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THE EFFECT OF A MULTIFACTORIAL INTERVENTION ON PSYCHOTIC RELAPSE IN PERSONS WITH FIRST EPISODE SCHIZOPHRENIA

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การศึกษานี้มีวัตถุประสงค์เพื่อศึกษาประสิทธิภาพของโปรแกรมการจัดกระทำแบบหลายปัจจัยต่อการป้องกันการกำเริบของอาการทางจิตในผู้ที่ป่วยเป็นโรคจิตเภทครั้งแรก โปรแกรมการจัดกระทำแบบหลายปัจจัยนี้สร้างขึ้นจากแนวคิดของ The vulnerability-stress model โดยเป็นการผสมผสานแนวคิดและวิธีการให้สุขภาพจิตศึกษาแก่ผู้เข้าร่วมการวิจัยและครอบครัวเป็นรายกลุ่ม, การส่งเสริมการรับประทานยาต้านอาการทางจิตอย่างต่อเนื่อง, การเฝ้าระวังอาการเตือนและการดูแลรักษาเมื่อตรวจพบอาการเตือนในระยะเริ่มแรกเข้าด้วยกัน กลุ่มตัวอย่างเป็นผู้ที่ป่วยเป็นโรคจิตเภทครั้งแรกที่เข้ารับการรักษาที่สถาบันจิตเวชศาสตร์สมเด็จเจ้าพระยาจำนวน 40 ราย ถูกสุ่มเข้ากลุ่มทดลองหรือกลุ่มควบคุมกลุ่มละ 20 คน กลุ่มทดลองจะได้รับการรักษาพยาบาลตามปกติ ร่วมกับโปรแกรมการจัดกระทำแบบหลายปัจจัย จำนวน 8 ครั้งเป็นระยะเวลาประมาณ 2 สัปดาห์ขณะเข้ารับการรักษาในโรงพยาบาล ส่วนกลุ่มควบคุมจะได้รับเฉพาะการรักษาพยาบาลตามปกติเท่านั้น การเก็บรวบรวมข้อมูลจะประเมินคะแนนอาการทางจิตในวันที่กลุ่มตัวอย่างได้รับการจำหน่ายออกจากโรงพยาบาลเป็นคะแนนพื้นฐานสำหรับเปรียบเทียบกับคะแนนอาการทางจิตในส่วนของอาการทางบวกหลังจากจำหน่ายออกจากโรงพยาบาลไปแล้ว 1 เดือน

ผลการศึกษาพบว่ากลุ่มที่ได้เข้าร่วมโปรแกรมการจัดกระทำแบบหลายปัจจัยมีค่าเฉลี่ยของคะแนนอาการทางจิตน้อยกว่ากลุ่มควบคุมอย่างมีนัยสำคัญทางสถิติ ที่ระดับ .05 และพบว่าสัดส่วนของการกำเริบของอาการทางจิตของกลุ่มควบคุมมีความแตกต่างจากกลุ่มทดลองอย่างมีนัยสำคัญทางสถิติที่ระดับ .05 นอกจากนี้ยังพบว่ากลุ่มทดลองมีความรู้ ความเข้าใจเกี่ยวกับโรคจิตเภทและการป้องกันการกำเริบของอาการทางจิตเพิ่มมากขึ้น, มีความเครียดน้อยลง และมีทัศนคติที่ดีขึ้นต่อการรับประทานยาต้านอาการทางจิตอย่างมีนัยสำคัญทางสถิติที่ระดับ .05 ส่วนญาติมีความรู้ความเข้าใจเกี่ยวกับโรคจิตเภทและการป้องกันการกำเริบของอาการทางจิตเพิ่มมากขึ้น, มีการแสดงออกทางอารมณ์ลดลง และมีความเครียดลดลงอย่างมีนัยสำคัญทางสถิติที่ระดับ .05 ผลการศึกษาครั้งนี้ แสดงถึงประสิทธิภาพของโปรแกรมการจัดกระทำแบบหลายปัจจัยในการป้องกันการกำเริบของอาการทางจิตในผู้ที่ป่วยเป็นโรคจิตเภทครั้งแรก ดังนั้นจึงควรนำโปรแกรมนี้ไปเป็นส่วนหนึ่งของการปฏิบัติการพยาบาลในหอผู้ป่วยและการพยาบาลจิตเวชในชุมชน

สาขาวิชา..... พยาบาลศาสตร์.....
ปีการศึกษา... 2549.....

ลายมือชื่อนิสิต.....
ลายมือชื่ออาจารย์ที่ปรึกษา.....
ลายมือชื่ออาจารย์ที่ปรึกษาร่วม.....

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RENUKAR THONGKHAMROD : THE EFFECT OF A MULTIFACTIRIAL INTERVENTION ON PSYCHOTIC RELAPSE IN PERSONS WITH FIRST EPISODE SCHIZOPHRENIA THESIS ADVISOR : ASSOC. PROF. JINTANA YUNIBHAND, Ph.D., THESIS COADVISOR : ASSOC. PROF. ORAPUN LUEBOONTHAVATCHAI, Ph.D.147 pp.

This true experimental research with the posttest-only control group design was to test the effectiveness of a multifactorial intervention program on preventing psychotic relapse in persons with first episode schizophrenia between control and experimental group. A multifactorial intervention was combined a multifamily psychoeducational group, compliance therapy and early warning signs intervention which composed of early recognition of early warning signs and early intervention when those signs are detected. The psychotic relapse rates were measured by the Brief Psychiatric Rating Scale (BPRS). The proportion and independent t-test was conducted to compare the difference of mean scores between control group and experimental group.

A total of 40 persons with first episode schizophrenia who were first admitted at Somdet chaopraya Institute of Psychiatry were randomized by using simple random sampling to receive either usual care (N=20) or a multfactorial intervention (N=20). The experimental group received routine care and 6 weeks, 10 sessions of multifactorial intervention, while the control group received only routine care. The findings revealed that the mean score of positive symptoms in the experimental group in 1 month after discharge from hospital was significant lower than that of the control group, at the level .05. In addition, the psychotic relapse rate of the control group was 25% (4 cases) as compared to 0% in the experimental group. In conclusion, this study provides evidence for the effectiveness of a multifactorial intervention on preventing of psychotic relapse in persons with first episode schizophrenia. It can integrate into the existing clinical and community mental health service in order to prevent psychotic relapse, promote completely and reduces the economic burden on readmission.

Field of study.....Nursing Science..... Student's signature Renukar Thongkhamrod
Academic year.....2006..... Advisor's signature
Co-advisor's signature

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CHAPTER I

INTRODUCTION

Background and Significance of the study

Schizophrenia is known as a major psychiatric disorder that most challenge to the mental health service delivery system in the 21st century (Feetam & Donoghue, 2003). It is a severe psychotic disorder and chronic neurobiological disease (Meijel et al., 2006) which is the most common diagnosis among patients admitted to psychiatric hospital (Buchanan & Carpenter 2000; Shives, 2006). Worldwide estimates of the prevalence of schizophrenia are 3–170/10,000 (0.03–1.7%), in most industrialized societies (Europe, USA, Canada, Australia), the average prevalence is about 0.9%, the annual incidence of schizophrenia is 1–7/10,000 (Frangou & Kington, 2004). According to the report of the Department of Mental Health, Thailand (2005), the prevalence rate of schizophrenia is about 0.6%, the incidence rates are 537 per 100,000 population and approximately 350,000 cases are suffering with schizophrenia.

The WHO (2005) ranked schizophrenia as the seventh greatest cause of years living with a disability (YLD) that effect well-being people in many countries worldwide, including Thailand. Schizophrenia does not inflict incalculable suffering on the individuals only but also their families, community and health care systems. It is imposes exorbitant costs both of treatment and indirect cost such as social services and loss of productivity on society (Beebe, 2001; Buchanan & Carpenter 2000; Schwartz, 2000). Much of these suffering and economic burden can be attributed to the high rate and numerous consequence of psychotic relapse (Meijel et al., 2006; Santos, 2003; Sutton, 2004; Walker & Eagles, 2002).

Psychotic relapse means a recurrence of positive symptoms such as delusions and hallucinations after discharged from psychiatric hospital (Berns, Fiander & Audini, 2000; Jinnett, Alexander & Ullman, 2001; Lamberti, 2001) The long term studies of the course and outcome of schizophrenia has clearly shown that occurrence of psychotic relapse related to the mainly characteristic of schizophrenia that usually chronic and rarely is cured. Individuals with schizophrenia usually alternate between periods of acute psychotic phase (relapsing) and periods of stability or recovery phase (remitting) that so called a relapsing-remitting disorder, unfortunately, psychotic relapse is common occur with or without complete remission during their lifetime (Keltner, 2003; Meijel et al., 2004; Stuart & Laraia, 2001; Walker et al., 2004).

A large review of the literature indicated that most of persons with schizophrenia failure to make a full recovery and experience a cyclical periods of remission and psychotic relapse periods (Lamberti, 2001; Meijel et al., 2006). Approximately 22% of them have only one episode after first episode with no impairment, 35% have several episode with no or minimal impairment, 8% have impairment with subsequent exacerbation and no return to normal, and 35% have impairment increasing with each of severe episodes (Gage, 2002). In addition, the rates of psychotic relapse in persons with schizophrenia are higher than other psychiatric disorder, and those persons who have once psychotic relapse are higher risk of more repeatedly relapsed than individuals who have one episode (Meijel et al., 2004).

High rate of psychotic relapse not thought to be beneficial for either the patient, family or the service delivery system (Montgomery & Kirkpatrick, 2002). Each psychotic relapse can produce persisting morbidity of the brain which result in

the growth of psychopathology, residual dysfunction (negative symptoms) and accelerating social disablement that leading to a progressive deteriorating course, chronic of symptoms, enduring disabilities, impair person's ability to respond to monotherapy and rehabilitation efforts (Birchwood, Spencer & McGovern, 2000; Burns, Fiander & Audini, 2000; Varcarolis, 2006). The persons who have had more than one episode or have not recovered fully from a first episode are not fully responsive to treatment, non-compliance with treatment, decrease the level of following remission and increase refractoriness to future treatment (Santos, 2003; de Sena et al., 2003). They need to take over a year to return to their pre-relapse level of social functioning (Gage, 2002) and need medication treatment for a longer time for control the psychotic symptoms, maybe even indefinitely (Lieberman et al., 2001).

In addition, persons who have more repeated psychotic relapse are at great risk of losing employment or academic enrollment. They may lose support systems through rejection by peers, friends, or family. It's can be a demoralizing experience and consequences on self-esteem, motivation toward recovery or sense of a loss of autonomy, leading to despair, hopeless and increase high risk of attempted suicide and violence to others (Frederick, Caldwell & Rubio, 2002; Johnson, 2002). Moreover, psychotic relapse is the major cause of successive rehospitalization which leading to the financial burden on hospital and community services for treatment and rehabilitation (Frederick, Caldwell & Rubio, 2002; Johnson, 2002; Walker & Eagles, 2002). Almond et al. (2004) reported that the costs for the individuals who relapsed were over four times higher than those for the non-relapse group.

Therefore, psychotic relapse can be devastating, leading to physiological, functional and social declining over the lifetime, and relating to great burden of

family and impose enormous economic on government (Dolder et al., 2003; Lamberti, 2001; Videbeck, 2001). In light of numerous consequences of psychotic relapse, the prevention of psychotic relapse in persons with schizophrenia receives much attention in present treatment program (Meijel et al., 2006). This notion is supported by American Psychiatry Association (2000) as suggested that the preventing psychotic relapse should be implemented as a major part of all treatment program, comprehensive nursing care plan and community mental health practice for all individuals with schizophrenia in order to maintenance longer community survival with higher quality of life, and reduces the economic burden in this group.

The prevention of psychotic relapse in the early phases of schizophrenia, especially those in the first episode schizophrenia (FES) not only significantly decreasing probability of repeatedly relapses in future, but it can promoting completely recovery or remission, improving the course of illness by limit the postulated neurotoxic effect of active psychosis, and reducing subsequent chronic symptomatology that leading to the good prognosis and indicate the therapeutic success over the long term (Bircwood & McGovern, 2001; Czuchta & McCay, 2001; Herz et al., 2000). Therefore, the preventive psychotic relapse in persons with first episode schizophrenia is much challenge to health care provider in psychiatric practice (Gleenson, 2005; Robinson et al, 1999; Santos, 2003; Spencer, Murray & Plaistow, 2000; Santos, 2003; Thompson et al., 2003). However, nursing intervention about psychotic relapse prevention in persons with first episode schizophrenia is in the process of development (Meijel et al., 2004), including the mental health care practice in Thailand (Somdet Chaophraya Psychiatry Institute, 2006).

The first episode schizophrenia represents the experience of the first acute severe psychotic symptoms in untreated individuals who are suffering from schizophrenia, and it is the first time that the diagnosis of schizophrenia can be made and is usually when treatment begins (Frangou & Kington, 2004; Gleeson, 2005). A large review of the literature indicated that approximately 50 % of individuals with first episode schizophrenia usually experience at least one, often more psychotic relapse with or without complete remission during the first years after discharge, and figure doubles by the end of the second year (Lamberti, 2001; Marland & Cash, 2001; Robinson et al, 1999).

Actually, most of persons with first episode schizophrenia (80 % - 90 %) usually well respond to antipsychotic medication and show substantial improvement when treated with lower doses of antipsychotic drugs when first admitted and achieve more complete remission within average 3 months after starting treatment than those persons with chronic schizophrenia (Lewis & Drake, 2001; Marland & Cash, 2001; Spencer, Murray & Plaistow, 2000; Thompson et al., 2003; Walker & Eagles, 2002). But they show proportionally higher rates of subsequent psychotic relapse after their first admission than do chronic patients (Meijel et al., 2004). In addition, the period immediately following discharge into their community, the persons with first episode schizophrenia are at great risk of psychotic relapse, suicide, violence and rapid rehospitalization (Chacos et al., 2001; Dixon, 2002; Santos, 2003; Spencer, Murray & Plaistow, 2000; Thompson et al., 2003).

As for Thailand, In 2006, 40.8 % (867 case per year) of schizophrenic patients who are admitted Somdet chaopraya Institute of Psychiatry were the newly cases of first episode schizophrenia. The average of time that they have had psychotic relapse and need to be rehospitalization is approximately 3 months after discharge from

hospital. This statistic congruence with study of Herz & Marder (2002) who proposed that the periods of stabilization phase which may last up to about 3 months after the onset of the acute episode in persons with FES are highly vulnerable to psychotic relapse if they experience stress or if medications are interrupted. Moreover, approximately 80% of persons with FES who have once relapsed after recovery from their first episode also have high rates of repeatedly relapsed than other mental disorder (Lieberman et al., 2001).

The reasons of this phenomena might concern with the consequences of recent national health care policy to decrease length of stay in psychiatric hospital into 3 weeks (21 days) (Department of Mental Health; Thailand, 2000; Somdet chaopraya Institute of Psychiatry, 2005), while the persons with FES need 3 months for remission (Lewis & Drake, 2001). Agree with many articles in USA mentioned that the consequences of national trends to decrease length of stay in psychiatric hospital, that usually last 1 to 2 weeks, leading to brief hospitalization for stabilizing acute episodes and early discharged have been linked to increases in rates of psychotic relapse (Beebe, 2001; Thompson et al, 2003; Videbeck, 2001; Walker & Eagles, 2002; Dixon, 2002).

Moreover, the first episode schizophrenia typically occurs in the late adolescence and early adulthood (16 - 25 years). Archie et al. (2005) proposed that there is growing recognition that the persons who are experienced of psychotic symptoms for the first time need specialized treatment because most of them are young. The experience of psychotic symptoms in their prime of life affects their life through disruptions in their opportunities for attaining educational and occupational success, social functioning and intimate relationship (Robinson, et al., 1999; Spencer, Murray & Plaistow, 2000). Most of them also tend to underachieve in terms of

education and employment and experience problems in establishing and maintaining relationships with others, and can not manage their psychotic symptoms without assistance from their family or health care provider to manage the most basic functions of independent living (Beebe, 2001; Dixon, 2002; Frangou & Bryne, 2000; Walker & Eagles, 2002).

In addition, the period after discharge from hospital is difficult times for individuals and their family, because many of them usually have not experienced a complete remission of symptoms when discharged, most of them still have persistent psychotic symptoms which leading to decrease in self care ability, difficulty reintegrating into the community. Moreover, community living presents different problems from staying in hospitalization in case of exposure to stressors, the possibility of negative family interactions, and the availability of alcohol and substances that cause more depression, anxiety or severity of thought disorder and avolition (Soni et al., 1992). Therefore, they need the specific interventions that provide rapid and easy access to specialist assessments, swift initiation of treatment in a setting which does not have stigma attached to it in order to preventing psychotic relapse and promote fully recovery within stabilization phase in order to maintain longer community survival (Gleenson, 2005; Santos, 2003; Spencer, Murray & Plaistow, 2000; Thompson et al., 2003).

To develop nursing intervention for preventing psychotic relapse in persons with FES, understanding the predicting factors and process of psychotic relapse are central to relapse prevention in order to modifying known risk or predicting factors (Lamberti, 2001). The previous studies on predicting factors have shown that non compliance with antipsychotic is a primary element in increasing the risk of psychotic relapse in persons with first episode schizophrenia (Alexander & Ullman, 2001;

Ayuso-Gutierrez & Rio Vega, 1997; Bargen et al., 1998; Diaz et al, 2001; Kane, 2004; Moore, Robinson et al., 1999; Velligan, 2001). Psychopharmacological studies have suggested that after discontinuation of maintenance their medication, approximately 50% of schizophrenic patients relapse in over 9 month period and increasing to 75% after the second year (Wykes & Gournay, 2002; Moore, Sellwood & Stirling, 2000). Unfortunately, there are evidences that the risk of noncompliance with medication after discharge is higher among first-admission patients (Mojtabai et al., 2002).

An environmental potentiators & stressor in the form of high number of stressful life event and/or a family environment high on expressed emotion are the robust predictor that play a significance role in "triggering" the onset or psychotic relapse in the overall of persons suffering from schizophrenia including persons with FES (89 %), despite adequate medication compliance (Arthur et al., 2002; Berger, 2004; Butzlaff & Hooley, 1998; Cheng, 2002; Hooley & Hiller, 2000; Humbeeck et al., 2001; Leff, 1996; Os et al., 2001; Pharoah et al., 2004). Many family studies have demonstrated that schizophrenic persons from families that express high levels of criticism, hostility, or over involvement, have more frequent relapses than people with similar problems from families that tend to be less expressive of their emotions (Butzlaff & Hooley, 1998; Hooley & Hiller, 2000; Linszen, et al., 1997; Os et al., 2001; Pharoah & Streiner; 1999; Pharoah et al., 2004). And Long (1996) reported that in high EE families, schizophrenic patients given standard aftercare relapse 50-60% of the time in the first year out of hospital.

