices at one time to take at work or to place in pill boxes, leading to an underestimate of adherence behavior and many individuals with psychiatric diagnoses are taking more than one medication. An investigator may choose a primary medication for monitoring or may provide caps for more than one medication. Therefore, technology-assisted monitoring was expensive methodologies to detect adherence although data from electronic monitors had good internal consistency and test-retest reliability.

3. Pharmacy refill records

Electronic pharmacy records are an objective, unobtrusive method to determine level of adherence and may be particularly useful when larger groups or populations are studied. Numerous measures have been derived from pharmacy data including medication possession ratio and gaps in medication use. Medication possession ratios are calculated by dividing the number of days' supply of medication the patient received during a specified time period by the number of days' supply they needed to receive if they were taking their outpatient medication continuously. The mean gap ratio identifies the number of days in a specified time period that an individual has been without medication. In addition, clinicians may change patients' dose during a clinical visit but not change the prescribed dose until sometime later; refill dates may also be inaccurate.

4. Biologic measures

Measurements of a drug or its metabolite in serum, urine, saliva, and hair are possible for some medications. These measures are objective and vary with respect to utility, degree of intrusiveness, cost, and availability. However, individual medication differences in metabolism and half-life make biologic markers for most psychotropic medication (i.e., antipsychotics and newer antidepressants) only useful for determining whether a particular medication has been taken or not taken rather than how much of the medication has been taken.

Self and interviewer's rating measures of adherence

The methodologies to assess the influencing factors with medication adherence, particular the insight into illness, attitude toward medication, and

adherence behavior. Selected self and interviewer's insight into illness, attitude toward medication, and adherence behavior scales which significant to patients with schizophrenia are briefly described below.

1. Selected self and interviewer rating scales for insight into illness

The insight into illness refers to a multi-dimensional construct with at least three interrelated components including awareness of having a mental illness, the ability to re-evaluate and re-label unusual events as pathological, and understanding the need for treatment and its compliance (Hasson-Ohayon, Kravetz, Roe, David, & Weiser, 2006). Therefore, the meaning of three aspects of insight refers to notably the existence of mental problems, the understanding of psychiatric symptoms, and the understanding of need for pharmacological treatment respectively. Insight into illness was assessed using the insight and treatment attitude auestionnaire [ITAQ]. The ITAQ is a semi-structured questionnaire interview of 11 questions has been used in large samples of patients with schizophrenia and has been shown to be reliable and valid. The results of fair or poor insight that is patients may exhibit complete denial of their illness or may show some awareness that they are ill but place the blame on others, on external factors, or even on organic factors. They may acknowledge that they have an illness but ascribe it to something unknown or mysterious within themselves. While good insight that is demonstrated patients' understanding about their illness, psychiatric symptoms, and medication treatment leads to predictive of positive clinical outcome and compliance (Kamal et al., 2013). The ITAQ internal consistency reliability Cronbach's alpha for total was .82 (Wai et al., 2015).

2. Selected self and interviewer rating scales for adherence attitudes

Adherence attitude can be defined as an explicit statement made by the patient pertaining to their overall like or dislike of taking medication. Adherence attitudes are multidimensional. At any given moment, the person may have attitudes that would be favorable to taking medication and simultaneously have attitudes that are unfavorable.

2.1 Rating of medication influences [ROMI], measures adherence attitudes in psychiatric patients, particularly those with schizophrenia. ROMI was developed based on the health bBelief model and divided into two subscales that separate reasons for adherence from reasons for nonadherence and assess a broad

range of factirs influencing a patient's personal decisions on adherence. The 20 interviewer-rated items have internal consistency reliability Cronbach's alpha for total was .75 (Sajatovic et al., 2010).

2.2 Drug attitude inventory [DAI], a 30-item self-report scale that evaluates subjective effect of antipsychotic drugs among patients with schizophrenia. The DAI also evaluates insight into illness and has been utilized in various psychiatric populations. The DAI consists of a questionnaire that is a series of questions pertaining to various aspects of the patient's perceptions and experiences of treatment that associated with attitude towards medication. It is divided into negative aspects and positive aspects. The patient are asked to read each statement in the questionnaire and decide whether they believe it to be true or false as applied to their own experience with medications (only those medications used for the patient's mental health needs). The DAI appears to be an easily administered and reasonable tool to measure subjective response to psychotropic treatment, particularly antipsychotic drugs. The DAI internal consistency reliability Kuder-Richardson formula for total was .93 (Sajatovic et al., 2010).

2.3 Medication adherence rating scale [MARS], a 10-item self-report scale derived from the DAI and the medication adherence questionnaire [MAQ]. The MARS was developed for use in populations with schizophrenia and psychoses. Internal consistency is only marginally adequate was .75 due in part to a three-factor structure, one factor measuring adherence behaviors and the other two measuring adherence attitudes (attitude toward taking medication and negative side effects and attitudes to psychotropic medication) (Sajatovic et al., 2010).

2.4 Brief evaluation of medication influences and beliefs [BEMIB], an eight-item scale measuring costs and benefits of medication use based on health belief model. The BEMIB was developed to identify nonadherence in patients with schizophrenia and related psychotic disorder. The BEMIB has modest internal consistency of .63 (Sajatovic et al., 2010).

Adherence attitudes are being considered as contributors to adherence and especially if adherence-enhancing interventions targeting these attitudes are being evaluated, self and interviewer rating scales measuring adherence attitudes are warranted (Sajatovic et al., 2010).

3. Selected self and interviewer rating scales for adherence behavior

Self-repost is the most often used measure of adherence behavior. There are two types of self-reports that appear to measure different behavioral constructs. The first type of self-reports takes the form of retrospective recall of actual medication-taking events while the second is a more general adherence rating with response assessed as strongly disagree to strongly agree (Sajatovic et al., 2010).

3.1 Brief adherence rating scale [BARS], this four-item, clinician-administered patient-report scale is adapted from a lengthier adherence questionnaire used in the clinical antipsychotic trials of intervention effectiveness [CATIE]. The BARS appears to provide valid, reliable, sensitive, and specific estimates of antipsychotic medication adherence of outpatients with schizophrenia and schizoaffective disorder. The BARS internal consistency reliability Cronbach's alpha for total was .92 (Sajatovic et al., 2010).

3.2 Medication adherence questionnaire [MAQ], the 4-item MAQ developed by Morisky, Green, and Levine (1986) will be used to measure adherence behaviors follows patients' action by taking medication in accordance with prescription and medication plan. Since the MAQ was introduced, it has been used to measure medication adherence in various mental disorder states such as depression, bipolar disorder, and schizophrenia. The MAQ focuses on personal experience with medication taking by indicated medication taking behavior that reflect of adherence or nonadherence. The MAQ is a self-report instrument composed of four items; respondents are asked to answer yes or no regarding items that assess participants' history of medication adherence (Toll et al., 2007). The structure of the question associated with the characteristic of medication use included intentional or purposeful and unintentional factors related to medication. The MAQ internal consistency reliability Kuder-Richardson formula for total was .81 (Sajatovic et al., 2010).

A range of measures of adherence attitudes and behaviors are available to researchers and clinicians studying populations with mental disorders. It must be remembered, however, that all of these measures of adherence with medication treatment are inexact measures of drug ingestion and suffer from limitations. In addition to techniques that directly or indirectly measure adherence behaviors,

a number of self-report and interviewer ratings of adherence attitudes with good psychometric properties are available (Sajatovic et al., 2010).

One of the goals of adherence research is identification of modifiable factors for adherence improvement. For this reason, inclusion of insight into illness and adherence attitude measures such as the ITAQ and the DAI are helpful, as they may assist in informing interventions that can then be implemented in selected psychiatric population. It is important to remember that adherence attitude is distinct from adherence behavior. Most of the time the solution will be to use separate measures and track these in parallel. Multiple and complementary adherence measures are recommended (Gray et al., 2016; Mert at al., 2015; Velligan et al., 2017)

Family support for persons with mental illness

According to previous studies in last decade found that the effectiveness of family support intervention to train family caregivers to be key care supervisors of medication adherence by focused on attitudes, beliefs, planned behaviors, and subjective norms, had increased adherence compared to usual care (Barkhof et al., 2012; Mallakh & Findlay, 2015; Wai et al., 2013). Therefore, family support play an important role in promoting medication adherence behavior among persons with schizophrenia.

Family support is the support of families with a member with a disability, which may include a child, an adult or even the parent in the family. The family support aims to establish partnership in treatment planning and implementation, an enhanced competence and ability of the families to detect and notify mental health professionals about any warning signs of relapse are crucial for relapse prevention in schizophrenia, and stimulate the patient to remain in treatment adherence. Moreover, family support also decrease high levels of expressed emotion and perceived burden within a family that can have a negative effect on a patient's illness, increasing their vulnerability to relapse (Thiensan, 2016). Likewise, the intimate relationship and interactions between patients with schizophrenia and their family members will improve both the families' and patients' ability to cope with the illness management (Wai & Sally, 2013; Wuthironarith, 2017). In qualitative study found that patients were very grateful for the support they received from their care givers during their

illness episodes, when attending the clinic for follow up visits, encouragement and supervision when taking their medication and in fulfillment of other basic needs of life like education, employment, and health in general (Sariah et al., 2014).

The role of family caregivers in caring with mental illness

In the last 50 years, the care and treatment of service users with psychosis have witnessed a transfer from institutional based care to community-based provision, where families and close relatives have taken on a significant role in treatment and recovery plans. Carers will often play an important role in securing access to, and receipt of, relevant services particularly during the initial illness phases and at relapse (Onwumere, Grice, & Kuipers, 2016). The exploratory study of potential benefits of involving family caregivers and significant others in a healthy lifestyle program for people with serious mental illness [SMI] concluded that persons with SMI perceived benefits as follows:

1. Family can take the role of social support by focused on the effects of four distinct types of social support for health behavior change (Morelli, Lee, Arnn, & Zaki, 2015):

1.1 Emotional support refer the offering of empathy, concern, affection, love, trust, acceptance, intimacy, encouragement, or caring. It is the warmth and nurturance provided by sources of social support. Emotional support effects to that people do that make us feel loved and cared for, that bolster our sense of self-worth. It is also referred to as "esteem support" or "appraisal support." For example, positive feedback by praise when achieving health goals, providing encouragement by give reward when have appropriate behavior, and give time to care and talk to patients over a problem.

1.2 Tangible support, also called instrumental support refers to the various types of tangible help that others may provide include financial assistance, material goods, or services. For example, tangible assistance such as providing transportation to follow up treatment in hospital and support for health care costs.

1.3 Informational support refers to the help that others may offer through the provision of information. For example, families give advice, guidance, suggestions, or useful information to patients. This type of information has the potential to help others problem-solve.

1.4 Companionship support refer to the type of support that gives patient a sense of social belonging (and is also called belonging). This type of support can reduces stigma from the patient and society. For example, family encourages patients to participate in community activities. This can be seen as the presence of companions to engage in shared social activities.

In Thailand from the literature review about promoting medication adherence in persons with schizophrenia in community indicated that family caregiver can take an important role in supporting patients to adhere with medication by enhance patient's self-esteem when patient's continue with medication taking, monitoring and feedback patient's medication taking, and facilitate patient's changing adherence behavior (Wuthironarith, 2017).

2. Family can increase patients' understanding of their experience living with a mental illness by promote understanding and gain insight into illness and reinforce patients' behavior change (Aschbrenner, Bartels, Mueser, Carpenter-Song, & Kinney, 2012). The effect of family support for caring schizophrenia on community was occurring the compliance of antipsychotic administration, the better family understanding of caring schizophrenia, and the increasing quality life of schizophrenic patient (Erawati & Keliat, 2015).

Based on the perspective of family support, families of patients with psychosis are actively participating in the care of their relatives (Thiensan, 2016). Psychiatric nurses working with patients with a diagnosis of psychosis recognize the importance of the family in initial treatment seeking, ongoing assistance with adherence, and the social support that is a vital aspect of treatment planning and the recovery process. Therefore, the involvement of the family in the overall treatment plan is of great importance, since relatives could be an integral part of the treatment process. Especially, in Thailand, after discharge from a psychiatric hospital, the family often needs to take care of persons with schizophrenia at home and take them for regular check-ups to get medication (Wuthironarith, 2017). So, the role of family is very important to support patients reminded to assist with continuous and consistent medication adherence. Therefore, intervention aimed at enhancing these elements would lead to favorable adherence.

Concept of motivational interviewing-based adherence therapy [MIAT] and related theories

MIAT was developed by Gray et al. (2006) which derived from the integration of motivational interviewing [MI] developed by Miller and Rollnick (2013) and cognitive behavioral therapy [CBT] developed by Beck (1976). Therefore, the researcher has reviewed the theories' foundation of MIAT in order to understand the major components and related processes as follows:

Cognitive behavior therapy [CBT]

From the literature reviews between 1980 and 1999 shown that nursing intervention which foundation with cognitive behavior therapy [CBT] were specifically designed to improve adherence were more successful than nursing interventions which foundation on others concept include psychoeducation, family therapy, and assertive therapy. CBT focused on improve patients with a low degree of illness awareness and insight into their illness by changing distort of general beliefs and attitudes towards health and taking medication, based on previous experiences, cultural factors and socioeconomic status, are associated with nonadherence to appropriated thought (Barkhof et al., 2012).

The history of cognitive behavioral therapy [CBT] was invented by a psychiatrist, Aaron Beck, in the 1960s for provide cognitive therapy for persons with anxiety and depression. After that, in the 1990s, Aaron Beck developed originally CBT for treating patients with persistent symptoms of schizophrenia to change beliefs about illness and increase self-awareness (Hansen, Kingdon, & Turkington, 2006). CBT is a therapeutic technique that helps modify undesirable mode of thinking, feeling, and behavior. CBT combines two kinds of therapies: "cognitive therapy" and "behavior therapy". The combination of these two techniques enables the patient to have appropriate thoughts and behaviors as well. Beck realized that the link between thoughts and feelings was very important. He invented the term automatic thoughts to describe emotion-filled thoughts that might pop up in the mind. Beck found that people weren't always fully aware of such thoughts, but could learn to identify and report them. If a person was feeling upset in some way, the thoughts were usually negative and neither realistic nor helpful. Beck found that identifying

these thoughts was the key to the client understanding and overcoming his or her difficulties as shown in Figure 2-3 (Martin, 2018). The most CBT technique can be used effectively in patients known as cognitive restructuring. By challenging the patient to come up with an evidence to prove that their beliefs are real or not, this technique assists the patient to learn to identify and challenge negative thoughts, and modify the faulty thoughts with more realistic and positive ones. Therefore, CBT works by changing people's attitudes and their behavior by focusing on modification thoughts, images, beliefs and attitudes that are held (a person's cognitive processes) and changing way a person behaves, as a way of dealing with emotional problems.

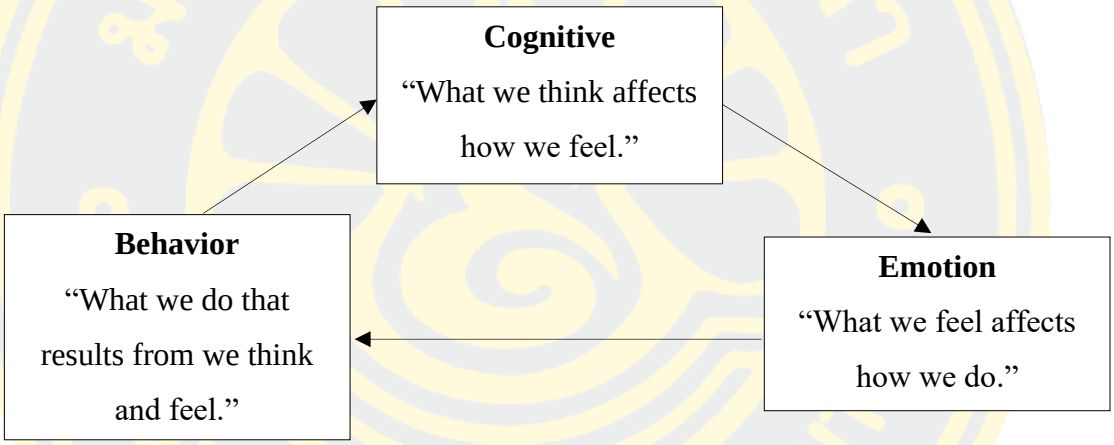


Figure 2-3 The conceptual model of CBT

The procedure of CBT used for persons with schizophrenia

The therapeutic procedure used for persons with schizophrenia are based on the general principles of CBT. Links are established between thoughts, feelings, and actions in a collaborative and accepting atmosphere. Agendas are set and used but are generally more flexibly developed than in traditional CBT. The duration of therapy varies according to the individual's need, generally between 12 and 20 sessions, but often with an option of ongoing booster sessions. CBT for psychosis usually proceeds through the following phases (Hasson-Ohayon, Kravetz, Roe, David, & Weiser, 2006; Morrison, 2009)

1. Assessment phase: The assessment begins by allowing the patient to express his or her own thoughts about his experiences while the therapist listens

actively. The formulation of symptom causation and maintenance is also shared with the patient and evolves throughout the therapy as new information is considered.

2. Engagement phase: This phase involves drawing out the person's own understanding of his situation and ways of coping with it through a process of guided discovery. Attempts are made to empathize with the patient's unique perspective and feelings of distress and to show flexibility at all times. A vulnerability-stress model is used, so that the patient can understand that vulnerability is a dynamic concept that can be influenced by many factors, such as life events, coping mechanisms, or physical illness. The therapist stresses that he or she does not have all the answers but that useful explanations can be developed in cooperation. The typical nonspecific therapeutic factors of warmth, genuineness, humor, and empathy are of great value in this phase.

3. ABC model: This phase used the concept of the ABC model, which was originally developed by Ellis and Harper (1961) can be used to give the patient a way of organizing confusing experiences. It involves slowly and thoroughly moving the patient through the various steps using Socratic questioning to clarify the links between the emotional distresses the patient is experiencing and the beliefs he holds. The steps of interpreted based on ABC model included 1) The consequence [C] is assessed and divided into emotional and behavioral [Cs]., 2) The patient gives his own explanation as to what activating events [As] seemed to cause C; and the therapist ensures that the factual events are not “contaminated” by judgments and interpretations, 3) The therapist provides feedback to the patient to acknowledge the A-C connection, 4) The therapist assesses the patient's belief, evaluations, and images and communicates to the patient that a personal meaning is lacking in the A-C model; simple examples can be provided to facilitate understanding, 5) The patient's own belief [B], which is actually the cause of C, is then discussed; often, this can be rationalized, and a B can be disputed and changed to C.

In this phase, giving challenging maladaptive thoughts and beliefs regarding the fact had effect to improve psychotic experiences placed on a continuum with normal experiences and eliminate the distort thought (e.g., dichotomous thinking, selective inference, emotional reasoning, jumping to conclusions) by the therapist uses gentle Socratic questioning to help the patient appreciate potentially illogical

deductions and conclusions. This process involves asking a series of open-ended, brief questions that guide the patient to discover his/ her idiosyncratic thoughts, feelings, or behaviors associated with a particular situation. Socratic questioning is nonjudgmental but is based on the therapist's insight that the original premise of a thought or belief may be untrue. Therefore, the questions are designed to expose the dysfunctional thought or belief so that it may be challenged.

4. Goal-setting and developing alternative explanations phase: Realistic goals for therapy should be discussed by using the distressing consequences (C) to fuel the motivation for change. It is the therapist's job to ensure that the goals are measurable, realistic, and achievable. The goals are revisited both during and at the end of therapy. Then, looking for alternative explanations and coping strategies particularly, problem-solving techniques. In this phase, individual attempts to identify effective means of coping with problems of everyday living. This often involves a set of steps for analyzing a problem, identifying options for coping, evaluating the options, deciding upon a plan, and developing strategies for implementing the plan.

In this phase, the strategies for effective problem solving used the solved technique included 1) Selecting a problem (S) by ask the patient to think about situations when he or she feels distress or difficulty problem solving, 2) Opening your mind to all solutions (O) by generating possible solutions, 3) Listing the potential pros and cons of each potential solution (L) by recommend that patients consider solutions in a logical manner that can be helpful in considering potential options, 4) Verifying the best solution (V) by examine the pros and cons of the solutions listed and rank order the solutions based on most practical and/ or desirable, 5) Enacting the plan (E) by identify the steps needed to carry out the solution selected and the patient finish formulating a specific plan, and 6) Deciding if the plan worked (D) by follow-up the chosen solution actually worked with the patient. If the solution was not effective, return to the first step in the SOLVED technique (Cully & Teten, 2008).

Although, CBT for persons with first episode psychosis such as schizophrenia can assist with maintaining adherence to medication but some previous studies recommendation whether inclusion criteria among patients who appropriated to used CBT should have no negative symptom of illness (including isolation, withdrawal, and anhedonia) (Fanning et al., 2012), not have cognitive impairment and

neurologic disease (Barkhof et al., 2013; Wai et al., 2015), and higher level of education at least elementary school (Kopelowicz et al., 2012; Montes, Medina, Gomez-Beneyto, & Maurino, 2012; Patel et al., 2013). As same as Tarrier and colleagues reported that longer duration of illness, more severe of positive symptoms (including delusion and hallucination symptoms that interfere with normal living), and higher levels of depression were patient-related barriers to obstruction to effective treatment with CBT (Tarrier, Yusupoff, McCathy, Kinney, & Wittkowski, 1998).

Motivational Interviewing [MI]

From the current situation, some persons with schizophrenia turn out to be treatment resistant to all antipsychotic medication. Partial adherence or changing adherence over time frequently occurs because insight and attitude that changing (Barkhof et al., 2012; Mallakh & Findlay, 2015). From a therapeutic perspective, nursing intervention in this decade should focus on specific problems of adherence, with the goal of identifying and modifying cognitive, eliminate barriers of adherence, and motivational to adherence (Mallakh & Findlay, 2015). Therefore, motivational interviewing [MI] was used to seeks to resolve ambivalence about taking medications and addresses perceptions about the importance of taking medications and confidence in the ability to adhere to a medication regimen (Barkhof et al., 2012; Gray et al., 2016; Mallakh & Findlay, 2015; Wai et al., 2013)

Motivational interviewing [MI] refers to a counseling approach developed by clinical psychologists, William R Miller and Stephen Rollnick. MI is a client-centered, directive method for enhancing intrinsic motivation to change by exploring and resolving ambivalence. MI was originally designed as a therapeutic approach to treat abuse of alcohol and other substances, for which it proved to be very effective (Miler & Rollnick, 2013). Following positive results in other health care domains with regard to behavior change, effectiveness of (adapted) MI for improving medication adherence has also been studied in patients with psychotic disorders (Barkhof et al., 2013; Gray et al., 2016; Wai et al., 2015) such as adherence therapy, an intervention based on principles of MI and cognitive approaches, showed substantial improvements in medication adherence in patients with schizophrenia (Gray et al., 2016)

The pattern of motivational interviewing [MI] is patients are engaged in strategically directed conversations about their problems. It explores personal ideas and ambivalences, eliciting and selectively reinforcing "change talk," by which discrepancies between the present behavior and the patient's own future goals are amplified. When clients do express change talk, it is important to remember to stay in the stance of eliciting from clients how they want to go about changing, where they want to start, what that will look like for them, what barriers there might be, and how they need to work on addressing those barriers. A counselor might provide some information for clients to consider that would help them with their choice, but ultimately the client is going to make the decision about what they're going to do. The aim of MI to increase the patient's intrinsic motivation for change. Effective processes for positive change focus on goals that are small, important to the patient, specific, realistic, and oriented in the present and/ or future (Miller, 2012; Miler & Rollnick, 2013).

Elements of motivational interviewing

The foundation of motivational interviewing [MI] stems from the belief that persons have the potential to change themselves. If persuading person to change their behavior towards a better way should to consider with MI spirit included collaboration, not confrontation, evocation, not education, autonomy rather than authority, and exploration instead of explanation. The MI approach seeks to help clients think differently about their behavior and ultimately to consider what might be gained through change. Four key principles of the MI approach consisted of 1) Express empathy by seeing the world through the client's thinks and sharing in the client's experiences for accurate understanding of the client's experience facilitates change, 2) Develop discrepancy by exploring the discrepancy between their current behavior and future goals for motivated to make important life changes, 3) Roll with resistance by not challenged and argumentative when client's demonstrating resistance and accept client reluctance to change as natural rather than pathological for invite clients to examine new perspectives, and 4) Support self-efficacy by clients are held responsible for choosing and carrying out actions to change and therapies help clients move toward change successfully and with

confidence for develop their own solutions to the problems (Miller, 2012; Miler & Rollnick, 2013).

According to the practice of MI involves the skillful use of certain techniques for bringing to life the "MI spirit with change talk," demonstrating the MI principles, and guiding the process toward eliciting client change talk and commitment for change. The OARS skills is a brief basic MI interviewing skills consisted of 1) Open-ended questions (O) by invite elaboration and thinking more deeply about an issue, 2) Affirmations (A) by reframing behaviors or concerns as evidence of positive client qualities, 3) Reflections (R) by guides the client towards resolving ambivalence which a focus on the negative aspects of the status quo and the positives of making change, and 4) Summaries (S) by conclude important elements of the discussion, shift attention or direction, and prepare the client to "move on". These are core strategies used to move the process forward by establishing a therapeutic alliance and eliciting discussion about change (Miller, 2012; Miler & Rollnick, 2013). The elements of motivational interviewing [MI] is illustrated in Figure 2-4.

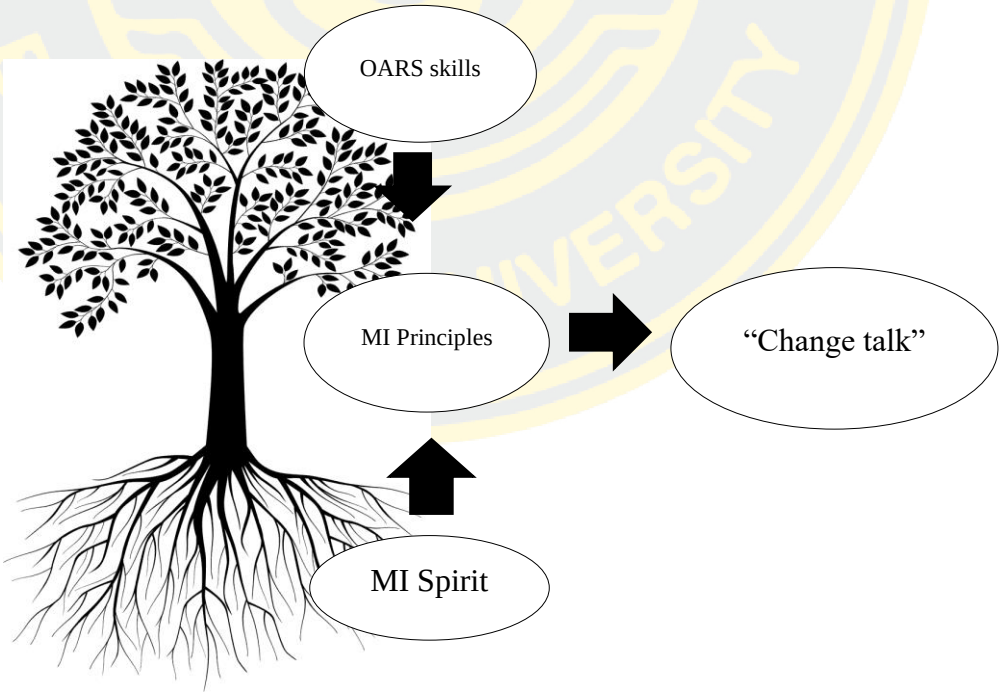


Figure 2-4 The elements of motivational interviewing [MI]

The effect of motivational interviewing technique in which the participants were facilitated non-judgmentally to explore and resolve ambivalences on management of their illness, treatment and life problems and engaged with their intrinsic motivation to change treatment/illness-related behaviors such as medication adherence and self-care. The principles of MI such as genuine empathy, acceptance and envisioning for a better future in motivational interviewing can be helpful to access motivation and foster therapeutic growth and change specific behaviors regarding those medication adherence (Wai et al., 2016). Although, MI proved to be effective in prompting service engagement and medication adherence but some studies suggested whether MI may be of benefit for improving medication adherence in certain groups of patients including female patients, non-cannabis users, younger patients than 35 years, and patients with shorter illness duration (Barkhof et al., 2013).