The previous studies that mentioned above congruence with one study in Thailand, Petcharee Kanthasaibour (2001) determined the variables which can discriminate the groups of relapse and non-relapse schizophrenic patients who were

admitted at Somdet chaopraya Institute of Psychiatry. She found the non-relapse group has possessed high level of coping with problems, higher level of drug compliance behaviors, lower level of family expressed emotion and higher score of health belief in the aspect of perceived benefit of the practice to prevent relapse than those in relapse group.

Theses findings are supported by the vulnerability-stress model (Zubin & Spring, 1977) which originally proposed that the occurrence of a full-blown psychotic relapse in persons with schizophrenia depends upon a complex interaction between the personal vulnerability either: physically, personally or socially, and any increases in environmental potentiators and stressors which emanating from biological, psychological and social domains such as stressful life event or stressful home environments with lack of personal and environmental protectors such as coping and problem-solving skills or family support, can produce "prodromal symptoms" that is the precursors of a psychotic relapse (Glashan & Hoffman, 2000; Nuechterlein & Dawson, 1984; Nuechterlein et al., 1992; Nuechterlein et al., 1994; Zubin & Steinhauer,1992).

In addition, this model proposed that the basis of relapse prevention program should be the modification of stress and vulnerability factors and emphasize on the protective factors which act as a buffer against the effects of stress and biochemical vulnerabilities or which minimize the severity of symptoms. The protective factors that most emphasize in the development of the previous program are personal protectors such as compliance with antipsychotic medication, individual’s effective problem solving or coping skills with any stress, and environmental protectors such as family and/or social supports, early recognition of warning signs, and therapeutic

interventions such as stress management (Birchwood et al., 2000; Lamberti, 2001). Many researchers have confirmed that the combination of medication therapy, psychosocial intervention and early recognition of warning signs appears to be the most successful outcomes in preventing psychotic relapse in persons with schizophrenia (Birchwood, Spencer & McGovern, 2000; Bradshaw, 2002; Geddes, 2002; Herz, Lamberti & Mintz, 2000; Mueser et al., 2003; Meijel et al., 2004). Fitzgerald (2001) also proposed that the implementation of a multifactorial intervention program that composed of an antipsychotic medication and psychosocial intervention appears to offered substantial benefits successful outcomes of preventing schizophrenic relapse than alone intervention. In addition, Meijel et al. (2003) suggested that the more successful of relapse prevention program need participant of individuals, family members and others professional. However, psychotic relapses in schizophrenia can not be entirely eliminated even by using the best combinations of biological and psychosocial interventions (Birchwood, Spencer & McGovern, 2000).

According to the process of psychotic relapse, Herz & Melville (1980) proposed that the psychotic relapse is a complex process which is developed very gradually over time that preceded by the early warning signs. Studies indicate that between 50% - 70% of people experience early warning signs over a period of one to four weeks prior to a relapse (Sullivan, 2003). Therefore, recognition of early warning signs of psychotic relapse in prodromal phase have a significance impact in triggering relapse prevention by offers the potential of early intervention in the period of early warning signs may slow the progress of the illness and in minimizing the risk of psychotic relapse and long-term effects (Herz et al, 2002; Morriss et al., 2004). This conclusion is supported by APA (2000) has expressed the opinion that early

recognition for warning signs with early interventions when such symptoms occurred to prevent psychotic relapses should form part of all treatment programmes.

In conclusion, the predicting factors of psychotic relapse in persons with first episode schizophrenia which composed of non-compliance with antipsychotic, high express emotion in family, stressful life events and early warning signs. Therefore, the structures of a multifactorial intervention should combines the multifamily psychoreducational group intervention for promote low express emotion in family and ability to coping with stressors, the compliance therapy for promote compliance with antipsychotic medication, and the early warning signs intervention which composed of the early recognition of warning signs and early intervention when those signs are detected.

In Thailand, there are one intervention is called the PRELAPSE (Preventing Relapse in Schizophrenia) program aim to reduce the psychotic relapse and readmission for persons who suffering with schizophrenia. This program is provided by psychiatrists and nurses in five mental hospitals (i.e. Somdet chaopraya Institute of Psychiatry, Srithunya Hospital, Saun-Prung Hospital, Khon-Kaen Psychiatric Hospital, and Suansaranrom Psychiatric Hospital. This program composed of the group psychoeducation for relatives in order to providing knowledge about schizophrenia, helping the families to solve daily problems due to schizophrenia and promoting low expressed emotion in family. The results of this program revealed that the readmission rate was decreased into 44.4% from 50% of last year. The length of stay also decreased for 50% of these patients while 42.59% remained the same as last year. From these results, the Department of Mental Health has transformed the PRELAPSE program in to the “Technology for Caring Relatives of Schizophrenic Patients” by integrate this program within routine services in all mental hospitals

(Leelanuntakit et al., 1999). Even though, this program success in reduce readmission rate and length of hospitalization, this main process of this intervention is multi-family psychoeducation which not include patient to participate this program. Zygmund et al. (2002) proposed that psychoeducational interventions without accompanying behavioral components and supportive services are not likely to be effective in improving medication adherence in schizophrenia. This statement is supported by Grey (2002) who concluded that only psychoeducations are effective in improving patients or family's knowledge but they have little impact on compliance with medication. In addition, this intervention lack of active monitoring early warning signs and early intervention plan when those signs are detected. Moreover, this program does not focus on persons who are suffering with first episode schizophrenia.

The other program for prevention psychotic relapses in persons with first episode schizophrenia at Somdet chaopraya Institute of Psychiatry are conducted by multidisciplinary professional in order to promote quality of life and prevent psychotic relapse in persons with first episode schizophrenia who are received the treatment as out-patient care. The effect of this program is between evaluations. However, this program focuses on giving psychoeducation for the only persons with FES when they come to see the doctor monthly (Somdet Chaophraya Institute of psychiatry, 2007)

Therefore, this study aimed to develop a nursing intervention that called a multifactorial intervention program in order to prevent psychotic relapse in Thai persons with first episode schizophrenia after they discharge from hospital for 1 month. This intervention was developed by using the vulnerability-stress model as a guideline to understand the predicting factors of psychotic relapse which are non-

adherence to antipsychotic medication, high express emotion in family, and stressful life events by modify these factors with combination of the multi-family psychoeducational groups, the compliance therapy, the early warning signs intervention which composed of the early recognition of warning signs and early intervention when those signs are detected. In addition, this intervention need close co-operation among individuals who suffering with FES, their family members, and health care professionals.

Objective of the study

Compare the effects of a multifactorial intervention between control and intervention group on psychotic relapse in persons with first episode schizophrenia.

Research Question

Does a multifactorial intervention can prevent psychotic relapse in persons with first episode schizophrenia?

Research Hypothesis

The research hypothesis of this study was persons with first episode who received a multifactorial intervention would have significantly lower psychotic relapse rate than persons who received the routine care.

Operational Definition

1. Person with first episode schizophrenia means the person who having diagnosis as schizophrenia and admitting at Somdej Chaopraya Institute of Psychiatry for the first time.

2. Psychotic relapse means recurrence of positive symptoms which were hallucination, delusion and disorganized though within 1 month after discharge from

hospital by using the Brief Psychiatric Rating Scale (BPRS) as a measurement. The positive symptoms scores which are elevated on a remitted psychotic symptom for hallucinations, delusions, and disorganized thinking up to 6 scores can be determine psychotic relapse (The University of California; UCLA, 2001).

3. A multifactorial intervention means the psychotic relapse prevention program which derived from the vulnerability-stress model (Zubin & Spring, 1977), which composed of 3 interventions as following;

3.1 The multifamily psychoeducational group utilized the work of McFarland et al. (2003) which is combination the learning theory and the behavioral therapy as the guideline in order to promote low express emotion in family and enhance ability to coping with stress. The components of this intervention are psychoeducation sessions, coping with stress session, problem solving session, and effective communication session.

3.2 The compliance therapy which utilized the mixed-modality interventions which is combination of the psychoeducation and the cognitive-behavioral intervention as the guideline in order to promote adherence with antipsychotic medication. This intervention target on individual's attitudes and beliefs toward medication, correcting false beliefs about medication by giving psychoeducation about medication, and promoting adherence behavioral tailoring in taking medication by using weekly and daily pillbox.

3.3 The warning signs intervention which composed of early recognition of warning signs by active monitoring early warning signs and early intervention when warning signs are detected. This EWS intervention applied from the work of Meijel et al. (2004). This intervention composed of providing psychoeducation about early warning signs and early intervention, listing of the relapse signature,

development of a relapse drill planning, active monitoring of early warning signs, and early intervention within 24 to 48 hours when warning signs are detected.

4. The routine care means the usual psychiatric nursing care in clinical and community setting. The usual care are composed of the nursing care for promote safety of client and others, promote self care for daily living, establishing therapeutic relationship, intervention for delusion, hallucination, socially inappropriate behaviors, client and family teaching and establishing community support system and care.

Scope of the study

1. The population of this study was persons who are suffering with first episode schizophrenia and admitting at Somdet Chaophraya Institute of Psychiatry for the first time.

2. The research design of this study was true experimental research by using the posttest-only control group design (Campbell & Stanley, 1973)

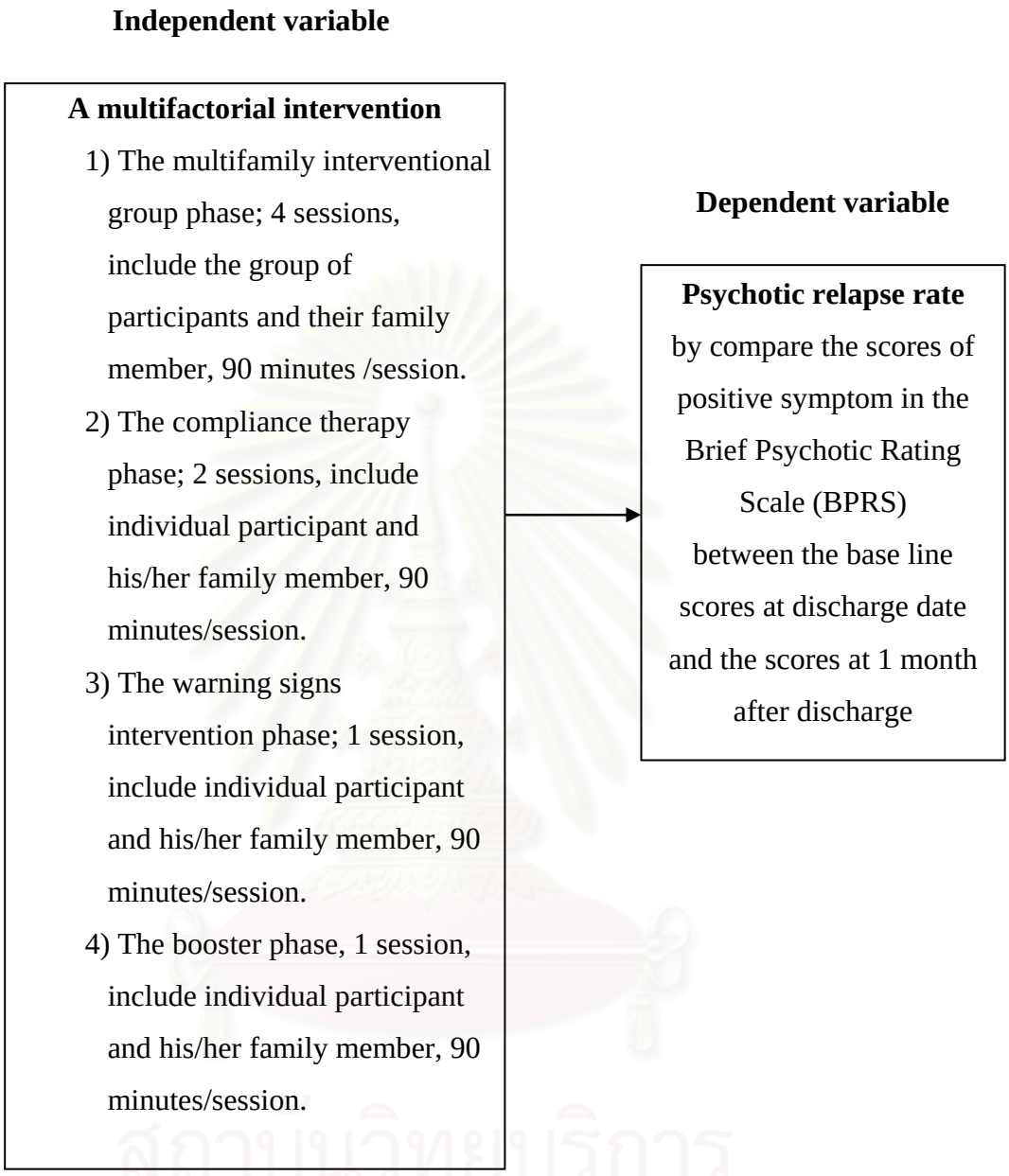
3. The independent variable was a multifactorial intervention and the dependent variable was psychotic relapse rate which can be measured by using the Brief Psychiatric Rating Scale (BPRS), the elevation on a remitted psychotic symptom for hallucinations, delusions, and disorganized thinking up to 6 scores can determine psychotic relapse (UCLA, 2001).

Expected Benefit

1. Providing the evidence of the effectiveness of a multifactorial intervention on preventing psychotic relapse in persons with first episode schizophrenia.

2. Providing the guideline for further study which aim to prevent psychotic relapse for persons with first episode schizophrenia in community settings.

The conceptual framework of the study



CHAPTER II

LITERATURE REVIEW

In order to study the effectiveness of a multifactorial intervention on psychotic relapse in persons with first episode schizophrenia (FES), this chapter will be provided an integrative research review of empirical findings with the state of the summarization that related to each concept of interest which are organized in 6 sections as following;

1. First episode schizophrenia
2. Psychotic relapse
3. Psychotic relapse in person with first episode schizophrenia
   3.1 The predicting factors of psychotic relapse in persons with first episode schizophrenia
   3.2 The prevention of psychotic relapse in persons with first episode schizophrenia
5. The developing of a mutifactorial intervention

1. First episode schizophrenia

1.1 Definition of first episode schizophrenia

The first episode schizophrenia represents the first experience of severe psychotic symptoms in untreated individuals who are suffering from schizophrenia (Gleeson, 2005). This statement congruence with Frangou & Kington (2004), the first acute episode is the first time that the diagnosis of schizophrenia can be made and is usually when treatment begins. However, the duration of untreated psychosis (DUP) of persons with FES usually about 1-3 years before come to hospital for treatment (the median value is 54 weeks) (Lieberman et al., 2001).

1.2 Onset of first episode schizophrenia

The onset of schizophrenia composed of 3 phases (Frangou & Kington, 2004).

Premorbid phase: schizophrenia is often preceded by subtle premorbid difficulties in motor, cognitive and social domains that can be traced back to childhood. However, none of these problems is specific enough to help in early detection.

Prodromal phase: In many patients, onset of schizophrenia is preceded by a period of months or, less commonly, years characterized by nonspecific changes in behaviour; reduction in the level of functioning is the most consistent feature. Although the full-blown clinical picture of schizophrenia is not present, patients exhibit various attenuated positive symptoms. These signs and symptoms are confusing and often shocking to families and friends.

Usually, the psychotic-like symptoms gradual beginning, the first symptoms noted are loss of interest in vocational or academic activities, social withdrawal, and mood changes ranging from increased anxiety and depression to irritability and anger. These commonly include suspiciousness, a nonspecific feeling that the world is somehow different and more confusing, preoccupation with a narrow and often bizarre set of topics, and development of odd ideas (Frangou & Kington, 2004). These conclusion agree with Shives & Isaace (2002) who reported that the development of tension, anxiety, the inability to concentrate, begins talking in nonsense, insomnia, withdrawal, peculiar behaviorand, unusual perceptions or cognitive deficits may precede the FES.

Acute phase: The first episode schizophrenia typically emerges in the late adolescence or early adulthood (Keltner, 2003). The first signs of schizophrenia start earlier in men than in women; the peak incidences are 15–25 years and 25–35 years, respectively (Shaw & Singh, 2004; Varcarolis, Carson & Shoemaker, 2006). Frangou & Byrne (2000) proposed that the usual presenting features are positive symptoms such as hallucinations or delusions, or both, generally accompanied by anxiety, behavioral withdrawal, angry outbursts, and suicidal thoughts.

FES may appear suddenly or develops gradually over months or even years and manifest themselves in different ways vary from person to person, as well as within individual over the course of their disease (Herz & Marder, 2002; Shives, 2006).

1.3 Cause of first episode schizophrenia

The neurobiological changes are accepted to be a major cause of the first episode schizophrenia. The early developmental model (or "doomed from the womb") suggested that abnormalities in brain development around or before birth mediate the failure of brain functions in early adulthood (Murray & Lewis, 1987; Weinberger, 1987). This model is supported by an array of data, such as an increased rate of birth complications, minor physical abnormalities, neurological soft signs and subtle behavioral abnormalities, in children who later developed schizophrenia, however, only a small number of people with such risk indicators eventually develop schizophrenia (Matcheri & Keshavan, 2005).

An alternative view, suggested by the fact that the illness onset does not begin typically until adolescence or early adulthood, points to a possible developmental problem around or prior to the onset of psychosis. Normally, adolescence is

characterized by a refinement of neuronal connections leading to an elimination (or "pruning") of surplus synapses. If this process is excessive, then a pronounced loss of synapses, perhaps of the glutamatergic system, may result, leading to the emergence of the illness (Keshavan et al., 1994). Finally, the observation that at least a subgroup of patients deteriorate over the first few years of the illness has led to the view that there may be a degenerative process (Lieberman et al., 2001).

Neurobiological studies of the first episode of schizophrenia as changed in brain structure and chemistry have the potential to examine predictions generated by these seemingly contrasting models.

Changes in brain structure*;* the computed tomography (CT) showed that patients with schizophrenia have a reduction in brain tissue as evidenced by enlarged cerebral ventricles. Several magnetic resonance imaging studies have confirmed significant abnormalities in brain structure in patients with schizophrenia and have firmly established that schizophrenia is indeed a brain disease. These studies have also suggested regional brain changes in specific structures such as the frontal and temporal cortex. Some studies, using MRI, have observed a relationship between prolonged untreated illness duration and pronounced loss of gray matter volumes in patients with schizophrenia. First-episode patients also have less prominent structural brain abnormalities than chronically ill patients. As a more direct evidence of illness progression, prospective follow-up studies of first-episode patients suggest continued loss of grey matter during the first few years of the illness (Thompson et al., 2001). Based on such findings, early intervention with antipsychotic medications could halt the progression of brain abnormalities in schizophrenia and related psychoses.

Changes in brain chemistry*;* neurochemical brain imaging using positron emission tomography can inform us about receptors and neurotransmitters such as **the**

dopamine hypothesis. The magnetic resonance spectroscopy (MRS) investigations in first-episode schizophrenia suggested increased breakdown of neuronal cell membranes at illness onset. Such findings may reflect a reduction in the size or connectivity of neuronal cells. Indeed, several genes have recently been identified that may hold the key to finally understanding the causes of schizophrenia (Harrison and Owen, 2003). Teen-aged children at increased genetic risk for schizophrenia also show membrane alterations similar to those observed in patients with first-episode schizophrenia, especially those who have already begun to manifest subtle symptoms (Keshavan et al., 2003).

In addition, environmental factors such as illicit drug use and psychosocial stress may also be potential secondary triggers accompanying the onset and course of schizophrenia.

1.4 Clinical symptoms of first episode schizophrenia

Schizophrenia presents with a wide range of symptoms affecting most domains of brain function in 2 terms; the term ‘positive symptoms’ refers to a cluster of symptoms that are abnormal by their *presence*. They reflect distortions or exaggerations of normal function (e.g. delusions, disordered thought, hallucinations). In contrast, ‘negative symptoms’ reflect the *absence* of certain normal behaviours and emotions; they include flat affect, apathetic social withdrawal and poverty of speech. (Frangou & Kington, 2004).

1.5 Course of first episode schizophrenia

The course of schizophrenia varies widely and varies from patient to patient. After acute phase, most patients (about 80%) recover from their first episode, though this can take up to 1 year. About 10% never recover. About 82% of those whose first episode remits relapse within 5 years (Robinson et al., 1999). In most

patients (> 60%), the course of illness is alternate between the periods of remission to exacerbation in long term with variable inter-episode recovery; acute relapses may occur years after remission (Olfson, et al., 2000; Videbeck, 2001).

DSM IV-TR (2000) has classified the longitudinal course of schizophrenia which composed of 4 groups as presented in figure 1.

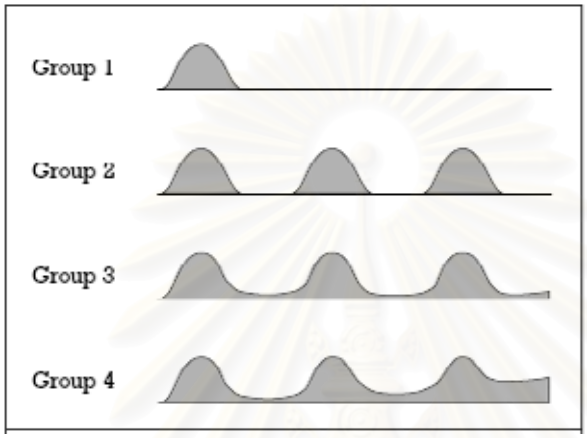


Figure 1 Variations in longitudinal course of schizophrenia

Figure 2 shows the longitudinal course and how the pattern of psychotic relapse can vary significantly between groups of individuals with schizophrenia, including group 1 single episode in full remission or partial remission, group 2 episodic with no interepisode residual symptoms, group 3 episodic with interepisode residual symptoms, and group 4 continuous episode which prominent psychotic symptoms are present throughout the period of observation.

1.6 Diagnosis of first episode

The diagnosis of schizophrenia for the first time is based on a combination of positive and negative symptoms with a continuous disturbance (i.e. debilitating symptoms) of social and occupational functioning that be present for at least six months, or at least 1-month duration of two or more positive symptoms unless hallucinations or delusions are especially bizarre. The criteria for the diagnosis of schizophrenia by ICD 10 (1992) are presenting in appendix C**.** Subtypes of

schizophrenia are specified on the basis on the prevailing symptoms (paranoid, disorganized, catatonic, undifferentiated and residual).

1.7 Management of first episode schizhrenia

The main goal in the treatment of schizophrenia is to reduce symptoms and minimize the risk of relapse or the reappearance of symptom exacerbations. Once schizophrenia is diagnosed, the primary aim of treatment is to bring about rapid remission of the acute psychotic episode. Immediate treatment of persons after a first psychotic episode improves his or her long-term outcome. In addition, observations of progressive functional decline and brain changes during the early phases of illness highlight the importance of preventing deterioration and restitution of premorbid functioning in individuals who have already experienced their first episode (Pierre & Wirshing, 2006). Effective treatment depends upon a life-long regimen that requires a comprehensive and multidisciplinary effort both of clinical and community setting (Hogarty et al., 2004).

Antipsychotic medication is the mainstay or the first step of treatment for schizophrenia. There are two types of available antipsychotic drugs. These differ in chemical structure and receptor profile, but all modify dopaminergic transmission in the brain. The duration of medical treatment in acute phase averages about 3 to 6 months (Gage, 2002). After the first episode has resolved, antipsychotic medication need to be continued for at least 2 years and then should be reevaluated in order to prevent psychotic relapse. Doses are generally lower, by about 25 % - 50% (Freedman, 2003).

Typical antipsychotics : haloperidol and chlorpromazine are popular examples of the first-generation antipsychotics. These drugs are antagonists at D2

dopamine receptors, and it is thought that both their effects and their principal side-effects result from D2 blockade. Typical antipsychotics achieve a significant reduction in positive symptoms in 60–70% of patients with schizophrenia. Their efficacy in reducing negative, affective and cognitive symptoms is limited.

Typical antipsychotics are associated with movement disorders (extrapyramidal side-effects) as a consequence of blockade of nigrostriatal D2 receptors. These effects range from muscle and joint stiffness and parkinsonism, to acute muscle spasms (dystonia) involving any muscle group (including those of the eye – oculogyric crisis) and compulsive subjective and objective motor restlessness (akathisia). Long-term exposure to typical antipsychotics is also associated with tardive dyskinesia, which presents with dystonic and/or stereotypical movements. Dystonia may be seen in any muscle group, whereas stereotypes usually involve the orofacial region and manifest as repetitive chewing-like movements, grimacing, lip-smacking, licking or pursing, lateral tongue movements, tongue protrusion or jaw deviation. D2 blockade also leads to increased prolactin levels and associated sexual dysfunction.

Atypical antipsychotics : A newer antipsychotic drugs are less likely to cause extrapyramidal side-effects. This is presumably because they act preferentially on mesolimbic rather than nigrostriatal neurons, and have greater affinity for serotonin 5-HT2 receptors than for D2 receptors. Compared with typical antipsychotics, atypicals may be more efficacious in treatment of the negative, affective and cognitive symptoms of schizophrenia. Clozapine is the prototype atypical. It is effective, but is restricted to treatment-resistant or treatment-intolerant cases because it carries a 1% risk of agranulocytosis, and is used under strict haematological monitoring.

Although the risks of extrapyramidal side-effects and tardive dyskinesia are significantly lower with atypical antipsychotics, they carry increased risks of weight gain and diabetes, and patients require regular monitoring. Neuroleptic malignant syndrome is a rare, potentially lethal idiosyncratic response to antipsychotic medication. It presents with changes in consciousness level, hyperthermia, autonomic instability, muscular rigidity, and worsening of extrapyramidal side-effects, sometimes with drooling or dysphagia. It is a medical emergency, with an estimated mortality as high as 20%.

A number of randomised clinical trials and cohort studies have suggested that first-episode patients are more responsive to treatment than chronic patients regardless of the antipsychotic drug used, but they are also more sensitive to extrapyramidal side effects, such as acute dystonia and parkinsonism (Ohlsen et al., 2004; Frangou & Byrne, 2000). There is evidence that atypical antipsychotic medications are effective in the treatment of first-episode schizophrenia and are well tolerated, including a lower risk for motor side effects and possible lower risk for development of tardive dyskinesia, has swung the risk-benefit balance in favor of early and aggressive treatment (Grangou & Murray, 2000).

Psychosocial treatments: specific interventions have been developed to target clinical and psychosocial problems in schizophrenia. Psychosocial interventions are complementary to antipsychotic drug treatment and not an alternative to medication (Hogarty et al., 2004). Research suggests that combining medications with family education, supportive/psycho-educational individual psychotherapy, and rehabilitation supports improves functioning for people with schizophrenia compared to medication alone. The best outcomes occur when all three components of psychosocial

interventions are added to treatment with medications (Keshavan, 2005). The examples of the psychosocial treatment as presented following;

Cognitive behavioural therapy (CBT) challenges the assumed dysfunctional cognitive models underlying schizophrenic psychopathology. It has mainly been used to treat hallucinations and delusions in schizophrenia, with some success. CBT may help to reduce positive symptoms, the frequency of hallucinations and the distress associated with delusions. Cognitive remediation may improve social function and, to an extent, clinical symptoms by ameliorating cognitive deficits.

Family intervention, using various models, has been implemented in families with high EE, and to help relatives cope with the distress of caring for a family member with schizophrenia. It helps to reduce rates of relapse and re-hospitalization. Other psychosocial interventions include psycho-education and social skills training.

1.8 Prognosis of first episode schizophrenia

Outcome in schizophrenia can be measured in terms of clinical and social recovery. Data from first-admission studies indicate that social recovery can occur despite persistent symptoms. The prognosis of persons with FES is more favorable than chronic individuals because the most of persons with FES are more response well to lower doses of antipsychotic drugs for both acute and maintenance treatment In addition, the rates of remission in FES are high and more complete than those of more chronic patients (Loebel et al., 1992; Johnstone et al., 1986).

Approximately 80 % - 90 % of the persons with FES usually show substantial improvement when treated with lower doses of antipsychotic drugs when first admitted and achieve more complete remission in about 3 months after starting treatment than those chronic persons (Lamberti, 2001; Lewis & Drake, 2001; Marland & Cash, 2001; Spencer, Murray & Plaistow, 2000; Thompson et al., 2003; Walker &

Eagles, 2002). Robinson et al. (1999) found that young people with a schizoaffective disorder appear to have a particularly good prospect of symptom remission. However, the persons with FES are more likely sensitive to extrapyramidal side effects, such as acute dystonia and parkinsonism, even at lower medication doses, than multiepisode patients (Frangou & Byrne, 2000). Unfortunately, Robinson et al. (2004) proposed that although some patients with FES can achieve sustained symptomatic and functional recovery, the overall rate of recovery during the early years of the illness is low. If they can not full remission during that time, the consequences include poor prognosis and increase chance to more repeatedly relapse in the future.

However, recovery varies worldwide; a WHO collaborative study in ten countries showed that the outcome seems to be better in developing countries than in developed countries. Robinson et al. (1999) proposed that the following variables were significantly associated with less likelihood of response to treatment in people with FES; male sex, obstetric complications, more severe hallucinations and delusions, poorer attention at baseline, and the development of parkinsonism during antipsychotic treatment. Variables not significantly related to treatment response were diagnosis (schizophrenia versus schizoaffective disorder), premorbid functioning, duration of psychotic symptoms prior to study entry, baseline disorganization, negative and depressive symptoms, baseline motor function, akathisia and dystonia during treatment, growth hormone and homovanillic acid measures, psychotic symptom activation to methylphenidate, and magnetic resonance measures. In addition, Gage (2000) proposed that the patients who had a known physical or emotional trauma as the trigger to their first episode, had a relatively with a late onset of the illness (after their mid-twenties), had an abrupt onset to their symptoms, or had good social functioning before their illness, can expect a better outcome.

About 10% of individuals with schizophrenia are thought to commit suicide, largely during the active phase of the illness. Deaths from accidents and cardiovascular disease are also increased. The reasons for the latter are unclear, but increased smoking, poor nutrition, living conditions and access to health care, and the cardiovascular side-effects of antipsychotic medications could all be possible causes (Frangou & Kington, 2004).

2. Psychotic relapse

Psychotic relapse is a complicated problem in maintenance treatment and caring for most of persons who are suffering with schizophrenia.

2.1 Definition of psychotic relapse

Psychotic relapse means change in psychopathology with either the recurrence, intensification or worsening of positive symptoms that often composed of delusions, hallucinations and conceptual disorganization after discharged from psychiatric hospital (Burns, Fiander & Audini, 2000; Jinnett, Alexander & Ullman, 2001; Lamberti, 2001). This statement was confirmed by Almond, et al (2004) who reported that persons with psychotic relapse were characterized by higher rates of hospitalisation (63%), reemergence of psychotic symptoms (60%) and aggravation of positive or negative symptoms (43%). However, it is important to note that the experience of persistent symptoms which continue despite stabilization of the illness, is not a psychotic relapse, but a worsening of these treatment resistant symptoms, or the return of previously ceased symptoms, is likely to indicate a potential psychotic relapse (Sullivan, 2003).

2.2 Process of psychotic relapse

Herz & Melville (1980) proposed the process of psychotic relapse in persons with schizophrenia (figure 3), which indicated that psychotic relapse is a complex process that occurs over time and developed very gradually in prodromal phase with preceded by early warning signs (EWS) during a period from a few days, weeks or even months. This period present a window of opportunity for early intervention that may prevent psychotic relapse or at least lessen its severity.

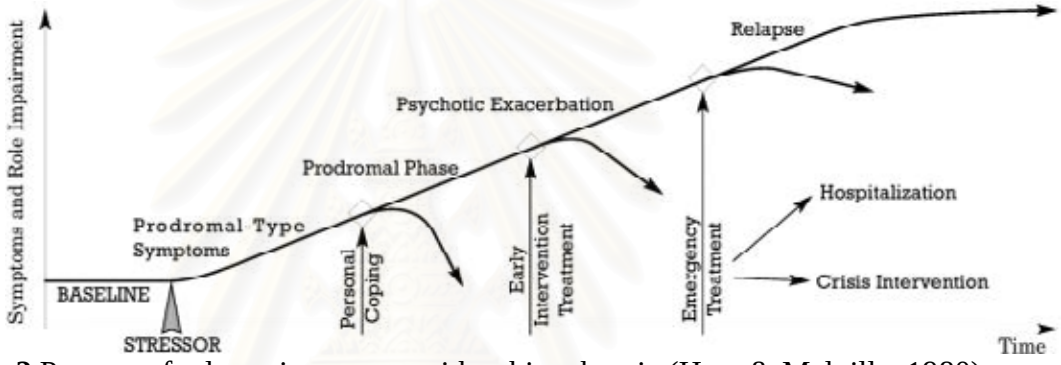


Figure 2 Process of relapse in persons with schizophrenia (Herz & Melville, 1980)

From figure 2, the baseline indicates the level of stable symptoms which a schizophrenic persons experiences on a more or less permanent basis. This level can differ considerably from person to person; some can be more or less free of symptoms, while another can be constantly plagued by persisting symptoms.

Prior to a relapse, people will often experience changes in their feelings, thoughts & behaviours in prodromal phase or called early warning sign (EWS) that last between a few days, weeks or even months. If EWS increase slightly, relative to the baseline, many persons alter their behavior in such a way as to ensure that the symptoms decrease or do not affect them so much. In the event that the symptoms get worse, the person's ability to cope will not be sufficient, the early intervention will be necessary to prevent psychotic relapse.

If such the successful of early intervention are carried out effectively, it may promote the recovery of equilibrium of persons and prevent psychotic relapse by bringing the course of the illness back in the direction of the baseline in the process of psychotic relapse. If the seriousness of the symptoms increases further, the result will be a psychotic crisis at some stage. It will be necessary to resort to intensive interventions in the form of crisis management or hospitalization in order to avert the severe psychotic symptoms.

In conclusion, the process of psychotic relapse in persons with schizophrenia is developed very gradual and varies from person to person. The period of prodromal signs that most often preceded by warning signs from a few days, weeks or even months which offers opportunities for preventive intervention by using early intervention.

2.3 Early warning signs (EWS) of psychotic relapse

EWS of psychotic relapse in persons with schizophrenia can be defined as subjective experiences of individual about the change of their feelings, thoughts & behaviours which occur prior psychotic relapse (Herz & Melville, 1980). EWS are highly diverse and greatly vary among individuals; however, they are usually specific and unique to the individual, in addition, they are often remain relatively consistent within a given individual from relapse to relapse and usually the same as those that occurred prior to the first episode, for this reason, they are also referred to as ‘relapse signatures’ (Herz & Lamberti 1995, Meijel et al., 2002)..

It can conclude that EWS can be predicting the psychotic relapse in schizophrenic persons (Baker, 1995; Birchwood et al., 1989). Early recognition of

EWS by active closely monitoring EWS could have a significance impact in triggering relapse prevention (Baker, 1995; Kennedy, Schepp & O'Connor, 2000; Mejil et al., 2002; 2003).

The characteristics of early warning signs

Herz & Melville (1980) interviewed chronic schizophrenic patients and their family members regarding EWS of relapse, they reported that "dysphoric symptoms" such as having trouble sleeping and difficulty concentrating, loss of appetite, and feeling depressed are the most commonly reported, but psychotic symptoms such as a sense of being laughed at or talked about are less reported.

Heinrichs & Carpenter (1985) Proposed the 10 most common of EWS of psychotic relapse include hallucinations (53%), suspiciousness (43%), change in sleep (43%), anxiety (38%), cognitive inefficiency (26%), anger/hostility (23%), somatic symptoms or delusions (21%), thought disorder (17%) disruptive inappropriate behavior (17%), and depression (17%).

Birchwood & Spencer (2001) proposed that cognitive–perceptual changes and dysphoric symptoms often first occur in the process of relapse such as sleeping disturbance (such as insomnia or unusual awakenings), social withdrawal, problems/difficulties in social relations, hyper-activity or an unusual tiredness, hostility towards relatives, friends and/ or colleagues, unusual emotions, fear, suspiciousness or compulsive behavior, or bizarre behaviors, use of a strange/unusual language, or strange disappearances or get away from home or workplace followed by psychotic symptoms such as strange and pervasive thoughts and perceptions (including delusions and hallucinations).

Sutton (2004) also proposed the types of EWS experienced in the month prior to relapse, include dysphoria (such as increased anxiety, sleep and appetite

disturbance, decreased personal hygiene, tension and nervousness, apathy and loss of interest, and irritability) and incipient psychosis (e.g. the beginning of auditory hallucinations as occasional whispers, or delusions as vague feelings of unease).