Motivational interviewing-based adherence therapy [MIAT]

Motivational interviewing-based adherence therapy [MIAT] is a brief psychological intervention based on the principles of motivational interviewing [MI] and cognitive behavioral therapy [CBT]. It was developed by Gray et al. (2006) building on the work of Kemp, Kirov, Everitt, Hayward, and David (1998). Some studies call this therapy as adherence therapy [AT] but some emphasize the role of MI obviously, therefore they named this therapy as motivational interview based adherence therapy [MIAT]. MIAT is a patient-centered approach normally delivered by trained clinicians over a series of 8 weekly sessions. Key therapeutic applications include challenging beliefs, exchanging information, restructuring medication problem solving, and exploring ambivalence to promote positive change. Theoretically, these therapeutic applications amplify the personally relevant benefits of treatment, modify illness and treatment beliefs, and resolve ambivalence towards taking medication (Gray et al., 2016). The National Institute for Health and Care Excellence [NICE] (2009) and the World Health Organization [WHO] (2003) in their adherence guidelines review and advocate an approach to enhance adherence that concords well with MIAT (NICE, 2009; WHO, 2003). In addition, MIAT is specifically used in patients with schizophrenia who have problems with nonadherence and become a widely used therapeutic approach practiced in a broad range of setting in America, Europe, and Asia (Wai et al., 2015).

MIAT is a patient-centered manualised approach, the fundamental clinical skills of MIAT include agenda setting, using the patient's own language, collaborative working, linking sessions together, and reflective listening. The four therapeutic applications of MIAT which derived from CBT in conjunction with MI for keeping the patient engaged and minimizing resistance to change, providing information required by the patient about medication and side effects, and using Socratic dialogue to generate discrepancies in patient' beliefs about treatment (Schulz et al., 2013). Within this framework there are specific MIAT program consisted of three steps in which eight session were held both inpatient unit and outpatient unit (may be could conduct in local community mental health services). An outline of the MIAT can be summarized as follows (Gray et al., 2016; Wai et al., 2015; Wai et al., 2016).

The first step is "challenging belief" divided into two sessions, main purposes of this step included 1) to help participants review their past and present states of taking antipsychotics; and 2) To assess knowledge, attitude, and barriers to medication adherence, and plan for problem-solving and improving adherence behavior. At this step, participants will be assigned to reviewing antipsychotic medication use and the impacts of psychotic symptoms on medication (and treatment) adherence such as the desired and unwanted effects of medication, neuroleptic side effects, and attitude and satisfaction with medication taking. The process is intended for participants to identify the present beliefs and concerns (often associated with distort thought and negative attitude), benefits and barriers related to medication while the nurse therapist makes an attempt to link medication cessation with relapse, negative treatment experiences and high level of distress regarding illness and medication are acknowledged and discussed by used ABC model which identify the link between thoughts that affect mood and behavior based on the principles of MI such as denial of need for treatment is met with gentle enquiry into the ensuring social consequences and lifestyle disruptions. Each participant will be assigned a homework assignment related to weekly record of adherent behavior and identify reasons for adherence or nonadherence. The results of this step are patients' understanding the examining and addressing beliefs and concerns towards adherence, plan for problem-solving, and modification of pattern of thought.

The second step is “exchanging information and restructuring medication problem solving” divided into three session, main purposes of this step included 1) To educate about mental illness and the treatment and care required; 2) To review the goals, actions, and adherence records of the last two weeks; and 3) To identify barriers to medication adherence and to develop coping strategies, new goals and actions. At this step, participants and nurse therapist will be discussion about knowledge related to illness and treatment by used the principles of MI for accurate understanding about illness and treatments. Then, participants are asked to weigh up the benefits and drawbacks of treatment. After that, participants will revisiting and revising previous goals or add new ones, and their actions for developing coping strategies to reduce urges for nonadherence by used the SOLVE technique. Each participant will be assigned a homework assignment related to practicing new actions for maintaining or enhancing adherence, weekly record of adherent behaviors, and reasons for adherence or nonadherence to medication. The results of this step are eliminated participants’ confusion about illness, misconceptions of antipsychotic medication, and have appropriate coping strategies.

The third step is “exploring ambivalence to promote positive change” divided into three session, main purposes of this step include 1) to rationalize participants’ beliefs and concerns and to prevent relapse; 2) To manage social stigma and enhance social support. At this step, nurse therapist will be evaluate of the progress of medication adherence with each participant and his/ her change in beliefs/insight into illness and treatment or ambivalence thought during session 6. After that, nurse therapist making future plan with participants to continue of medication adherence and its contractual agreement support by include support from different sources. Moreover, participants are facilitated and encouraged to identify the characteristics of prodromal symptoms and analyze the importance of early intervention to prevent a full-blown episode. In sessions 7 and 8, the nurse therapist use normalizing rationale to deal with stigma towards the illness and/ or medication such as suggest an analogy with physical illness requiring maintenance treatment and highlight illness prevalence with examples of ex-patients who have been successful in coping with similar difficulties as theirs. The results of this step are participants recognize self-esteem, hope and goal in their life, and participants will be had a future

plan and contractual agreement are made to continue monitoring of medication adherence.

Significantly, principles of MIAT is robust design to encourage patients' participation by examining the evidence for and against the distressing belief of illness and medication, assessment of individual patients' motivation and potential barriers to adherence to their prescribed medication, develop rational and acceptable alternative coping and problem solving patterns to reduce barriers of medication adherence leading to medication adherence by increasing significant attributes include patients understanding and accepting their illness and its treatment (insight into illness), occurred positive attitude towards adherence, and maintain adherence behavior (Gray et al., 2016; Wai et al., 2015). Outcomes of motivational interviewing-based adherence therapy [MIAT] demonstrate significantly greater improvements in symptom severity at immediately and six months after completion of the intervention, compared with treatment as usual [TAU]. In addition, the MIAT participants would show greater improvements in secondary outcomes, including medication adherence rate, re-hospitalization rate, psychosocial functioning, and insight into illness and/ or treatment, over the six-month follow-up period (Gray et al., 2016; Wai et al., 2015)

Empirical evidences of MIAT on persons with schizophrenia

Motivational interviewing-based adherence therapy [MIAT] has been a rising interest in using with a wide range of setting. Gray et al. (2016) were systematically review the trial evidence of the effectiveness of MIAT on improving clinical outcomes in patients with schizophrenia between 2006 (when MIAT was first described) to 2015. They found that six studies testing MIAT in schizophrenia spectrum disorder, a meta-analysis showed MIAT significantly reduced psychiatric symptoms as the primary outcome compared to usual treatment over a follow-up period of less than 1 year but no significant effects of MIAT on secondary outcomes were patients' adherence behavior and adherence attitudes. On the subject of MIAT in persons with schizophrenia can be summarized as follows.

Anderson et al. (2010) integrated MIAT to prevent psychiatric symptoms and develop personal transition in treatment adherence for United States adult patients with schizophrenia in outpatient setting. This study did not reported of number and duration of MIAT sessions. This study was pre/ post-test comparison group design,

random assignment to treatment and control group, and follow-up within several days of completion. The participants were 23 both male and female adult patients from outpatients unit were randomly assigned to two groups. From these original participants, 17 percent of patients in the treatment group and 7 percent from the control group dropped from the study. The results indicated that the MIAT group scored significantly higher than the no-treatment comparison group on measure of adherence attitudes and significantly lower than the no-treatment comparison group on measure of psychiatric symptoms.

In Europe, MIAT was used in two studies including the study conducted by Gray et al. (2006) compared MIAT 8 sessions, one session per week, each session take about 40 minutes, with didactic health education that provided in the same number, duration of sessions, and same therapists. This study was pre/ post-test comparison group design, random assignment to the treatment group and the control group, with 52 weeks follow-up. The participants were 371 adult patients referred from the inpatients and community setting who live in Amsterdam, Leipzig, London, and Verona with evidence of clinical instability in previous year. Within 175 in the treatment group and 196 in the control group, these results showed that patients in the treatment group have lower of psychiatric symptoms and higher of adherence attitude and adherence behavior than the control group. In another study, Schulz et al. (2013) integrated MIAT to prevent psychiatric symptoms and improve medication adherence for Germany, Bielefeld, Warstein, Lippstadt, Switzerland, and Bern with adult patients in acute episode of schizophrenia in inpatient setting. This study consisted of 8 session, one session per week, each session take about 45 minutes, with group process. This study was pre/ post-test comparison group design, random assignment to treatment and control group, and follow-up within 12 weeks of completion. The participants were 123 both male and female. From these analysed participants, within 72 in the treatment group and 51 in the control group, the results indicated that the MIAT group scored significantly higher than the no-treatment comparison group on measure of adherence behavior by investigate from medication concentration to dose ratio [CDR] and adherence attitude. While significantly lower than the no-treatment comparison group on measure of psychiatric symptoms.

Interestingly, this study used combined subjective and objective adherence measures for assessment of adherence behavior.

In Asia, MIAT has been used in Thailand and Hong Kong. In Thailand, two studies of MIAT were used to nursing care of patients who admitted into hospital due to psychiatric exacerbation in the form of groups process included Maneesakorn et al. (2007) and Von Bormann, Robson, and Gray (2015). Both of studies compared MIAT 8 sessions, one session per week, each session take about 40-45 minutes, with a treatment as usual. Overall studies were pre/ post-test comparison group design, random assignment to the treatment group and the control group, with 9 and 26 weeks follow-up, respectively. The participants were both male and female adult, from these original participants, 12.5 percent of patients in the treatment group and control group dropped from the study of Maneesakorn et al. (2007). The results of both studies indicated that patients who received MIAT significantly improved in overall psychotic symptoms, attitude towards and satisfaction with medication compared with treatment as usual but no significant difference was found in general functioning or side effects compared with treatment as usual. In another study, Wai et al. (2015) was integrated motivational interviewing-based adherence therapy for Hong Kong adult patients with diagnosis of schizophrenia or other psychotic disorder within past 5 years, had history of poor adherence or recent nonadherence and received outpatients' treatment. This study consisted of 6 session, one session per week, each session take about 60 minutes, with group process. This study was pre/ post-test comparison group design, random assignment to treatment and control group, and follow-up within 6 months after completion. The participants were 110 both male and female. From these analysed participants, within 54 in the treatment group and 56 in the control group, the results indicated that the MIAT group scored significantly higher than the no-treatment comparison group on measure of medication adherence by investigate from adherence behavior and adherence attitude. While significantly lower than the no-treatment comparison group on measure of psychiatric symptoms. Interestingly, this study determined the inclusion criteria for screening of patients with a history of nonadherence, not long-term morbidity, and stay in the community.

When considering with effects of interventions on three outcomes of the individual studies include 1) psychiatric symptoms, 2) medication adherence and

3) adherence attitudes by random-effects meta-analysis for the comparison of MIAT and control treatment found that all six studies reported the effects of MIAT and control treatment on patients' psychiatric symptoms by five studies found positive effects of MIAT over control treatment; and three of them were statistically significant (Maneesakorn et al., 2007; Schulz et al., 2013; Wai et al., 2015). The meta-analysis of the pooled data showed a significant impact of MIAT on patients' psychiatric symptoms with a SMD of −.56 (95 % CI −1.03, −.09; 707 participants) and effect size Z = 2.33 at p = .02. In addition, All six studies reported a change in patients' adherence attitudes by the overall effect (Z = 1.61) was not significant but favorable for MIAT, with the SMD .25 (95 % CI-.05; .55). Between study heterogeneity in adherence attitudes was considerable (I^2 = 66%; n = 6; 708 participants). Moreover, in patients' adherence behaviors, which were reported by three of the studies (Gray et al., 2006; Schulz et al., 2013; Wai et al., 2015) found that between-study heterogeneity was high with I^2 = 95% (n = 3; 591 participants). The overall effect (Z = .98) suggests a favorable but non-significant trend for MIAT.

The strengths of MIAT based on previous studies noticed that the effects of MIAT targeting at patients' beliefs and insights into their illness/ treatments seemed to be conclusive. Wai et al. (2015) confirms that such approach can be effective to outpatients with moderate psychotic symptoms in the early stage of schizophrenia spectrum disorders. The findings also echo the recommendations by Gray et al. (2006) that adherence modifying factors essentially centered on improved self-determination, patient choice, and shared decision making. Further, MIAT is able to embody the advantages of continuous boosting up patient's motivation to manage barriers with medication/ treatment on top of essential psychosocial support and psychopharmacological education. This therapy can also acknowledge the utmost importance of patient involvement in treatment decisions, understanding about their treatments or medications used, and possible consequences of adherence or non-adherence to medication such as risk of relapse, thus allowing patients to decide with fully informed, voluntary choices in taking their medication.

However, these previous studies have some the limitations such as the study conducted by Anderson et al. (2010) which had inadequately powered sample size, the follow-up being conducted immediately post-intervention and high refusal/ non

response rate (80%) of potential participants. For robust long-term studies involving representative samples of patients should be conducted with power calculations based on the outcomes of this review (Gray et al., 2016), in order to allow exploring the effects of MIAT on their adherence behaviors and attitudes. In addition, an intervention focused on addressing adherence was found no better than usual care in improving adherence or patients' attitudes to taking their medication. One reason for this observation might be that the trials were not designed with sufficient power to measure subtle changes in adherence behaviors and attitudes because patients in other trials were reported having generally positive attitudes or satisfaction with medication except for the study of Wai et al. (2015) that determined inclusion criteria with nonadherence patients. As a result, a ceiling effect might have occurred, allowing little room for improvement of adherence in these patients. This observation is consistent with the findings of a review of interventions addressing adherence by Barkhof et al. (2012) who suggested that recruiting moderately adherent patients might not provide sufficient potential for change. Conversely, motivated patients might be more likely to improve adherence to treatment after receiving a psychological person-centered intervention such as MIAT. Therefore adherent and highly motivated patients are not representative of the population of schizophrenic patients. So, future trials should focus on recruiting primarily non-adherent patients. Moreover, future research should also investigate the therapeutic mechanisms of MIAT, specifically how the intervention affects patients' attitudes towards the illness and its treatment and what the relationships are between treatment attitudes, adherence behaviors and patient functioning and symptoms. Improved understanding of these mechanisms could explain why only minor improvements in these areas seemed to result in significant reductions in psychiatric symptoms (Gray et al., 2016).

With acknowledgement mentioned thus far, this study will be developed to reduce previous limitations by focuses on the measurement of significance related indicators that predict the behavior of medication adherence included insight into illness and attitudes towards medication or adherence attitudes because it indicates long-term effect of medication adherence behavior. In addition to results of previous studies regarded with inclusion criteria among persons with schizophrenia found that level of cognitive functioning and pattern of psychotic symptoms can also influence

medication adherence. Most of the previous studies were conducted with patients who admitted in psychiatric hospitals in active phase or severe of illnesses lead to resulting were complications from confounding factors. Consequently, this study will be included in persons with schizophrenia who had residual phase with mild to moderate symptoms and had past experience with medication nonadherence.

Moreover, A systematic review recommended that nursing intervention which derived from MIAT was effective in symptom control and showed significant improvement in attitudes towards medication and adherence behavior in medium term (6 weeks-3 months) and long term (>3 months-1 year). Conversely, when considering sustainable medical adherence more than 1 years follow-up; it was found that there is no significant difference since behavior and attitude can change over time due to external factors that may impact a patients' intention to adherence. Based on limitation of empirical findings, it is recommended that healthcare providers should involve family members for encouraging and facilitating patients to maintain appropriate adherence behavior because family members are the main carers for patients in the community and important key to keep patients persistent sustainability in medication adherence (Gray et al., 2016). Therefore, nursing intervention in this study which derived from MIAT and involving family support would be employed and test its effectiveness.

CHAPTER 3
RESEARCH METHODS

This chapter presents the research method of this study including research design, population and sampling, instrumentation, protection of human subjects, data collection procedures, and data analyses.

Research design

A randomized controlled trial [RCT] of two-group pretest-posttest with follow-up measures was used to determine the effectiveness of motivational interviewing-based adherence therapy [MIAT] with family support program on medication adherence for persons with schizophrenia.

Population and sample

Population

The target population of this study was Thai patients with schizophrenia who attended the psychiatric outpatient department at Buddhasothorn hospital, Chachoengsao province in the year 2019.

Sample

Patients with schizophrenia, both males and females, who were randomly selected from the above population and met the following criteria

Inclusion criteria

Patients with schizophrenia were recruited into the study when they had:

1. Diagnosis of schizophrenia disorder according to ICD-10 criterion by psychiatrist within 5 years,
2. Age range between 20 and 59 years,
3. Not having co-morbidities of learning disability, organic brain disease, severe cognitive impairments, drug dependence, or severe depression as considered by patient's medical record,
4. A previous history of medication discontinuation which retrieved from patient's medication record, such as had a history of not taking antipsychotic

medication around 1 week and over or repeatedly admitted to a psychiatric hospital due to medication nonadherence.

5. The psychiatrist justified that he/ she is able to participate in the MIAT with family support program such as not have severe symptoms including delusion and hallucination symptoms that interfere with his or her daily living (i.e., paranoid delusion, persecutory delusion, visual hallucination, etc.),

6. One significant family caregiver who is the main relative that provides mainly care for patient at home and whose age ranged from 20 years and over and able to participate in the program in session 3 and 6,

7. Ability to read, write, and speak Thai,

8. Reside in Chachoengsao province, and

9. Willing to participate in all sessions of this intervention.

Exclusion criteria

Patients with schizophrenia were excluded if they had received antipsychotic medication which intramuscular injections only.

Discontinuation criteria

Patients with schizophrenia were excluded if they had:

1. Recurrent of symptoms severity which impeded their abilities to participate in the program,

2. Have other medical treatment for physical conditions or psychological conditions in hospital during intervention implementation, and

3. Unable to attend all of sessions.

Sample size

G*Power version 3.0.10 was used to calculate an estimate of sample size by setting the program with F-test, MANOVA: Repeated measures, between factors. The effect-size from the previous study comparing the effect of adherence therapy intervention with treatment as usual was .40 (Wai et al., 2016). At effect size medium, based on Cohen's effect size for F-test (Polit & Beck, 2006), with a level of significance of .05 and a power of .95, the minimum number of the total sample was 30 participants (n = 15 participants per group). The expected drop-out of the sample from the study intervention was about 30% (Tabachnick & Fidell, 2007). Therefore, a total of 40 participants (n = 20 participants in each group) were recruited for this

study. In the intervention group, there had one family caregiver for each patient participating in the program for session 3 and 6.

Sampling procedures

The researcher asked permission from the Buddhasothorn hospital to see the list of patients with schizophrenia who had this diagnosis not more than 5 years from the medical records to preliminary evaluate the suitability of the sample according to the RCT procedure (Burns & Grove, 2005):

Step 1: The researcher screened these patients to assess eligibility based on their psychiatric treatment history from patient medical records of Buddhasothorn hospital (recruiting patients who met inclusion criteria 2, 3, and 4). For this step, the researcher used the judgmental sampling for recruited participants into the study.

Step 2: The researcher consulted with the psychiatrist at Buddhasothorn hospital for evaluating patients who had been selected from the first step regarding their symptoms and eligibility to participate the intervention (recruiting patients who met inclusion criteria 5).

Step 3: The researcher explained the study to patients and family caregivers who were selected in the second step, including the purposes, benefits, and procedures of the study. Patients and family caregivers who were willing to participate in this study would be asked to sign the consent form. Then, the first research assistant selected participants from the group of eligible patients, using the simple random sampling method to recruit a total of 40 participants.

Randomization procedures

The first research assistant [RA] randomly assigned the sample who met the inclusion criteria and randomly assigned them into either the intervention or the control groups. The research assistant draw a ballot out of the 40 ballots which were mixed together in the envelope; 20 ballots were represented of intervention group and other were represented of control group. Then, the research assistant randomly assigned the ballot and not replaced in the box, 20 of participants were assigned into intervention group and another were assigned into control group. Sample recruitment as shown in Figure 3-1.

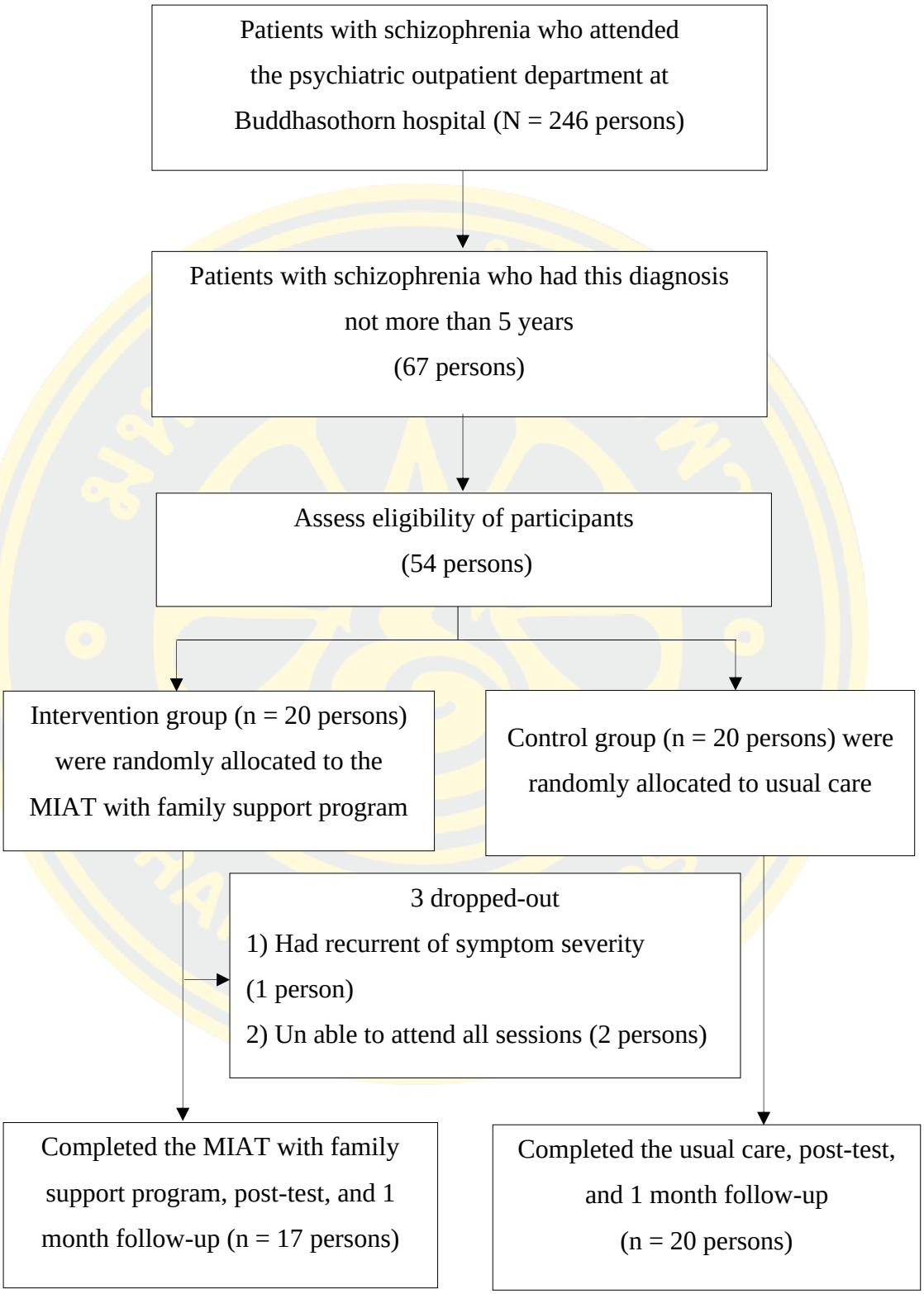


Figure 3-1 Summary of sample recruitment

Setting

This study was conducted in the psychiatric outpatient department at Buddhasothorn hospital in Chachoengsao province. The psychiatric outpatient department at Buddhasothorn hospital had treatment as usual [TAU] included mental status examination, record vital signs, and blood investigation by healthcare providers in hospital. Then the patient was met a psychiatrist, and had a follow up appointment for adjustment of antipsychotic medication and received individual psychoeducation if needed. However, during the program implementation both groups of participants would not receive other non-pharmacotherapy treatments (i.e., individual or group psychoeducation, individual or group supportive therapy, psychotherapy, etc.)

Instrumentation

The research instruments used in this study were divided into two parts. The first part contained instruments for data collection and the second part included instruments for the intervention.

1. The instruments for data collection

In this part included a demographic record form and the instruments for outcome measures. These instruments were the ITAQ, the DAI, and the MAQ.

1.1 A demographic record form developed by the researcher consisted of general data about the persons with schizophrenia (e.g., age, gender, educational level, marital status, occupation, income, and perceived the adequacy of income); clinical information (e.g., duration of illness and number of hospitalizations); and general data of family caregivers (e.g., age, gender, relationship with patient, education level, marital status, occupation). Some information were retrieved from medical record.

1.2 Insight into illness was measured by using the insight and treatment attitude questionnaire [ITAQ]: The 11-item ITAQ developed by McEvoy et al. (1989). This measure was used to assess patients' insight into their mental illness whether they aware that they have a mental illness and that they need treatments. The ITAQ has been used in large samples of patients with schizophrenia and has been shown to be reliable and valid. The ITAQ consists of three aspects of insight including: 1) Items 1 to 5 which represent awareness of the disorder such as "After

you are discharged, is it possible you may have mental problems again?" and 2) Items 6-11 represent recognition of psychotic symptoms as well as awareness of the need for psychiatric treatment such as "Delusions and hallucinations can be alleviated with antipsychiatric medications?" (Kamal et al., 2013). Therefore, the meaning of three aspects of insight refers to notably the existence of mental problems, the understanding of psychiatric symptoms, and the understanding of need for pharmacological treatment respectively.

The ITAQ 11 items are rated on a 3-point rating scale (0-'No'; 1-'Not sure', and 2-'Yes'). The ITAQ possible score ranges from 0 to 22, when the ITAQ item scores are summed. Poor insight has a score from 0-7, fair insight 8-14 and 15-22 for good insight (Wai et al., 2015). The results of fair or poor insight is that patients may exhibit complete denial of their illness or may show some awareness that they are ill but place the blame on others, on external factors, or even on organic factors. They may acknowledge that they have an illnesses but ascribe it to something unknown or mysterious within themselves. Good insight would demonstrate patients' understanding about their illness, psychiatric symptoms, and medication treatment. Such good insight would lead to positive prediction towards clinical outcome and good compliance (Kamal et al., 2013). The ITAQ internal consistency reliability Cronbach's α for total was .82 (Wai et al., 2015).

1.3 Adherence attitude was measured by using hogan drug attitude inventory [DAI]: The 30-item DAI developed by Hogan et al. (1983). This measure was used to evaluate attitude towards medication adherence which reflects the recognition need of medication and importance of taking the prescribed medication by perceived benefit of medication in controlling psychotic symptoms. The DAI 30 items were self-report scale (true or false question) categorized into three subscales: 1) awareness of the need for medication, 2) awareness of the effects of psychiatric drugs, and 3) impression of medication. The DAI consists of a series of questions pertaining two aspects of the patient's perceptions and experiences of treatment which were associated with attitude towards medication as follow: 1) negative aspects which lead to nonadherence, such as "I know better than the doctors when to stop taking medication" and 2) positive aspects which lead to adherence, such as "I am in better control of myself when taking medication". The patient are asked to read each

statement in the questionnaire and decide whether they believe it to be true or false as applied to their own experience with medications (only those medications used for the patient's mental health needs) (Sajatovic et al., 2010).

The DAI-30 contains 15 items that a patient who is fully adherent to their prescribed medication (and so would be expected to have a 'positive' subjective response to medication) would answer as 'True' include item "2, 4, 6, 7, 8, 9, 15, 17, 20, 21, 22, 23, 26, 29, 30", and 15 items such a patient would answer as 'False' include item "1, 3, 5, 10, 11, 12, 13, 14, 16, 18, 19, 24, 25, 27, 28". To calculate the score from a set of answers, each 'positive' answer is given a score of plus one, and each 'negative' answer is given a score of minus one. The possible score range from -30 to +30. Pluses total score was interpreted as positive attitude towards medication adherence while minuses score was interpreted as negative attitude towards medication adherence that reflect of positive subjective response (adherence) and a negative subjective response (nonadherence) respectively (Schulz et al., 2013). The DAI internal consistency reliability Kuder-Richardson formula for total was .93 (Sajatovic et al., 2010).