These early warning sign can be monitoring by either persons with schizophrenia or their family by using valuable tools that called Early Warnings Signs Scale that developed by Birchwood (1989). Jorgensen (1998) confirmed that this tool can be predicting psychotic relapse with overall accuracy of 79% specificity and 81% sensitivity.

Duration of early warning signs

The duration of EWS also vary; the retrospective and prospective studies confirm that an increase of early warning signs and/or symptoms is apparent for several weeks before a psychotic relapse in a majority of cases.

Herz & Melville (1980) shows a few case of patients and family members reported that the interval time less than one day (7 - 11%), a larger percentage (16-24%) reported this period lasted from one to seven days, but a majority cases (50 - 68%) reported a period of more than 7 days extending to longer than a month. Kalafi & Torabi (1996) indicated that the onset of psychotic relapse is often preceded by a significant change in the individual's psychosocial environment over the previous 3 weeks. And Jorgensen (1998) who evaluated the predictive validity and temporal link of EWS of psychotic relapse every second week over a period of six months by self-reporting (Early Signs Scale) and objective assessment of behavioral and phenomenological changes. Results revealed that 45% of participants experienced a psychotic, and early signs were detected most often (70%) within the four weeks immediately before the individuals' relapse.

In conclusion, psychotic relapse is most often preceded by EWS for one to four weeks prior relapse. Each individual usually has his or her own particular pattern of EWS which is a characteristic set of feelings, thoughts & behaviours. EWS are highly diverse and vary greatly from person to person, but similarities to do exist. Identifying and acting on these EWS, relapse may be prevented or the severity minimised.

2.4 Predicting factors of psychotic relapse

Psychotic relapse in schizophrenia could not be viewed as occurring "spontaneously" and can occur for a number of reasons, or sometimes for no apparent reason. The vulnerability – stress model suggested that the occurrence of a full-blown psychotic relapse in persons with schizophrenia depends upon a complex interaction between the personal vulnerability and environmental stressors), including, the absence of protective factors that increase an individual's liability above the threshold will play a major role in the onset or exacerbation or relapse of psychotic symptoms (Birchwood, 2000; Lamberti, 2001; Meijel et al, 2003; McGlashan & Hoffman 2000).

Vulnerability factors that increase the likelihood of experiencing a relapse may include non-compliance with antipsychotic medication, environmental stress, use of illicit drugs and alcohol, lack of social support and poor physical health. The protective factors composed of personal protectors (include antipsychotic medication, good physical health and nutrition and individual's effective problem solving or coping skills) and environmental protectors (include family and/or social supports, and therapeutic interventions such as stress management). (Birchwood, 2000; Hultman, Wieselgren & Ohman, 1997; Lamberti, 2001 ; McGlashan & Hoffman

2000; Meijel et al, 2003; Nuechterlein et al. 1994; Wayne & Fenton, 1998; Zubin & Spring, 1977).

From the literature, there is a number of predicting factors that are known to specifically affect the schizophrenic relapse. As for study in Thailand, Petcharee Kanthasaibour (2001) determined variables which can discriminate the groups of relapse and non-relapse schizophrenic patients. She reported that in the non-relapse group, possessed high level of coping with problems, higher level of drug compliance behaviors, lower level of family expressed emotion and higher score of health belief in the aspect of perceived benefit of the practice to prevent relapse than those in relapse group. This Thai study was supported by a number of studies are following;

Csernansky & Schuchart (2002) proposed that the predictors of more frequent psychotic relapses include poor compliance with antipsychotic drug treatment, severe residual psychopathology, poor insight into the illness and the need for treatment, comorbid substance abuse, and poor relationships between patients, families and care providers.

Bargen, et al. (1998) analyzed clinical data on patients with schizophrenia on admission to acute care and 6 months later in order to identify factors associated with relapse, they concluded that non-compliance with medication, stress, inadequate social support and substance abuse can predicted psychotic relapse.

Mwaba & Molamu (1998) reported that the factors that attribute to psychotic relapse were inability to adhere to prescribed medical intervention, lack of social support, grief following the loss of a close family member and lack of employment.

Giron & Gomez-Beneyto (1998) concluded that poor empathic attitude of relatives (the ability to perceive the patient's mood state), lack of treatment compliance, negative symptoms, unemployment, and poor premorbid adjustment were significant associated with psychotic relapse.

Ayuso-Gutierrez & Rio Vega (1997) mentions the following as the most important factors: (1) Non-compliance with medication: non-compliance goes hand in hand with an increased risk of relapse. By focus on medication strategy: the dosage, application method (oral or depot medication) and application strategy (continuous or intermittent) affect the risk of a relapse. (2) Psychosocial factors: aggravating circumstances, such as stressful life-events or exposure to a social environment with a high level of expressed emotion, increase the risk of a relapse. And (3) Alcohol and drugs abuse increase the risk of a relapse. In contrast, social support received from the patient’s environment, and certain psychosocial interventions (family interventions, skills training and cognitive behavioural therapy) diminish the risk of a relapse.

Linszen et al (1997) studied predicting factor of psychotic relapse in schizophrenia, they concluded that EE turned out to be the major predictor of relapse in the overall sample, and cannabis abuse was the major predictor of relapse in patients with high-EE families.

Weiden & Olfson (1995) concluded that frequent antecedents to relapse include a lack of antipsychotic efficacy, medication noncompliance, substance abuse, and psychosocial stressors.

Nuechterlein et al. (1992) proposed that during initial 12-month period in which continuous antipsychotic medication is ensured through the use of an injectable

form of fluphenazine, only measures of environmental stressors regarding stressful life events and expressed emotion significantly predict relapse.

While, Almond et al. (2004) proposed that there was no difference between the relapse and non relapse groups with respect to gender, ethnic group, marital status, employment status or highest level of education.

In conclusion, the significant predicting factors of schizophrenia relapse are non-compliance with medication, stressful life events, and expressed emotion in family and alcohol and substance abuse. It's obvious that these researches finding strongly support the validity of stress-vulnerability concept of schizophrenia that was mentioned above.

2.5 Evaluation of psychotic relapse

Psychotic relapse can be measured by either increase (or worsening) of psychotic symptoms or rehospitalization (Burns, Fiander & Audini, 2000). Barbui et al (1996) proposed that psychotic relapse means patients showing an increase of two or more points in the Brief Psychiatric Rating Scale (BPRS). Agree with Birchwood (1998) proposed that if scores of posttest are more than base line and increase to two symptoms, means he or she relapse. And Meijel et al. (2003) stated that if scores that elevation on a remitted psychotic symptom up to two symptoms can be determine psychotic relapse. While, the University of California (UCLA, 2001) proposed the relapse criteria that elevation on a remitted psychotic symptom for hallucinations, delusions, and disorganized thinking up to 6 scores on BPRS for a 1 month period to determine psychotic relapse.

3. Psychotic relapse in person with first episode schizophrenia (FES)

3.1 Predicting factors of psychotic relapse in people with FES

Robinson et al. (1999) examined the predicting factors of psychotic relapse in 118 persons with first episode schizophrenia by used measures of psychopathologic variables, cognition, social functioning, and biological variables. The result revealed that discontinuing antipsychotic drug therapy increased the risk of relapse by almost 5 times, after controlling for antipsychotic drug use showed that patients with poor premorbid adaptation to school and premorbid social withdrawal relapsed earlier. However, sex, diagnosis, obstetric complications, duration of psychotic illness before treatment, baseline symptoms, neuroendocrine measures, methylphenidate hydrochloride challenge response, neuropsychologic and magnetic resonance imaging measure, time to response of the initial episode, adverse effects during treatment, and presence of residual symptoms after the initial episode were not significantly related to relapse in persons with FES (Robinson et al., 1999).

Gleeson (2005) proposed that the risk factors for psychotic relapse in persons with FES can be broadly divided into distal and proximal factors, can be gleaned from prospective follow-up studies of FEP. Generally, the findings indicate that distal factors associated with increased relapse risk include a poor premorbid adjustment and lower levels of ‘agreeableness’ (i.e. a more hostile interpersonal style). Significant proximal predictors include non-adherence to medication, high express emotion, stressful life events, and problems with coping.

In conclusion, the predicting factors of psychotic relapse in persons with FES are multifacets which include non adherence to medication and psychosocial stressors especially, high express emotion in family and stressful life event. These factors

confirmed the vulnerability-stress model which proposed that occurrence of a full-blown psychotic relapse depends upon a complex interaction between an individual's degree of the personal vulnerability factors, the environmental stressor, and the absence of protective factors that increase an individual's liability above the threshold for an exacerbation or relapse of psychotic symptoms (Lamberti, 2001; McGlashan & Hoffman 2000; Meijel et al., 2003).

3.1.1 Noncompliance with antipsychotic medication

Non-compliance or non-adherence with antipsychotic medication means the failure to keep up their antipsychotic medication as prescribed (Prior, 2004). It is a major primary predicting factors of substantial psychotic relapse in both of person with FES and chronic schizophrenia (Gray, Robson & Bressington, 2002; Alexander & Ullman, 2001; Ayuso-Gutierrez & Rio Vega, 1997; Bargen et al., 1998; Diaz et al, 2001; Jinnett, Alexander & Ullman, 2001; Moore, Sellwood & Stirling, 2000; Robinson et al, 1999; Velligan, 2001; Weiden & Olfson, 1995).

According to the vulnerability-stress model (Zubin & Spring, 1977), non adherence to antipsychotic medication as a personal vulnerability factor or lack of personal protective factor which concerning dopamine dysfunctions. While, adherence with antipsychotic medications indicate the good personal protective factor that raise the threshold for return of psychotic symptoms by block dopamine receptors (Nuechterlein et al., 1994; Travellbe, 2002). Psychotic relapse due to non-compliance are often more severe, dangerous and include higher rates of attempted suicide and violence behavior, especially during periods of psychosis (Prior, 2004; Zygmunt et al., 2002). While, some studies have found that patients on continuous drug therapy

have less change in their brain structure than those patients not on medication. (Lieberman et al., 2001)

Unfortunately, the rates of medication noncompliance among patients with schizophrenia after acute hospitalization are very high, it's estimated to be 50% after the first year of discharge and 75% after the second year (Awad, 2004; Dolder et al., 2003; Lieberman et al., 2001; Zygmunt et al., 2002). As many as 60% of patients with schizophrenia do not take medications as prescribed. The consequences of poor adherence are particularly severe in schizophrenia; they can lead to hospitalization, derail the process of recovery, and contribute to the high cost of treating the illness (Velligan & Weiden, 2006).

There are 3 basic ways of assessing medication adherence. First, clinicians can elicit reports from patients, family members, and caregivers regarding adherence, although such reports can be inaccurate. A more reliable technique is to have patients bring in their medication bottles at each visit to perform pill counts. Finally, plasma levels of certain antipsychotics may be obtained to determine whether a medication is being taken, although this method might fail to detect partial adherence (Pierre & Wirshing,2006).

Coldham, Addington & Addington (2002) proposed that in their first year of treatment, 39% of the persons with FES were non-adherent, 20% inadequately adherent, and 41% adherent. The reasons for non-adherence in persons with schizophrenia are multifaceted and complex (Byrne et al., 2003). A number of sociodemographic, illness, attitudinal and treatment variables have been demonstrated to be associated with non-compliance in persons with FES are following;

Kane (2004) reported that their linear regression analysis showed that only poor insight and a negative attitudes towards medication were significantly correlated with antipsychotic adherence in persons with FES, together these two factors explained 27% of non-adherence behaviour. While, adverse effects, subjective well being and substance misuse were not useful indicators of drug adherence.

Feetam et al. (2003) proposed that the persons with FES are more likely to develop antipsychotic induced movement disorders that called “extrapyramidal effect (EPS)” at lower antipsychotic doses than chronic patients, therefore it is accepted that the development of EPS making it difficult to maintain patients on medication treatment in the long term.

Coldham, Addington & Addington (2002) reported that the most significant determinants of non-adherence in persons with FES were young age, poor premorbid functioning, poor quality of life, less insight, lack of family involvement and substance use. It is likely that the increased symptoms and relapse are a function of non-adherence while substance use, poor premorbid and current social functioning and poor insight may contribute to failure to engage well in treatment.

Lacro et al. (2004) examined possible associations between medication adherence among 101 patients with an initial episode of schizophrenia. Linear regression analysis showed that only poor insight and a negative attitude towards medication were significantly correlated with antipsychotic adherence; together these two factors explained 27% of non-adherence behaviour. Adverse effects, subjective well-being and substance misuse were not useful indicators of drug adherence.

Mutsatsa et al. (2003) reported that negative attitudes toward medication and lack of insight contributed significantly towards poor adherence in persons with FES.

While Rittmannsberger et al. (2004) proposed some aspects of schizophrenia might make it especially difficult for patients to adhere to treatment. First, schizophrenia is an illness in which insight is probably more likely to be impaired than is the case with other illnesses. Second, disorganization and cognitive disturbances are additional symptoms of schizophrenia that interfere with regular intake of medication. Third, schizophrenia's chronic course often requires lifelong medication, as a general rule, the longer the medication treatment period, the lower the rates of adherence. Finally, schizophrenia and antipsychotic are subject to stigma. The use of antipsychotic is hampered by side effects that make individuals more reluctant to follow prescriptions, a reality that apparently has not improved substantially with the advent of atypical antipsychotic.

However, non-adherence can be viewed as either inadvertent or intentional. Inadvertent nonadherence occurs when signs or symptoms get in the way of taking medication (eg, cognitive deficits prevent the organization necessary to maintain compliance). Intentional nonadherence results from a conscious decision on the part of the patient to discontinue his or her medication. Different interventions may be needed to address these different types of non-adherence (Velligan & Weiden**,** 2006).

In conclusion, poor insight of the illness and negative attitude towards medication is the most common reason of poor compliance in persons with FES.

3.1.2 Psychosocial or environmental stressor

Many previous studies supported that there are strongly associations of psychosocial stressor or aggravating circumstances by stressful life events and stressful home environments in the months immediately preceding psychotic relapse

in persons with schizophrenia (Ayuso-Gutierrez & Rio Vega, 1997; Bargen et al., 1998; Birchwood, 2000; Hultman, Wieselgren & Ohman, 1997; Lamberti, 2001; McGlashan & Hoffman 2000; Meijel et al., 2002; Ventura et al. 1992). These notions was confirmed by Nuechterlein et al. (1994) who proposed that during an initial 1-year period of depot antipsychotic medication, independent life events and expressed emotion were found to predict the likelihood of psychotic relapse. In addition, it was found that the persons with schizophrenia in the community who are unprotected by medication are vulnerable either to acute stress in the form of life events or to chronic stress in the form of living with a high expressed emotion relative (Lader, 1995).

3.1.2.1 High express emotion in family

Expressed emotion (EE) was defined as the articulated negative beliefs and criticisms that emanate from those who form the familial and close personal relationships that surround and influence persons with psychiatric disorders. High EE represents a particularly difficult form of psychosocial stress which related to increasing the distress level perceived by individuals with schizophrenia (Arthur et al., 2002; Linszen, et al, 1997; Nuechterlein et al., 1994; Pharoah & Streiner, 1999; Ronald et al., 1998; Wuerker, 2000). While, low expressed emotion environment may be a protective factor (Liberman et al., 1980).

The vulnerability-stress model has demonstrated that high EE is an environmental potentiators & stressor which is reported as the highly critical or emotionally overinvolved attitudes toward the patient in the immediate social environment were predictive of higher risk of relapse in person with FES even if antipsychotic medication was ensured (Nuechterlein et al., 1994).

Congruence with many evidence based consistently indicate that the presence of a family environment with a high level of express emotion by their family members

increase the likelihood of a psychotic relapse, despite receiving maintenance neuroleptic medication (Arthur et al., 2002; Boye et al., 1995; Brown, et al, 1962; Liberman et al., 1980; Linszen, et al, 1997; McDonagh, 2005; Nuechterlein et al., 1994; Pharoah & Streiner, 1999; Sato, 1996). Agree with McFarlane (2005) proposed that the persons who have continued medication but living in families that express high levels of criticism, hostility, or over involvement, have 44.3 % of relapse rate after the first year of discharge compared with 18.4 % in persons who living in low EE environment, while, non-adherence persons who living in high-EE environment have 57.7 % of relapse rate, versus 27.9 % in a low-EE environment.

In conclusion, these findings highlight the importance of EE in the understanding and prevention of relapse in a broad range of psychopathological conditions. Moreover, several trails of family based treatment indicate that when family EE levels decrease, patients' relapse rates also fall and conclude that a low expressed emotion environment may be a protective factor for preventing schizophrenia relapse. Therefore, the effective family intervention programs should include an educational component.

3.1.2.2 Stressful life event

According to the vulnerability-stress model, stressful life events as an environmental potentiators & stressors that concerning overstimulating social environment (Liberman et al., 1980; Nuechterlein et al., 1994). This model suggests that any increase in acute or chronic stress will play a major role in the occurrence of psychotic relapse. It might be mediated via a vulnerability- stress- relationship because indirect evidence indicates that stress exposure have been implicated in both the onset of initial symptomatology and the return of psychotic episodes (Joseph et al,

1989). Several lines of research provide support that stressful life events play a role in "triggering" the onset or relapse of psychotic symptoms in schizophrenia. In addition, this model describes how heightened cortisol release has the potential to exacerbate schizophrenia symptoms by augmenting dopamine activity (Brown & Birley, 1968; Ventura et al. 1992).

Furthermore, patients with schizophrenia in families with high expressed emotion are more likely to relapse despite receiving maintenance neuroleptic medication, and to relapse more often, than those whose key relatives show low expressed emotion. (Davies, 1994) Pharoah & Streiner (1999) showed that people with schizophrenia from families that express high levels of criticism, hostility, or over involvement, have more frequent relapses than people with similar problems from families that tend to be less expressive of their emotions. Expressed emotion (EE) has substantial scientific support as a predictor of relapse of positive symptoms. The median relapse rate in a high-EE environment is 48%, compared with 21% in a low-EE environment (Kavanagh, 1992). However, many retrospective studies found the number and frequency of stressful life events that were independent of the individual that increases in the months can worsen the course of schizophrenia and preceding a schizophrenia relapse. However, independent life events play less of a role in relapse prediction during a medication-free period in persons with schizophrenia.