The DAI was translated into Thai by Maneesakorn et al. (2007) and the scoring criteria determined by calculating the score from false answer, which is given a score of 0 and true answer, which is given a score of 1. The possible score range from 0-30 , dividing the level of attitude towards medication according to Bloom's criteria, where in 0-17 refers to having a negative attitude towards medication, 18-23 refers to having a moderate attitude towards medication, and 24-30 refers to having a positive attitude towards medication. The DAI-Thai version internal consistency reliability Kuder-Richardson formula for total was .81.

1.4 Adherence behavior was measured by using medication adherence questionnaire [MAQ]: The 4-item MAQ developed by Wongsuwan (2017). This measure was used to measure adherence behaviors regarding taking medication in accordance with prescription and medication plan. Since the MAQ was introduced, it has been used to measure medication adherence in various mental disorder states such as depression, bipolar disorder, and schizophrenia. The MAQ focuses on personal experience with medication by asking about medication taking behaviors that reflect of adherence or nonadherence. The MAQ is a self-report instrument composed of four

items; respondents are asked to answer yes or no regarding items that assess participants' history of medication adherence (Toll et al., 2007).

The MAQ was used to assess intentional and unintentional medication adherence behavior. The structure of the questions associated with the characteristic of medication use included intentional or purposeful and unintentional factors related to medication nonadherence behavior as follow: 1) unintentional medication nonadherence behavior include item 1 and 2 such as "Do you ever forget to take your medicine?" and 2) intentional or purposeful medication nonadherence behavior include item 3 and 4 such as "Sometimes if you feel worse when you take the medicine, do you stop taking it?". Items are scored as either 0 (yes) or 1 (no), and previous investigations have typically summed all items to report a total score. The possible score ranges from 0 to 4 if the score is four that is adherence behavior and less than four indicate that the nonadherence behavior. The result of the MAQ showed that good predictive validity, in that individuals who scored in the high adherence range had a significantly better treatment outcome than those scoring in the low adherence range. The MAQ internal consistency reliability Kuder-Richardson formula for total was .79 (Wongsuwan, 2017).

Translation for data collection instruments

For the questionnaires were used in this study, only the insight and treatment attitude questionnaire [ITAQ] was in English language. Therefore, translation of this questionnaire into Thai is needed. The researcher translated the instrument for data collection by processing of back translation method postulated by Brislin, Lonner, and Thorndike (1973). This method is widely used for translating research instruments across cultures. In this research, the back translation method is applied from the research of Cha, Kim, and Erlen (2007) according to Figure 3-2, which was modified from Brislin's back translation model (Brislin et al., 1973). The translation process include 3 stages as follows:

1. The first stage, the ITAQ instrument from the original English version [E1] was translated into Thai by two experts who had familiar with the context and fluent in both Thai and English. At this stage, the translators was translated independently (T1 and T2). After that, both translators came to discussion with each

other and came up to final translation to Thai version (T3) with equivalent to English version.

2. The second stage, the instrument of Thai version (T3) was independently back translated from Thai to English (E2 and E3) by two translators who had bilingual.

3. The third stage, the researcher and advisor brought the English version instruments that obtained from both sets of back translation (E2 and E3) to compare with the original English version (E1). If both versions were not matched of the E1, the researcher was brought these instruments to revise again until the instruments were concomitant. The back translation process of this study is illustrated in Figure 3-2.

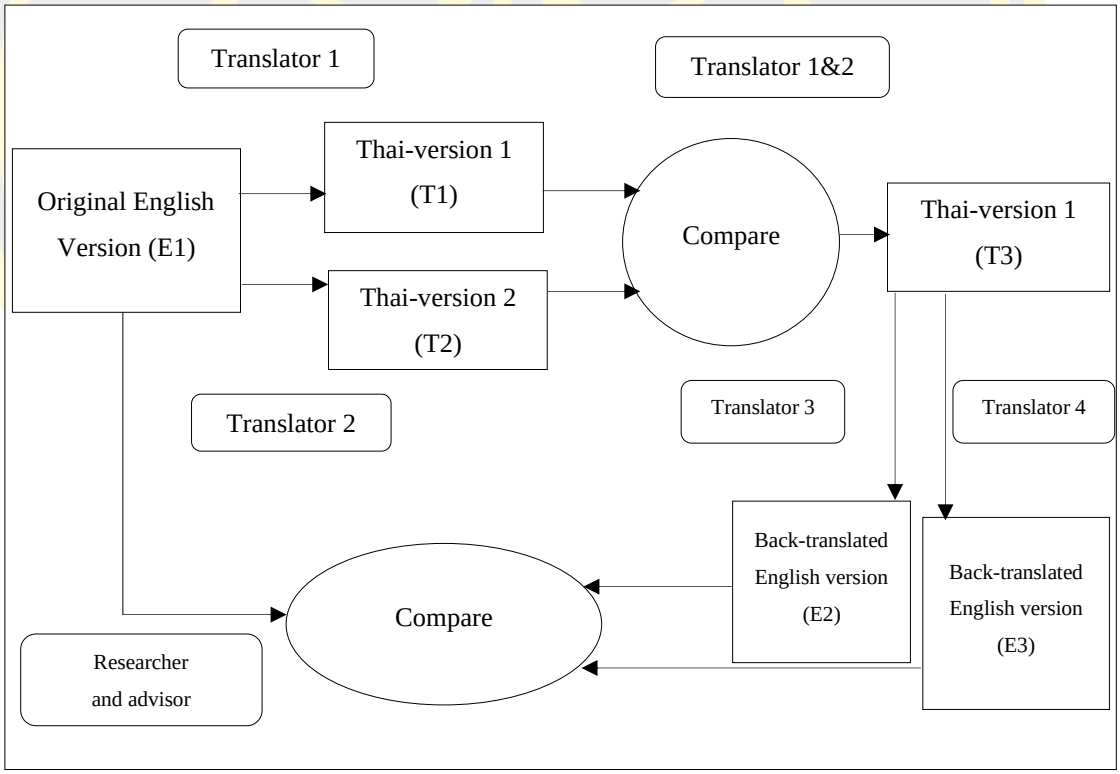


Figure 3-2 The back translation process

Psychometric properties of the data collection instruments

Reliability

The ITAQ Thai version, the DAI Thai version, and the MAQ questionnaires were tried out with 30 patients with similar characteristics of the study sample. The data obtained were used to calculate for reliability using Cronbach's alpha coefficient and Kuder-Richardson formula. The acceptable of reliability value for the scales should be at least .70 (Polit & Beck, 2004). After tried out, overall data collection instruments had acceptable of reliability value as follows: 1) The ITAQ-Thai version internal consistency reliability Cronbach's alpha for total was .82, 2) The DAI-Thai version internal consistency reliability Kuder-Richardson formula for total was .83, and 3) The MAQ internal consistency reliability Kuder-Richardson formula for total was .82.

2. The instruments for intervention

Instruments for intervention were the MIAT with family support program and the materials for promoting medication adherence among persons with schizophrenia.

2.1 The motivational interviewing-based adherence therapy [MIAT] with family support program: The MIAT with family support program was a set of nursing interventions developed by the researcher. It aimed to promote persons with schizophrenia to continue with medication adherence by emphasizing significant attributes of medication adherence included insight into illness, adherence attitude, and adherence behavior. This intervention was developed based on the concepts of motivational interviewing-based adherence therapy [MIAT], family support, and related literature reviews. The prime strategies concerning the key therapeutic applications of MIAT included 1) The initial step: challenging belief for assessing the thought process that affected to medication adherence and modification the pattern of thought, 2) The middle step: exchanging information and restructuring medication problem solving for providing knowledge towards schizophrenia disorder and its treatment and identify barriers with medication adherence and promoting effective coping strategies, and 3) The termination step: exploring ambivalence in order to promote positive change for eliminating ambivalence to adhere with medication, stigma reduction, and created a commitment to maintain medication adherence.

This program was implemented for participants in group. With the use of group process that has therapeutic factors (i.e., instillation of hope, universality, imparting information, etc.), more effectiveness of the intervention would be achieved. The program was organized based on treatment step by conducted with 3 times, every other week, a total of 5 weeks, each week consisted of 2 sessions, and took about 90-120 minutes. The details was summarized as below:

1. The initial step "challenging belief" consisted of two sessions. The details were described as follows:

Session I "Orientation and reviews about patients' medication taking pattern"

Objective: 1) To introduce of the MIAT with family support program, 2) To review patients' past and present state of medication taking pattern, and 3) To give feedback towards patients' medication taking that associated with the recurrence of psychiatric symptoms.

Methods: 1) Using the typical nonspecific therapeutic factors of warmth, genuineness, assertiveness, and empathy to develop therapeutic relationship between researcher and participants, 2) Explaining the major concepts and procedures of the MIAT with family support program and enhancing mutual responsibility between researcher and patients to set the goals, mission, and role throughout the program, 3) Using a medication timeline chart as a tool to capture past and present experiences of patients' illness and medication used, 4) Giving feedbacks about patients' pervious medication regimen for increase patients' awareness, and 5) Linking between the results of medication cessation and relapse for promote patient's better understanding towards medication adherence and provide positive reinforcement to adhere with medication.

Session II "Promoting patients' knowledge and understanding towards association between thinking process and medication taking"

Objective: 1) To assess the patients' thought process related to knowledge, attitude, and believes that affect to patients' medication adherence and 2) To restructure of pattern of thought related to illness and medication taking to be appropriate.

Methods: 1) Exploring patients' beliefs about illness and treatment by using ABC pattern of thought and validating participants' beliefs about medication, 2) Using Socratic dialogue based on CBT approach to guide the patient discover his/her idiosyncratic thoughts, feelings, or behaviors associated with medication nonadherence, 3) Attempting to modify the pattern of thought by generate discrepancies in patients' beliefs about mental illness and treatment, and 4) Encouraging "change talk" about good insight of illness and provide positive reinforcement.

2. The middle step "exchanging information and restructuring medication problem solving" consisted of two sessions. The details were described as follows:

Session III "Promoting families' knowledge and understanding towards facts about schizophrenia disorder and its treatment"

Objective: To provide psychoeducation about schizophrenia disorder and care required for changing misconception of illness and medication for patients and their family caregivers.

Methods: 1) Discussing about knowledge related to illness and treatment according to the actual problems and participants' needs, 2) Using psychoeducation to provide more accuracy regarding schizophrenia disorder with concern the past knowledge that there have before such as cause of illness, symptoms and signs of illness, cause of treatment, benefits of psychiatric medications, side effects of the psychiatric medications, and management for dealing with medication side effects, 3) Developing knowledge and skills of family caregivers about the strategies to help patients reduce adverse reactions from antipsychotic medication, management of medication taking with continuation, and detect of warning signs and give initial help to reduce the severity from the disease, 4) Encouraging patients and their family caregivers to summarize similarities and differences between previous knowledge and new knowledge and asked to weigh up the benefits and drawbacks of treatment, and 5) Encouraging "change talk" about positive attitudes towards medication and provide positive reinforcement.

Session IV "Enhancing effective solution for coping with medication problem"

Objective: 1) To identify barriers with medication adherence and 2) To develop patients' effective coping strategies in dealing with practical problems of medication taking, and 3) To build confidence of patients in promoting self-problem solving.

Methods: 1) Explaining and demonstrating the structure medication problem solving to address practical issues with medication taking follow the steps; a) analyzing problems and barriers, b) setting a new goal, c) identifying options for coping, d) evaluating the options, e) deciding upon a plan, and f) developing strategies plan for implementing in real situation, 2) Assigning patient to develop effective coping action plan based on the SOLVED technique, 3) Giving feedbacks about the patient's goals and action plan which possibilities, 4) Supporting self-efficacy by explicitly embrace patient autonomy and motivating patients move toward solving successfully, and 5) Encouraging the use of "change talk" to raise patient's confidence to solve medication problems and provide positive reinforcement.

3. The termination step "exploring ambivalence in order to promote positive change" consisted of two sessions. The details were described as follows:

Session V "Reducing and eliminating ambivalence to promote medication adherence"

Objective: 1) To give feedback about progress of patients' medication adherence and 2) To explore and eradicate patients' ambivalence related to medication adherence.

Methods: 1) Asking patient to evaluate the progress of medication adherence and their change in insight into illness, attitude and behavior throughout past and present, 2) Giving feedback about progress of patients' medication adherence, 3) Using a decisional matrix tool (the pros and cons of taking/ not taking medication) to explore patients' ambivalence about taking medication, 4) Assigning patient identify the characteristics of prodromal symptoms and analyzing the importance of early intervention to prevent a full-blown episode which associated to prevent recurrence of severe psychiatric symptoms, 5) Motivating patients to move forward in their live by consider "life goals" which associated with medication adherence, and 6)

Encouraging “change talk” about patients’ intention to maintain medication adherence and provide positive reinforcement.

Session VI “Reducing patients and family caregivers’ stigma, enhancing family support, and creating commitment to maintain medication adherence”

Objective: 1) To eliminate the patients’ feelings of self-stigma in having schizophrenia, 2) To eliminate family caregivers’ negative feelings associated with schizophrenia, and 3) To promote family caregivers in caring patients with schizophrenia, enhance social support, and commitment to maintain the medication adherence.

Methods: 1) Asking patients and their family caregivers to review about the past experiences related to stigma, 2) Using normalizing rationale to deal with stigma towards the illness and/ or medication, 3) Assigning patients and their family caregivers to analyze the advantages of illness and advantages of them, 4) Building self-esteem by pointing out the praiseworthy features in patients and their family caregivers, 5) Encouraging family caregivers to analyze methods for approaching patients to promote sustainable medication adherence and provide relevant knowledge corresponding with the need of family caregivers, and 6) Encouraging patients and their family caregivers to make a commitment to maintain medication adherence and recovery of illness and provide positive reinforcement.

In this program, the researcher provided material and homework included the practical guideline booklets in activity III and the medication adherence record homework in activity I to activity V. The details was described as follows:

2.2 The practical guideline booklets for persons with schizophrenia and their family: The researcher was developed 2 practical guideline booklets, one for persons with schizophrenia and the other for family caregivers. The researcher was developed these two booklets from various sources such as the reviewed articles, textbooks, and practical guideline for schizophrenic patients and family generated by the Department of Mental Health of Ministry of Public Health. The practical guideline booklet for the patients was provided information regarding schizophrenia disorder, antipsychotic medications, strategies to management of side effects and barrier of taking medication. While the practical guideline booklet for the family caregivers was provided information regarding strategies to support patient for maintain medication

adherence such as monitoring patient's medication taking, facilitate patient's changing adherence behavior, and enhancing patient's self-esteem. These two booklets were used to provide psychoeducation for the patients and family caregivers.

2.3 The medical adherence record used for weekly homework record since session I until session V. It was recorded about patients' adherent behavior and identify reasons for adherence or nonadherence. The researcher developed this instrument based on the concept of MI that explained as "behavior can change overtime". Therefore, the notebook was used for recorded patient's adherence behavior related to true implementation and barriers to adherence (reasons for adherence or nonadherence) and confirmed by family member. This notebook reflected overall attributes of medication adherence included insight into illness, adherence attitude, and adherence behavior.

Quality of intervention instruments

The two types of quality of intervention instruments consisted of content validity and feasibility

1. Content validity

The researcher developed the MIAT with family support program based on the concepts of motivational interviewing-based adherence therapy [MIAT], family support, and related literature reviews. The content validity of the MIAT with family support program was approved by three experts consisting of one psychiatrist, and two professors of mental health and psychiatric nursing. They reviewed, critiqued, and gave suggestion towards the MIAT with family support program. After that, the researcher revised the MIAT with family support program according to the suggestions from the three experts with the principal advisor and the co-advisor.

2. Feasibility of the intervention

After the researcher and major advisor revised content and others in the intervention following the experts' comments and suggestions. Then, the researcher was conducted the pilot intervention to test the feasibility of this intervention. The pilot study started with screening persons with schizophrenia based on inclusion criteria of participants who enrolled in the mental health and psychiatric outpatient department at Abhakorn Kiattiwong Hospital, Sattahip Naval Base, Chon Buri province, Thailand. After that, the researcher selected 8 patients who met

the inclusion criteria. The participants were given the ITAQ, the DAI, and MAQ-Thai version for pre-test before the start of the intervention (week 0). Then, they received MIAT with family support program consisting of six sessions (week 1-6). Overall sessions were conducted at outpatient department of Abhakorn Kiattiwong Hospital. The process of intervention for every session was proceeded according to the MIAT with family support program manual. Each session took around 45-60 minutes. After finishing this program, the participants were given the ITAQ, the DAI, and MAQ-Thai version for post-test at intervention completion (week 6) and follow-up test (week 10). In addition, they evaluated and reflected the program.

Feasibility of the program was determined by the retention of participants, and lesson learnt from the implementation of the program. During program implementation (6 weeks for six sessions), none of the patients or family caregivers withdrew. However, all of them suggested that the number of the activities should be reduced into 3 times based on the treatment step (i.e., initial step, middle step, termination step) by setting twice sessions instead once session per once time. The frequency of the program implementation should be organized every other week instead every week. Most patients and relatives have careers and daily tasks, they commented that if activities were organized every week, it would be difficult for them to participate in the program every time. In addition, if the researcher was able to set each treatment step same date of psychiatrist appointment, it would help the patient get more benefits and would not waste time traveling to the hospital many times. Therefore, the researcher modified the pattern of the MIAT with family support program by reducing into 3 treatment steps, organizing every other week, and setting each treatment step on the same date of psychiatrist appointment.

The problems of program implementation were reported that most participants took a long time to complete document in each session and did not finish in the group activity time frame. At first, the researcher assigned individual patient to complete his/her activity sheet. It made patients feel worried that the assignment was not completed in time. Therefore, the activity sheet should be done in the form of a group process to reduce the time for therapeutic. The researcher would encourage all members to participate in the group activity, give opinions, and exchange experiences. After that, the researcher would summarize the activity sheet based on information

provided by group members. Another suggestion was the participants thought it wasted of time traveling to the hospital for follow-up measures. The researcher was able to change the strategy for collecting data via telephone because overall questionnaires were easy to understand and took only 15 minutes to complete.

Acceptability of the program was determined by participants' ratings on the MIAT with family support program evaluation questionnaire and by participants' comments and suggestions. All participants accepted and satisfied the MIAT with family support program. For example, in the process of establishing a commitment to maintain medication adherence, one patient said "I like the activities that I attended because they make me feel not lonely, they enhance my self-esteem, and encourage me to improve myself in a better way" as well as a patients' caregiver who said, "These activities were very good, they make me know what the patients want and how I can help the patients correctly". Based on the participants' suggestions (i.e., 8 persons with schizophrenia, 8 family caregivers), the MIAT with family support program had been revised (Appendix D). The program was revised to 3 steps with 6 sessions. The finalized program was presented in Appendix E.

Protection of human rights

Prior to the beginning the program, this proposal and the research instruments were approved by the research ethics committee of Faculty of Nursing, Burapha University and the research ethics committee of Buddhasothorn hospital, Chachoegsao province for protection of human subjects. For interested volunteers, the researcher introduced herself to the participants and presented the research objectives, data collection, time spent for program activities, the advantages, and disadvantages of the study. Moreover, participants were informed that the data obtained from them were confidential such as name was replaced by code numbers. The participants' information were saved and protected by the researcher throughout the study. The questionnaire papers were kept in the filing cabinet and lock with key all the time. For the data stored on the computer, password was needed in order to access the data. All of the above information were accessed by researcher, research assistants, and advisors only. The researcher reported the whole of research results

without specifying participants' personal information. The participants' information were completely destroyed after the findings of this study was published.

After explanation and provision of any clarification which participant may encounter, participant was asked to sign the consent form and was randomly assigned into the control or intervention groups. This writing consent form was obtained prior to the data collection. Participants were informed that they were able to withdraw at any time without asking permission and there were no effects on their regular treatment provided by the hospital.

Data collection procedures

After approval by Institutional Review Board Graduate Studies, Faculty of Nursing, Burapha University and Institutional Review Board, Buddhasothorn hospital in Chachoengsao province, Thailand. Data collection procedure was conducted. In this study, data collection procedure consisted of three phases: Phase I preparing the research assistants, Phase II pilot study for preliminary program implementation (MIAT with family support program) and test its efficacy, and Phase III implement with the recruit participants. The data collection procedures as shown in Figure 3-3.

Phase I: Preparing the research assistants

This study had two research assistants who had the following duties: the first research assistant was randomly assigned the sample and the second research assistant, who did not know which group participants were in, administered the outcome measures (questionnaires). These two research assistants were registered nurses who worked at Buddhasothorn hospital in Chachoengsao province. They were trained about sampling methods, the process of data collection with questionnaire, and research ethics.

Phase II: Pilot study for preliminary program implementation (MIAT with family support program) and test its efficacy

Researcher developed the MIAT with family support program with derived from the concepts of motivational interviewing-based adherence therapy [MIAT], family support, and empirical findings. The pilot study was began with the screening of patients with schizophrenia who attended in the psychiatric outpatient department at Aphakorn Kiatwong Hospital, Sattahip Naval Base, Chon Buri province. After that,

the researcher selected eight patients with schizophrenia and their family caregivers who met the inclusion criteria. They were administered the ITAQ, the DAI, and the MAQ Thai version for pre-test (0 week) and MIAT with family support program that consisted of six sessions (six weeks) were conducted at psychiatric outpatient department at Aphakorn Kiatwong hospital. Each session took about 60 minutes. Patients with schizophrenia were gave the ITAQ, the DAI, and the MAQ Thai version for post-test at intervention completion (sixth weeks), and follow-up test (tenth weeks). After that, the researcher revised the MIAT with family support program following discussion of pilot study results with principal advisor and co-advisors. Details were shown in Appendix D.

Phase III: implement with the recruit participants

The researcher and two research assistants approached the persons with schizophrenia and their family caregivers who attended in the psychiatric outpatient department at Buddhasothorn hospital, Chachoengsao province and met the inclusion criteria. The researcher informed about the study: objectives, intervention program, confidentiality and anonymity issue, potential risks and benefits. Then, the participants were asked to sign a consent form. To avoid bias, double-blind technique was used by the research assistants who did the sampling procedure and performed data collection. The first research assistant did simple random sampling and randomly assigned 40 cases for study. The participants were randomly assigned into either intervention or control groups, and scheduled for the MIAT with family support program. Then, the researcher provided the MIAT with family support program to participants in six sessions (five week). The second research assistant, who did not know which group participants were in, administered the ITAQ, the DAI, and the MAQ Thai version to the all research participants for baseline assessment (pre-test), post-test at intervention completion (5 weeks), and 4 weeks after completion of the intervention (9 weeks).

The intervention group

The participants in the intervention group were received the MIAT with family support program at the psychiatric outpatient department at Buddhasothorn hospital, Chachoengsao province. It consisted of 6 sessions. The researcher organized pattern of program with 3 steps, each step consisted of 2 sessions, and conducted

every other week, took about 90-120 minutes, a total of 5 weeks. The researcher divided the participants in the intervention group into 2 subgroups in order to ensure fully participation. Both groups consisted of 10 patients and 10 family caregivers, a total of 20 members in each group. The researcher organized group activities every Tuesday and Thursday respectively. The details as follows:

1. Week 0: The second research assistant invited the participants to complete demographic information and pretest of the ITAQ, the DAI, and the MAQ-Thai version (T1). These assessments took about 30 minutes to be completed.

2. Week 1-5: The participants were provided treatment as usual [TAU] from healthcare providers in the psychiatric outpatient department at Buddhasothorn hospital combine with MIAT with family support program from the researcher. Therefore, during this implementation period of the program the participants received the treatment as usual from healthcare providers in hospital included mental status examination, record vital signs, and blood investigation for adjustment of antipsychotic. The summarized details of each week consisted of:

2.1 Week 1: Participants were assigned to review past and present states that related to experiences of antipsychotic medication use. Then, researcher demonstrated the linkage between medication cessation and relapse of psychiatric symptoms severity for promoting the appropriate thought process and good perception about illness and medication. After that, participants analyzed their situation that associated with distort thought and negative attitude towards medication and illness based on ABC model. Then, researcher and participants collaborated to modify the pattern of thought to be more appropriated lead to increase adherence behavior.

2.2 Week 3: Participants and researcher discussed about knowledge related to illness and treatment according to the actual problems and needs of patients and families. Then, participants were asked to weigh up the benefits and drawbacks of treatment for proper understanding about illness and treatments. After that, participants analyzed a medication problem based on SOLVED technique. Then, the researcher gave positive reinforcement in order to promote patients' self-efficacy for confidence in their potential to solve problems related to medication adherence was complemented.

2.3 Week 5: Participants were asked to identify barriers of medication adherence. Then, the researcher developed discrepancy for increase the patient's intrinsic motivation for change. After that, the researcher asked patients and their family about the stigma that impacted on disease and treatment plan of patients. Then the researcher used normalizing rationale to deal with stigma towards the illness and/ or medication. Promoting patients and their families to make commitment for sustainable medication adherence was conducted.

3. Week 5: After finishing the intervention, the second research assistant asked participants to complete post-test with the ITAQ, the DAI, and the MAQ-Thai version (T2). After the participants completed the programs from the researcher for one month, they had an appointment with the second research assistant to follow-up assessment by telephone. These assessments took about 15 minutes.

4. Week 9: 4 weeks after completing the intervention, the participants were invited to rate their medication adherence at follow-up state using the ITAQ, the DAI, and the MAQ-Thai version (T3) by telephone. It took about 15 minutes.

The control group

1. Week 0: The second research assistant introduced the details of assessment to participants for about 10-15 minutes. After that, the second research assistant collected baseline assessment (T1). The participants were asked to complete demographic information, the ITAQ, the DAI, and the MAQ-Thai version. It took about 30 minutes.

2. Week 1-5: Participants received the treatment as usual from healthcare providers in hospital including mental status examination, record vital signs, and blood investigation for adjustment of antipsychotic medication.

3. Week 5: After finishing the intervention, the second research assistant asked participants to complete post-test with the ITAQ, the DAI, and the MAQ-Thai version (T2). After that, they had an appointment with the second research assistant to follow-up assessment by telephone. These assessments took about 15 minutes.

4. Week 9: 4 weeks after completing the intervention, the participants were invited to rate their medication adherence at follow-up state using the ITAQ, the DAI, and the MAQ-Thai version (T3) by telephone. It took about 15 minutes.

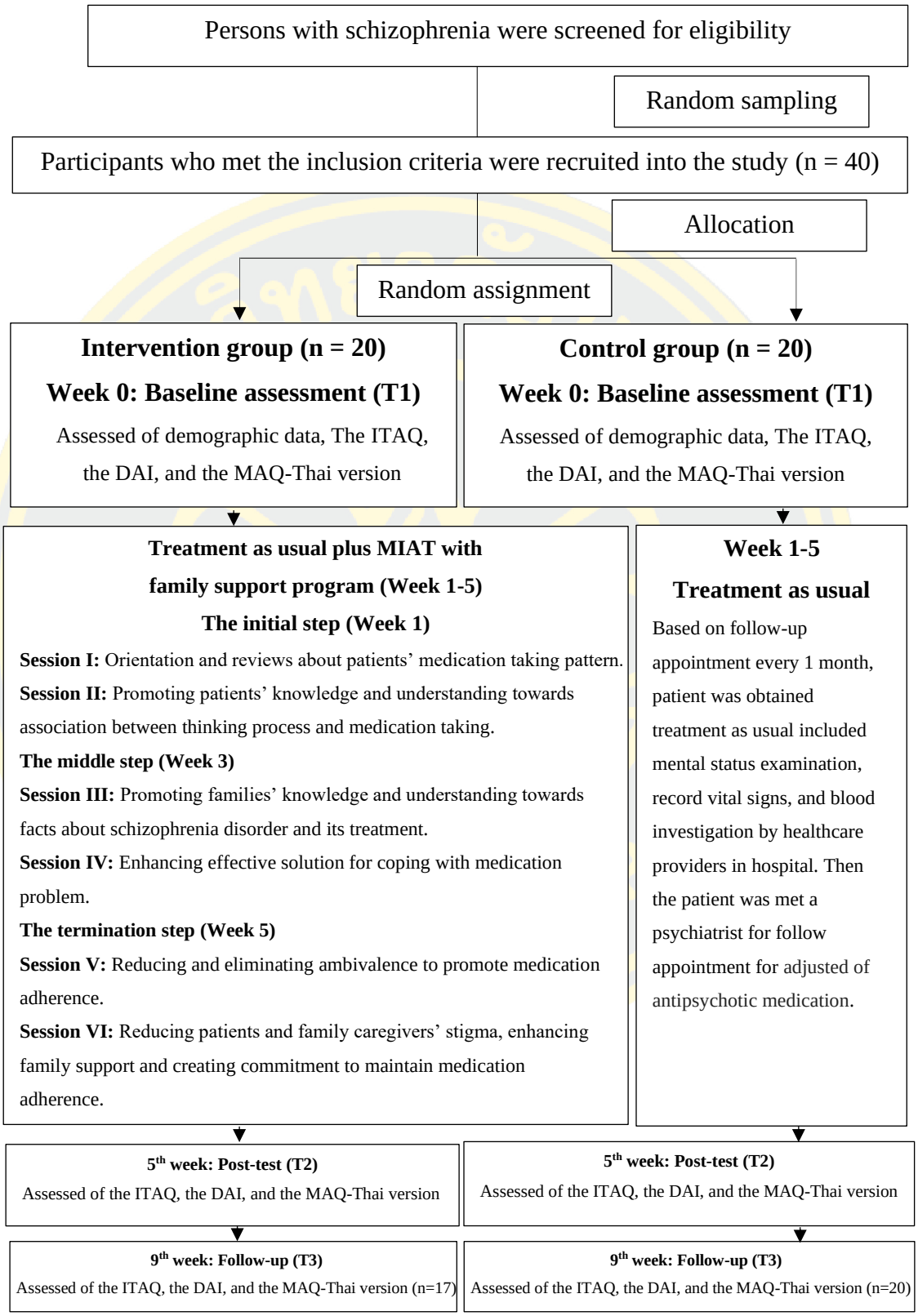


Figure 3-3 The data collection procedures

Data analyses

A statistical software program was used to analyze the data and test the assumption. The level of significance was set at .05. The researcher checked for accuracy for the data entry and checked for missing data, outliers of each variable, and tested statistical assumptions. The details were summarized as follows:

1. Demographic data of persons with schizophrenia and family caregivers were analyzed by using descriptive statistics comprising frequencies, percentages, means, and standard deviations.

2. Difference of demographic data on each group were examined using independent sample t-tests (for interval or ratio data) and goodness of fit chi-square tests (for categorical data).

3. Hypotheses were tested by using two-way repeated measures Analysis of Variance [ANOVA] for the outcome variables.

CHAPTER 4
RESULTS

This chapter presents the research findings included the participants' characteristics, descriptive statistics of dependent variables, evaluation of assumptions, and testing of research hypotheses.

Verification of the intervention by testing the effectiveness of MIAT with family support program

The results of this part are presented in two sections: 1) Characteristic of participants in the intervention and the control groups, 2) Descriptive statics of the outcome variables, and the effectiveness of the MIAT with family support program on the outcome variables.

1. Characteristic of participants in the intervention and the control groups

This study had 40 eligible participants. All of them were invited to participate and signed the informed consents. At the beginning process of data collection, 3 participants in the intervention group were dropped out, because they had to do a job, had exacerbation of symptoms, and his family's caregiver got a car accident respectively. Therefore, at the end, the participants of this study were 37 persons with schizophrenia.

1.1 Persons with schizophrenia characteristics

In the intervention group, there were 17 persons with schizophrenia with their mean age of 38.53 years old (*SD* = 10.40). The majority was male (64.7%), primary school completion was equal to high school (41.2%). For marital status, most of them are single (70.6%). All of them had work and mean income of 7,705 Baht/month (*SD* = 3618.78). More than one half of them reported having insufficient income (64.7%). Their mean of illness duration was 4.11 years (*SD* = 1.00) with mean number of times admitted in hospital was 1.24 (*SD* = .44).

In the control group, there were 20 persons with schizophrenia with their mean age of 42.10 years old (*SD* = 11.81). The majority was male (90%) with high

school completion (45.0%). For marital status, most of them are single (70.0%). All of them have work and mean income of 14,650 Baht/ month (*SD* = 12990.99). More than one half of them reported enough income (65%). Their mean illness duration of 4.70 years (*SD* = .98) with mean number of times admitted in hospital was 1.85 (*SD* = 1.39).

The persons with schizophrenia characteristics between the intervention and the control groups were compared using Pearson Chi-square test for categorical data. If the expected count was less than 5 per cell more than 20%, using Fisher's exact test, and *t*-test for continuous data to determine their differences. It was found no significant difference in all persons with schizophrenia characteristics between the intervention and the control groups, except the income. However, perceived the adequacy of income not difference ($p > .05$). According to treatment information related to medication used, all of participants in both groups received psychiatric medication in the antipsychotic group combined with sedative group (i.e., haloperidol, chlorpromazine, perphenazine, risperidone, clozapine, diazepam, lorazepam). Details were shown in Table 4-1.

Table 4-1 The demographic characteristics of persons with schizophrenia in the intervention and the control groups (n = 37)

Characteristics	**Intervention**		**Control**		***t*/ X^2**	***p*-value**
	n = 17		**n = 20**			
	n	**%**	**n**	**%**		
Age (years)	*M* = 38.53 (*SD* = 10.399, range = 23-59)		*M* = 42.10 (*SD* = 11.814, range = 20-59)		-.967[a]	.340
Gender						
Male	11	64.7	18	90.0	.3469[b]	.063
Female	6	35.3	2	10.0		

Table 4-1 (Continued)

Characteristics	Intervention n = 17		Control n = 20		t/X^2	*p*-value
	n	%	n	%		
Education level						
Uneducated	1	5.9	0	0.0	4.111[b]	.391
Primary school	7	41.2	6	30.0		
High school	7	41.2	9	45.0		
Vocational school	0	0.0	3	15.0		
Bachelor	2	11.8	2	10.0		
Marital status						
Single	12	70.6	14	70.0	3.131[b]	.372
Married	3	17.6	1	5.0		
Widowed	0	0.0	2	10.		
Divorced	2	11.8	3	15.0		
Occupational status						
Agriculturist	1	5.9	5	25.0	6.862[b]	.076
Self-employed	9	52.9	4	20.		
Civil service	1	5.9	0	00.0		
Other	6	35.3	11	55.0		
Income	*M* = 7705.88 (*SD* = 3618.783, range = 3,000-15,000)		*M* = 14650.00 (*SD* = 12990.989, range = 2,000-45,000)		-2.288[a]	.032
Adequacy of income						
Enough	6	35.3	13	65.0	3.246[b]	.072
Not enough	11	64.7	7	35.0		

Table 4-1 (Continued)

Characteristics	Intervention n = 17		Control n = 20		t/X^2	*p*-value
	n	%	n	%		
Duration of illness (year)	*M* = 4.11 (*SD* = 1.004, range = 2-5)		*M* = 4.70 (*SD* = .979, range = 1-5)		-.882[a]	.384
The number of hospitalization	*M* = 1.24 (*SD* = .437, range = 1-2)		*M* = 1.85 (*SD* = 1.387, range = 0-5)		-1.875[a]	.073

[a] = *t*-test, [b] = Fishers exact test

1.2 Characteristics of family caregivers of the intervention and control groups

In the intervention group, there were 17 family caregivers with their mean age of 65.88 years old (*SD* = 13.50). The majority were female (64.7%). They were parents (70.6%), 64.7% graduated primary school, and marital status, married status is equal with widowed status (47.1%). All of them were employees.

In the control group, there were 20 family caregivers with their mean age of 56.90 years old (*SD* = 16.26). The majority were female (65.0%). They were parents (60%), graduated primary school (60%), and marital status, married (45.0%). All of them were employees.

Family caregivers' characteristics between the intervention and the control groups were found no significant difference in all family caregivers characteristics ($p > .05$). Details were shown in Table 4-2.

Table 4-2 Characteristics of family caregivers of the intervention (n = 17) and the control groups (n = 20)

Characteristics	Intervention n = 17		Control n = 20		t / X^2	*p*-value
	n	%	n	%		
Age of family caregiver (years)	*M* = 65.88 (*SD* = 13.499, range = 42-86)		*M* = 56.90 (*SD* = 16.257, range = 22-86)		1.808[a]	.079
Gender						
male	6	35.3	7	35.0	.000[b]	.985
female	11	64.7	13	65.0		
Family members						
Father/ Mother	12	70.6	12	60.0	3.312[b]	.504
Husband/ Wife	3	17.6	2	10.0		
Children	1	5.9	2	10.0		
Brother/ Sister	0	0.0	3	15.0		
Relative	1	5.9	1	5.0		
Education level						
Uneducated	1	5.9	0	0.0	5.120[b]	.275
Primary school	11	64.7	12	60.0		
High school	2	11.8	5	25.0		
Vocational school	3	17.6	1	5.0		
Bachelor	0	0.0	2	10.0		
Marital status						
Single	0	0.0	2	10.0	4.915[b]	.296
Married	8	47.1	9	45.0		
Widowed	8	47.1	7	35.0		
Divorced	0	0.0	2	10.0		
Separated	1	5.9	0	0.0		

Table 4-2 (Contined)

Characteristics	Intervention n = 17		Control n = 20		t/X^2	*p*-value
	n	%	n	%		
Occupational status						
Agriculturist	1	5.9	3	15.0	3.667[b]	.453
Self-employed	5	29.4	5	25.0		
Personal business	5	29.4	2	10.0		
State enterprise	0	0.0	1	5.0		
Other	6	35.3	9	45.0		

[a] = *t*-test, [b] = Fishers exact test

2. Descriptive statics of the outcome variables

In this study, the outcome variables were medication adherence consisting of insight into illness, adherence attitude, and adherence behavior among persons with schizophrenia. Mean and standard deviations were used to describe these variables.

2.1 Insight into illness, adherence attitude, and adherence behavior among persons with schizophrenia

This study measured these three variables which represented medication adherence three times; pre-intervention, post-intervention, and one-month follow-up. The insight into illness was measured using the insight and treatment attitude questionnaire [ITAQ], adherence attitude was measured using the drug attitude inventory [DAI], and adherence behavior was measured using medication adherence questionnaire [MAQ] respectively.

For the intervention group, the mean scores of insight into illness among persons with schizophrenia at pre-intervention (baseline) and post-intervention measured by ITAQ were 13.76 (*SD* = 3.51) and 15.47 (*SD* = 4.70) respectively. In addition, the mean score of insight into illness among persons with schizophrenia of one-month follow-up was 17.59 (*SD* = 3.48), while the mean scores of adherence attitude at pre-intervention (baseline) and post-intervention measured by DAI were 18.47 (*SD* = 9.31) and 26.18 (*SD* = 3.03) respectively. In addition, the mean score of

adherence attitude of one-month follow-up was 27.35 (*SD* = 3.02), and the mean scores of adherence behavior at pre-intervention (baseline) and post-intervention measured by MAQ were 1.35 (*SD* = 1.46) and 2.00 (*SD* = 1.54) respectively. In addition, the mean score of adherence behavior one-month follow-up was 3.53 (*SD* = .87).

For the control group, the mean scores of insight into illness among persons with schizophrenia at pre-intervention (baseline) and post-intervention measured by ITAQ were 14.20 (*SD* = 3.30) and 13.55 (*SD* = 5.19) respectively. In addition, the mean score of insight into illness among persons with schizophrenia one-month follow-up was 11.95 (*SD* = 4.86), while the mean scores of adherence attitude at pre-intervention (baseline) and post-intervention measured by DAI were 21.55 (*SD* = 8.94) and 20.55 (*SD* = 10.22) respectively. In addition, the mean score of adherence attitude one-month follow-up was 19.30 (*SD* = 9.68), and the mean scores of adherence behavior at pre-intervention (baseline) and post-intervention measured by MAQ were 2.10 (*SD* = 1.45) and 2.30 (*SD* = 1.42) respectively. In addition, the mean score of adherence behavior one-month follow-up was 1.65 (*SD* = 1.04).

At pre-intervention, the difference in the insight into illness, adherence attitude, and adherence behavior among persons with schizophrenia between the intervention and the control groups were examined before evaluating the effect of the program. Independent *t*-test was used to examine the difference of variables between two groups. The results showed no significant difference of insight into illness, adherence attitude, and adherence behavior among persons with schizophrenia at pre-intervention between the intervention and the control groups ($p > .05$) indicating that there were similar groups at pre-intervention (baseline). The details were shown in Table 4-3.

Table 4-3 Comparisons of the mean scores of insight into illness, adherence attitude, and adherence behavior among persons with schizophrenia between the intervention and the control groups at baseline (Pre-test)

Variables	Groups	n	Mean	SD	*t*	*df*	*p*-value
Insight	intervention	17	13.76	3.509	-.388	35	.700
Into illness	control	20	14.20	3.302			
Adherence	intervention	17	18.47	9.308	-1.025	35	.312
attitude	control	20	21.55	8.935			
Adherence	intervention	17	1.35	1.455	-1.561	35	.128
behavior	control	20	2.10	1.447			

The mean scores of insight into illness, adherence attitude, and adherence behavior of the intervention group and the control group were not different between two groups when compared to pre-test measure. However, the intervention group after receiving the MIAT with family support program, the mean score of insight into illness increased from pre-test to post-test (M = 13.76, SD = 3.51 vs. M = 15.47, SD = 4.70 respectively), and increased from post-test to follow-up (M = 15.47, SD = 4.70 vs. M = 17.59, SD = 3.48 respectively). While in the control group, the mean score of insight into illness was not improved over time.

The same as the intervention group, after receiving the MIAT with family support program, the mean score of adherence attitude increased from pre-test to post-test (M = 18.47, SD = 9.31 vs. M = 26.18, SD = 3.03 respectively), and increased from post-test to follow-up (M = 26.18, SD = 3.03 vs. M = 27.35, SD = 3.02 respectively). While in the control group, the mean score of adherence attitude was not improved over time.

Furthermore, in the intervention group, after receiving the MIAT with family support program, the mean score of adherence behavior increased from pre-test to post-test (M = 1.35, SD = 1.46 vs. M = 2.00, SD = 1.54 respectively), and increased from post-test to follow-up (M = 2.00, SD = 1.54 vs. M = 3.53, SD = .87 respectively). While in the control group, the mean score of adherence behavior was not improved over time. In addition, when considering the mean scores according to insight into

illness, adherence attitude, and adherence behavior based on criterion of data collection instruments. It was found that the participants in the intervention group had better change of level of medication adherence consisted of insight into illness, adherence attitude, and adherence behavior at presented in Appendix F.

The insight into illness, adherence attitude, and adherence behavior scores of the intervention and the control groups at each point of measurement are presented in Table 4-4.

Table 4-4 Change over time of mean scores and standard deviation of insight into illness, adherence attitude, and adherence behavior at pre-test, post-test, and follow-up

Variables	**Groups**	**n**	**Pre-test**		**Post-test**		**Follow-up**	
			M	***SD***	***M***	***SD***	***M***	***SD***
Insight	intervention	17	13.76	3.509	15.47	4.692	17.59	3.483
into illness	control	20	14.20	3.302	13.55	5.186	11.95	4.861
Adherence	intervention	17	18.47	9.308	26.18	3.026	27.35	3.020
attitude	control	20	21.55	8.935	20.55	10.216	19.30	9.680
Adherence	intervention	17	1.35	1.455	2.00	1.541	3.53	.874
behavior	control	20	2.10	1.447	2.30	1.418	1.65	1.040

2.2 Examination of the effectiveness of the MIAT with family support program on insight into illness, adherence attitude, and adherence behavior among persons with schizophrenia

Two-way repeated measures ANOVA was used to examine the difference in medication adherence consisting of insight into illness, adherence attitude, and adherence behavior among persons with schizophrenia between the groups and times of measure (pre-intervention, post-intervention, and one-month follow-up). Bonferroni post-hoc was used for pairwise comparisons for within subject of the intervention group.

The testing assumption of repeated measures ANOVA: this study used 2 x 3 design (group x time) of repeated measures ANOVA. The between-subjects factor

was the intervention and the control groups. Repeated measures were time with three levels: pre-intervention, post-intervention, and one-month follow-up. Repeated measures ANOVA was used to examine the differences in the each outcome variable (insight into illness, adherence attitude, and adherence behavior) between the groups and across three times periods. There was no missing data in the data file. Then, test the assumptions were examined. The assumptions of analysis of repeated measures are: 1) individual and independent observation in each group do not influence another group, 2) sphericity (within-subject), 3) homogeneity of variance (between-subject), 4) the normality of distribution, and 5) absence of outliers (Hair, Black, Babin, & Anderson, 2010; Tabachnick & Fidell, 2007). An evaluation of assumptions of variances was done as follows:

1. The simple random sampling method was used to recruit a total of 40 participants and assigned the participants into intervention and the control groups. It could be interpreted that the samples in this study were individual and independent, no contamination of the samples in the intervention and the control groups.

2. The sphericity test of equality of the variance was the test of within-subjects effect by Mauchly's test. The results found that the Mauchly's sphericity test was non-significant (p >.05). It indicated that the homogeneity of variance-covariance matrices was equal. Thus, the sphericity of variance-covariance matrices assumption was met. Therefore, Sphericity Assumed was selected to report the results of repeated measure ANOVA in those aspects.

3. The Levene's test was used to test the assumption of homogeneity of variance for the between-subject design. The test of homogeneity of variances for the between-subject showed no significance (p >.05). Results indicated that the variance of the dependent variable between groups was equal. Then the Homogeneity of variance assumption was met.

4. A Shapiro-Wilk's test was greater than .05 (Tabachnick & Fidell, 2007), and a visual inspection of their histograms, normal Q-Q plots and box plot showed that the three dependent variables of this study were normally distributed for both the intervention and the control groups.

5. The univariate outlier of a variable was tested by Box-plot. It showed that both groups not had outlier. Then, no case was deleted from the analysis.

The results of hypothesis tested by ANOVA with repeated measures showed in Table 4-5 and 4-13.

Table 4-5 Main effect of insight into illness between times and interaction between times and groups

Source	***SS***	***df***	***MS***	***F***	***p*-value**
Within subjects					
Time	11.820	2	5.910	.325	.723
Time * Group	172.324	2	86.162	4.735	.011*
Error	1910.512	105	18.195		
Between subjects					
Group	155.434	1	155.434	8.111	.005*
Error	2088.890	109	19.164		

* $p < .05$

Table 4-6 Comparisons of estimated marginal mean differences of insight into illness between groups

Groups	***M***	***SE***	$M_{diff}(SE)$	***t***	***p*-value**
Total estimated marginal mean scores					
intervention	15.61	4.167	2.375(.834)	2.848	.005*
control	13.23	4.549			

* $p < .05$

Table 4-7 Pairwise comparison between the mean differences of insight into illness in the intervention and the control groups at pre-test, post-test, and follow-up

Group	Time	Time	Mean Difference	*SE*	*p*-value
intervention	pre-test	post-test	-1.706	1.350	.212
		follow-up	-3.824	1.350	.007**
	post-test	follow-up	-2.118	1.350	.123
control	pre-test	post-test	.650	1.431	.651
		follow-up	2.250	1.431	.121
	post-test	follow-up	1.600	1.431	.268

** $p < .01$

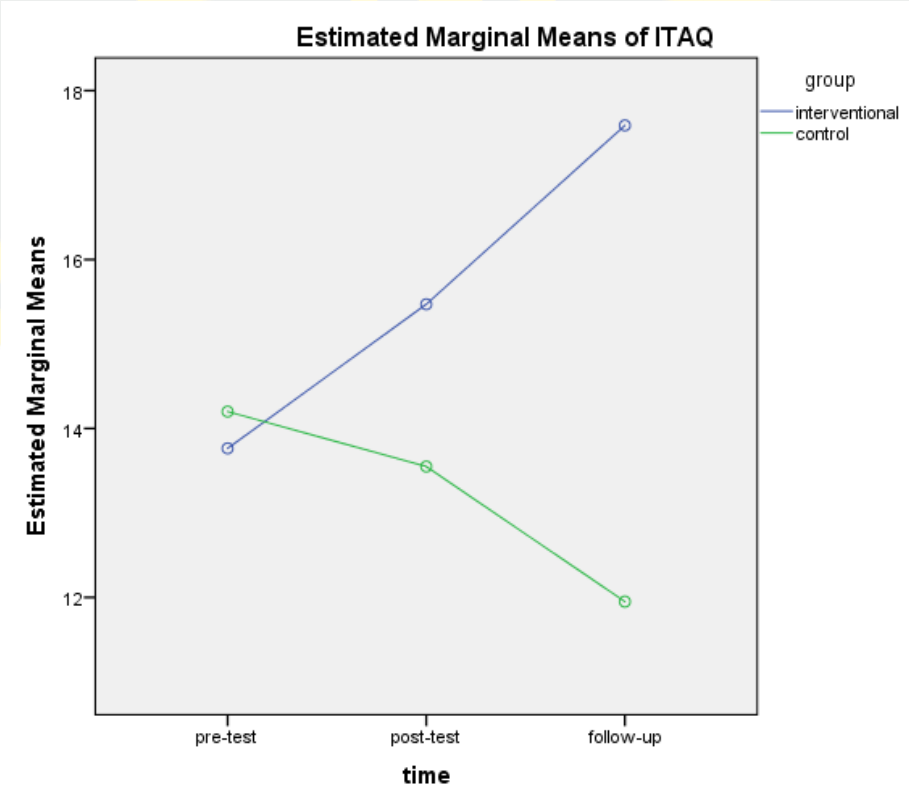


Figure 4-1 Change in insight into illness between the control and the intervention groups at pre-test, post-test, and follow-up

Table 4-5 and 4-6 shows the mean scores of insight into illness compared between and within groups. For between-subjects after completing 3-time measures, the participants in the intervention group had better mean scores of insight into illness than those in the control group ($F_{1,109}$ = 8.111, p = .005) with group mean difference (M_{diff} = 2.375, SE = .834).

For within-subject, the results showed that there were statistically significant differences of interaction effect (time*group) ($F_{2,105}$ = 4.735, p = .011). When comparing each pair of time, pairwise comparison of the means differences of insight into illness in the intervention group showed that the comparison between pre-test versus post-test was not significant (p > .05), pre-test versus follow-up was significant (p < .01), and post-test versus follow-up was not significant (p > .05). In the control group, when comparing between three-times points, the mean differences were not significant (Table 4-7). The line connected between each time point of the intervention group showed a dramatically increasing over time, while those in the control group had a consistent decrease change (Figure 4-1).

The finding indicated that the participants who received MIAT with family support program had good insight into illness better than those who did not receive.

Table 4-8 Main effect of adherence attitude between times and interaction between times and groups

Source	***SS***	***df***	***MS***	***F***	***p*-value**
Within subjects					
Time	272.497	2	136.249	2.056	.133
Time * Group	629.795	2	314.897	4.752	.011*
Error	6958.688	105	66.273		
Between subjects					
Group	344.166	1	344.166	4.809	.030*
Error	7800.933	109	71.568		

* p < .05

Table 4-9 Comparisons of estimated marginal mean differences of adherence attitude between groups

Groups	***M***	***SE***	$M_{diff}(SE)$	***t***	***p*-value**
Total estimated marginal mean scores					
intervention	24.00	7.029	3.533(1.573)	2.246	.027*
control	20.47	9.506			

* $p < .05$

Table 4-10 Pairwise comparison between the mean differences of adherence attitude in the intervention and the control groups at pre-test, post-test, and follow- up

Group	**Time**	**Time**	**Mean Difference**	***SE***	***p*-value**
intervention	pre-test	post-test	-7.706	2.028	.000**
		follow-up	-8.882	2.028	.000**
	post-test	follow-up	-1.176	2.028	.565
control	pre-test	post-test	1.000	3.044	.744
		follow-up	2.250	3.044	.463
	post-test	follow-up	1.250	3.044	.683

** $p < .001$

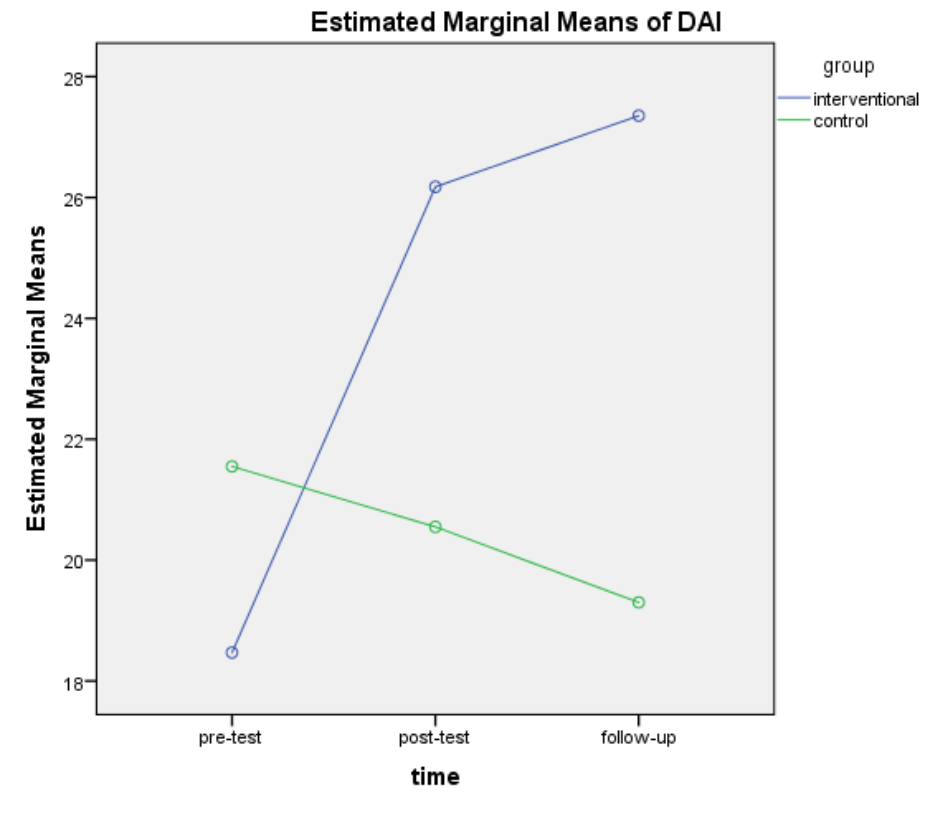


Figure 4-2 Change in adherence attitude between the control and the intervention groups at pre-test, post-test, and follow-up

Table 4-8 and 4-9 shows the mean scores of adherence attitude compared between and within groups. For between-subjects after completing 3-time measures, the results showed that the participants in the intervention group had mean scores of adherence attitude better than those in the control group ($F_{1,109} = 4.809$, $p = .030$) with group mean difference ($M_{diff} = 3.533$, $SE = 1.573$).

For within-subject, the results showed that there were statistically significant differences of interaction effect (time*group) ($F_{2,105} = 4.752$, $p = .011$). When comparing each pair of time, pairwise comparison of the mean differences of adherence attitude in the intervention group shows that the comparison between pre-test versus post-test was significant ($p < .001$), pre-test versus follow-up was significant ($p < .001$), and post-test versus follow-up was not significant ($p > .05$). In the control group, when comparing between three times points, the mean differences were not significant (Table 4-10). In the graph, a line connected between

each time point of the intervention group showed a dramatically increasing over time, while those in the control group had a consistent decrease change (Figure 4-2).

The finding could be interpreted that the participants who received MIAT with family support program had a positive attitude towards adherence than those who did not receive.