There are many previous studies supported that stressful life events in the form of discrete life events or ambient interpersonal stress appear to interact with vulnerability factors to increase the likelihood of psychotic relapse in remitted schizophrenics (Ayuso-Gutierrez & Rio Vega, 1997; Bargen et al., 1998; Birchwood, 2000; Joseph et al, 1989; Hirsch et al., 1996). In a retrospective study, Brown &

Birley (1968) found that 48% of schizophrenic patients reported an independent life event in the 3-week period just before a psychotic episode, as compared with 14% of a sample of community controls for a similar 3-week period. In addition, except for the 3-week period prior to an episode, the life-event rates of the two groups did not differ significantly. This notion confirmed by Pallanti, Quercioli & Pazzaglo (1997) who investigated the relationship of cognitive and coping characteristics to stressful life events at the time of relapse in patients with recent-onset paranoid schizophrenia. The results revealed that patients without severe life events during the 1 month before relapse had more subjective complaints, and less coping capacity than did relapsed schizophrenic subjects who had severe life events in the month before relapse.

The stressors that may trigger episodes of schizophrenia onset are highly individualized. It may be day-to-day hassles in an individual's life or more specific stressful life events such as the accumulation of developmental (being fired from work, terminating a relationship, leaving home or moving to a foreign environment or military basic training), biochemical (substance abuse) or interpersonal relationships (high expressed emotion in family, romantic disappointment, death in family). In addition, Discharge from hospital can be a stressful event for a service user and their carer and could potentially create a vulnerability to relapse in individuals with schizophrenia (Quattrocki, 2001). As for study in Thailand, Sappaveeravong et al. (2002) revealed that stress in day to day life of persons with schizophrenia can be classified into 3 dimension; social performance (no income and unemployment), family interaction (hostility, criticism and emotional over involvement in the family) and social interpersonal interaction.

In addition, persons with schizophrenia often have underdeveloped skill sets to cope with stressful situations and, as a result, have difficulty tolerating such situations. The combination of lack of skill and lack of support networks can lead to decompensation and psychotic relapse. This statement confirmed by Lukoff et al. (1984) proposed that many schizophrenic patients also seem to be deficient in the coping skills or coping skills required to remediate the losses brought on by life events or to deal effectively with stressful relatives and result in difficulty to tolerating such stressful situations. Thus, they may experience greater and more prolonged stress than most others due partially to inadequate social and problem-solving skills and less supportive social networks. In contrast, individuals who have adequate coping resources seemed to be able to deal better with stressful life events. However, independent life events played a lesser role in relapse prediction during a medication-free period (Nuechterlein et al., 1994).

Although exact mechanisms are unknown, one possible role of environmental stress is activation of mesolimbic dopaminergic pathways without appropriate modulation by the prefrontal cortex (Weinberger, 1987). In addition, researches also have found that the prefrontal lobes of the brain are extremely responsive to environment stress that can intensify the already vulnerable neurologic state, possibly triggering and exacerbating existing symptoms (Shives, 2006). When stress hormones are chronically elevated, structural brain changes can occur, such as reductions in hippocampal volume (Lombroso & Sapolsky 1998). Given these findings, it is not surprising that intervention programs aimed at reducing stress or promoting ability to coping with those stress are beneficial for preventing psychotic relapse in individuals with schizophrenia (Norman et al., 2002).

In conclusion, the stressor are considered as the precipitating factor that cause of increasing rate of psychotic relapse in persons with FES. In addition, the persons with schizophrenia often have underdeveloped skill sets to cope with stressful situations and, as a result, have difficulty tolerating such situations. Furthermore, they are more susceptible to symptom exacerbation under stress than normal people because most of them have high levels of temperament characteristics. Therefore, ability to management of stressor is very important to persons with FES in order to prevent psychotic relapse.

In conclusion, the predicting factors of psychotic relapse in persons with first episode schizophrenia which composed of non-compliance with antipsychotic, high express emotion in family and stressful life events.

3.2 The prevention of psychotic relapse in persons with schizophrenia

The first episode period is the most critical period that can sharply predictive of its prognosis in longer-term course and functional outcome of the illness (Spencer, Birchwood & McGovern, 2001). This notion is confirmed by Gleenson (2005) who stated that the focus of new effective treatment in persons with first episode schizophrenia has shifted from the possibility of remission to the recognition of psychotic relapse. prevention of psychotic relapse in persons with FES has become an international focus of research in the field of psychiatric practice over the past recent years (Gleenson, 2006). However, there is not much intervention that specific to persons with first episode schizophrenia, the previous studies which aimed to prevent psychotic relapse in the field of schizophrenia have been useful to developing the intervention for first episode schizophrenia group.

The existing intervention of psychotic relapse prevention in persons with schizophrenia are 1) the compliance intervention which aim to enhance medical adherence, 2) the family intervention that aim to reduce high express emotion in family and promote coping skill, 3) the interventions that aim to monitoring early warning signs and early intervention when those signs are occurred, and 4) mix or multifactorial interventions.

3.2.1 The compliance therapy

Antipsychotic medications have been repeatedly shown to be effective for the treatment of acute psychosis and the prevention of psychotic relapse in persons with schizophrenia (Weiden & Olfson, 1995)**.** Maintenance antipsychotic medications following first schizophrenic episodes are a cornerstone in reducing the intensity and frequency of psychotic relapse (Johnstone & Geddes, 1994; Leucht et al., 2003; Moore, Sellwood & Stirling, 2000; Rittmannsberger et al., 2004). American Psychiatric Practice Guideline recommends that persons with first episode schizophrenia should maintain antipsychotic medication at least 2 year for remitted from first-episode (Robinson et al., 1999). A number of review articles have summarized the data on interventions to improve adherence to medications.

Byrne et al. (2003) suggested the compliance intervention that used cognitive behavior techniques were more effective to promoting medical compliance than other strategies in order to manage of nonadherence with antipsychotic medications in persons with schizophrenia.

Zygmund et al. (2004) also proposed that the cognitive intervention which target on individual's attitudes and beliefs toward medication centered on the assumption that adherence is a coping behavior that is heavily determined by the personal construction of the meaning of medication and illness. Such as medication

self management medication, and empowerment were often most effective to promote medication adherence, especially when they relate to the causes of noncompliance based on individual assessment, active patient involvement; collaboration and self-regulation emerge from the dedicated schizophrenia literature as being related to more positive outcomes in terms of therapy and compliance. In addition, the interventions targeted specifically at problems of non-adherence were shown to be likely to be effective. Concrete problem solving or motivational techniques were common features of successful programmes. There is consistency in the data confirming a positive role for good therapeutic alliance in all approaches that proved successful in improving adherence to antipsychotic medications. Finally, there was modest evidence that the assertive community treatment and intensive case management models of community care were effective in promoting medication adherence. However, not only does the content of any adherence intervention approach seem to be important, but the time-course of outcome evaluation is also relevant. The need for 'booster therapy' seems to be important for maintaining some of the beneficial effects of adherence-improvement therapies.

Grey et al. (2002) proposed that the behavior interventions that aim to inform of the importance of taking medicine and link taking medicine with specific routine were more successful in promoting adherence than psychoeducational. The behavior interventions are assumed that adherence behaviors are acquired through learning and conditioning and can be modified through reinforcement, rewards, punishment, frequent repetition, and provision of cues, modeling, and the promotion of self-management. In such interventions, a detailed behavioral analysis of the problem was often conducted, and treatment procedures were targeted at specific components of the behavior. Common behavioral strategies include providing patients with detailed

instructions and concrete problem-solving strategies such as skill building and practice activities, behavioral modeling and contracting, medication packaging, reminders, self-monitoring tools, cues, reinforcements, and dosage modifications that helping persons to tailor their medication that fitted in their daily routine behaviors.

In conclusion, there are many evidences support that behavioral tailoring was effective in enhancing compliance and cognitive-behavioral techniques appear to be the most effective in enhancing compliance and preventing relapse (Grey, Wykes & Gournay, 2002; Zygmunt et al., 2002). Zygmund et al. (2004) proposed that the most successful program to enhance adherence in persons with schizophrenia should be psychoeducational interventions (giving patients information about their illness and treatment) with accompanying cognitive components (use of compliance therapy techniques such as exploring ambivalence and testing beliefs about medication), behavioural components (tailoring medication regimes to suit the patient) and supportive services. In addition, Dolder et al. (2003) proposed that purely psychoeducational interventions were the least successful at improving antipsychotic adherence because it did not focus on attitudinal and behavioral change were largely unsuccessful in improving adherence. Combinations of educational, behavioral, and affective strategies were successful in promoting adherence.

3.2.2 The multifamily psychoeducational group

Among the family intervention, there is substantial evidence that multifamily psychoeducational group is the most effectiveness on reduce high express emotion in family and the rate of psychotic relapse in persons with first episode schizophrenia perhaps second only to the antipsychotic medications (Dyck et al., 2002) Also McFarlane et al. (2003) proposed that among family intervention, there is substantial evidence that the persons with first episode schizophrenia can get the most

benefit from multiple family psychoeducation in decrease high express emotion in family and risk of psychotic relapse.

Moreover, the multiple-family psychoeducation yielded significantly lower psychotic relapse rates than did the single-family and it may be more cost effective than single family models in decrease high express emotion in family and risk of psychotic relapse (McFarlane et al., 2003). Furthermore, multiple-family groups also function to decrease the family's sense of isolation and certainly more cost effective. The findings of decreased frequency of relapse and hospitalization of this family psychoeducation have been robust across cultures e.g., China (Mingyuan et al., 1993; Xiong et al., 1994) and Japan (Zhang et al., 1994).

The multiple family psychoeducational is a treatment approach which brings together aspects of family psychoeducation, family behavioral and multifamily approaches. The multiple family psychoeducation helped family members to identify prodromal symptoms and provide support to their loved one. This intervention utilized the learning theory and the behavioral therapy as a guidline including empathic engagement, education, ongoing support, clinical resources during periods of crisis, develop social network enhancement, and problem-solving and communication skills (McFarlane et al., 2003). Single family and multi-family group versions will have different outcomes over the long term, but there are similar components.

McFarland et al. (2003) proposed multiple family groups for preventing schizophrenic relapse. Treatment has 3 phases: 1) joining: (engaging with single family, often at the time of the acute psychotic break) typically involves 3-5 weekly hour-long home-or clinic-based meetings with the family. Includes 4 major tasks:

Assessment of present crisis, the family's reactions & broader functioning, Inviting family to the multiple-family group (MFG), Setting realistic goals / contract (length of treatment, who is involved, etc) and Emphasizing to the family that clinician is available for crises. 2) Educational workshop: 6-8 hours of lectures & discussion to 4-7 families using videotape. Includes "survival skills" (a la Anderson's work) for managing schizophrenia & "family guidelines" 3) Multifamily group development: groups are closed ended, 90-minute meetings (patients are included), meet weekly for 4-6 weeks, then biweekly; groups continue for at least 12 months. Groups focus on formal problem-solving and communication skills training. Session structure: socialize (15 min); review of events since last session (20 min); select 1 problem (5 min); formal problem-solving with one family as the focus (45 min); socialize (5 min). In addition, the multiple-family group should to consist of six to eight families.

Despite the fact that the Schizophrenia Patient Outcomes Research Team (PORT) recommends that the family psychoeducation programs should be at least 9 months long by including education about mental illness, family support, crisis intervention, and problem-solving skills training (Lehman et al., 1998), there appears to be some evidence that even brief interventions consisting of between 1-10 sessions may be efficient decreasing psychotic relapses (Humbeeck et al, 2001; Rose, Mallinson & Walton-Moss, 2004).

In conclusion, among the family intervention, there is substantial evidence that the multi family psychoeducational group is the most effectiveness on decrease high express emotion in family and thus the significantly reduced psychotic relapse rates in persons with first episode schizophrenia including promote fully recovery, improved patient functioning and family well-being and can be maintained those results over a long period of time.

3.2.3 Early warning signs intervention

According to the process of psychotic relapse in persons with schizophrenia in figure 2, monitoring the early warning signs in prodromal phase with the use of early intervention such as crisis supportive problem solving therapy and increasing antipsychotic medication doses when such symptoms were detected in order to promote the balance before the development of a full-blown episode has been a growing emphasis on effective of preventing psychotic relapses (Meijel et al., 2004; Sutton, 2004). Herz, Lamberti & Mintz (2000) postulated that close monitoring for prodromal symptoms and prompt early intervention such as crisis supportive problem solving therapy and increasing antipsychotic medication doses when such symptoms appear, were effective in reducing the rates of psychotic relapse in schizophrenic outpatients. Meijel et al. (2004) who proposed that psychotic relapse can be prevented if optimal management or early intervention is provided when the earliest warning signs of relapse are detected. In addition, APA (2000) has expressed the opinion that early recognition and early intervention to prevent psychotic relapses should form part of all treatment programmes.

Early recognition of EWS refers to the efforts that are made to recognize the early warning signs of a psychosis at the earliest stage possible. Many researchers have investigated effectiveness of strategies to detect EWS of psychotic relapse as quickly as possible in order to reduce the incidence of psychotic relapse. Mounting evidences concluded that individuals with schizophrenia have the self care ability to recognize their early warning sign of psychotic relapse, in spite of, this ability may be dependent on the presence of insight (awareness of one's disorder) (Baker, 1995; Birchwood et al., 1989; Kennedy, 1994). But, Kennedy, Schepp & O'Connor (2000) proposed that improving an individual's ability to recognize EWS could have a

positive impact on relapse prevention and employ a wide range of management methods regardless of the degree of insight present. Therefore, improving an individual's ability to recognize symptoms associated with schizophrenic relapse could have a positive impact on relapse prevention (Kennedy, Schepp & O'Connor, 2000).

Early intervention means specific action is taken to prevent a serious psychotic crisis from developing when the early warning signs become apparent. There are many evidences supports that the frequency and severity of psychotic relapse can be managed if optimal management that known as 'early intervention' provided when the earliest warning signs of relapse are detected (Sullivan, 2003). If early interventions are carried out effectively, it may reduce the severity of symptoms, slow the progress of the illness, promote the recovery of equilibrium, and decrease the rate of psychotic relapse (Herz, Lamberti & Mintz, 2000; Meijel et al., 2003). Early intervention depending on the severity of psychotic symptoms, the persons may need further monitoring, social support, crisis intervention, medical adjustment, or hospitalization (Sullivan, 2003).

However, many researchers have tried to investigate strategies the most effective of early recognition of EWS and early intervention when those signs are detected in order to prevent psychotic relapse as following;

Birchwood et al. (1989) developed scale for the measurement of EWS of psychotic relapse in persons with schizophrenia that called the Early Signs Scale (ESS) which is a self-reporting of EWS of psychotic relapse. ESS can be classified the most common of EWS in four subscales: (1) anxiety / agitation, (2) depression / withdrawal, (3) disinhibition, and (4) incipient psychosis. The first two subscales occur primarily in the dysphoria phase, and the last two subscales are visible when the

process of relapse has progressed. This scale can predict psychotic relapse with an overall accuracy of 79%.

Hogarty et al. (1997) found that “personal therapy” which an individualised and graded approach to stress management, particularly focusing on the identification and management of affective dysregulation preceding psychotic relapse was associated with a significant overall effect in delaying adverse events.

Birchwood, Spencer & McGovern (2000) tested a relapse prevention program that involves five stages: 1) engagement and education 2) identification of the relapse signature 3) development of a relapse drill that considers three areas for intervention: pathway to support, service interventions and personal coping strategies 4) rehearsal and monitoring and 5) clarification of the relapse signature and relapse drill. This study decreases in relapse rate when compared with control group.

Herz, Lamberti & Mintz (2000) developed the Program for Relapse Prevention (PRP) that incorporating a number of interventions shown to be effective in preventing relapse and maintenance pharmacotherapy in schizophrenia. PRP includes 5 components: 1) Education for patients and family members about relapse and recognizing prodromal symptoms and behaviors; 2) Active monitoring for prodromal symptoms by the treatment team, patient, family members and others in frequent contact with the patient; 3) When prodromal episodes were identified, clinical intervention within 24 to 48 hours (increased frequency of crisis problem-solving, supportive therapy visits and increased medication as needed); 4) Either one-hour weekly supportive group therapy emphasizing improving coping skills or 30- to 45-minute individual supportive therapy sessions if patients refused group therapy; and 5) 90-minute multifamily psychoeducation groups that family members were

encouraged to attend. The TAU consisted of biweekly individual supportive therapy and medication management. They found that Outcome rates over 18 months were 17% for relapse in the PRP group, compared with 34% for relapse in the TAU group.

Meijel et al. (2003) developed the nursing intervention to prevent schizophrenic relapse by focused on the significance of recognized early warning sign and early intervention, their protocol consisted of 4 phase;

1) the preparatory phase; inform and educate patients and their families by analyze the patient's situation and his social network concentrating on the patient's insight into the illness; the patient's acceptance of his/her disorder; the patient's motivation; specific patient characteristics, such as symptomatology, cognitive disorders, drug dependence problems, personality characteristics, cultural background and features of the social network.

2) the listing of early warning signs from the patient's perspective; the family's perspective; and the perspective of the healthcare professional(s).

3) the monitoring of the early signs by instruct patients and the persons directly involved on how to monitor early warning signs; and provide guidance in actual monitoring process.

4) the preparation of an action plan that show its main features: addresses of relevant contacts; details of the most prominent early warning signs; relevant sources of stress; existing coping skills; action to be taken by persons in the patient's immediate environment; and action to be taken by healthcare professional(s).

The results revealed that relapse percentage in the experimental group (12.5%) was lower than the control group (26.2 %), but this difference is not significant. The relative risk of a psychosis for patients in the control group was more than twice the risk rate for patients in the experimental group. No significant or interpretable

differences between the two groups could be discerned at the level of a number of secondary outcome variables (insight, quality of working alliance and use of anti-psychotic drugs).

However, schizophrenia tends to impair thinking, thus the individual may not be able to recognize the return of symptoms or the signs of relapse. Family members can be very helpful in recognizing, monitoring and preventing psychotic relapse by keeping communication lines open.

In conclusion, early warning sign intervention that composed of early recognition of EWS and early intervention are recommended mainly in combination with medication therapy and psychosocial intervention. This intervention can be provide by engagement and psychoeducation about psychotic relapse and EWS, identification of each individual's particular pattern of EWS (relapse signature) as early as possible by active monitoring of their own a set of EWS once a week, enhance a person’s ability in planning optimal pharmacological and psychological strategies (relapse drill), and implementing strategies immediately if early warning signs occur. However, this strategy requires close co-operation or collaboration among individuals with the disorder, family or carers, and health professionals.