Table 4-11 Main effect of adherence behavior between times and interaction between times and groups

Source	***SS***	***df***	***MS***	***F***	***p*-value**
Within subjects					
Time	13.697	2	6.848	3.937	.022*
Time * Group	36.291	2	18.146	10.430	.000*
Error	182.668	105	1.740		
Between subjects					
Group	2.122	1	2.122	1.008	.318
Error	229.572	109	2.106		

* $p < .05$

Table 4-12 Comparisons of estimated marginal mean differences of adherence behavior between groups

Groups	***M***	***SE***	$M_{diff}(SE)$	***t***	***p*-value**
Total estimated marginal mean scores					
intervention	2.29	1.591	.277(.281)	.989	.325
control	2.02	1.321			

* $p < .05$

Table 4-13 Pairwise comparison between the mean differences of adherence behavior in the intervention and the control groups at pre-test, post-test, and follow-up

Group	Time	Time	Mean Difference	*SE*	*p*-value
intervention	pre-test	post-test	-.647	.454	.161
		follow-up	-2.176	.454	.000**
	post-test	follow-up	-1.529	.454	.001**
control	pre-test	post-test	-.200	.416	.632
		follow-up	.450	.416	.284
	post-test	follow-up	.650	.416	.124

** $p < .01$

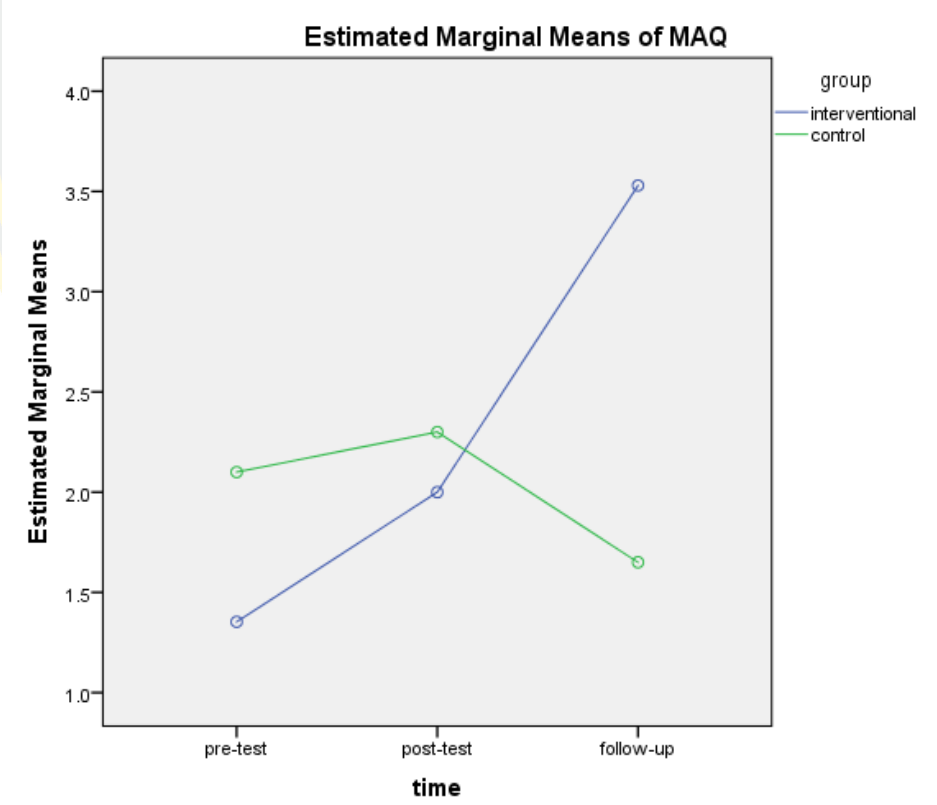


Figure 4-3 Change in adherence behavior between the control and the intervention groups at pre-test, post-test, and follow-up

Table 4-11 and 4-12 shows the mean scores of adherence behavior were compared between and within groups. For between-subjects after completing 3-time measures, there was no difference in adherence behavior between the participants in the intervention and the control groups ($F_{1,109} = 1.008$, $p = .318$) with group mean difference ($M_{diff} = .277$, $SE = .281$).

For within-subject, the results showed that there were statistically significant differences of interaction effect (time*group) ($F_{2,105} = 10.430$, $p = .000$). When comparing each pair of time, pairwise comparison of the mean differences of adherence behavior in the intervention group showed the between pre-test versus post-test was not significant ($p > .05$), pre-test versus follow-up was significant ($p < .01$), and post-test versus follow-up was significant ($p < .01$). In the control group, when comparing between three-times points the mean differences were not significant (Table 4-13). In the graph, a line connected between each time point of the intervention and the control group showed that both groups had increased scores of adherence behavior from pre-test to post-test, but in the control group had decreased score at follow-up (Figure 4-3).

The finding could be interpreted that the participants who received MIAT with family support program had continued appropriate adherence behavior better than those who did not receive.

CHAPTER 5
CONCLUSION AND DISCUSSION

This chapter presents details in three parts. The first part presents a summary of the study, including the research objectives, hypotheses, methodology, data analysis procedures, and findings. The second part presents a discussion, interpretation, and generalization of the findings. The final part presents suggestions and recommendations for nursing practice implications and future research.

Summary of the study

The research objectives of this study include 1) to compare medication adherence (i.e., insight into illness, adherence attitude, and adherence behavior) among persons with schizophrenia between the intervention group and the control group after completing MIAT with family support program and one-month follow-up. 2) to compare medication adherence among persons with schizophrenia in the intervention group across the three-time periods at baseline, after program completion, and one-month follow-up. An intervention was developed based on the concepts of motivational interviewing-based adherence therapy [MIAT], family support, and related literature reviews. A pilot study was conducted to see the feasibility of the intervention. After that, this study tested the effectiveness of the intervention using a randomized control trial. The effectiveness of the MIAT with family support program was tested at pre-intervention, post-intervention, and one-month follow-up. The sample who met the inclusion criteria included 17 persons with schizophrenia in the intervention and 20 persons in the control groups.

The intervention group received the MIAT with family support program combined with usual care. The control group received only usual care. Data was collected in both the intervention and the control groups using the ITAQ, the DAI, and MAQ-Thai version for evaluating medication adherence at pre-intervention, post-intervention, and one-month follow-up. There was non-significant difference regarding participants' demographic characteristics between these two groups. Repeated measures ANOVA was used to compare medication adherence

(i.e., insight into illness, adherence attitude, and adherence behavior) between the intervention and the control group and the change of medication adherence in the intervention group over time (i.e., pre-intervention, post-intervention, and one-month follow-up).

The research results:

Part I: Development of the MIAT with family support program

The researcher developed this program based on the concepts of motivational interviewing-based adherence therapy [MIAT], family support, and related literature reviews. Then, a pilot study was conducted to test the feasibility and acceptability of this intervention. The evaluation results from the persons with schizophrenia and family caregivers revealed that they mostly agreed on the content of this program. However, they recommended to reduce the treatment step into 3 times with 6 sessions, twice sessions per every other week instead 6 treatment steps with 6 sessions, once session per week. By combining 2 sessions that are connected together and setting the date of the program implementation to be on the same date of appointment with a psychiatrist. This pattern is beneficial to participants who had a career and daily tasks to be able to participate complete overall program. According to this suggestion, the pattern of the program was modified to be conducted every other week per once treatment step with 2 sessions for a total of 5 weeks. Other suggestions, at first the researcher assigned individual patient to complete his/her worksheets in the period of each treatment step. The participant felt anxious that he/she was unable to succeed in assigned activity. They recommended to complete their worksheets together with group members instead individual. Lastly, they wanted follow-up measures via telephone instead of meeting the researcher's assistant at the hospital.

Part II: Verification of the effectiveness of the program

The results showed that after completing intervention, the participants in the intervention group had statistically significant higher medication adherence (i.e., insight into illness, adherence attitude, and adherence behavior) than the control group at post-intervention and one-month follow-up ($F_{(3,103)} = 3.02$, $p < .05$) and the intervention group had a significant higher medication adherence between three-time points ($F_{(6,94)} = 6.08$, $p < .001$).

Discussion

The research findings of the effectiveness of motivational interviewing-based adherence therapy [MIAT] with family support program on medication adherence among persons with schizophrenia can be discussed based on the research hypotheses as follows:

Hypothesis I: The participants in the intervention group have a higher score of medication adherence including insight into illness, adherence attitude, and adherence behavior than those in the control group at post-intervention (week 5) and the follow-up stage (week 9).

The first hypothesis was supported by the findings that the participants who received the MIAT with family support program had a higher total score of insight into illness, adherence attitude, and adherence behavior after completing 3-time measures than those who did not receive with a mean difference of 2.375 (SE = .834, $F_{1,109}$ = 8.111, p = .005), 3.533, (SE = 1.573, $F_{1,109}$ = 4.809, p = .030), and .277 (SE = .281, $F_{1,109}$ = 1.008, p = .318) respectively. These results could be explained that the MIAT with family support program was developed to enhance medication adherence for the persons with schizophrenia based on the concepts of Motivational Interviewing-based Adherence Therapy of Gray et al. (2006), family support, and related literature reviews. The researcher used the key elements and procedures of MIAT to strengthen and improve significant indicators of medication adherence of participants in the intervention group. In each session, the key elements and methods of MIAT were used to modify participants' cognitive pattern from negative beliefs to be more reasonable, improve effective medication problem solving skill, and maintain appropriate medication taking behavior. These results were consistent with research which examined the effectiveness of the MIAT for schizophrenic patients (Anderson et al., 2010; Maneesakorn et al., 2007; Schulz et al., 2013; Von Bormann et al., 2015). Anderson et al. (2010) showed that after receiving the MIAT, 83% of schizophrenic patients had positive attitude towards medication adherence higher than the control group. Schulz et al. (2013) concluded that MIAT could be an effective approach in preventing psychiatric symptoms, improving adherence attitude and adherence behavior of schizophrenic patients in comparison with traditional approaches more than 3 months. Other researches conducted by Maneesakorn et al. (2007) and

Von Bormann et al. (2015), these researchers found that the MIAT could significantly reduce psychotic symptoms, enhance attitude towards medication and satisfaction with medication adherence behavior among the participants with schizophrenia disorder. Moreover, the strengths of MIAT based on previous studies noticed that the effects of MIAT targeting at patients' beliefs and insights into their illness/treatments seemed to be conclusive (Wai et al., 2015).

Three significant attributes of medication adherence were also compared between the two groups after completing 3-time measures. The results of medication adherence showed that the participants who received the MIAT with family support program had two significant attributes of medication adherence scores which were better than those in the control group including insight into illness (p = .005) and adherence attitude (p = .027). While the adherence behavior was not different between both groups (p = .325)

Insight into illness and adherence attitude: After completing 3- time measures, the results showed that the participants who received the MIAT with family support program had a mean score, which were insight into illness and adherence attitude, better than those who did not receive (p < .05). These results could be explained based on the concept of cognitive behavioral therapy [CBT] combined with motivational interviewing [MI], which was the theory foundation of MIAT.

The program's initial step focused on challenging belief for assessing the thought process that affected medication adherence and modifying the pattern of thought. When a patient could modify thought processes which are distorted or misinterpreted, then more appropriate thoughts and perceptions led the patient to reconsider his or her beliefs about illness and developed positive perceptions about treatment and medication. For example, some patients believed that "schizophrenia is a disease caused by superstition" or "psychiatric medication will accumulate in my body and cause them poisoning ". This misconception impacts on patients not to accept the illness or not take medication according to the treatment plan. Some patients agree to take medication because they were forced by their caregiver, which is not caused by their own will. In this step, group members would work together to raise Socratics' question and explore the answers that contradicted to irrational beliefs and adjusted them to be more rational leading the patients to have positive attitude towards

medication. These findings were also consistent with a study conducted by Wai et al. (2015) that MIAT could increase insight into illness and positive attitude towards medication adherence more than six months after completing the program.

Moreover, the middle step still focused on exchanging information for giving knowledge about schizophrenia disorder and its treatment. Combined with restructuring medication problem solving for identifying barriers with medication adherence and developing coping strategies, medication psychoeducation would provide information about the illness, treatment, management of the patient's illness behavior, improving problem-solving, and coping skills in illness management. This process helped patients and family caregivers visualize the history of the illness and previous self-care behaviors that were consistent with the recovery from illness or not. For example, some patients mentioned, "they combined morning pills with lunch pills because they had not eaten breakfast" or "they stopped some medication because it made them cannot wake up in the morning". In this step, their patients and family caregivers will exchange their experiences, share knowledge, modify coping skills, and practice in real situations. This leads to patients and their family caregivers' better understanding of themselves, increased awareness of the illness, and positive attitudes towards treatment. These results were consistent with the recommendation of Barkhof et al. (2012) and Mallakh and Findlay (2015) that medication psychoeducation and problem solving skills are necessary for psychiatric patients and family caregivers. Because self-understanding will lead them to use their ability and potential for sustainable solutions.

For the terminal step focused on exploring ambivalence to promote positive change for eliminating ambivalence to adhere to medication and stigma reduction, and to create a commitment to maintain medication adherence. This process obtained the essences of MI, by developing discrepancies between the patient's present behaviors and their own future goals, encouraging patients' opportunities to engage, and discussing their ambivalent attitudes towards their illness behaviors, treatments, and possible consequences of nonadherence. For example, some patients mentioned they stopped bedtime medicine because they felt sleeping well without medication taking, later, they had auditory hallucination. These step help patients explore high resistance or ambivalence to change behaviors and potential barriers that will hinder motivation

leads to patients' perception and concern for problems arising from nonadherence. The finding was consistent with the studies of Wai et al. (2013, 2015) They found that seeking barriers raise up awareness of patients, and that future goal will be achieved when they were involved in medication adherence. This is an important key to motivate patients to maintain medication adherence.

Moreover, based on the concept of family support and literature reviews, it was found that family caregivers are the significant key persons in promoting medication adherence. Therefore, also this step focusing on creating a social network was terminated and established a commitment between patients and their family caregivers about the role of each person in promoting recovery and medication adherence. Family caregivers would be developed competence such as ability to give advice, guidance, suggestions, and useful information to patients when they had medication problems. After finishing the program, the patients and their family caregivers had clear directions regarding their roles, goals, and hopes in life. These results were consistent with the recommendations of some previous studies included Sariah et al. (2014), Thiensan (2016), Wai and Sally (2013), and Wuthironarith (2017) that family caregivers took an important role in supporting patients to adhere to medication by enhancing patient's self-esteem when a patient's continued with medication taking, monitoring and giving feedback patient's medication taking, and facilitating patient's changing adherence behavior.

Adherence behavior: The results from this study showed that the participants in both the intervention and the control groups had no difference of adherence behavior ($p > .05$). It could be explained by two reasons. The first, it is possible that the participants from both groups are during initiate 5 years of schizophrenic diagnosis. They have more likely high risk to experience relapse and re-hospitalization. Therefore, family caregivers are strict for monitoring patients to take medication, especially within 3 months after discharging from the hospital. This reason may be due to adherence behavior between the intervention and the control groups is not different (Wuthironarith, 2017). In addition, most patients in two groups work at home causing not internal and external barrier factors that would obstruct patients' medication taking such as forgetting to bring medication to workplace, social stigma or personal sigma when taking psychiatric medication

(Velligan et al., 2017). Moreover, most patients are educated and have an occupation, they recognize the importance of continuous medication intake. These results were consistent with a study of Barkhof et al. (2012). They recommended that although the MIAT could increase medication adherence in term of insight into illness and adherence attitude, but recruiting moderately adherent patients might not provide sufficient potential to change adherence behavior. The second reason was the follow-up period in this study may be short causing no obvious difference in terms of adherence behavior between the intervention and the control groups. However, after a follow-up period, it was found that 9 out of 20 patients in the control group (45%) had a recurrence of severe mental symptoms in the form of auditory hallucination, visual hallucination, persecutory delusion, and suicide ideal. Of these cases, 2 out of 9 cases (22.22%) must be re-admitted to a psychiatric hospital. Thus, the follow-up period should be extended into long-term consistent with a study of Gray et al. (2016). They mentioned that nursing intervention which derived from MIAT was effective in symptom control, and showed significant improvement adherence behavior when it was measured at medium term (6 weeks-3 months) and long term (> 3 months-1 year).

Hypothesis II: Within the intervention group, the participants have higher mean score of medication adherence including insight into illness, adherence attitude, and adherence behavior at the follow-up stage (week 9) than those at post-intervention (week 5) and baseline (one week before intervention).

The second hypothesis was supported by the results that the patterns of mean score change were different between the intervention and the control groups. When comparing each pair of times by Bonferroni Post Hoc Tests of each variable, the results illustrated that the participants who received the MIAT with family support program had significant differences in mean scores of insight into illness, adherence attitude, and adherence behavior across the three-time periods at least one pair. By the findings showed that insight into illness had higher follow-up mean scores at week 9 than baseline at week 0 (p = .007). Adherence attitude both follow-up mean scores at week 9 and post-test mean scores at week 5 were higher than baseline at week 0 (p = .000). Adherence behavior follow-up mean scores at week 9 were higher than post-test at week 5 (p = .001) and also higher than baseline at week 0 (p = .000).

Moreover, the graph line connected each variable between each time point of the intervention group showed a dramatic increase over time. While the control group's was not significant differences in mean scores of insight into illness, adherence attitude, and adherence behavior across the three-time periods.

These results affirmed that the MIAT with family support program was the effective approach to enhance medication adherence for persons with schizophrenia. These results were consistent with the systematic reviews and meta-analysis from Gray et al. (2016) which found that MIAT is an effective intervention for schizophrenic patients to maintain medication adherence. It could be explained with three reasons. Firstly, the MIAT with family support program had practical guideline booklets for persons with schizophrenia and their family. The practical guideline booklet for the patients provided information regarding schizophrenia disorder, antipsychotic medications, strategies for management of side effects and barriers of taking medication. While the practical guideline booklet for the family caregivers was provided information regarding strategies to support the patient for maintaining medication adherence such as monitoring patient's medication taking, facilitate patient's changing adherence behavior, and enhancing patient's self-esteem. These booklets are beneficial to participants. It makes patients and their family caregivers tend to have better self-development. For example, more than half of patients and their family caregivers mentioned that "there are no psychiatric symptoms showing that it was healed". After they studied on the booklet, they found that schizophrenia disorder causing brain lesion and remaining of residual symptoms. Therefore, schizophrenia disorder is like diabetes or metabolic illness. They must continue with medication taking for preventing relapse. This strategy was consistent with the recommendation of Montes et al. (2012), Wai et al. (2015), and Morelli et al. (2015). They mentioned that, when patients have useful resources that can be studied by themselves. It makes patients recognize their potential and self-esteem leading to better self-development.

Secondly, based on the strategy of cognitive and behavior therapy, homework assignment with a mentor is necessary. It is used for patients to review their thoughts, feelings, and behaviors leading to understanding their problems and finding solutions to solve the problems (Beck, 1976). The MIAT with family program

had the medical adherence record. This record was used for weekly homework record since the first session until the fifth session. It was recorded about patients' adherent behavior and identifying reasons for adherence or nonadherence. This homework reflected overall attributes of medication adherence including insight into illness, adherence attitude, and adherence behavior. This will help patients recognize about the direction of their changes and develop themselves in the right direction. As determined by the initial patients' homework assignment, it was found that 8 out of 17 patients not cooperate in medication taking, but from the final patients' homework assignment, it was found that only 2 out of 17 patients still lacked of medication taking with one meal per week. This strategy was consistent with the recommendation of Barkhof et al. (2012).

Finally, the MIAT with family support program involves family caregivers into the therapeutic process. This strategy helps family caregivers improve their competence such as ability to give advice, guidance, suggestions and seek useful information for patients when they had medication problems. After this intervention, family caregivers took an important role in supporting patients to adhere to medication such as giving medication directly, supervising, monitoring the drug intake, and taking the patients to mental health facilities regularly. The finding was consistent with many previous evidences, they found that families play an important role to promote medication adherence (Sariah et al., 2014; Thiensan, 2016; Wai & Sally, 2013). Especially in the Thai context with collectivism culture, when the patient received positive support, these could help the patient enhance self-esteem and lead patients to maintain appropriate behavior (Wuthironarith, 2017).

The findings could be interpreted that the participants who received MIAT with family support program are more likely to have good insight into illness, positive attitude towards psychiatric medication, and appropriate medication adherence behavior. These results were consistent with the study of Gray et al. (2016).

Strengths and limitations

The strengths in this study are three points. Firstly, the MIAT with family support program is a new alternative nursing intervention approach that combines the strength of core elements of cognitive behavioral therapy [CBT],

motivational interviewing [MI], and family support which found to be effective in enhancing significant indicators of medication adherence such as insight into illness and adherence attitude. In addition, when considering the graph, it can be seen that persons with schizophrenia who received the program had a trend towards adherence behavior. Secondly, this study is robust in terms of research design. The researcher applied the randomized controlled trial [RCT] to test the effectiveness of the MIAT with family support program. This design is the most powerful method available for testing hypotheses of cause and effect relationships between variables (Polit & Beck, 2004). Thirdly, this study had a double-blind from the research assistants who used random procedure and collected data. They were not exposed to any intervention components. Therefore, they did not know the participants who received the MIAT with family support program or who did not receive. This helps in protecting the bias.

The limitation of this study was the collecting data from patients who diagnosed with schizophrenia disorder by a psychiatrist within 5 years and received outpatient treatment at one general hospital by oral psychiatric medications only. Therefore, the results cannot be generalized to persons with schizophrenia who are chronically ill or received treatment with inpatient at psychiatric hospital or treated with intramuscular psychiatric medications.

Suggestions and recommendations

Although, the MIAT with family support program is an effective nursing intervention for increasing medication adherence among persons with schizophrenia who are living in the community. But in practical, before using this program, a mental health and psychiatric nurse must be trained for the specific skills of cognitive behavioral therapy [CBT]. To recommend for further research, the program need to be modified to make it more simplify for clinical nurses to use in clinical settings. For example, we might use the common cognitive error instead of spending time to find cognitive error individually. Moreover, the pattern of the MIAT with family support program consisting of three steps containing 6 sessions within five week timeframe. The program had possibility for drop-out of participants. Therefore, the program need to have some strategies to monitor after finishing each step to prevent drop-out, such as phone tracking before an appointment date, a home visit, etc. In addition, in this

study the researcher only asked psychiatrist to screen the eligibility of participants. For the further study should have more systematic instruments and clinical standard for screening schizophrenic patients according to the inclusion criteria such as using brief psychiatric rating scale [BPRS] for assess the level of psychiatric symptoms, mini mental status examination [MMSE] for assess the cognitive impairment, medication adherence rating scale [MARS] for assess the level of medication adherence.

Finally, the researcher collected data in the follow-up period only at one-month period. The one month timeframe may not be long enough to capture significant change. Therefore, longer period of follow-up such as 3 months, 6 months or 1 year should be considered, in order to examine the sustainable effects of the MIAT with family support program. Furthermore, more sensitive measures for tracking adherence behavior change should also be taken into account.

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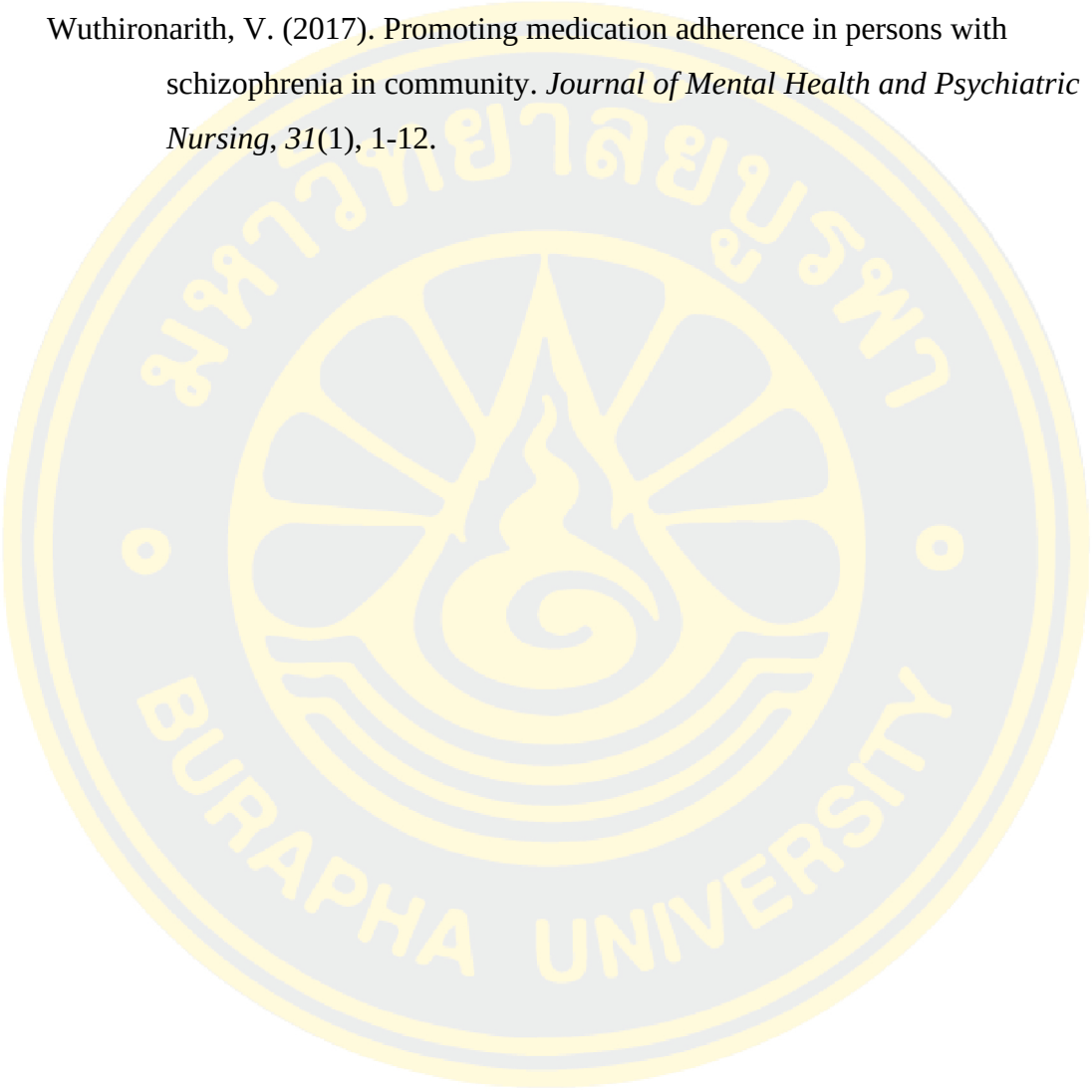

APPENDICES

APPENDIX A

Invitation letter

ที่ อว ๘๑๐๖/ ๐๐๔๔

มหาวิทยาลัยบูรพา คณะพยาบาลศาสตร์
๑๖๙ ถนนลงหาดบางแสน ตำบลแสนสุข
อำเภอเมือง จังหวัดชลบุรี ๒๐๑๓๑

๑๐ มิถุนายน ๒๕๖๒

เรื่อง ขออนุญาตเชิญบุคลากรในสังกัดเป็นผู้ทรงคุณวุฒิในการตรวจเครื่องมือเพื่อการวิจัย

เรียน คณบดีคณะแพทยศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย

สิ่งที่ส่งมาด้วย เครื่องมือที่ใช้ในการวิจัย

ด้วย นางสาวพรพรรณ สุดใจ รหัสประจำตัว ๖๐๘๑๐๐๐๗ นิสิตหลักสูตรปรัชญาดุษฎีบัณฑิต สาขาวิชาพยาบาลศาสตร์ (หลักสูตรนานาชาติ) คณะพยาบาลศาสตร์ มหาวิทยาลัยบูรพา ได้รับอนุมัติเค้าโครงดุษฎีนิพนธ์ เรื่อง "EFFECTS OF MOTIVATIONAL INTERVIEWING-BASED ADHERENCE THERAPY (MIAT) WITH FAMILY SUPPORT FOR PERSONS WITH SCHIZOPHRENIA: A RANDOMIZED CONTROLLED TRIAL" โดย รองศาสตราจารย์ ดร.นุจรี ไชยมงคล เป็นประธานกรรมการควบคุมดุษฎีนิพนธ์ ซึ่งอยู่ในขั้นตอนการเตรียมเครื่องมือเพื่อการเก็บรวบรวมข้อมูล

เนื่องจาก ผู้ช่วยศาสตราจารย์ นพ.ณัทธร พิทยรัตน์เสถียร บุคลากรในสังกัดของท่านเป็นผู้มีความเชี่ยวชาญ และประสบการณ์สูง ในการนี้ คณะฯ จึงขออนุญาตเชิญเป็นผู้ทรงคุณวุฒิในการตรวจเครื่องมือเพื่อการวิจัยของนิสิต จำนวน ๓ เครื่องมือ ดังนี้

๑. โปรแกรมเสริมสร้างแรงจูงใจร่วมกับการสนับสนุนของครอบครัวเพื่อความร่วมมือในการใช้ยาจิตเวชสำหรับผู้ป่วยจิตเภทในชุมชน

๒. คู่มือการศึกษาด้วยตนเอง เรื่อง ความรู้เกี่ยวกับโรคจิตเภทและแนวทางการดูแลตนเองสำหรับผู้ป่วยในชุมชน

๓. คู่มือการศึกษาด้วยตนเอง เรื่อง ความรู้เกี่ยวกับโรคจิตเภทและแนวทางการดูแลตนเองสำหรับผู้ดูแลในครอบครัว

ทั้งนี้ หากท่านมีปัญหาหรือต้องการข้อมูลเพิ่มเติม โปรดติดต่อผู้วิจัยได้ที่ โทร ๐๘ ๑๒๔๙ ๑๕๔๘

จึงเรียนมาเพื่อโปรดพิจารณาอนุญาตด้วย จะเป็นพระคุณยิ่ง

ขอแสดงความนับถือ

(ผู้ช่วยศาสตราจารย์ ดร.พรชัย จูลเมตต์)
คณบดีคณะพยาบาลศาสตร์ ปฏิบัติการแทน
ผู้ปฏิบัติหน้าที่อธิการบดีมหาวิทยาลัยบูรพา

งานบริการการศึกษา (บัณฑิตศึกษา) กลุ่มงานการบริการการศึกษาและวิเทศสัมพันธ์
โทรศัพท์ (๐๓๘) ๑๐๒๘๓๖, ๑๐๒๘๐๘
โทรสาร (๐๓๘) ๓๙๓๔๗๖
สำเนาเรียน ผู้ช่วยศาสตราจารย์ นพ.ณัทธร พิทยรัตน์เสถียร

ที่ อว ๘๑๐๖/๐๐๔๕

มหาวิทยาลัยบูรพา คณะพยาบาลศาสตร์
๑๖๙ ถนนลงหาดบางแสน ตำบลแสนสุข
อำเภอเมือง จังหวัดชลบุรี ๒๐๑๓๑

๑๐ มิถุนายน ๒๕๖๒

เรื่อง ขออนุญาตเชิญบุคลากรในสังกัดเป็นผู้ทรงคุณวุฒิในการตรวจเครื่องมือเพื่อการวิจัย

เรียน คณบดีคณะพยาบาลศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย

สิ่งที่ส่งมาด้วย เครื่องมือที่ใช้ในการวิจัย

ด้วย นางสาวพรพรรณ สุดใจ รหัสประจำตัว ๖๐๘๑๐๐๐๗ นิสิตหลักสูตรปรัชญาดุษฎีบัณฑิต สาขาวิชาพยาบาลศาสตร์ (หลักสูตรนานาชาติ) คณะพยาบาลศาสตร์ มหาวิทยาลัยบูรพา ได้รับอนุมัติเค้าโครงดุษฎีนิพนธ์ เรื่อง "EFFECTS OF MOTIVATIONAL INTERVIEWING-BASED ADHERENCE THERAPY (MIAT) WITH FAMILY SUPPORT FOR PERSONS WITH SCHIZOPHRENIA: A RANDOMIZED CONTROLLED TRIAL" โดย รองศาสตราจารย์ ดร.นุจรี ไชยมงคล เป็นประธานกรรมการควบคุมดุษฎีนิพนธ์ ซึ่งอยู่ในขั้นตอนการเตรียมเครื่องมือเพื่อการเก็บรวบรวมข้อมูล

เนื่องจาก ผู้ช่วยศาสตราจารย์ ดร.เพ็ญพักตร์ อุทิศ บุคลากรในสังกัดของท่านเป็นผู้มีความเชี่ยวชาญและประสบการณ์สูง ในการนี้ คณะฯ จึงขออนุญาตเชิญเป็นผู้ทรงคุณวุฒิในการตรวจเครื่องมือเพื่อการวิจัยของนิสิต จำนวน ๓ เครื่องมือ ดังนี้

๑. โปรแกรมเสริมสร้างแรงจูงใจร่วมกับการสนับสนุนของครอบครัวเพื่อความร่วมมือในการใช้ยาจิตเวชสำหรับผู้ป่วยจิตเภทในชุมชน

๒. คู่มือการศึกษาด้วยตนเอง เรื่อง ความรู้เกี่ยวกับโรคจิตเภทและแนวทางการดูแลตนเองสำหรับผู้ป่วยในชุมชน

๓. คู่มือการศึกษาด้วยตนเอง เรื่อง ความรู้เกี่ยวกับโรคจิตเภทและแนวทางการดูแลตนเองสำหรับผู้ดูแลในครอบครัว

ทั้งนี้ หากท่านมีปัญหาหรือต้องการข้อมูลเพิ่มเติม โปรดติดต่อผู้วิจัยได้ที่ โทร ๐๘ ๑๒๔๙ ๑๕๔๘

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ขอแสดงความนับถือ

(ผู้ช่วยศาสตราจารย์ ดร.พรชัย จูลเมตต์)
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สำเนาเรียน ผู้ช่วยศาสตราจารย์ ดร.เพ็ญพักตร์ อุทิศ

ที่ อว ๘๑๐๖/๐๐๔๗

มหาวิทยาลัยบูรพา คณะพยาบาลศาสตร์
๑๖๙ ถนนลงหาดบางแสน ตำบลแสนสุข
อำเภอเมือง จังหวัดชลบุรี ๒๐๑๓๑

๑๗ มิถุนายน ๒๕๖๒

เรื่อง ขออนุญาตเชิญบุคลากรในสังกัดเป็นผู้ทรงคุณวุฒิในการตรวจเครื่องมือเพื่อการวิจัย

เรียน คณบดีคณะพยาบาลศาสตร์ มหาวิทยาลัยมหิดล

สิ่งที่ส่งมาด้วย เครื่องมือที่ใช้ในการวิจัย

ด้วย นางสาวพรพรรณ สุดใจ รหัสประจำตัว ๖๐๘๑๐๐๐๗ นิสิตหลักสูตรปรัชญาดุษฎีบัณฑิต สาขาวิชาพยาบาลศาสตร์ (หลักสูตรนานาชาติ) คณะพยาบาลศาสตร์ มหาวิทยาลัยบูรพา ได้รับอนุมัติเค้าโครงดุษฎีนิพนธ์ เรื่อง "EFFECTS OF MOTIVATIONAL INTERVIEWING-BASED ADHERENCE THERAPY (MIAT) WITH FAMILY SUPPORT FOR PERSONS WITH SCHIZOPHRENIA: A RANDOMIZED CONTROLLED TRIAL" โดย รองศาสตราจารย์ ดร.นุจรี ไชยมงคล เป็นประธานกรรมการควบคุมดุษฎีนิพนธ์ ซึ่งอยู่ในขั้นตอนการเตรียมเครื่องมือเพื่อการเก็บรวบรวมข้อมูล

เนื่องจาก ผู้ช่วยศาสตราจารย์ ดร.อทิตยา พรชัยเกตุ โอว ยวง บุคลากรในสังกัดของท่านเป็นผู้มีความเชี่ยวชาญ และประสบการณ์สูง ในการนี้ คณะฯ จึงขออนุญาตเชิญเป็นผู้ทรงคุณวุฒิในการตรวจเครื่องมือเพื่อการวิจัยของนิสิต จำนวน ๓ เครื่องมือ ดังนี้

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๒. คู่มือการศึกษาด้วยตนเอง เรื่อง ความรู้เกี่ยวกับโรคจิตเภทและแนวทางการดูแลตนเองสำหรับผู้ป่วยในชุมชน

๓. คู่มือการศึกษาด้วยตนเอง เรื่อง ความรู้เกี่ยวกับโรคจิตเภทและแนวทางการดูแลตนเองสำหรับผู้ดูแลในครอบครัว

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จึงเรียนมาเพื่อโปรดพิจารณาอนุญาตด้วย จะเป็นพระคุณยิ่ง

ขอแสดงความนับถือ

(ผู้ช่วยศาสตราจารย์ ดร.พรชัย จูลเมตต์)
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โทรศัพท์ (๐๓๘) ๑๐๒๘๓๖, ๑๐๒๘๐๘
โทรสาร (๐๓๘) ๓๙๓๔๗๖
สำเนาเรียน ผู้ช่วยศาสตราจารย์ ดร.อทิตยา พรชัยเกตุ โอว ยวง

APPENDIX B

The IRB approval

THE INSTITUTIONAL REVIEW BOARD (IRB) FOR GRADUATE STUDIES
FACULTY OF NURSING, BURAPHA UNIVERSITY, THAILAND

Thesis Title Effects of Motivation Interviewing-based Adherence Therapy (MIAT) with Family Support for Persons with Schizophrenia: A Randomized Controlled Trial

Name Miss Pornpun Sudjai
ID: 60810007
Doctor of Philosophy in Nursing Science (International Program)

Number of the IRB approval 05 – 07 – 2562

The Institutional Review Board (IRB) for graduate studies of Faculty of Nursing, Burapha University reviewed your submitted proposal. The contingencies have been addressed and the IRB **approves** the protocol. Work on this project may begin. This approval is for a period of one year from the date of this letter and will require continuation approval if the research project extends beyond **September 16th, 2020**.

If you make any changes to the protocol during the period of this approval, you must submit a revised protocol to the IRB committee for approval before implementing the changes.

Date of Approval September 16th, 2019

Chintana Wacharasin, R.N., Ph.D.

Chairperson of the IRB
Faculty of Nursing, Burapha University, THAILAND

Tel.: 66-038-102823
Fax: 66-038-393476
E-Mail: naruemit@buu.ac.th

ที่ ฉช ๐๐๓๒.๑๐๓/๒๕๕๐๕

โรงพยาบาลพุทธโสธร
๑๗๔ ถนนมรุพงษ์ อำเภอเมือง
จังหวัดฉะเชิงเทรา ๒๔๐๐๐

๒๓ พฤศจิกายน ๒๕๖๒

เรื่อง แจ้งผลการพิจารณาจริยธรรมการวิจัยในคน

เรียน นางสาวพรพรรณ สุดใจ

อ้างถึง หนังสือคณะพยาบาลศาสตร์ มหาวิทยาลัยบูรพา ที่ อว ๘๑๐๖/๐๖๑๑ ลงวันที่ ๒๕ กันยายน ๒๕๖๒

สิ่งที่ส่งมาด้วย ๑. เอกสารรับรองโครงการวิจัย จำนวน ๑ แผ่น

ตามที่ ท่านได้ส่งโครงร่างงานวิจัย เรื่อง "ผลของโปรแกรมการส่งเสริมความร่วมมือในการใช้ยาโดยบูรณาการการเสริมสร้างแรงจูงใจร่วมกับการสนับสนุนในครอบครัวสำหรับผู้ป่วยจิตเภท" เพื่อขออนุมัติศึกษาวิจัยในคน ในโรงพยาบาลพุทธโสธร ดังมีรายละเอียดตามเอกสารแนบมาแล้ว นั้น

ในการนี้คณะกรรมการวิจัยและจริยธรรมการวิจัยในคน โรงพยาบาลพุทธโสธร ได้พิจารณาโครงร่างการวิจัยเรื่องดังกล่าว และเอกสารที่เกี่ยวข้องเสร็จเรียบร้อยแล้ว ที่ประชุมมีมติเป็นเอกฉันท์ให้การรับรองโครงร่างการวิจัยฯ รายละเอียดตามเอกสารรับรองโครงการวิจัยฯ ที่แนบมาพร้อมนี้

จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ

(นางสาวสมบัติ ชุติมานุกูล)
ผู้อำนวยการโรงพยาบาลพุทธโสธร

กลุ่มงานพัฒนาทรัพยากรบุคคล
โทร/โทรสาร. ๐ ๓๘๘๑ ๔๓๗๕-๘ ต่อ ๓๒๓๒

เอกสารรับรองโครงการวิจัย เลขที่ BSH-IRB 099/๒๕๖๒

โดย

คณะกรรมการพิจารณาจริยธรรมการวิจัยในคน โรงพยาบาลพุทธโสธร

ชื่อโครงการ : โครงการวิจัยเรื่อง "ผลของโปรแกรมการส่งเสริมความร่วมมือในการใช้ยาโดยบูรณาการการเสริมสร้างแรงจูงใจร่วมกับการสนับสนุนในครอบครัวสำหรับผู้ป่วยจิตเภท"

ผู้วิจัยหลัก : นางสาวพรพรรณ สุดใจ

คณะกรรมการจริยธรรมการวิจัยในคน โรงพยาบาลพุทธโสธร พิจารณาแล้ว มีมติเอกฉันท์ให้การรับรอง โครงร่างการวิจัยตามขอบข่ายที่เสนอขอดำเนินการวิจัย

วันที่รับรอง : ๒๖ พฤศจิกายน ๒๕๖๒

วันหมดอายุ : ๒๕ พฤศจิกายน ๒๕๖๓

โดยผู้วิจัยจะดำเนินการวิจัยในโรงพยาบาลพุทธโสธร ดังนี้

๑. มีกระบวนการคุ้มครองอาสาสมัครงานวิจัย ตามรายละเอียดที่เสนอขออนุมัติจริยธรรมวิจัย

๒. ดำเนินการเก็บรวบรวมข้อมูลตามกระบวนการวิจัยที่ขอรับการรับรองทุกขั้นตอน

๓. รายงานเหตุการณ์ไม่พึงประสงค์ที่เกิดขึ้นกับอาสาสมัครเข้าร่วมการวิจัยต่อคณะกรรมการฯ

๔. รายงานความก้าวหน้า/การยุติโครงการวิจัยต่อคณะกรรมการฯ

๕. ส่งรายงานวิจัย ฉบับสมบูรณ์แก่โรงพยาบาลพุทธโสธร จำนวน ๑ เล่ม

ลงนาม.....
(นายเวทิส ประทุมศรี)
ประธานคณะกรรมการพิจารณาจริยธรรมการวิจัยในคน
โรงพยาบาลพุทธโสธร

ลงนาม.....
(นางสาวสมบัติ ชุติมานุกูล)
ผู้อำนวยการโรงพยาบาลพุทธโสธร

APPENDIX C

Permission letter to use the data collection instruments

ที่ อว ๘๑๐๖/ ๑๘๙๑

มหาวิทยาลัยบูรพา คณะพยาบาลศาสตร์
๑๖๙ ถนนลงหาดบางแสน ตำบลแสนสุข
อำเภอเมือง จังหวัดชลบุรี ๒๐๑๓๑

๑๐ มิถุนายน ๒๕๖๒

เรื่อง ขออนุญาตใช้เครื่องมือการวิจัย

เรียน คณบดีสำนักวิชาพยาบาลศาสตร์ มหาวิทยาลัยเทคโนโลยีสุรนารี

ด้วย นางสาวพรพรรณ สุดใจ รหัสประจำตัว ๖๐๘๑๐๐๐๗ นิสิตหลักสูตรปรัชญาดุษฎีบัณฑิต สาขาวิชาพยาบาลศาสตร์ (หลักสูตรนานาชาติ) คณะพยาบาลศาสตร์ มหาวิทยาลัยบูรพา ได้รับอนุมัติเค้าโครงดุษฎีนิพนธ์ เรื่อง "EFFECTS OF MOTIVATIONAL INTERVIEWING-BASED ADHERENCE THERAPY (MIAT) WITH FAMILY SUPPORT FOR PERSONS WITH SCHIZOPHRENIA: A RANDOMIZED CONTROLLED TRIAL." โดยมี รองศาสตราจารย์ ดร.นุจรี ไชยมงคล เป็นประธานกรรมการควบคุมดุษฎีนิพนธ์

ทั้งนี้ นางสาวพรพรรณ สุดใจ มีความประสงค์ขออนุญาตใช้เครื่องมือการวิจัย คือ HOGAN DRUG ATTITUDE INVENTORY (DAI)-THAI VERSION (2007) ซึ่งเป็นส่วนหนึ่งของงานวิจัย เรื่อง "AN RCT OF ADHERENCE THERAPY FOR PEOPLE WITH SCHIZOPHRENIA IN CHIANG MAI, THAILAND" ของ ดร.ศุภาพิชญ์ โฟน โบร์แมนน์ ซึ่งตีพิมพ์ใน JOURNAL OF CLINICAL NURSING เพื่อนำมาใช้ในการเก็บข้อมูลการทำดุษฎีนิพนธ์ในครั้งนี้

จึงเรียนมาเพื่อโปรดพิจารณาอนุญาตด้วย จะเป็นพระคุณยิ่ง

ขอแสดงความนับถือ

(ผู้ช่วยศาสตราจารย์ ดร.พรชัย จูลเมตต์)
คณบดีคณะพยาบาลศาสตร์ ปฏิบัติการแทน
ผู้ปฏิบัติหน้าที่อธิการบดีมหาวิทยาลัยบูรพา

งานบริการการศึกษา (บัณฑิตศึกษา)
โทรศัพท์ (๐๓๘) ๑๐๒๘๓๖, ๑๐๒๘๓๕
โทรสาร (๐๓๘) ๓๙๓๔๗๖
ผู้วิจัย ๐๘-๑๒๔๘-๓๕๔๘

๓๗๙/๒๖ ก.ค. ๒๕๖๒

คณะพยาบาลศาสตร์เกื้อการุณย์
มหาวิทยาลัยนวมินทราธิราช
เลขรับ ๑๐๖๐
วันที่ ๒๕ ก.ค. ๒๕๖๒

ที่ อว ๘๑๐๖/๗๒๖

มหาวิทยาลัยบูรพา คณะพยาบาลศาสตร์
๑๖๙ ถนนลงหาดบางแสน ตำบลแสนสุข
อำเภอเมือง จังหวัดชลบุรี ๒๐๑๓๑

๑๕ กรกฎาคม ๒๕๖๒

เรื่อง ขออนุญาตใช้เครื่องมือการวิจัย

เรียน คณบดีคณะพยาบาลศาสตร์เกื้อการุณย์ มหาวิทยาลัยนวมินทราธิราช

ด้วย นางสาวพรพรรณ สุดใจ รหัสประจำตัว ๖๐๘๑๐๐๐๗ นิสิตหลักสูตรปรัชญาดุษฎีบัณฑิต สาขาวิชาพยาบาลศาสตร์ (หลักสูตรนานาชาติ) คณะพยาบาลศาสตร์ มหาวิทยาลัยบูรพา ได้รับอนุมัติเค้าโครงดุษฎีนิพนธ์ เรื่อง "EFFECTS OF MOTIVATIONAL INTERVIEWING-BASED ADHERENCE THERAPY (MIAT) WITH FAMILY SUPPORT FOR PERSONS WITH SCHIZOPHRENIA: A RANDOMIZED CONTROLLED TRIAL" โดยมี รองศาสตราจารย์ ดร.นุจรี ไชยมงคล เป็นประธานกรรมการควบคุมดุษฎีนิพนธ์

ทั้งนี้ นางสาวพรพรรณ สุดใจ มีความประสงค์ขออนุญาตใช้เครื่องมือการวิจัย คือ MORISKY MEDICATION ADHERENCE SCALE (MMAS)-THAI VERSION (๒๐๐๐) แปลโดย อาจารย์พนิตนันท์ วงศ์สุวรรณ ซึ่งเป็นส่วนหนึ่งของงานวิจัย เรื่อง "DEVELOPMENT OF INSTRUMENT FOR KEEP TAKING MEDICINE AND MOTIVATION IN TAKING MEDICINE AMONG ELDERLY HYPERTENSION IN COMMUNITY" ของ อาจารย์พนิตนันท์ วงศ์สุวรรณ ซึ่งตีพิมพ์ใน วารสารการพยาบาลและการศึกษา ปีที่ ๑๐ ฉบับที่ ๑ มกราคม-มีนาคม ๒๕๖๐ เพื่อนำมาใช้ในการเก็บข้อมูลการทำดุษฎีนิพนธ์ในครั้งนี้

จึงเรียนมาเพื่อโปรดพิจารณาอนุญาตด้วย จะเป็นพระคุณยิ่ง

ขอแสดงความนับถือ

(ผู้ช่วยศาสตราจารย์ ดร.พรชัย จูลเมตต์)
คณบดีคณะพยาบาลศาสตร์ ปฏิบัติการแทน
ผู้ปฏิบัติหน้าที่อธิการบดีมหาวิทยาลัยบูรพา

งานบริการการศึกษา (บัณฑิตศึกษา)
โทรศัพท์ (๐๓๘) ๑๐๒๘๓๖, ๑๐๒๘๗๕
โทรสาร (๐๓๘) ๓๙๓๔๗๖
ผู้วิจัย ๐๘-๑๒๔๙-๑๕๔๘

APPENDIX D

The table of modified MIAT with family support program based on pilot study

The modification of the MIAT with family support program after pilot study Details of pilot study

1. Pattern of the program: Conducted in 6 weeks, 1 session per week, and each session took around 45-60 minutes. The researcher implemented program on 12, 19, 26 September and 3, 10, 17 October 2019 at the therapy room of Aphakorn Kiatwong Hospital, Sattahip Naval Base, Chon Buri province.

2. The participants: A total of 8 adult patients who diagnosed with schizophrenia since 4 months to 5 years, received treatment by mental health and psychiatric outpatient department with oral antipsychotics medication only, had history of re-hospitalization due to medication non-adherence at least 1 time or the first schizophrenia diagnosed. In session 3 and session 6, one patient's relatives such as mother, father, and brother were involved in the program. During six weeks of program implementation, none of the patients or family caregivers withdrew.

3. Issues and results of the program modification after pilot study

Issues	**MIAT with family support program (Before pilot study)**	**MIAT with family support program (After pilot study)**
1) Suitability of the pattern of program	1.1) This program consisted of three steps with six sessions.	The pattern of program could be group together in order to suit the actual practice as follow: 1.1) The number of session had been reduced into 3 times. Each time consisted of 2 sessions as follow: (a) The initial step consisted of 2 sessions (session 1 and session 2). The essences of both sessions were continuous because it was surveyed of psychiatric medication used patterns and distorted thoughts that associated with past medication used patterns. (b) The middle step consisted of 2

Issues	MIAT with family support program (Before pilot study)	MIAT with family support program (After pilot study)
		sessions (session 3 and session 4). It was an exchange of knowledge about illness and its treatment, which can extend to the problems caused by medication and problem management. (c) The termination step consisted 2 sessions (session 5 and session 6). The contents that obtained in both activities were related to each other by examined the ambivalent and created a commitment to continuing medication adherence. For the pattern of modified therapeutic activities, total participants and a psychiatrist suggested that this pattern is beneficial to participants who had a career and daily tasks to be able to participate complete overall program.
	1.2) The duration and frequency of sessions were organized one session per week, a total of 6 weeks.	1.2) The duration and frequency of program were organized three-times of treatment steps with 6 sessions, twice sessions per every other week. By combining 2 sessions that are connected together and setting the date of the program implementation to be on the same date of appointment with a psychiatrist. For duration and frequency of modified program, the

Issues	MIAT with family support program (Before pilot study)	MIAT with family support program (After pilot study)
		researcher set the program implementation same date of a psychiatrist's appointment. Total participants and a psychiatrist mentioned that it's help patients to save traveling costs and time to participate in this program.
	1.3) The length for implemented step between 45 to 60 minutes for each time.	1.3) The program was extended length of each step between 90 to 120 minutes. According to, the modified program, each step was organized with twice sessions instead one session. It increased essences of the objectives of each session and spend more time to complete the document. However, the researcher allowed patients and their family caregivers to intermittently relax during the program implementation.
2) Suitability of documents (activity sheets and work sheets) and individual work assignment	2) The document consisted of activity sheets and work sheets according to the objectives of each activity. There were a total of 11 documents.	2) The document had been appropriate. For work sheets that researcher assigned patients to do homework, patients can did it by themselves. Because the researcher provided examples and gave initial recommendations before assigned. For activities sheets, at first, the researcher assigned for individual patient but

Issues	MIAT with family support program (Before pilot study)	MIAT with family support program (After pilot study)
during group process		patient could not complete during therapeutic time. The participants suggested that some documents could be work together. Because some problems of each person were similar to the group members. For example, the second activity sheet, thinking process related to psychiatric medication used, most of the persons distorted in the same way with they had normal people or fear with severe illnesses from prolong used psychiatric medication.
3) Suitability of collecting data at follow-up stage	3) The follow-up stage at 1 month after the competition of the program by appointment patient into the outpatient department. RA used questionnaires to evaluate the research results. It took around 15-20 minutes.	3) The participants suggested that they thought it waste time for traveling to the hospital because overall questionnaires were easy to understand and took only 15 minutes to complete. Therefore, the researcher changed the strategy of the collecting data via telephone.