3.2.4 The multifactorial intervention

The multifactorial intervention means the compressive or integrated intervention which based on a combination of antipsychotic medication adherent and psychosocial interventions that should include both patient and family in educational programs regarding early warning sign detection and medication compliance (Meijel et al., 2002). Recently the implementation of a multifactorial intervention program that composed of an antipsychotic medication and psychosocial intervention appears to offered substantial benefits successful outcomes of preventing schizophrenic

relapse than alone intervention (Fitzgerald, 2001). Lamberti et al. (2001) proposed that psychotic relapse occur in response to stressors emanating from biological, psychological and social domains which characterized by multifacets, therefore successful outcomes can only is achieved through a comprehensive, ‘multi-system’ treatment approach and multifactorial intervention program. This notion is supported by Fitzgerald (2001) who explained that implementation of the intervention which approach to predicting factors of psychotic relapse appears to have offered substantial benefits to prevent psychotic relapse in persons with schizophrenia. However, the importance of combining psychosocial and pharmacologic interventions for optimum outcome in the treatment of schizophrenia is now well recognized since the vulnerability – stress model proposes that symptoms arise from a combination of internal and external factors (Lenroot, 2003). Furthermore, the multifactorial interventions not only would prevent psychotic relapse and a great deal of personal suffering, it could also contribute to the self-management of the illness by the patient and their family. There are many previous studies that emphasized on the multifactorial intervention as following;

Herz, Lamberti & Mintz (2000) proposed that combining maintenance antipsychotic medication therapy with psychosocial approaches has been found to be more effective than pharmacotherapy alone in delaying or preventing relapse and/or reducing hospital days. Painter (2001) proposed that combining maintenance medication with psychosocial approaches has been found to be more effective than pharmacotherapy alone. Gumley (2000) proposed that combination of neuroleptic maintenance treatment and individualised psychoeducation better than standard pharmacological treatment only in the prevention of psychotic relapse in persons with schizophrenia.

Fitzgerald (2001) proposed that the multifactorial interventions such as the combination of compliance with drug treatment and adequate psychosocial interventions such as psychoeducation can reduce the percentage of psychotic relapses from 50% down to 10% - 20%. Also, Meijel (2002) reported that under treatment conditions in which an optimal medication regime is offered (with intensive supervision of medication use) combine with intensive psychosocial assistance, the psychotic relapse rate can even be reduce to 20 %. As for duration to provide intervention, Linzen et al. (1997) suggested that the intervention for prevent psychotic relapse should continue for at least the duration of the critical phase.

In conclusion, the multifactorial intervention in previous study often consisted of a weekly group therapy for patients, and multifamily groups in combination of psychoeducation, antipsychotic medication adherent, active monitoring for prodromal symptoms with clinical interventions when such symptoms occurred (Herz et al., 2000). In addition, the most effective management of schizophrenia requires that episodes are treated at the earliest possible time. However, successful in preventing schizophrenic relapse depends upon a life-long regimen of both drug and psychosocial support from their families, friends, and communities.

4. The developing a multifactorial intervention

The researcher developed a multifactorial intervention by using the vulnerability-stress model (Zubin & Spring, 1977) (Figure 1) as the theoretical framework. This model is a well known model for treatment and research in the field of schizophrenia. This model can be integrated a holistic perspective in which both biological and psychosocial variables in order to explain the onset, course and outcome of schizophrenia (McGlashan & Hoffman, 2000). In addition, this model can be use as a guideline for understands predictive and protective factors of psychotic relapse. Moreover, this model is excellently suited for develop the intervention that aim to prevent psychotic relapse in persons with first episode schizophrenia by modification of those factors (Bechdolf et al., 2002; Hides, 2003; McGlashan & Hoffman 2000; Lamberti, 2001; Meijel et al, 2002).

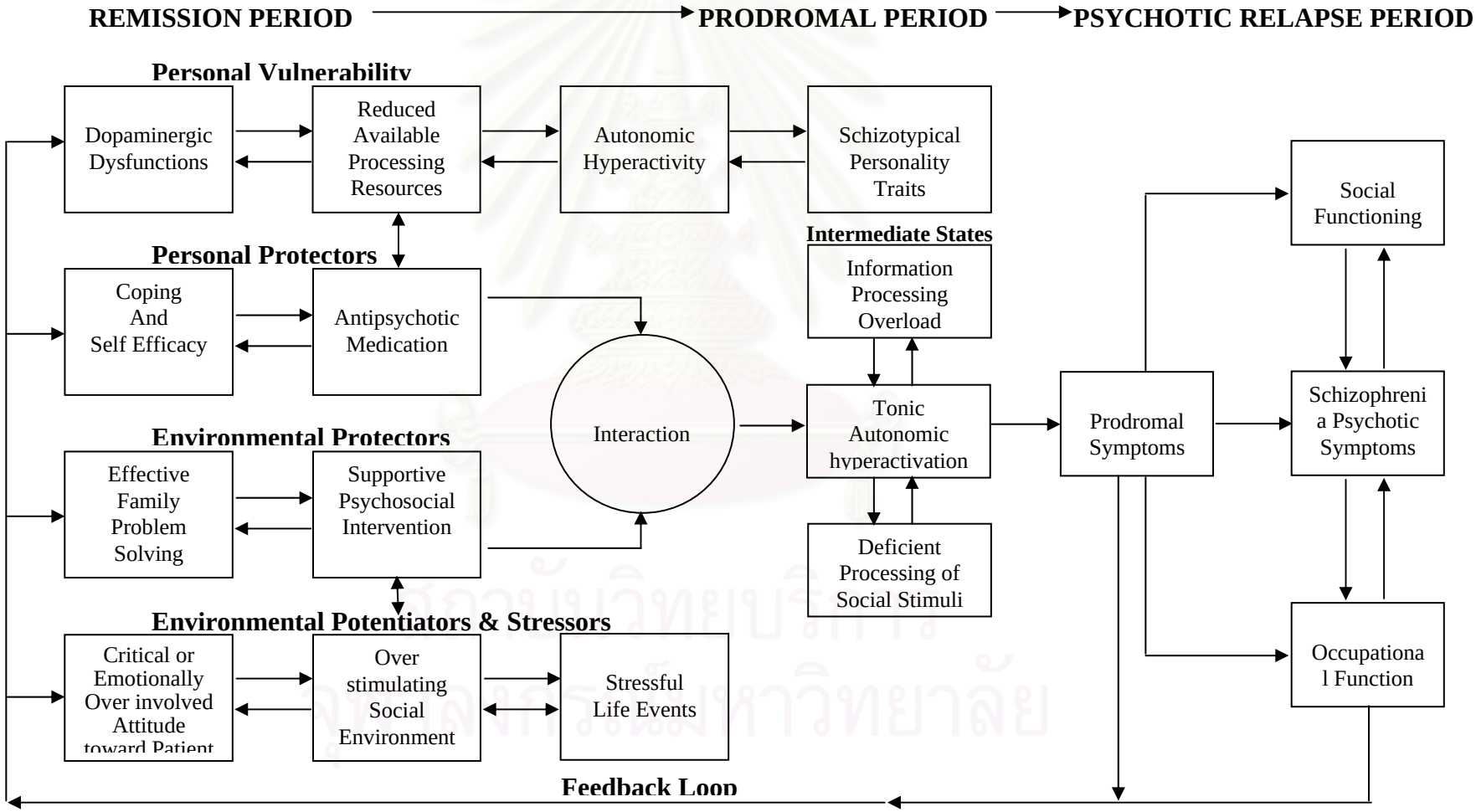


Figure 3 the Vulnerability – Stress Model (adapted from Zubin & Spring, 1977)

From the figure 3, this model shows the interaction of (1) the personal vulnerability factors include genetic, problems in intrauterine neurodevelopment prior birth, neurotransmitter imbalance (dopamine hypothesis), changes in the structure of the brain, biological abnormalities such as viral infections or head injuries and other physical problems that related to certain information-processing deficits and tonic autonomic hyperactivitation. (2) the personal protectors and environmental protectors related to social competence and coping limitations, and (3) the environmental potentiators and stressors, it's so called "intermediate internal states" which can, when they exceed a certain threshold of gravity, lead to the development of "prodromal symptoms" that is the precursors of schizophreniaand psychotic relapse. The feedback loops reflect the circularity of the model.

The personal vulnerability factors refers to an endogenous, enduring trait that is actualized by other stressors or some specific characteristics that are stable and consistency different from normal populations which over stimulation and diminished his or her stress tolerance. Include abnormal of physiological of the brain, the limitation of coping and problem-solving skills, antisocial personality, non adherence to medication, use of illicit drugs and alcohol, lack of social support & poor physical health. An individual who has vulnerability is more likely to experience psychological distress when exposed to stressors.

The environmental potentiators and stressors are seen as a major precipitating factor which decrease the individual's vulnerability threshold and increase the likelihood of psychotic relapse (Glazer, 1995; Hultman, Wieselgren & Ohman, 1997; McGlashan & Hoffman 2000; Lamberti, 2001; Meijel et al, 2002; Birchwood, 2000). Those stressors comprised of internal factors e.g., hormones or unrealistic targets and

external factors e.g. stressful interactions within a family or another stressful life events.

The protection factors act as a buffer against the effects of stress and biochemical vulnerabilities or which minimize the severity of symptoms composed of personal protectors and environmental protectors. The presence or absence of these skills can have an impact on the stress levels experienced. The personal protectors include compliance to antipsychotic medication, an individual's skills such as problem solving, coping skills, recreational activities or sports.

The environmental protectors consist of practical, emotional, and social support in order to enable the patient to better handle the consequences of the illness and increase the individual's coping resources and vulnerability threshold. For example, family, friend or community support, and psychosocial interventions such as stress management, effective communication skill, assertiveness and effective problem solving.

The vulnerability-stress model originally proposed that the occurrence of a full-blown psychotic relapse in persons with schizophrenia depends upon a complex interaction between the personal vulnerability either: physically, personally or socially, and any increases in environmental potentiators and stressors which emanating from biological, psychological and social domains such as stressful life event or stressful home environments with lack of personal and environmental protectors such as coping and problem-solving skills or family support, can produce "prodromal symptoms" that is the precursors of a psychotic relapse (Glashan & Hoffman, 2000; Nuechterlein & Dawson, 1984; Nuechterlein et al., 1992; Nuechterlein et al., 1994; Zubin & Steinhauer,1992).

This model also proposed that the vulnerability factors that increase the likelihood of experiencing a psychotic relapse may include non-compliance with antipsychotic medication, environmental stress, use of illicit drugs and alcohol, lack of social support and poor physical health. The protective factors composed of personal protectors include antipsychotic medication, good physical health and nutrition and individual's effective problem solving or coping skills, and environmental protectors include family and/or social supports and therapeutic interventions such as stress management. However, the absence of protective factors that increase an individual's liability above the threshold will play a major role in the onset or exacerbation or relapse of psychotic symptoms. Moreover, when the first signs of a psychotic relapse become apparent, one can act on the various factors of the model in order to counter the aggravation of the psychosis, such as by increasing medication, reducing stress, promoting coping, and taking protective measures in the environment (Birchwood, 2000; Lamberti, 2001; Meijel et al, 2002).

In addition, this model proposed the basis of relapse prevention program should be the modification of stress and vulnerability factors and emphasize on the protective factors which act as a buffer against the effects of stress and biochemical vulnerabilities or which minimize the severity of symptoms. The protective factors that most emphasize in the development of the previous program are personal protectors such as compliance with antipsychotic medication, individual’s effective problem solving or coping skills with any stress, and environmental protectors such as family and/or social supports, early recognition of warning signs, and therapeutic interventions such as stress management (Birchwood et al., 2000; Lamberti, 2001).

Table 1 The summarization of developing a multifactorial intervention

the vulnerability-stress model	The predicting factors of psychotic relapse in FES	The structure of a multifactorial intervention/ Rational	The phase of a multifactorial intervention/ Strategy	Objectives	The protocol of intervention	Instrument	The monitoring measurments
An environmental potentiators & stressor in the form of high number of stressful life event and/or a family environment high on expressed emotion are the robust predictor that play a significance role in "triggering" the onset or psychotic relapse in the overall of persons suffering from schizophrenia including persons with FES, despite adequate medication compliance (Arthur et al., 2002; Berger, 2004; Butzlaff & Hooley, 1998; Cheng, 2002; Hooley & Hiller, 2000; Humbeeck et al., 2001; Leff, 1996; Os et al., 2001; Pharoah et al., 2004).	High express emotion in family and stressful life events are the environmental potentiator & stressor which are concerning the overstimulating social environment. While coping ability and self efficacy act as the personal protectors and effective family problems solving and supportive psychosocial interventions are seen as the environmental protectors.	Among family intervention, there is substantial evidence that the persons with FES can get the most benefit from multiple family psychoeducation in decrease high express emotion in family and risk of psychotic relapse (McFarlane et al., 2003). The multifamily psychoeducational group which based on the work of McFarlane et al. (2003) utilized the learning theory and the behavioral therapy as a guideline including empathic engagement, education, coping with stress, problem-solving and communication skills.	**Phase 1** The multifamily psychoeducational group phase - group family include both of participation and family member (group process format), 6-8 families - 4 sessions - 90 minutes / session - activity room in clinical setting	To prevent or decrease high level of express emotion in family by promote ability to coping with stress, and relaxation technique, problem solving and effective communication skill	**Session 1** Provide knowledge and understanding of schizophrenia, first episode schizophrenia, psychotic relapse and prevention **Session 2** Provide knowledge and understanding of stress and coping , and training relaxation techniques (include subjects and their family members) **Session 3** Provide knowledge, understanding and training problem solving skill (include subjects and their family members) **Session 4** Provide knowledge, understanding and training effective communication skill (include subjects and their family members)	- Booklet - Flip chart	- The schizophrenia and psychotic relapse test for family member - Thai Expressed Emotion Scale (TEES) for family member - Stress-20 for participant and family members

the vulnerability-stress model	The predicting factors of psychotic relapse in FES	The structure of a multifactorial intervention/ Rational	The phase of multifactorial intervention/ Strategy	Objectives	The protocol of intervention	Instrument	The monitoring measurments
Non adherence to antipsychotic medication as a personal vulnerability factor or lack of personal protective factor which concerning dopamine dysfunctions. While, adherence with antipsychotic medications indicate the good personal protective factor that raise the threshold for return of psychotic symptoms by block dopamine receptors (Nuechterlein et al., 1994; Travellbe, 2002).	Non compliance with antipsychotic is a primary element in increasing the risk of psychotic relapse in persons with first episode schizophrenia (Alexander & Ullman, 2001; Ayuso-Gutierrez & Rio Vega, 1997; Bargen et al., 1998; Diaz et al, 2001; Kane, 2004; Moore, Robinson et al., 1999; Velligan, 2001).	The compliance therapy. There are many evidences support that behavioral tailoring was effective in enhancing compliance and cognitive-behavioral techniques appear to be the most effective in enhancing compliance and preventing relapse (Grey, Wykes & Gournay, 2002; Zygmunt et al., 2002). The cognitive-behavioral intervention usually target on individual's attitudes and beliefs toward medication, psychoeducation, correcting false beliefs about medication by giving psychoeducation about medication, and promoting adherence behavioral tailoring in taking medication were more successful in promoting adherence than other interventions because they acted directly on pill-taking behaviors through stimulus cues and feedback but no difference in psychopathology and community tenure.	**Phase 2** The compliance intervention phase - meeting with individual family, 2 sessions / 90 minutes - 90 minutes / session - activity room in clinical setting	Promote compliance with antipsychotic medication by **2.1** promote subject's good insight (awareness of one's disorder) **2.2** promote subject's positive attitude to taking antipsychotic Medication **2.3** tailor compliance behavior by using weekly and daily pillbox	**Session 5** Exploring insight and attitude about taking medication, provide knowledge and understanding about medication (the nature of the medication, mode of action, benefit and consequences of medication), and tailoring adherence behavior to taking medication. (include subjects and family members)	- Booklet - Flip chart - worksheet - Weekly and Daily pillbox	- The Brief Evaluation of Medication Influences and Beliefs (BEMIB) for participant

the vulnerability-stress model	The predicting factors of psychotic relapse in FES	The structure of a multifactorial intervention/ Rational	The phase of multifactorial intervention/ Strategy	Objectives	The protocol of intervention	Instrument	The monitoring measurments
The interaction of enduring personal vulnerability factors, personal protectors, and environmental protectors lead to the development of "prodromal symptoms" or early warning signs which are the precursors of a psychotic relapse.	The early recognition of warning signs in prodromal phase have a significance impact in triggering relapse prevention by offers the potential of early intervention to avert psychotic relapse. Monitoring the early warning signs in prodromal phase with the use of early intervention such as crisis supportive problem solving therapy and increasing antipsychotic medication doses when such symptoms were detected in order to promote the balance before the development of a full-blown episode has been a growing emphasis on effective of preventing psychotic relapses (Meijel et al., 2004; Sutton, 2004).	The early warning signs which composed of early recognition of warning signs and early intervention when those signs are detected. This intervention based on the work of Birchwood, Spencer & McGovern (2000) which involves five stages: 1) engagement and education 2) identification of the relapse signature 3) development of a relapse drill that considers three areas for intervention: pathway to support, service interventions and personal coping strategies 4) rehearsal and monitoring and 5) clarification of the relapse signature and relapse drill.	**Phase 3** The warning signs intervention phase - meeting with individual family - 2 sessions / 90 minutes - Activity room in clinical setting	**3.1** Provide knowledge and understanding of warning signs and early Intervention when warning signs are detected **3.2** Identifying individual warning signs (relapse signature) **3.3** Encouraging the early recognition of warning signs (monitoring warning signs once a week) **3.4** Planning of early intervention when early warnings are detected (relapse drill)	**Session 6:** 7.1 Providing knowledge and understanding of early warning signs and early intervention 7.2 Identifying individual warning signs or relapse signature (What are the unique signs and symptoms experienced by an individual and family during the early time before admission?) 7.3 Developing the early intervention plan when those signs are detected 7.4 encouraging them to monitoring early warning signs once a week by telephone contact. 7.5 Learning through psychotic relapse	- Booklet - Flip chart - worksheet	

the vulnerability-stress model	The predicting factors of psychotic relapse in FES	The structure of a multifactorial intervention/ Rational	The phase of multifactorial intervention/ Strategy	Objectives	The protocol of intervention	Instrument	The monitoring measurments
The occurrence of early warning signs or the precursors of a psychotic relapse.which are the interaction of enduring personal vulnerability factors, personal protectors, and environmental protectors.			**Phase 4** The booster and summary phase - meeting with individual family - 1 session (in the date of discharge) - 90 minutes / session - Clinical setting	Re-evaluate knowledge, understanding and other predicting factors of psychotic relapse, re-psychoeducation in the topic that need more clarify, and summary intervention	**Session 7:** Using former measurements for re-evaluate knowledge and understanding about schizophrenia and prevention psychotic relapse in persons with FES, stress, high express emotion in family and adherence to antipsychotic medication. If there are some score that lower than normal score, researcher will explore the problems and re-psychoeducation, especially the topics that need more emphasized. Then wrap up and summary all sessions.	- Booklet - Flip chart	- The schizophrenia and psychotic relapse test for participant and family member - Thai Expressed Emotion Scale (TEES) for family member - The Stress-20 for boyh participant and family member - The Brief Evaluation of Medication Influences and Beliefs (BEMIB) for participant

CHAPTER III

RESEARCH METHODOLOGY

In this chapter, methodological aspect, including the research design, population and sampling, setting, instruments, data collection, protection of the rights of human subjects and data analysis were discussed.