APPENDIX E

The MIAT with family support program

รายงานผลการดำเนินโปรแกรมการส่งเสริมความร่วมมือในการใช้ยา โดยบูรณาการการเสริมสร้างแรงจูงใจร่วมกับการสนับสนุนในครอบครัว (Motivational Interviewing based Adherence Therapy with Family Support Program)

จัดทำโดย

นางสาวพรพรรณ สุดใจ นิสิตปริญญาเอก

รองศาสตราจารย์ ดร.ภรภัทร เฮงอุดมทรัพย์ อาจารย์ที่ปรึกษาหลัก

รองศาสตราจารย์ ดร.นุจรี ไชยมงคล อาจารย์ที่ปรึกษาร่วม

หลักสูตรปรัชญาดุษฎีบัณฑิต สาขาวิชาพยาบาลศาสตร์ (นานาชาติ)

คณะพยาบาลศาสตร์ มหาวิทยาลัยบูรพา

คำนำ

โรคจิตเภท เป็นโรคทางจิตเวชที่ก่อให้เกิดความบกพร่องเป็นอันดับหนึ่ง โดยผู้ป่วยจะมีความผิดปกติในด้านกระบวนการคิด การรับรู้ และพฤติกรรมที่เบี่ยงเบนไป ส่งผลให้การทำหน้าที่ทางสังคม เช่น การดูแลตนเอง การเข้าสังคม และการประกอบอาชีพสูญเสียไป ไม่เพียงแต่ผลกระทบเหล่านี้จะเกิดกับผู้ป่วย แต่ยังส่งผลทางลบต่อผู้ดูแลในครอบครัวด้วย อย่างไรก็ตามโรคจิตเภทสามารถรักษาได้ด้วยการรับประทานยาทางจิตเวชอย่างต่อเนื่อง ซึ่งในความเป็นจริงกลับพบว่า ผู้ป่วยไม่ร่วมมือในการใช้ยาทางจิตเวช (Medication nonadherence) มากถึงร้อยละ 30-50 ซึ่งเป็นสาเหตุให้ผู้ป่วยมีอัตราการกำเริบของอาการทางจิตที่รุนแรง เรื้อรัง และกลับเข้ารับการรักษาซ้ำในโรงพยาบาลบ่อยครั้ง โดยในแต่ละปีประเทศไทยต้องสูญเสียค่าใช้จ่ายในรักษาผู้ป่วยกลุ่มนี้อย่างมหาศาล ทั้งนี้ปัญหาการไม่ร่วมมือในการใช้ยาทางจิตเวชนั้น เกิดจากปัจจัยสำคัญ คือ การไม่รับรู้การเจ็บป่วย การมีทัศนคติที่ไม่ดีต่อการใช้ยาทางจิตเวช และการมีพฤติกรรมการใช้ยาทางจิตเวชไม่เหมาะสม นโยบายของกรมสุขภาพจิต จึงมุ่งเน้นไปที่การเพิ่มความตระหนักรู้ถึงการเจ็บป่วยทางจิต การสร้างทัศนคติที่ดีต่อการรักษา และการส่งเสริมพฤติกรรมการร่วมมือในการใช้ยาอย่างยั่งยืน รวมทั้งมุ่งเน้นให้ผู้ดูแลในครอบครัวเข้ามามีส่วนร่วมในการส่งเสริมพฤติกรรมการรับประทานยาทางจิตเวชอย่างต่อเนื่องอีกด้วย

จากสภาพปัญหาดังกล่าว เพื่อเป็นการเสริมสร้างปัจจัยสำคัญที่ก่อให้เกิดร่วมมือในการใช้ยาเหล่านี้ ผู้วิจัยจึงพัฒนาโปรแกรมการส่งเสริมความร่วมมือในการใช้ยาทางจิตเวช โดยนำมาจากแนวคิดการบำบัดเพื่อการยึดมั่นในยา (Adherence Therapy: AT) ซึ่งแนวคิดดังกล่าวเป็นการบูรณาการของการบำบัดทางความคิดและพฤติกรรม (Cognitive Behavioral Therapy: CBT) ร่วมกับเทคนิคการสัมภาษณ์เพื่อเสริมสร้างแรงจูงใจ (Motivational Interviewing: MI) โดยมุ่งเน้นให้ผู้ป่วยมีการปรับเปลี่ยนกระบวนการคิดเกี่ยวกับโรคและการรักษาของตนเองให้ถูกต้องเหมาะสม มีทัศนคติเชิงบวกต่อการใช้ยาทางจิตเวช สามารถขจัดปัญหาและอุปสรรคที่จะมาขัดขวางพฤติกรรมการคงไว้ซึ่งการรักษาด้วยยาของตนเองได้ นอกจากนี้ผู้วิจัยยังได้ประยุกต์แนวคิดแรงสนับสนุนทางครอบครัว (Family support concept) โดยเน้นให้ครอบครัวเข้ามาเป็นบุคคลสำคัญที่จะช่วยส่งเสริมให้ผู้ป่วยมีพฤติกรรมการร่วมมือในการใช้ยาทางจิตเวชอย่างยั่งยืน

ทั้งนี้ผู้วิจัยหวังเป็นอย่างยิ่งว่า โปรแกรมการส่งเสริมความร่วมมือในการใช้ยาโดยบูรณาการการเสริมสร้างแรงจูงใจร่วมกับการสนับสนุนในครอบครัวสำหรับผู้ป่วยจิตเภทในชุมชนนี้ จะเป็นแนวทางในการดูแลผู้ป่วยรูปแบบหนึ่งที่จะช่วยให้ผู้ป่วยมีความร่วมมือในการใช้ยาทางจิตเวช อันจะส่งผลต่อการลดอาการกำเริบทางจิตเวช และการกลับเข้ารับการรักษาตัวซ้ำในโรงพยาบาลได้

นางสาวพรพรรณ สุดใจ
นิสิตปริญญาเอก คณะพยาบาลศาสตร์ ม.บูรพา

สารบัญ

เรื่อง **หน้า**

แผนการดำเนินโปรแกรมการส่งเสริมความร่วมมือในการใช้ยาโดย
บูรณาการการเสริมสร้างแรงจูงใจร่วมกับการสนับสนุนในครอบครัว

วัตถุประสงค์ 1

ขอบเขตการใช้โปรแกรม 1

ระยะเวลาที่ใช้ในการดำเนินโปรแกรม 2

ตารางการทำกิจกรรมในโปรแกรมการส่งเสริมความร่วมมือในการใช้ยา 2

กรอบการดำเนินโปรแกรมการส่งเสริมความร่วมมือในการใช้ยา

- ครั้งที่ 1 การสร้างสัมพันธภาพและทบทวนเกี่ยวกับแบบแผนการใช้ยาทางจิตเวชและการสร้างความเข้าใจระหว่างกระบวนการคิดกับการใช้ยาทางจิตเวช 4
- ครั้งที่ 2 การเรียนรู้ร่วมกันเกี่ยวกับโรคจิตเภทและการรักษา และการพัฒนากระบวนการแก้ไขปัญหาการใช้ยาอย่างมีประสิทธิภาพ 6
- ครั้งที่ 3 การลดและขจัดความลังเลใจที่จะร่วมมือในการใช้ยาทางจิตเวชอย่างต่อเนื่อง และการลดการรับรู้ตราบาป สร้างแรงสนับสนุนและพันธะสัญญาของผู้ป่วยและญาติในการคงไว้ซึ่งความร่วมมือในการใช้ยาทางจิตเวช 7

สรุปเอกสารใบกิจกรรมและใบงานประกอบการดำเนินโปรแกรมบำบัด 9

ภาพกิจกรรมการดำเนินโปรแกรมบำบัด 21

แบบวัดคุณลักษณะสำคัญที่เกี่ยวข้องกับความร่วมมือในการใช้ยา 24

เอกสารอ้างอิง 29

แผนการดำเนินโปรแกรมการส่งเสริมความร่วมมือในการใช้ยา โดยบูรณาการการเสริมสร้างแรงจูงใจร่วมกับการสนับสนุนในครอบครัว

แผนการดำเนินโปรแกรมการส่งเสริมความร่วมมือในการใช้ยาโดยบูรณาการการเสริมสร้างแรงจูงใจร่วมกับการสนับสนุนในครอบครัว เป็นส่วนหนึ่งของเครื่องมือวิจัยที่ใช้ประกอบการทำดุษฎีนิพนธ์เรื่อง “Effectiveness of motivational interviewing – based adherence therapy (MIAT) with family support program on medication adherence for persons with schizophrenia: A randomized controlled trial” ซึ่งผู้วิจัยพัฒนาโปรแกรมการส่งเสริมความร่วมมือในการใช้ยาทางจิตเวชจากแนวคิดการบำบัดเพื่อการยึดมั่นในยา (Adherence Therapy: AT) ซึ่งแนวคิดดังกล่าวเป็นการบูรณาการของการบำบัดทางความคิดและพฤติกรรม (Cognitive Behavioral Therapy: CBT) ร่วมกับเทคนิคการสัมภาษณ์เพื่อเสริมสร้างแรงจูงใจ (Motivational Interviewing: MI) โดยมุ่งเน้นให้ผู้ป่วยมีการปรับเปลี่ยนกระบวนการคิดเกี่ยวกับโรคและการรักษาของตนเองให้ถูกต้องเหมาะสม มีทัศนคติเชิงบวกต่อการใช้ยาทางจิตเวช สามารถขจัดปัญหาและอุปสรรคที่จะมาขัดขวางพฤติกรรมการคงไว้ซึ่งการรักษาด้วยยาของตนเองได้ นอกจากนี้ผู้วิจัยยังได้ประยุกต์แนวคิดแรงสนับสนุนทางครอบครัว (Family support concept) โดยเน้นให้ครอบครัวเข้ามาเป็นบุคคลสำคัญที่จะช่วยส่งเสริมให้ผู้ป่วยมีพฤติกรรมการร่วมมือในการใช้ยาทางจิตเวชอย่างยั่งยืน

วัตถุประสงค์

เพื่อเพิ่มคุณลักษณะสำคัญ (significant attributes) ที่เกี่ยวข้องกับความร่วมมือในการใช้ยา (medication adherence) ได้แก่ ความหยั่งรู้การเจ็บป่วย (insight into illness) ทัศนคติเชิงบวกต่อความร่วมมือในการใช้ยา (positive attitude towards adherence) และ พฤติกรรมความร่วมมือในการใช้ยาที่เหมาะสม (appropriated adherence behavior) ในผู้ป่วยจิตเภทที่เข้ารับการรักษาแบบผู้ป่วยนอก ณ โรงพยาบาลพุทธโสธร

ขอบเขตการใช้โปรแกรม

<u>กลุ่มเป้าหมาย</u>

ผู้ป่วยที่ได้รับการวินิจฉัยว่าเป็นโรคจิตเภทตามคู่มือการวินิจฉัยโรคทางจิตเวช (ICD-10) ที่เข้ารับการรักษาในแผนกจิตเวชผู้ป่วยนอกของโรงพยาบาลพุทธโสธร จังหวัดฉะเชิงเทรา จำนวน 40 คน โดยคัดเลือกผู้ป่วยจากผู้ป่วยโรคจิตเภทในชุมชนที่มีคุณสมบัติตามเกณฑ์ในการคัดเข้าและคัดออกดังนี้

<u>เกณฑ์ในการคัดเลือกผู้ป่วยเข้าร่วมโปรแกรม</u>

Inclusion Criteria

1. ได้รับการวินิจฉัยว่าเป็นโรคจิตเภทโดยจิตแพทย์ไม่เกิน 5 ปี
2. มีอายุระหว่าง 20-59 ปี ทั้งเพศชายและเพศหญิง
3. ไม่มีโรคร่วมที่เกี่ยวข้องกับการเรียนรู้บกพร่อง การติดสารเสพติด และโรคซึมเศร้ารุนแรง
4. มีประวัติความไม่ร่วมมือในการใช้ยาทางจิตเวช โดยพิจารณาจากบันทึกทางการแพทย์
5. ได้รับการพิจารณาจากจิตแพทย์ว่าผู้ป่วยสามารถเข้าร่วมโปรแกรมได้
6. มีญาติที่เป็นผู้ดูแลหลักในครอบครัว 1 ท่าน ที่มีอายุตั้งแต่ 20 ปีขึ้นไป และสามารถเข้าร่วมโปรแกรมการบำบัดในกิจกรรมย่อยครั้งที่ 3 และ 6 ได้
7. มีความสามารถในการอ่าน เขียน และพูดภาษาไทย
8. พำนักอยู่ในพื้นที่จังหวัดฉะเชิงเทรา
9. ยินยอมเข้าร่วมโปรแกรมทุกครั้งด้วยความเต็มใจ

Exclusion criteria

1. ได้รับการรักษาด้วยยาทางจิตเวชชนิดฉีดเท่านั้น
2. มีการกลับเป็นซ้ำของอาการทางจิตรุนแรงที่ส่งผลต่อความสามารถในการเข้าร่วมโปรแกรม

Discontinuation criteria

1. ได้รับการรักษาตัวในโรงพยาบาลจากอาการทางกายหรืออาการทางจิตในระหว่างเข้าร่วมโปรแกรม
2. ไม่สามารถเข้าร่วมโปรแกรมได้ทุกครั้ง

ระยะเวลาที่ใช้ในการดำเนินโปรแกรม

รูปแบบการจัดโปรแกรมที่ใช้ในการดำเนินการวิจัยกำหนดให้มี 3 ขั้นตอน ตามการประยุกต์จากสาระสำคัญของ AT แต่ละขั้นตอนประกอบด้วย 2 กิจกรรม ซึ่งจะดำเนินโปรแกรมการวิจัยสัปดาห์เว้นสัปดาห์ รวมระยะเวลาทั้งสิ้น 5 สัปดาห์ ครั้งละ 90-120 นาที ในรูปแบบของกระบวนการกลุ่ม และให้ญาติผู้ดูแลหลักของผู้ป่วยจิตเภทเข้าร่วมในกิจกรรมที่ 3 กับ 6 รายละเอียดของกิจกรรมโดยสรุปมีดังนี้

ตารางที่ 1 รูปแบบการดำเนินกิจกรรมโปรแกรมการส่งเสริมความร่วมมือในการใช้ยาโดยบูรณาการการเสริมสร้างแรงจูงใจร่วมกับการสนับสนุนในครอบครัวโดยสังเขป

สัปดาห์	ขั้นตอน/วัตถุประสงค์	กิจกรรมย่อย/เป้าหมาย
สัปดาห์ที่ 1 (ครั้งที่ 1)	**ขั้นเริ่มต้น (The initial step)** การตรวจสอบความเชื่อที่บิดเบือนเกี่ยวกับโรคและการรักษา (Challenging belief) มีวัตถุประสงค์เพื่อสำรวจความเชื่อและปรับเปลี่ยนความคิดที่บิดเบือนที่เกี่ยวข้องกับการเจ็บป่วย และการไม่คงอยู่ในการรักษาด้วยยาทางจิตเวช	แบ่งออกเป็น 2 กิจกรรมย่อย ได้แก่ **กิจกรรมที่ 1** การสร้างสัมพันธภาพและทบทวนเกี่ยวกับแบบแผนการใช้ยาทางจิตเวช (Orientation and reviews about patients' medication taking pattern) **กิจกรรมที่ 2** การสร้างความเข้าใจระหว่างกระบวนการคิดกับการใช้ยาทางจิตเวช (Promoting patients' knowledge and understanding towards association between thinking process and medication taking) ในขั้นตอนนี้มีเป้าหมายในการให้ผู้ป่วยเกิดความตระหนักต่อการเจ็บป่วยทางจิต (illness awareness) และยอมรับการเจ็บป่วยตามความเป็นจริง (insight into illness) และมีทัศนคติที่ดีต่อการรักษาด้วยยาทางจิตเวช (positive attitude towards medication)
สัปดาห์ที่ 3 (ครั้งที่ 2)	**ขั้นกลาง (The middle step)** การแลกเปลี่ยนข้อมูลด้านความเจ็บป่วยและการรักษาที่ถูกต้อง (Exchanging information) และ การปรับโครงสร้างการจัดการปัญหาการใช้ยาไม่ต่อเนื่อง (Restructuring medication problem solving) มีวัตถุประสงค์เพื่อให้ข้อมูลที่สำคัญเกี่ยวกับโรคจิตเภทและ	แบ่งออกเป็น 2 กิจกรรมย่อย ได้แก่ **กิจกรรมที่ 3** การเรียนรู้ร่วมกันเกี่ยวกับโรคจิตเภทและการรักษา (Promoting families' knowledge and understanding towards facts about schizophrenia disorder and its treatment) โดยมีเป้าหมายให้ผู้ป่วยและผู้ดูแลในครอบครัวมีความเข้าใจที่ถูกต้องเกี่ยวกับโรคและการรักษา และมีวิธีการดูแลตนเองที่เหมาะสม รวมทั้งเห็นความสำคัญของการร่วมมือในการรับประทานยาอย่างต่อเนื่อง **กิจกรรมที่ 4** การพัฒนากระบวนการแก้ไขปัญหาการใช้ยาอย่างมีประสิทธิภาพ (Enhancing effective

สัปดาห์	ขั้นตอน/วัตถุประสงค์	กิจกรรมย่อย/เป้าหมาย
	การรักษาแก่ผู้ป่วยจิตเภทและผู้ดูแลในครอบครัว และพัฒนากลยุทธ์ในการแก้ไขปัญหาจากการใช้ยาไม่ต่อเนื่อง	solution for coping with medication problem) มีเป้าหมายให้ผู้ป่วยมีศักยภาพในการจัดการกับปัญหาการใช้ยาไม่ต่อเนื่องของตนเองได้อย่างเหมาะสม และมีพฤติกรรมความร่วมมือในการใช้ยาอย่างต่อเนื่อง (medication adherence behavior)
สัปดาห์ที่ 5 (ครั้งที่ 3)	**ขั้นสิ้นสุด (The termination step)** การสำรวจความลังเลใจเพื่อส่งเสริมการเปลี่ยนแปลงที่นำไปสู่พฤติกรรมความร่วมมือในการใช้ยา (Exploring ambivalence to promote positive change) มีวัตถุประสงค์เพื่อขจัดความลังเลใจต่อการคงอยู่ในการรักษาด้วยยาและสร้างความร่วมมือของครอบครัวในการช่วยเหลือผู้ป่วยให้มีพฤติกรรมการใช้ยาอย่างต่อเนื่อง	แบ่งออกเป็น 2 กิจกรรมย่อย ได้แก่ **กิจกรรมที่ 5** การลดและขจัดความลังเลใจที่จะร่วมมือในการใช้ยาทางจิตเวชอย่างต่อเนื่อง (Reducing and eliminating ambivalence to promote medication adherence) **กิจกรรมที่ 6** การลดการรับรู้ตราบาป สร้างแรงสนับสนุนและพันธะสัญญาของผู้ป่วยและญาติในการคงไว้ซึ่งความร่วมมือในการใช้ยาทางจิตเวช (Reducing patients and family caregivers' stigma, enhancing family support, and creating commitment to maintain medication adherence) ในขั้นตอนนี้มีเป้าหมายที่จะสร้างความยั่งยืนของพฤติกรรมการร่วมมือในใช้ยาทางจิตเวชของผู้ป่วย (maintain medication adherence behavior)

ทั้งนี้ผู้วิจัยกำหนดให้มีการวัดตัวแปรผลลัพธ์ทั้งสิ้น 3 ครั้ง ดังนี้ 1) ก่อนการดำเนินโปรแกรมวิจัย 1 สัปดาห์ (pre-test) 2) หลังจบโปรแกรมการวิจัยในสัปดาห์ที่ 5 (post-test) และ 3) หลังสิ้นสุดโปรแกรมการวิจัย 4 สัปดาห์ (follow-up test) สำหรับการวัดตัวแปรผลลัพธ์ (outcome variables) ประกอบด้วย 1) ความหยั่งรู้การเจ็บป่วย (insight into illness) โดยใช้แบบวัด Insight and Treatment Attitude Questionnaire (ITAQ) ของ McEvoy et al. (1989) 2) ทัศนคติต่อความร่วมมือในการใช้ยา (adherence attitude) โดยใช้แบบวัด Hogan Drug Attitude Inventory (DAI) ของ Hogan et al. (1983) และ 3) พฤติกรรมความร่วมมือในการใช้ยา (adherence behavior) ใช้แบบวัด Medication Adherence Questionnaire (MAQ) ของ Wongsuwan (2017)

กรอบการดำเนินโปรแกรมการส่งเสริมความร่วมมือในการใช้ยา

1. กรอบการดำเนินโปรแกรมสัปดาห์ที่ 1 (ครั้งที่ 1) การสร้างสัมพันธภาพและทบทวนเกี่ยวกับแบบแผนการใช้ยาทางจิตเวชและการสร้างความเข้าใจระหว่างกระบวนการคิดกับการใช้ยาทางจิตเวช

ขั้นตอนการดำเนินกิจกรรม มีรายละเอียดดังนี้

ขั้นเริ่มกลุ่ม

1.1 ผู้วิจัยแนะนำตนเองและความเป็นมาของการวิจัยโดยอธิบายถึงความสำคัญของการรักษาด้วยยาทางจิตเวชในผู้ป่วยจิตเภท รวมทั้งปัญหาที่เกิดจากความไม่ร่วมมือในการใช้ยา (medication non-adherence) โดยยกตัวอย่างข่าวที่พบในชีวิตประจำวัน จากนั้นสรุปปัจจัยที่ทำให้ผู้ป่วยจิตเภทเกิดปัญหาความไม่ร่วมมือในการใช้ยาจิตเวชที่สำคัญ ได้แก่ การไม่รับรู้การเจ็บป่วย (no insight into illness) การมีทัศนคติที่ไม่ดีต่อการรักษาด้วยยาทางจิตเวช (negative attitude towards medication) และการมีพฤติกรรมความไม่ร่วมมือในการใช้ยาทางจิตเวช (non-adherence behavior) จากนั้นอธิบายแนวคิดของการบำบัด (motivational interviewing based adherence therapy) ซึ่งจะช่วยเพิ่มการรับรู้การเจ็บป่วยที่ถูกต้อง ลดทัศนคติเชิงลบต่อการใช้ยาทางจิต และเพิ่มพฤติกรรมการคงไว้ซึ่งการรับประทานยาทางจิตเวช

1.2 ผู้วิจัยระบุวัตถุประสงค์ของการจัดกิจกรรมครั้งนี้ ได้แก่ 1) เพื่อทบทวนแบบแผนการใช้ยาทางจิตเวชในอดีตถึงปัจจุบันของผู้ป่วยจิตเภท และพิจารณาความสัมพันธ์ของการกำเริบของอาการทางจิตกับพฤติกรรมการรับประทานยาจิตเวช 2) เพื่อสำรวจและปรับเปลี่ยนความคิดที่บิดเบือนเกี่ยวกับการเจ็บป่วยด้วยโรคจิตเภทและการใช้ยาทางจิต รวมทั้งช่วยกันปรับเปลี่ยนความคิดให้ถูกต้องอย่างมีเหตุผล

1.3 ผู้วิจัยให้สมาชิกแนะนำตนเอง พร้อมข้อมูลการเจ็บป่วยของตนเอง ได้แก่ ชื่อจริง ชื่อเล่น ระยะเวลาการเจ็บป่วย และการรักษาในปัจจุบัน

ผู้วิจัยและสมาชิกรวมกันกำหนดกติกาการทำกลุ่มบำบัด และสรุปกติกาที่สำคัญ ได้แก่ การยกมือก่อนพูด การเตรียมตัวก่อนการเข้ากลุ่ม การจดบันทึกในเอกสารที่มอบหมายให้สมาชิกทำ และการรักษาความลับ

ขั้นดำเนินการ

1.1 ผู้วิจัยทบทวนแบบแผนการใช้ยาทางจิตเวช (ใบกิจกรรมที่ 1) ในระยะเวลา 5 ปีย้อนหลัง โดยพิจารณาความสม่ำเสมอในการรับประทานยา การปรับลด/เพิ่มยาด้วยตนเอง และการกลับเป็นซ้ำของอาการทางจิต โดยเน้นการพิจารณาพฤติกรรมการรับประทานยาส่วนใหญ่ที่เกิดขึ้นของสมาชิกกลุ่มเป็นรายบุคคล

1.2 ผู้วิจัยกระตุ้นให้สมาชิกกลุ่มเห็นความสัมพันธ์ของยาทางจิตเวชกับการกำเริบของอาการทางจิตเวช เช่น ในช่วงเวลาที่ผู้ป่วยขาดยาจะเกี่ยวข้องสัมพันธ์กับการกำเริบของอาการหูแว่วหลงผิด และชี้ให้เห็นว่ายามีผลโดยตรงต่อการควบคุมอาการทางจิต

1.3 ผู้วิจัยสอบถามสมาชิกกลุ่มเป็นรายบุคคลว่าแต่ละท่านมีความมุ่งมั่นที่จะร่วมมือในการใช้ยาทางจิตเวชหรือไม่ อย่างไร โดยพิจารณาจากข้อค้นพบของความสัมพันธ์ของการรับประทานยากับการป้องกันการกำเริบของอาการทางจิต จากนั้นให้สมาชิกประเมินตนเองว่ามีแนวโน้มที่จะรับประทานยาทางจิตเวชอย่างต่อเนื่องหรือไม่ มีความลังเลใจในการรับประทานยาจิตเวชหรือไม่ อย่างไร

1.4 ผู้วิจัยมอบหมายการบ้าน (ใบงานที่ 1) และอธิบายวิธีการจดบันทึก โดยเน้นย้ำให้สมาชิกจดบันทึกทุกวันและนำส่งในชั่วโมงบำบัดทุกครั้ง เพื่อเป็นประโยชน์ที่จะช่วยให้ผู้วิจัยสามารถประเมินพฤติกรรมการรับประทานยาจิตเวชของสมาชิกกลุ่มได้

1.5 ผู้วิจัยนำเข้าสู่กิจกรรมที่ 2 โดยกล่าวถึงความคิดที่ส่งผลต่อพฤติกรรม และอธิบายให้สมาชิกเข้าใจถึงความสัมพันธ์ของความคิดกับพฤติกรรมการร่วมมือในการใช้ยาทางจิตเวช ซึ่งในขั้นแรกผู้วิจัยจะให้สมาชิกทดลองตรวจสอบความคิดที่ส่งผลต่อพฤติกรรมต่าง ๆ ในชีวิตประจำวันก่อน เช่น “ความคิดและพฤติกรรมเมื่อสมาชิกได้ยินเสียงเคาะประตูที่หน้าบ้านกลางดึก” จากนั้นผู้วิจัยสะท้อนให้สมาชิกเห็นว่าความคิดเป็นตัวกำหนดพฤติกรรมต่าง ๆ

1.10 ผู้วิจัยและสมาชิกร่วมกันหา ABC model ของการเกิดปัญหาความไม่ร่วมมือในการใช้ยาเป็นรายบุคคล (ใบงานที่ 2) ดังนี้

A: antecedence: เหตุการณ์ที่นำไปสู่การไม่รับประทานยาทางจิตเวช
B: belief: ความคิดและความเชื่อต่อเหตุการณ์นั้น ๆ และให้สมาชิกระบุอารมณ์ที่เกิดจากความคิด
C: consequence: ผลที่เกิดจากการไม่รับประทานยา (อาจมีทั้งดีและไม่ดี) และพฤติกรรมที่เกิดขึ้นตามหลังความคิดและอารมณ์

1.11 ผู้วิจัยสรุปเป็น ABC model ของกลุ่ม (ใบกิจกรรมที่ 2) และชี้ให้สมาชิกเห็นว่าความเชื่อหรือความคิดมีความเกี่ยวข้องกับการเกิดพฤติกรรมความไม่ร่วมมือในการใช้ยาจิตเวช ซึ่งความเชื่อบางอย่างถูกต้อง แต่บางอย่างก็จะส่งผลเสียต่อตัวเรา และเราจะมีวิธีการจัดการกับความเชื่อหรือความคิดบิดเบือนที่ชั่งน้ำหนักแล้วพบว่ามีผลเสียมากกว่าผลดีต่อเราได้อย่างไร

1.12 ผู้วิจัยแนะนำวิธีการจัดการความเชื่อหรือความคิดที่บิดเบือน โดยให้สมาชิกใช้กลวิธีการตั้งคำถามกับตนเอง (ใบกิจกรรมที่ 3) ซึ่งผู้วิจัยจะดึงเอาความเชื่อหรือความคิดที่บิดเบือนจาก ABC model ของกลุ่มมาทำร่วมกัน และตั้งคำถามตามหลักการ FAST technique ให้สมาชิกช่วยกัน

ค้นหาคำตอบ เช่น จริงหรือไม่ว่ายาจิตเวชไม่ส่งผลดีกับอาการทางจิต (Fact) คนอื่นบอกคุณอย่างไรเกี่ยวกับการใช้ยาทางจิตเวช (Alternative) ตอนที่คุณลองหยุดยาจิตเวช เกิดอะไรขึ้นกับคุณ (So what) การที่คุณคิดว่าหายดีแล้วไม่ต้องกินยาเกิดประโยชน์อย่างไรต่อตัวคุณ (Toll)

1.13 ผู้วิจัยสรุปความเชื่อหรือความคิดที่ไม่ถูกต้อง วิธีการหักล้างความเชื่อหรือความคิดที่ไม่ถูกต้อง และเน้นย้ำถึงความเชื่อหรือความคิดใหม่ที่สมาชิกกลุ่มช่วยกันหาข้อสรุปตามข้อค้นพบที่เกิดขึ้น

ขั้นสรุป

1.14 ผู้วิจัยสรุปผลการเรียนรู้จากกิจกรรมบำบัดในครั้งที่ 1 และให้สมาชิกบอกสิ่งที่ตนเองค้นพบจากการเรียนรู้ในชั่วโมงบำบัดเป็นรายบุคคล

1.15 ผู้วิจัยให้สมาชิกระบุถึงสิ่งที่ต้องการให้ปรับปรุงแก้ไขเพื่อนำไปปรับเปลี่ยนในการบำบัดครั้งที่ 2 จากนั้นนัดหมายการบำบัดครั้งที่ 2 ผู้วิจัยกล่าวขอบคุณและเน้นย้ำเรื่องการบันทึกการบ้านในใบงานที่ 1

2. กรอบการดำเนินโปรแกรมสัปดาห์ที่ 3 (ครั้งที่ 2) การเรียนรู้ร่วมกันเกี่ยวกับโรคจิตเภทและการรักษาและการพัฒนากระบวนการแก้ไขปัญหาการใช้ยาอย่างมีประสิทธิภาพ

ขั้นตอนการดำเนินกิจกรรม มีรายละเอียดดังนี้

ขั้นเริ่มกลุ่ม

2.1 ผู้วิจัยสร้างบรรยากาศให้เอื้อต่อการบำบัดโดยการ small talk จากนั้นตรวจสอบอารมณ์ของสมาชิก (mood check) และสร้างความเข้าใจว่าอารมณ์ที่ไม่ดีจะส่งผลต่อการบำบัด จากนั้นนำสมาชิกผ่อนคลายอารมณ์

2.2 ผู้วิจัยเชื่อมโยงเข้าสู่เนื้อหาของการบำบัดโดยการให้สุขภาพจิตศึกษา (psychoeducation) เรื่อง พลวัตรของการเกิดโรคจิตเภท (psychodynamic) โดยการสรุปสาระสำคัญของ predisposing factors, precipitating factors, perpetuating factors และ protective factors เพื่อให้สมาชิกเข้าใจตนเองและประเมินตนเองได้

2.3 ผู้วิจัยและสมาชิกร่วมกันสรุปแผนภาพของพลวัตรการเกิดโรคจิตเภทของสมาชิกทั้งหมดในกลุ่ม (ใบงานที่ 3)

ขั้นดำเนินการ

2.4 ผู้วิจัยเปิดโอกาสให้สมาชิกซักถามข้อสงสัยเกี่ยวกับโรคจิตเภทและการรักษา โดยใช้หลักการ Elicit-Provide-Elicit (EPE) คือ การถามความรู้เดิมของสมาชิกจากนั้นผู้วิจัยจึงเสริมความรู้ใหม่ และถามความเข้าใจเกี่ยวกับความรู้ใหม่ที่สมาชิกได้รับ

2.5 ผู้วิจัยสรุปความรู้ที่สมาชิกได้รับในการบำบัด และนำเข้าสู่กิจกรรมที่ 2 โดยให้สมาชิกพิจารณาจากประสบการณ์ที่ผ่านมาว่าตนเองเคยมีปัญหาอะไรเกิดขึ้นแล้วส่งผลให้สมาชิกไม่สามารถใช้ยาจิตเวชได้ตามแผนการรักษา รวมทั้งวิธีการที่สมาชิกเคยใช้ในการจัดการปัญหาที่เกิดขึ้นเหล่านี้ จากนั้นให้สมาชิกประเมินตนเองว่าวิธีการจัดการปัญหาที่เคยใช้นั้นๆ ได้ผลหรือไม่ (ใบงานที่ 4)

2.6 ผู้วิจัยอธิบายหลักการการจัดการปัญหาอย่างมีประสิทธิภาพ (problem solving) โดยชี้ให้สมาชิกเห็นกระบวนการสำคัญ ได้แก่

1. การวิเคราะห์ปัญหาและอุปสรรคต้องครอบคลุม โดยการประเมินด้วยตนเองและให้ผู้ใกล้ชิดช่วยประเมินอย่างรอบด้าน

2. การกำหนดเป้าหมายในการจัดการปัญหา ต้องเป็นไปอย่างเฉพาะเจาะจง ประเมินผลได้จริง ปฏิบัติได้จริง และควรกำหนดระยะเวลาในการดำเนินการแก้ไขปัญหาในระยะสั้นๆ

3. พิจารณาทางเลือกในการแก้ไขปัญหาอย่างหลากหลาย โดยพิจารณาจากประสบการณ์เดิมในอดีตที่เคยได้ผล จากคำแนะนำของผู้อื่นที่ปฏิบัติแล้วได้ผล และจากการสอบถามจากผู้รู้ ผู้เชี่ยวชาญ

4. ประเมินแนวทางเลือกในการแก้ไขปัญหาที่เหมาะสมกับบริบทของตนเองให้มากที่สุด โดยให้พิจารณาว่าทางเลือกในแต่ละข้อนั้นมีข้อดีมากกว่าข้อเสีย และสามารถทำได้จริงด้วยตนเอง

5. นำไปปฏิบัติในสถานการณ์จริงและประเมินผลการปฏิบัติเพื่อนำไปสู่การปรับแผน (ในกรณีที่ทำแล้วไม่ได้ผลตามระยะเวลาที่กำหนดไว้ จะต้องมีการปรับแผนให้เหมาะสมยิ่งขึ้น)

2.7 ผู้วิจัยหยิบยกเอาปัญหาที่เกิดขึ้นแล้วสมาชิกประเมินว่าแนวทางการแก้ปัญหาเดิมนั้นไม่ได้ผลมารวมกันวิเคราะห์แนวทางการแก้ปัญหาใหม่ตามหลักการ SOLVE technique (ใบกิจกรรมที่ 4)

<u>ขั้นสรุป</u>

2.8 ผู้วิจัยสรุปแนวทางการจัดการปัญหาอย่างมีประสิทธิภาพ จากนั้นให้สมาชิกบอกสิ่งที่ตนเองค้นพบจากการเรียนรู้ในชั่วโมงบำบัดเป็นรายบุคคล

2.9 ผู้วิจัยให้สมาชิกระบุถึงสิ่งที่ต้องการให้ปรับปรุงแก้ไขเพื่อนำไปปรับเปลี่ยนในการบำบัดครั้งที่ 3 จากนั้นนัดหมายการบำบัดครั้งที่ 3 ผู้วิจัยกล่าวขอบคุณและเน้นย้ำเรื่องการบันทึกการบ้านในใบงานที่ 1

3. กรอบการดำเนินโปรแกรมสัปดาห์ที่ 5 (ครั้งที่ 3) การลดและขจัดความลังเลใจที่จะร่วมมือในการใช้ยาทางจิตเวชอย่างต่อเนื่อง และการลดการรับรู้ตราบาป สร้างแรงสนับสนุนและพันธะสัญญาของผู้ป่วยและญาติในการคงไว้ซึ่งความร่วมมือในการใช้ยาทางจิตเวช

ขั้นตอนการดำเนินกิจกรรม มีรายละเอียดดังนี้

ขั้นเริ่มกลุ่ม

3.1 ผู้วิจัยสร้างบรรยากาศให้เอื้อต่อการบำบัดโดยการ small talk จากนั้นตรวจสอบอารมณ์ของสมาชิก (mood check) และสร้างความเข้าใจว่าอารมณ์ที่ไม่ดีจะส่งผลต่อการบำบัด จากนั้นนำสมาชิกผ่อนคลายอารมณ์

3.2 ผู้วิจัยประเมินผลการรับประทานยาในช่วง 5 สัปดาห์ที่ผ่านมาว่ามีสมาชิกท่านใดขาดยา หรือปรับลดยาเองจากเหตุผลอะไร จากนั้นเชื่อมโยงเข้าสู่การบำบัดที่เกี่ยวข้องกับแนวคิดของการเปลี่ยนแปลงด้านพฤติกรรม (stage of behavior change) ดังนี้ “พฤติกรรมต่างๆ สามารถเปลี่ยนแปลงได้ตลอดเวลาจากตัวกระตุ้นต่างๆ หรือความลังเลใจที่ส่งผลกระทบต่อตัวเรา แม้ว่าเราจะคงระยะพฤติกรรมที่ดีแล้วเป็นเวลานาน” พร้อมยกตัวอย่างในเรื่องใกล้ตัวของสมาชิก เช่น การลดความอ้วนกับพฤติกรรมการรับประทานอาหารและการออกกำลังกาย

ขั้นดำเนินการ

3.3 ผู้วิจัยชี้ให้สมาชิกตระหนักว่าสมาชิกสามารถขจัดตัวกระตุ้นและความลังเลใจที่ส่งผลต่อพฤติกรรมได้ด้วยการพิจารณาข้อดีข้อเสียอย่างรอบด้าน เพื่อให้สมาชิกมีทิศทางในการทบทวนตนเองและชั่งน้ำหนักว่าสมาชิกควรกระทำพฤติกรรมไปในทิศทางใด (Pros and Cons) ผู้วิจัยให้สมาชิกช่วยกันวิเคราะห์ผลกระทบจากการใช้ยาจิตเวชและการไม่ใช้ยาจิตเวชในด้านสังคม สุขภาพ การเงิน การประกอบอาชีพ กฎหมาย และสัมพันธภาพในครอบครัว (ใบกิจกรรมที่ 5)

3.4 ผู้วิจัยให้สมาชิกบอกเป้าหมายชีวิตของตนเองและประเมินความมุ่งมั่นของตนเองว่าจะใช้ยาจิตเวชอย่างต่อเนื่องร้อยละเท่าใด และเน้นย้ำว่าเป้าหมายของสมาชิกจะสำเร็จได้ถ้าสมาชิกมุ่งมั่นใช้ยาทางจิตเวชอย่างต่อเนื่อง เพราะยาจะส่งผลต่อการควบคุมอาการทางจิต สามารถช่วยให้สมาชิกใช้ชีวิตได้อย่างเป็นปกติ

3.5 ผู้วิจัยนำเข้าสู่กิจกรรมที่ 2 โดยให้สมาชิกร่วมกันวิเคราะห์ข้อได้เปรียบที่เกิดจากการเจ็บป่วย ข้อดีของตนเองและญาติที่จะช่วยส่งเสริมการฟื้นหาย เพื่อให้สมาชิกรับรู้ศักยภาพในการควบคุมและดูแลตนเอง ซึ่งจะก่อให้เกิดแรงจูงใจในการคงไว้ซึ่งพฤติกรรมที่ดี (ใบกิจกรรมที่ 6)

3.6 ผู้วิจัยสรุปบทบาทของสมาชิกและญาติในการส่งเสริมการฟื้นหายจากโรคจิตเภท จากนั้นผู้วิจัยให้ญาติผู้ป่วยบอกเล่าประสบการณ์ในการดูแลผู้ป่วยและวิธีการดูแลผู้ป่วยที่ผ่านมา และให้ข้อมูลญาติเกี่ยวกับการสนับสนุนในครอบครัว (family support) ที่จะช่วยให้ผู้ป่วยมี

พฤติกรรมความร่วมมือในการดูแลตนเองที่ดี ได้แก่ การสนับสนุนด้านอารมณ์ การให้ข้อมูลที่เป็นประโยชน์ต่อผู้ป่วย และการอำนวยความสะดวกในการใช้ยาจิตเวชและการพามาพบแพทย์ตามนัด และให้ผู้ป่วยกับญาติสร้างพันธะสัญญาร่วมกันในการคงไว้ซึ่งความร่วมมือในการใช้ยาทางจิตเวช (ใบกิจกรรมที่ 7)

ขั้นสรุป

3.7 ผู้วิจัยให้สมาชิกสรุปสิ่งที่ได้เรียนรู้จากชั่วโมงบำบัด และให้สมาชิกสะท้อนกระบวนการบำบัดว่าได้รับประโยชน์อะไรบ้าง ต้องการให้มีการปรับปรุงแก้ไขอย่างไร และสมาชิกมีความต้องการการช่วยเหลือเพิ่มเติมอะไรบ้างหลังสิ้นสุดการบำบัด จากนั้นผู้วิจัยกล่าวขอบคุณสมาชิกและนัดหมายการติดตามผลการบำบัดทางโทรศัพท์

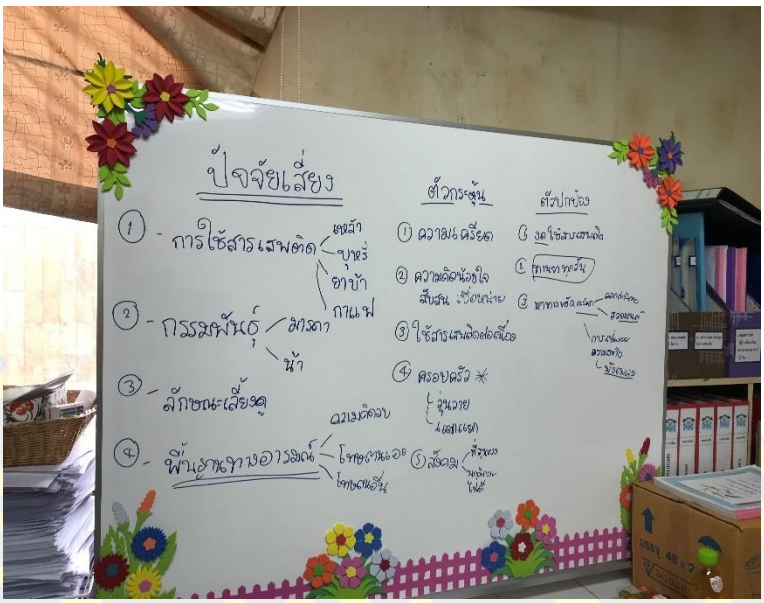
ภาพกิจกรรมการดำเนินโปรแกรมบำบัด

ภาพที่ 1 สมาชิกผู้เข้าร่วมกิจกรรมกลุ่มบำบัด

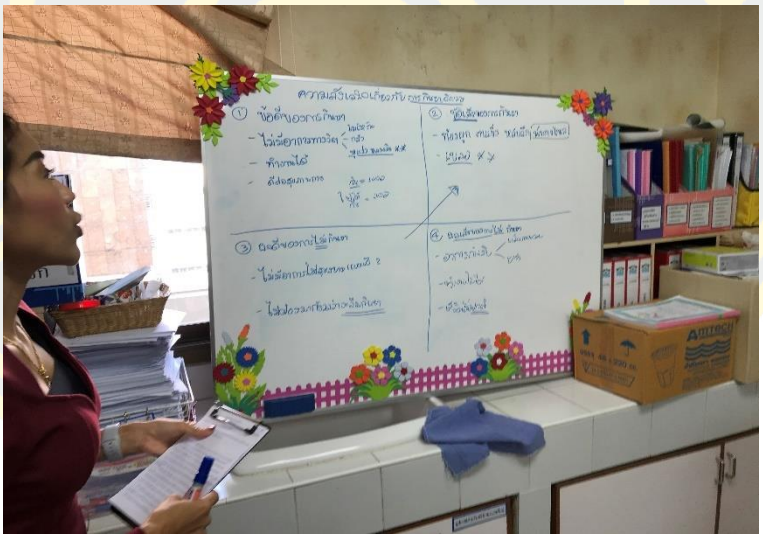
ภาพที่ 2 การแสดงความคิดเห็นของสมาชิกในกระบวนการบำบัดแบบกลุ่ม

ภาพที่ 3 การกระตุ้นให้สมาชิกทำใบงานและใบกิจกรรมประกอบการทำกลุ่มบำบัด

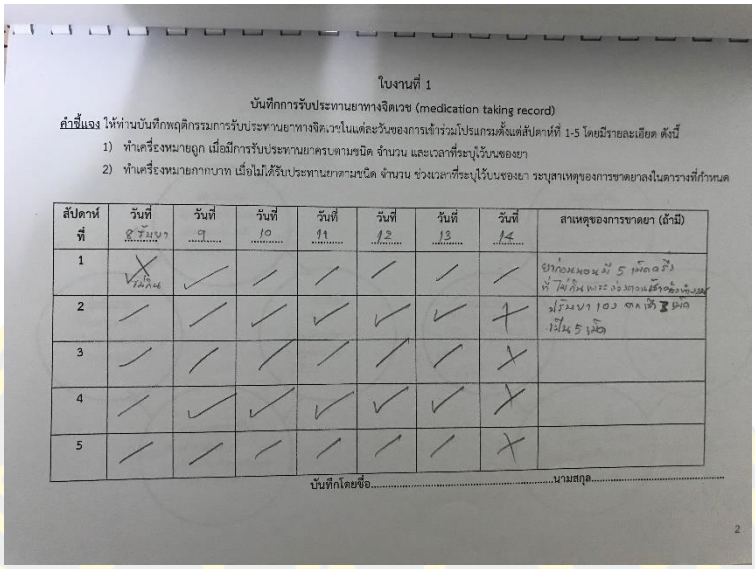
ภาพที่ 4 การร่วมกันสรุปใบงานและใบกิจกรรมที่ใช้ประกอบกระบวนการบำบัดของสมาชิกกลุ่ม



ภาพที่ 5 ตัวอย่างการสรุปใบงานและใบกิจกรรมร่วมกันของสมาชิกกลุ่ม



ภาพที่ 6 ตัวอย่างการสรุปใบงานและใบกิจกรรมร่วมกันของสมาชิกกลุ่ม



ใบงานที่ 1

บันทึกการรับประทานยาทางจิตเวช (medication taking record)

คำชี้แจง ให้ท่านบันทึกพฤติกรรมการรับประทานยาทางจิตเวชในแต่ละวันของการเข้าร่วมโปรแกรมตั้งแต่สัปดาห์ที่ 1-5 โดยมีรายละเอียด ดังนี้

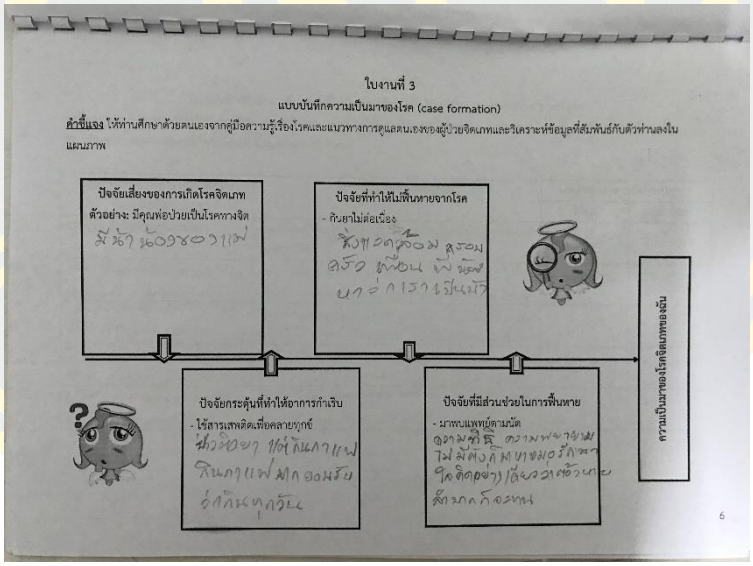
1) ทำเครื่องหมายถูก เมื่อมีการรับประทานยาครบตามชนิด จำนวน และเวลาที่ระบุไว้บนซองยา
2) ทำเครื่องหมายกากบาท เมื่อไม่ได้รับประทานยาตามชนิด จำนวน ช่วงเวลาที่ระบุไว้บนซองยา ระบุสาเหตุของการขาดยาลงในตารางที่กำหนด

สัปดาห์ที่	วันที่ 8 รับยา	วันที่ 9	วันที่ 10	วันที่ 11	วันที่ 12	วันที่ 13	วันที่ 14	สาเหตุของการขาดยา (ถ้ามี)
1	✓	✓	✓	✓	✓	✓	✓	ยาก่อนนอนมี 5 เม็ดอีก ที่ไม่กินเพราะง่วงทานแล้วต้องนั่งนาน
2	✓	✓	✓	✓	✓	✓	✗	ปรับยาเอง ตกเช้า 3 เม็ด เป็น 5 เม็ด
3	✓	✓	✓	✓	✓	✓	✗	
4	✓	✓	✓	✓	✓	✓	✗	
5	✓	✓	✓	✓	✓	✓	✗	

บันทึกโดยชื่อ.....นามสกุล.....

2

ภาพที่ 7 ตัวอย่างการบันทึกพฤติกรรมการรับประทานยาของสมาชิกกลุ่ม



ใบงานที่ 3

แบบบันทึกความเป็นมาของโรค (case formation)

คำชี้แจง ให้ท่านศึกษาด้วยตนเองจากคู่มือความรู้เรื่องโรคและแนวทางการดูแลตนเองของผู้ป่วยจิตเภทและวิเคราะห์ข้อมูลที่สัมพันธ์กับตัวท่านลงในแผนภาพ

ปัจจัยเสี่ยงของการเกิดโรคจิตเภท
ตัวอย่าง: มีคุณพ่อป่วยเป็นโรคทางจิต
มีประวัติครอบครัวเป็น

ปัจจัยที่ทำให้ไม่ฟื้นหายจากโรค
- กินยาไม่ต่อเนื่อง
ไม่ทานต่อเอง ลืม
ขาด เพื่อน เบื่อ
บางครั้งรู้สึกว่า

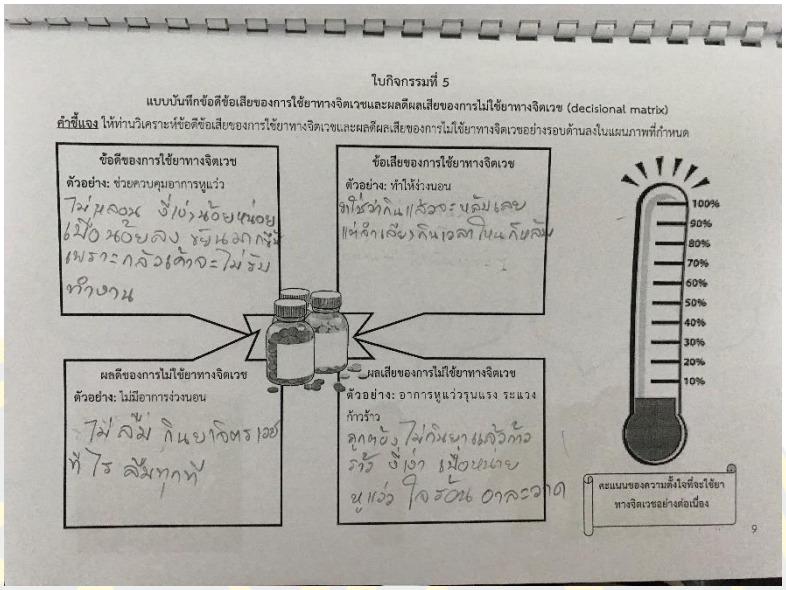
ปัจจัยกระตุ้นที่ทำให้อาการกำเริบ
- ใช้สารเสพติดเพื่อคลายทุกข์
ไม่ทานยา ไม่ได้นอน กาแฟ
กินกาแฟมากเกินไป
อากาศเปลี่ยนทุกวัน

ปัจจัยที่มีส่วนช่วยในการฟื้นหาย
- มาพบแพทย์ตามนัด
ความคาดหวัง ความพยายาม
ไม่มีสิ่งกระทบกระเทือนใจ
คิดอย่างใช้เวลาเพื่อนๆ
สังเกตอาการ

ความเป็นมาของโรคจิตเภทของฉัน

6

ภาพที่ 8 ตัวอย่างการบันทึกใบงานของสมาชิกกลุ่ม



ภาพที่ 9 ตัวอย่างการบันทึกใบกิจกรรมของสมาชิกกลุ่ม

APPENDIX F

The level of medication adherence (i.e., insight into illness, adherence attitude, adherence behavior) of the participants at pre-intervention (baseline), post-intervention and follow-up

Table Appendix F-1 The level of medication adherence of each participant in the intervention and the control groups measured at pre-intervention (baseline), post-intervention and 1- month follow-up

ID	Group	Level of medication adherence																	
		Insight into illness						Adherence attitude						Adherence behavior					
		Pre-test	Interpret	Post-test	Interpret	Follow-up	Interpret	Pre-test	Interpret	Post-test	Interpret	Follow-up	Interpret	Pre-test	Interpret	Post-test	Interpret	Follow-up	Interpret
01	IN	14	Fair	13	Fair	16	Good	17	negative	24	positive	27	positive	0	Poor	2	Poor	3	Poor
02	IN	15	Good	14	Fair	18	Good	21	moderate	28	positive	30	positive	0	Poor	2	Poor	4	Good
03	IN	10	Fair	11	Fair	14	Fair	16	negative	29	positive	29	positive	2	Poor	2	Poor	4	Good
04	IN	18	Good	20	Good	22	Good	24	positive	24	positive	30	positive	2	Poor	3	Poor	4	Good
05	IN	17	Good	14	Fair	14	Fair	22	moderate	24	positive	30	positive	0	Poor	1	Poor	3	Poor
06	IN	12	Fair	19	Good	13	Fair	15	negative	26	positive	23	moderate	0	Poor	0	Poor	2	Poor
07	IN	15	Good	15	Good	19	Good	22	moderate	23	moderate	28	positive	1	Poor	0	Poor	4	Good
08	IN	7	Poor	22	Good	22	Good	1	negative	30	positive	30	positive	0	Poor	4	Good	4	Good
09	IN	6	Poor	12	Fair	22	Good	1	negative	26	positive	30	positive	0	Poor	4	Good	4	Good
10	IN	16	Good	22	Good	16	Good	22	moderate	30	positive	22	moderate	1	Poor	4	Good	1	Poor
11	IN	15	Good	10	Fair	12	Fair	30	positive	29	positive	28	positive	4	Good	1	Poor	4	Good
12	IN	13	Fair	14	Fair	17	Good	13	negative	22	moderate	27	positive	2	Poor	1	Poor	4	Good
13	IN	17	Good	13	Fair	15	Good	30	positive	22	moderate	22	moderate	3	Poor	1	Poor	4	Good
14	IN	16	Good	8	Fair	16	Good	30	positive	24	positive	25	positive	4	Good	1	Poor	4	Good
15	IN	15	Good	22	Good	22	Good	24	positive	30	positive	30	positive	3	Poor	4	Good	4	Good
16	IN	11	Fair	12	Fair	19	Good	4	negative	24	positive	24	positive	0	Poor	0	Poor	3	Poor
17	IN	17	Good	22	Good	22	Good	22	moderate	30	positive	30	positive	1	Poor	4	Good	4	Good
18	CON	15	Good	11	Fair	8	Fair	14	negative	3	negative	3	negative	2	Poor	0	Poor	0	Poor
19	CON	15	Good	13	Fair	12	Fair	18	moderate	12	negative	12	negative	1	Poor	0	Poor	0	Poor
20	CON	19	Good	19	Good	17	Good	26	positive	25	positive	24	positive	3	Poor	3	Poor	2	Poor
21	CON	16	Good	16	Good	13	Fair	22	moderate	22	moderate	21	moderate	1	Poor	3	Poor	2	Poor
22	CON	13	Fair	13	Fair	8	Fair	29	positive	28	positive	25	positive	4	Good	4	Good	2	Poor
23	CON	15	Good	15	Good	14	Fair	25	positive	25	positive	24	positive	2	Poor	3	Poor	2	Poor

Table Appendix F-1 (Continued)

ID	Group	Level of medication adherence																	
		Insight into illness						Adherence attitude						Adherence behavior					
		Pre-test	Interpret	Post-test	Interpret	Follow-up	Interpret	Pre-test	Interpret	Post-test	Interpret	Follow-up	Interpret	Pre-test	Interpret	Post-test	Interpret	Follow-up	Interpret
24	CON	16	Good	15	Good	13	Fair	24	positive	24	positive	24	positive	2	Poor	2	Poor	2	Poor
25	CON	15	Good	15	Good	12	Fair	27	positive	27	positive	25	positive	2	Poor	3	Poor	2	Poor
26	CON	15	Good	15	Good	13	Fair	27	positive	27	positive	25	positive	2	Poor	3	Poor	2	Poor
27	CON	14	Fair	18	Good	18	Good	18	moderate	29	positive	28	positive	0	Poor	3	Poor	3	Poor
28	CON	17	Good	14	Fair	12	Fair	20	moderate	12	negative	8	negative	0	Poor	2	Poor	1	Poor
29	CON	13	Fair	14	Fair	12	Fair	28	positive	28	positive	25	positive	4	Good	4	Good	3	Poor
30	CON	13	Fair	13	Fair	13	Fair	30	positive	30	positive	26	positive	4	Good	4	Good	3	Poor
31	CON	16	Good	0	Poor	0	Poor	25	positive	0	negative	0	negative	3	Poor	0	Poor	0	Poor
32	CON	11	Fair	11	Fair	11	Fair	11	negative	11	negative	11	negative	2	Poor	1	Poor	1	Poor
33	CON	6	Poor	20	Good	16	Good	1	negative	24	positive	24	positive	0	Poor	3	Poor	2	Poor
34	CON	16	Good	16	Good	15	Good	29	positive	27	positive	27	positive	4	Good	2	Poor	1	Poor
35	CON	16	Good	16	Good	15	Good	30	positive	30	positive	27	positive	4	Good	4	Good	3	Poor
36	CON	17	Good	17	Good	17	Good	27	positive	27	positive	27	positive	2	Poor	2	Poor	2	Poor
37	CON	6	Poor	0	Poor	0	Poor	0	negative	0	negative	0	negative	0	Poor	0	Poor	0	Poor

BIOGRAPHY

NAME	Miss Pornpun Sudjai	
DATE OF BIRTH	December 3, 1984	
PLACE OF BIRTH	Chon Buri, Thailand	
PRESENT ADDRESS	51/4 Moo 1 Bangpra, Siracha, Chonburi 20100	
POSITION HELD	2006-2007	Medical and Surgeon nurse Queen's Sirikit Hospital, Chon Buri Province,Thailand
	2008-2013	Nursing instructor Faculty of Nursing, Rangsit University, Pathum Thani Province,Thailand
	2014-2017	Nursing instructor Faculty of Nursing, Nakhon Pathom Rajabhat University, Nakhon Pathom Province,Thailand
EDUCATION	2002-2006	Bachelor of Science in Nursing Royal Thai Navy College of Nursing, Bangkok, Thailand
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