Research Designs

This study was a true experimental research **by utilized the posttest-only control group design** (Campbell & Stanley, 1973) in order to test the effect of a multifactorial intervention (independent variable) on psychotic relapse rate in persons with first episode schizophrenia (dependent variables) that measured by using positive symptoms scores of the Brief Psychiatric Rating Scores (BPRS) at the first month after discharged from hospital compared with the base line scores at the time of discharge day. This design diagrammed as follows:

Sample study R → X OE_{11} OE_{12} Experimental groups

R → OC_{21} OC_{22} Control group

R = random assignment in order to select samples into either experimental or control group

X = a multifactirial intervention

OE_{11} = the positive symptoms scores of experimental group at the day of discharged

OE_{12} = the positive symptoms scores of experimental group at the first month after discharge from hospital

OC_{21} = the positive symptoms scores of control group at the day of discharged

OC_{22} = the positive symptoms scores of control group at the first month after discharge from hospital.

Population and sample

Population of the study

The population in this study was the first episode schizophrenia (FES) persons who were first admitted at Somdej Chaopraya Institute of Psychiatry, Bangkok, Thailand.

Samples of the study

1. **Sample size**

According to the principle of Polit & Hungler (1995), suggested that 20-30 cases in each group are sufficient for the comparison purpose. The total sample size of this study in this study was 40 cases. The sample size in each group was 20 cases.

2. **Sampling procedures**

The simple random sampling was used to obtain qualifies participants in this study. The following steps were used to recruit the samples.

2.1 The patient's record files from 11 in-patient wards at Somdej Chaopraya Institute of Psychiatry were reviewed to identify the participants who having the following inclusion criteria.

The inclusion criteria:

1) Thai male or female who having diagnosis as schizophrenia (F 20) with criteria of International Classification of Disease; ICD 10 (WHO, 1992) (Appendix B)

2) Being first admission at Somdet chaopraya Institute of Psychiatry.

3) Being have received the antipsychotic medication for stabilization the severe psychotic symptoms for at least 2 weeks.

The exclusion criteria:

1) Have previous history of admission at the other hospital for psychotic symptom treatment.

2) Residing in outside area of catchments of the Community Mental Health Department, Somdet chaopraya Institute of Psychiatry.

3) Having dual diagnosis (schizophrenia with alcohol or drug abuse) which is required specific another treatment program.

4) Less cooperation because of catatonic schizophrenia

5) Having an evidence of organic mental disorder or mental retardation

6) The Brief Psychiatric Rating Scale's score is more than 30.

7) Unwilling to collaborate or participate in this intervention throughout the process.

In addition, this study included the family member at least 1 person to participate the intervention, the inclusion criteria for family member as following;

1) Having closeness relationship with participants by either blood or marital status.

2) Being a mainly caregiver of samples.

3) Willing to collaborate and participate in this intervention throughout the process.

2.2 Once each qualifies subject had been identified, the researcher used simple random sampling, the sealed-envelop with no replacement technique, in order to assignment the participants into either experimental (N=26) or control group (N=26).

2.3 Then the researcher approached the participants and presented information in non-technical terms about the intervention, benefits of the intervention and

protection of human right in order to seek their approval to participate in the study. Once the prospective participants agreed to participate in this study, he or she signed a consent form (Appendix C).

2.4 Then the researcher approached the family members who met the inclusion criteria via personal or telephone contact by introduced oneself and presented information in non-technical terms about the intervention, benefits of the intervention and protection of human right in order to seek their approval to participate in the study. Once the family member agreed to participate in this study, they signed a consent form (ppendix C).

2.5 For the initial data collection, total 26 cases were approached to participate in the experimental group, but 6 cases were unable to complete throughout the intervention, because of the intensification of psychotic symptoms and start the course of Electro Convulsive Therapy (ECT) 4 cases, and family members move away 2 cases.

2.6 The participants in control group were also dropped out, 6 cases were failed to maintain follow up after discharge from hospital. The details of sampling procedures is presented in Figure 4

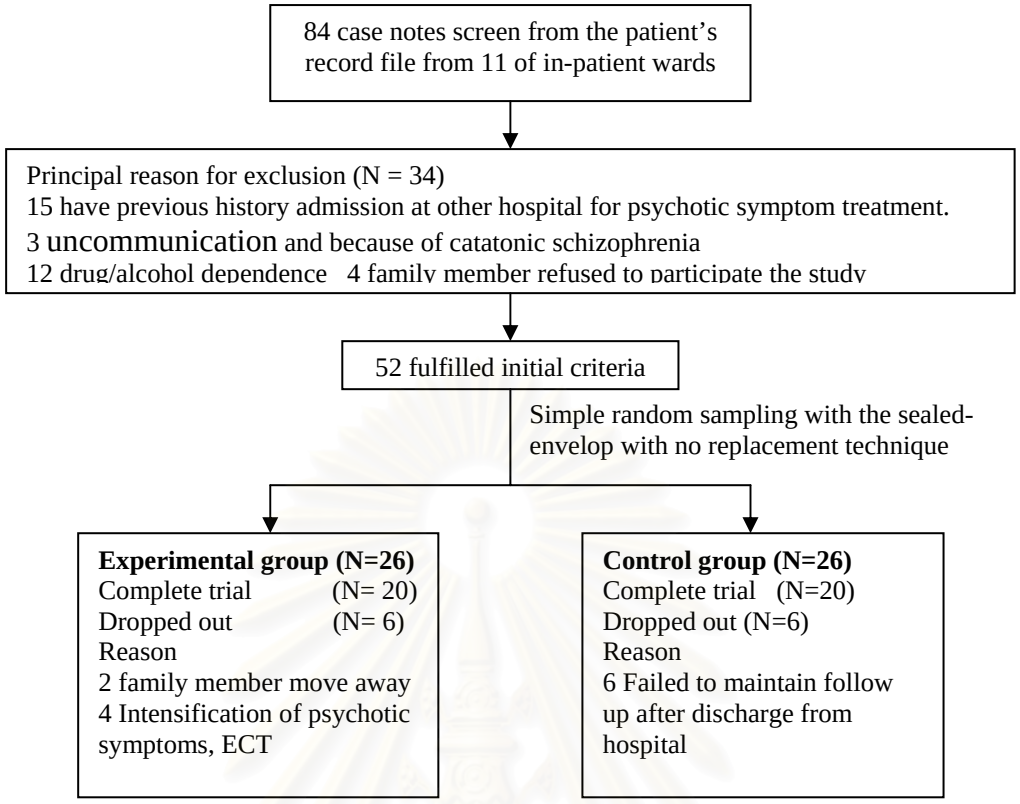


Figure 4 The details of sampling procedures

Setting

This study was conducted in the in-patient unit and out-patient department of Somdet chaopraya Institute of Psychiatry, Bangkok, Thailand. The intervention was conducted in the activity room of Puang Chom Poo unit which is one of the female in-patient unit of Somdet chaopraya Institute of Psychiatry. The evaluation of psychotic relapse at the first month after discharge from hospital had been occurred at either out-patient department at the date of physician's appointment or home visit in community setting.

Instrumentation

There were three types of instrumentation; a multifactorial intervention program, the instrument for data collection and the instrument for monitoring experimentation.

1. A multifactorial intervention program

The researcher developed a multifactorial intervention program by using the vulnerability-stress model (Zubin & Spring, 1977) (Figure 1) as a theoretical framework for understanding the predicting factors, the protective factors of psychotic relapse and how to minimizing those factors. However, the development of a multifactorial intervention comprised of 4 phases:

1) The assessment of predicting factors of psychotic relapse in persons with first episode schizophrenia phase

This phase focused on the review literature about the predicting factors of psychotic relapse in persons with first episode schizophrenia in Thai and other country both of eastern and western. Results of the literature reviewed revealed that the most significant predicting factors of psychotic relapse in Thai persons with first episode schizophrenia were non-compliance with antipsychotic medication, high express emotion in family, and stressful life events. This result was strongly supported by the vulnerability – stress model which proposed that the occurrence of psychotic relapse depends upon a complex interaction between the personal vulnerability and any increases in environmental potentiators and stressors with lack of personal and environmental protectors.

2) The program developmental phase

The vulnerability-stress model (Zubin & Spring, 1977) suggested that the basis of psychotic relapse prevention program should be the modification of stress and vulnerability factors and emphasize on the protective factors which act as a buffer against the effects of stress and biochemical vulnerabilities. This notion was

confirmed by many researchers who concluded that the most effective intervention on preventing psychotic relapse in persons with schizophrenia should be combination of the compliance therapy, psychosocial intervention, monitoring early warning signs and early intervention when those signs are occurred (Birchwood, Spencer & McGovern, 2000; Bradshaw, 2002; Herz et al., 2000; Mueser et al., 2003; Meijel et al., 2003).

Then, the researcher reviewed the numerous literatures which concern about the compliance therapy, the psychosocial intervention, especially the family intervention and the early warning signs intervention. The results of the study are presented as following;

2.1 The compliance therapy

The compliance therapy is a pragmatic intervention based on motivational interviewing and cognitive behavioural therapy (CBT), is effective in enhancing concordance and reducing the risk of psychotic relapse in persons with schizophrenia (Gray, Robson & Bressington, 2002). CBT focuses on changing attitudes; it may be ideally suited to addressing adherence problems in patients who do not believe they are ill. A theoretical advantage of a CBT approach for schizophrenia treatment is that it may be acceptable to those individuals who cannot or will not accept a diagnostic label of schizophrenia. One of the cardinal features of CBT as modified for schizophrenia is its focus on subjective and behavioral connections among the patient's beliefs, feelings, and actions—irrespective of whether these beliefs are reality-based. The approach involves collaboration without preconceived ideas through guided discovery and understanding of the patient's experiences and beliefs. Thus, a CBT-based adherence intervention might be able to bypass the tension inherent in having to acknowledge having a mental illness.

The objectives of this intervention is promote compliance with antipsychotic medication by provide knowledge and understanding of schizophrenia, first episode schizophrenia and psychotic relapse for samples, provide knowledge and understanding about antipsychotic medication (the nature of the medication, mode of action, benefit and consequences of medication, methods for enhancing adherence) for samples and their family, promote sample's good insight (awareness of one's disorder), decrease negative attitude towards medication, promote subject's positive attitude to taking antipsychotic medication and promote compliance behavior by using weekly and daily pillbox.

The compliance therapy that used in this study utilized the mixed-modality interventions which is combination of the psychoeducation and the cognitive-behavioral intervention which target on individual's attitudes and beliefs toward medication, correcting false beliefs about medication by giving psychoeducation about medication, and promoting adherence behavioral tailoring in taking medication by using weekly and daily pillbox. However, to achieve good compliance, a careful review of the drug-taking behavior and the attitudes and feeling of individual patients toward the prescribed regimen is essential. Therefore, the researcher used the telephone contact to participant or family member in order to encourage and monitoring adherence behavior once a week. The simple thing was count on the number of medication left in the pill box.

2.2 **The intervention that aim to promote low level of express emotion**

Among the psychosocial intervention, the family psychoeducation is the most effective on promote lower express emotion in family and ability to coping with stressor. Among the family psychoeducation, McFarland et al. (2003) proposed that the persons with first episode schizophrenia did substantially better in the multifamily

psychoeducational group than in the single-family format. In addition, the multiple-family psychoeducational group yielded significantly lower express emotion in family, psychotic relapse rates and more cost effective than single family models.

The multifamily psychoeducational group that used in this study adapted from the work of McFarland et al. (2003) which utilized the learning theory and the behavioral therapy and composed of 4 components; 1) The first component of the program consists of psychoeducation sessions with the consumer and his or her family members to provide the latest information regarding biological causes of schizophrenia, psychotic symptoms, effective treatments, and ways that family members can cope with the consumer's symptoms and be helpful in the treatment. 2) The second component of the program involves work on improving communication skills among all family members. Family members are provided opportunities to express feelings but under controlled conditions that will avoid conflict escalation. Improved communication reduces stress in the family and allows the family to use their strengths in coping with the consumer's symptoms. 3) The third component of the program focuses on the family's problem-solving skills, helping the family tap into their individual and family resources to cope with the consumer's symptoms, increase the consumer's ability to function independently, etc. and 4) The fourth component involves helping the family be prepared to cope with relapses and crisis situations, working effectively with the consumer's treatment team. This intervention aimed to promote low high express emotion in family and enhance ability to coping with stressors.

2.3 The intervention that aim to recognizing early intervention and early intervention when those sign occurred

The early warning signs (EWS) intervention based on the hypothesis that learning to detect and manage EWS of impending psychotic relapse might prevent the onset of acute episodes (Morris et al., 2005). Therefore, the early warning signs (EWS) intervention applied from the work of Meijel et al. (2003), Birchwood, Spencer & McGovern (2000) and Herz, Lamberti & Mintz (2000). This intervention composed of;

2.3.1 Providing Provide psychoeducation for sample and family about psychotic relapse, EWS, monitoring of EWS, and early intervention

2.3.2 Listing of the relapse signature from the sample's perspective; the family's perspective; and the perspective of the healthcare professional and provide guidance in actual monitoring.

2.3.3 Development of a relapse drill planning, such as if signs of relapse seem evident, meet as soon as possible to discuss your concerns, and call the health-care providers to discuss changes that you are observing. Identify any stressors that may be present and evaluate mechanisms that can be used to decrease the stressor or increase the individual's ability to cope.

2.3.4 Active monitoring of EWS by the sample, family and researcher at least once a week. However, the key to recognizing signs of psychotic relapse is to look for behavior changes that represent an overall worsening compared to behavior exhibited previously.

2.3.5 When EWS were identified, the sample, family and researcher use a relapse drill planning within 24 to 48 hours such as increased frequency of crisis problem-solving, supportive therapy visits and increased medication as needed

In conclusion, a multifactorial intervention composed of the compliance therapy, the multifamily psychoeducational group, and the early warning signs which composed of the recognition of early warning signs and early intervention when those signs are detected. This intervention comprised of 4 instruments: the manual booklet for prevent psychotic relapse for persons with first episode schizophrenia for family member and participant, worksheets, the monitoring of EWS pocket card, and weekly and daily pillbox.

1) The manual booklet for prevent psychotic relapse for persons with first episode schizophrenia for family member and participant were developed by the researcher. It contained the information about schizophrenia, the first episode schizophrenia, psychotic relapse, stress and coping, relaxation technique, problem solving and effective communication (Appendix F)

2) The worksheets that used in this study composed of 4 worksheets which composed of 1) the ploblem solving recored. 2) the attitude to antipsychotic medication record, 3) the psychotic relapse signature record and 4) the relapse drill planning record (Appendix N)

3) The monitoring of EWS pocket card was adapted from the Early Sign Scale of Birchwood (1998) (Appendix M)

4) The weekly and daily pillbox was invented by the researcher in order to used as the tool for promoting the adherence to antipsychotic medication behavior by prevent forgetting forgotten to take medicine and more convenience for taking daily medication both of staying at home or go out anywhere. (Appendix L)

2.3 Program trial phase

The revised a multifactorial intervention program and its instrument were try out on the group of 3 persons with first episode schizophrenia who had similar characteristics to the participant in the study and their family members. The results of try out were the session of therapeutic relationship is very important in order to build the trust, the existing sessions were too much (12 sessions). It may be increase the dropped out rate because of burn out, the session of providing knowledge and understanding about schizophrenia in the multifamily psychoeducational group should separate the participant and family member for prevent suffering on the participants to know much about their severity of their psychotic symptoms, some sessions were too much contents to follow on time, the letter in some worksheets too small, and most of them preferred to join the group in weekend more than weekday.

2.4 Modification phase

Suggestions from the experts and the results of try-out indicated that the researches should modify the protocol of the program by cutting some session or combine some session together. Most of sessions include family member and participants to participate the group, but separate them in the session of psychoeducation about schizophrenia. Use the simple word in meeting and in the booklet. Therefore, the protocol of a multifactorial intervention program composed of 8 sessions with 90 minutes/session. The total duration of this intervention is 6 weeks (2 weeks took place in Somdet Chaopraya Institute of Psychiatry, and 4 weeks were started after subjects discharged from hospital by using telephone contact weekly and home visit monthly).

The protocol of a multifactorial intervention

The protocol of a multifactorial intervention composed of 4 phases with 8 sessions are following; 1) the multifamily psychoeducational group phase, 2) the compliance intervention phase, 3) the warning signs intervention phase and 4) the booster and summary phase.

Phase 1 the multifamily interventional group phase

Objectives: To prevent or decrease high level of express emotion in family by promote ability to coping with stress, and relaxation technique, problem solving and effective communication skill

This intervention aim to providing knowledge and understanding about schizophrenia and psychotic relapse and the problems solving workshop to provide knowledge and understanding of stress and coping, effective communication, problem solving and training skill of relaxation technique, effective communication and problem solving in order to prevent or decrease high level of express emotion in family, promote effective communication skill for subject and their family and promote ability to coping with stress and problem solving for subject and their family.

Strategy: 4 sessions of group family (group process format), 6-8 families

Session/time: 4 sessions/90 minutes

Session 1 Provide knowledge and understanding of schizophrenia, first episode schizophrenia, psychotic relapse and prevention (family members only)

Session 2 Provide knowledge and understanding of stress and coping, and training relaxation techniques (include subjects and their family members)

Session 3 Provide knowledge, understanding and training problem solving skill (include subjects and their family members)

Session 4 Provide knowledge, understanding and training effective communication skill (include subjects and their family members)

Phase 2 the compliance therapy phase

The objectives of this intervention is promote compliance with antipsychotic medication by provide knowledge and understanding of schizophrenia, first episode schizophrenia and psychotic relapse for samples, provide knowledge and understanding about antipsychotic medication (the nature of the medication, mode of action, benefit and consequences of medication, methods for enhancing adherence) for samples and their family, promote sample's good insight (awareness of one's disorder), decrease negative attitude towards medication, promote subject's positive attitude to taking antipsychotic medication and promote compliance behavior by using weekly and daily pillbox.

Objectives: Promote compliance with antipsychotic medication by

2.2.1 Provide knowledge and understanding of schizophrenia, first episode schizophrenia and psychotic relapse for subjects

2.2.2 Promote subject's good insight (awareness of one's disorder)

2.2.2 Promote subject's positive attitude to taking antipsychotic medication

2.2.3 Tailor compliance behavior by using weekly and daily pillbox

Strategy: meeting with individual family

Session/time: 2 sessions/90 minutes

Session 5 Provide knowledge and understanding of schizophrenia, first episode schizophrenia and psychotic relapse (subjects only)

Session 6 Exploring insight and attitude about taking medication, provide

knowledge and understanding about medication (the nature of the medication, mode of action, benefit and consequences of medication), and tailoring adherence behavior to taking medication. (include subjects and family members)

Phase 3 The early warning signs intervention

Objectives:

The early warning signs intervention aim to help individuals, their carer and mental health worker identify each individual's early warning sign of psychotic relapse, and planning in advance to provide early intervention when those signs are detected. The protocol of this phase was applied from the work of Meijel et al. (2003) who developed the nursing program to identify and management of individual relapse signatures with effective in decrease psychotic relapse rate in person with schizophrenia. The protocol of this phase composed of;

4.1 Provide knowledge and understanding of warning signs and early Intervention when warning signs are detected

4.2 Identifying individual warning signs (relapse signature)

4.3 Planning of early intervention when early warnings are detected (relapse drill)

4.4 Encouraging the early recognition of warning signs (monitoring warning signs once a week)

4.5 Learning through psychotic relapse which, if it happens, should not be regarded as a failure but a further opportunity to learn.

Strategy: meeting with individual family

Session/time: 1 sessions/90 minutes

Session 7: Providing knowledge and understanding of early warning signs and early intervention, Identifying individual warning signs, Developing the early

intervention plan when those signs are detected, and encouraging them to monitoring early warning signs once a week by telephone contact.

Phase 4 the booster and summary phase

Objectives:

4.1 Re-evaluation knowledge and understanding about schizophrenia and prevention psychotic relapse in persons with FES (both of subject and family)

4.2 Re-evaluate stress (both of subject and family)

4.3 Re-evaluate high express emotion in family (family only)

4.4 Re-evaluate adherence to antipsychotic medication (subject only)

4.5 Re-psychoeducation in the topic that need more clarify

4.6 Wrap up all sessions

4.7 Summary the intervention

Strategies: meeting with individual family

Session/time: 1sessions/90 minutes (in the date of discharge)

Session 8: Using quiz tests, Thai Expressed Emotion Scale (TEES), Stress-20 and the Brief Evaluation of Medication Influences and Beliefs (BEMIB) for re-evaluate knowledge and understanding about schizophrenia and prevention psychotic relapse in persons with FES, stress, high express emotion in family and adherence to antipsychotic medication. If there are some score that lower than normal score, researcher will explore the problems and re-psychoeducation, especially the topics that need more emphasized. Then wrap up and summary all sessions.

The details of a multifactorial intervention were in the manual of a multifactorial intervention program (see appendix..).

2. The instrument for data collection

2.1 The personal data including gender, age, religion, marital status, education level, occupation, income and economic status

2.2 The Brief Psychiatric Rating Scale (BPRS) (Kolakowska, 1976) is an effective clinician-administered and research tool that was designed to assess psychiatric symptoms or treatment change in psychiatric patients in a rapid and efficient and economic way. It was developed in the late 1960s as a short scale for measuring the severity of psychiatric symptomatology. It was developed primarily to assess change in psychotic inpatients and covers a broad range of area. In comparison to other interview and observational tools used in psychiatric assessment, this instrument appears responsive to treatment change. It is brief and does not take long to administer. This instrument consists of three subscales which covers 18 common psychiatric symptoms as following: 1) Positive psychotic symptoms including somatic concern, conceptual disorganization, grandiosity, hostility, suspiciousness, hallucinations behavior, unusual thought content, excitement and disorientation, 2) Negative psychotic symptoms including emotional withdrawal, mannerism and posturing, motor retardation, uncooperativeness, and blunted affect, and 3) Affective symptoms including, anxiety, guilt feelings, tension, inappropriate affect and depressive mood.

Its 18 items are rated on a 7-point, item-specific Likert scale from 1-7 ("1" not present to "7" extremely severe), with the score ranging from 18-126. Ratings on the BPRS scale are based upon observation of the patient and verbal report by the patient. As for administration Time; clinical Interview—18 mins; BPRS ratings—2 to 3 minuets if clinician is familiar with BPRS. A higher score on the BPRS indicate the greater severity of psychiatric symptoms. This study use the relapse criteria of University of California (UCLA, 2001) which proposed that the elevation on a

remitted psychotic symptom for hallucinations, delusions, and disorganized thinking up to 6 scores on BPRS for a 1 month period can determine psychotic relapse.

Clinical criteria provide a validity check that can verify BPRS-rated changes in partially remitted patients (Linszen et al., 1994). Minimum interrater reliability with a criterion rater for each BPRS subscale was .80 or higher (p [is less than] .001, intraclass correlation coefficient), and internal consistency (for one sample) was good. As for using this instrument in this study, the content was validated by 6 experts, 2 physicians, 2 nurse instructor, and 2 practical nurses. The inter-rater reliability between the researcher with 2 expert psychiatric nurses was .89. In addition, the researcher was trained to use this instrument under supervisor of physician who is an expert in this area.

3. The instrument for monitoring experimentation.

3.1 **The schizophrenia and psychotic relapse test** for assessment and evaluation knowledge and understanding about schizophrenia and first episode schizophrenia, and psychotic relapse and prevention by using right/wrong choices (right = 1 score, wrong = 0 score). These quiz tests were developed by the researcher by studied the text books and created the items which cover each important contents. After that, the researcher brought these items to the expertise which composed of 2 physicians, 2 nurse instructor, and 2 practical nurses. The reliability of this instrument was tested on 10 persons with FES.

The **schizophrenia and psychotic relapse** test for testing knowledge and understanding of schizophrenia, first episode schizophrenia and preventive psychotic relapse for subjects (15 items) (Appendix G). The reliability of this instrument by using Kuder Richardson - 20 (KR-20) was .81.

The **schizophrenia and psychotic relapse** test for testing knowledge and understanding of schizophrenia, first episode schizophrenia and preventive psychotic relapse for relatives (20 items) (Appendix H).. The reliability of this instrument by using Kuder Richardson - 20 (KR-20) was .76.

3.2 **The Thai Expressed Emotion Scale (TEES)**

This scale was develop by Jiraporn Sunpaweravong (2006) which consisted of 49 items and explained a total variance of 52.74 % which was extracted as the component of the TEES (Appendex I). Five themes agreed with previously identified components of EE (criticism, hostility, positive remarks, warmth and emotional over-involvement) and two additional culture-specific EE themes were also identified (emotional under-involvement and emotion regulation).

The psychometric properties of the TEES included (1) a content validity index of .88, (2) construct validity - factor analysis provided evidence to support the constructs of the TEES (3) support for the hypotheses that patients whose caregivers were high in hostility, critical comments, emotional over-involvement, and emotional under-involvement had worse self care; while patients whose caregivers were high in warmth, positive remarks and emotional regulation had better self care (4) good internal consistency of the seven factors, with alphas ranging from .75 - .91. Initial psychometric testing suggests that the Thai Expressed Emotion Scale (TEES) provides a psychometrically sound measure of EE in family caregivers of people with schizophrenia in the Thai culture and context.

However, this study selected only 3 domains; criticism, hostility, and emotional over-involvement, total 20 items for testing express emotion in family, because of these domains were proved to be the predicting factors of psychotic relapse in persons with schizophrenia. The reliability of this instrument was tested on 10 family

members of persons with FES. The Cronbarch's alpha coefficient of reliability was .87. As for interpretation, 20-40 scores means low level of express emotional in family, 41-60 scores means moderate level of express emotional in family, and 61-80 scores means high level of express emotional in family.

3.3 The stress – 20

The stress – 20 (Appendix K) is a standard stress test for Thai people which developed by Mental Health Department. There are 20 items; the scores are 0, 1, 2, and 3. The researcher tested the reliability of this instrument on 10 persons with FES and 10 family members of persons with FES. The Cronbarch's alpha coefficient of reliability was .85 and .87. As for interpretation, 0-5 scores means lower than normal stress, 6-17 scores means normal stress, 18-25 scores means mild stress, 26-29 scores means moderate stress, and more than 30 scores means severe stress.

3.4 The Brief Evaluation of Medication Influences and Beliefs (BEMIB)

The Brief Evaluation of Medication Influences and Beliefs (BEMIB) (Appendix J) developed by Dolder et al. (2004) by aimed to identify patients who are nonadherence to their antipsychotic medication. These statements addressed the 5 domains as follows: benefits of treatment (antipsychotic and symptom improvement, antipsychotic and hospitalization); risks of illness (insight into the need for medication); costs of treatment (antipsychotic side effects, inconvenience acquiring medication); barriers to treatment (remembering to take medication, lack of family/caregiver support); and cues to act (medication management strategies).

The internal consistency of the BEMIB using Cronbach alpha was 0.63. Test-retest BEMIB total scores were significantly correlated (Spearman correlation coefficient = 0.86, $P < 0.001$). Correlations between test-retest scores for single items (ie, question I at baseline vs. question I at follow-up) varied (correlation coefficient

range = 0.11 to 0.74, P value range = 0.019 to 0.76), although statistically significant test-retest correlations were seen for 5 of the 8 questions. No significant difference was found when comparing the mean test-retest total scores on the BEMIB (Z = .68, P = 0.50). For construct validity, the total score on the BEMIB correlated significantly with DAI score (correlation coefficient = 0.55, P < 0.001).

The scale was designed so that participants would circle the one answer that best matched their level of agreement or disagreement with each statement. Answers were on a Likert-type scale ranging from 1 (completely disagree) to 5 (completely agree). Answers having lower numerical values corresponded to attitudes/beliefs associated with nonadherence (the items that need to reverse-scored were 3 and 5). As for interpretation**,** 8-20 scores means high risk of medical nonadherence, 21-30 scores means moderate risk of medical nonadherence, and 31-40 scores means low risk of medical nonadherence.

The researcher tested the content validated by 6 experts, 2 physicians, 2 nurse instructor, and 2 practical nurses. The reliability of this instrument was tested on 10 persons with FES. The Cronbarch's alpha coefficient of reliability was 0.82.

Intervention

Procedures of this intervention as following:

1. The preparation phase

When the samples and their family members assented to participate in this study. The researcher made appointment with samples and their family members to start the intervention by considered the convenience of family members.

2. The actual intervention phase

The experimental group received a multifactorial intervention with usual care, while, the control group received only usual care. A multifactorial intervention would start when the subjects in the experimental group received a multifactorial intervention after they had received antipsychotic medication at least 2 weeks and had BPRS less than 30 scores in order to make sure that most of severe positive symptoms are controlled. The intervention was provided between February-March 2007 at activity room of Puangchompoo Building, Somdet chaopraya Institute of Psychiatry.

The multifamily psychoeducation phase (session 1-4) were performed by using a group process format, the researcher grouped the subjects and their family member(s) into 4 group (Closed group); 5 family/group. There were subjects from several wards to join in each group as their family member's convenience. This phase was done by 2 weekdays either Saturday or Sunday (2 sessions/day).

The compliance intervention phase (session 5-6) and the warning signs intervention (session 7) were performed by using an individual family form (include a sample and family members). The researcher made appointment with family member(s) as they convenience. The booster and summary phase (session 8) was occurred on the discharge day from hospital by using an individual family form (include a sample and family members).

Data collection

The researcher used the Brief Psychotic rating Scale (BPRS) for measure the psychotic symptoms both of control and experimental group 2 times; before discharge and 1 month after discharge.

Before discharge, the researcher use BPRS for evaluation the BPRS scores on the discharge day as a base line scores. The researcher verified the scores by making agreement with a physician or expert staff nurse who took care of samples in order to avoid measurement bias.

After 1 month after discharge, researcher visited the samples in experimental group at their home with the community mental health care team or made an appointment with them at the hospital on physician's follow up day. Researcher use the BPRS for evaluated psychotic symptoms scores and verified the scores by making agreement with a physician or expert staff nurse in order to avoid measurement bias.

Protection of human subjects

This research proposal was obtained the permission to conduct this study from IRB committee of Chulalongkorn University and Somdej Chaophraya Institute of psychiatry in order to protect right and minimize potential harm or disadvantage for the samples and their family, a fair explanation of the procedure to be followed; description of the possible discomforts and risks, the benefits expected, disclosure of any alternative procedures that might be advantageous to the subject, offer to answer any queries concerning the procedure, confidentiality by keeping secret and delete all of tape recording, and instruction that the subject is free to withdraw consent at any time and discontinue participation in the study without any negative effect either on

further medical treatment or nursing care. (Informed Consent Form are presented in appendix C)

Data analysis

The data of this study were analyzed by using SPSS (Statistical Package for the Social Sciences) versions 15 for Windows. The statistical methods are presented in following;

1) Frequency distribution and percentages were conducted to describe demographic data of the participants in control and experimental group and the family member who participated in study.
2) The test of proportion and independent t-test was conducted to compare the difference in mean scores between control group and experimental group. A confidence level of .05 was established to determine significant of findings.

CHAPTER IV

RESEARCH RESULTS

The purpose of this study was to determine the effect of a multifactorial intervention on psychotic relapse among persons with first episode schizophrenia. The research findings were presented in three parts as followed:

Part 1 The descriptive analysis of the demographic characteristics of the samples and family members

Part 2 The results of hypotheses testing with the description of the dependent variables.

Part 1:The descriptive analysis of the demographic characteristics of the samples

1. Characteristics of the samples

1.1 Demographic characteristics of the samples

The demographic characteristic of the samples in experimental group are present in table 2

Table 2 Demograhic characteristics of the samples in this study

Characteristics	Control group N=20	Experimental group N=20	Total
	Number (%)	Number (%)	Number (%)
Sex			
male	15 (75)	14 (70)	29 (72.50)
female	5 (25)	6 (30)	11 (27.50)
Age Group			
< 20	4 (20)	6 (30)	10 (25)
21 - 30	9 (45)	7 (35)	16 (40)
31 - 40	5 (25)	5 (25)	10 (25)
41 - 50	2 (10)	2 (10)	4 (10)
Religious			
Budhism	20 (100)	19 (95)	39 (97.50)
Islam		1 (5)	1 (2.50)
Marital Status			
Single	16 (80)	14 (70)	30 (75)
Maried	3 (15)	2 (10)	5 (12.50)
Divorced/Separated	1 (5)	4 (20)	5 (12.50)

Characteristics	Control group N=20	Experimental group N=20	Total
	Number (%)	Number (%)	Number (%)
Childen			
0	17 (85)	15 (75)	32 (80)
1	2 (10)	1 (5)	3 (7.50)
2	1 (5)	4 (20)	5 (12.50)
Education			
Elementary level	2 (10)	4 (20)	6 (15)
Secondary level	13 (65)	6 (30)	19 (47.50)
High school	5 (25)	7 (35)	12 (30)
Higher education		3 (15)	3 (7.50)
Occupation			
Unemployed	12 (60)	13 (65)	25 (62.50)
Day laborer	7 (35)	5 (25)	12 (30)
Merchant	1 (5)	1 (5)	2 (5)
Government employer		1 (5)	1 (2.50)
Living with			
Parent	14 (70)	14 (70)	28 (70)
Own family	2 (10)	3 (15)	5 (12.5)
Relative	4 (20)	2 (10)	6 (15)
one self		1 (5)	1 (2.50)
Number of family member			
1 - 2		3 (15)	3 (7.50)
3 - 4	15 (75)	10 (50)	25 (62.50)
5 - 6	5 (25)	4 (20)	9 (22.50)
7^{+}		3 (15)	3 (7.50)
Family income			
adequate with no owing		2 (10)	2 (5)
adequate with owing	11 (55)	10 (50)	21 (52.50)
Inadequate with no owing		2 (10)	2 (5)
inadequate with owing	9 (45)	6 (30)	15 (37.50)
Source of payment			
Self	5 (25)	6 (30)	11 (27.50)
Government health card	15 (75)	13 (65)	28 (70)
Employer support		1 (5)	1 (2.50)
Duration of untreated (DUP)			
Less than 1 year	3 (15)	9 (45)	12 (30)
1 - 2 year	15 (75)	8 (40)	23 (57.50)
3 year	2 (10)	3 (15)	5 (12.50)

From table 2 revealed that most of the participants of this study samples in experimental group were male (70%), in the age group between 21-30 years old (35%) and 15 - 20 years old (30%), Buddhists (95%), single (70%), no children (75%), graduate from secondary level (30%) equally elementary school (20%), no

occupation (65%), living with their parent (70%) with 3-4 family members (50%), adequate family income (30%), pay for the therapeutic costs by government support (65%) and duration of untreated is less than 1 year (45%) followed by 1-2 years (40%).

As for control group, there were also male (75%), age 21-30 years old (45%), 15 - 20 years old (20%), all Buddhism, single (80%), no have children (85%), secondary level of education (65%) no occupation (60%), living with their parent (70%) with 3-4 family members (75%), adequate family income (55%), pay for the therapeutic costs by government support (75%) and duration of untreated between 1-2 years (75%).

Chi-square testing revealed that no statistically significant differences between the experimental group and control group.

1.2 Demographic characteristics of the family members who join the program in the experimental group

The demographic characteristic of the family members in experimental group are present in table 3

Table 3 Demographic characteristics of family member in experimental group

Characteristics	Number (%) N=20
Sex	
male	4 (20)
female	16 (80)
Age Group	
< 20	1 (5)
21 - 30	3 (15)
31 - 40	5 (25)
41 - 50	6 (30)
> 51	5 (25)
Religious	
Budhism	19 (95)
Islam	1 (5)

Characteristics	Number (%) N=20
Marital status	
Single	4 (20)
Maried	11 (55)
Divorced/Separated	5 (25)
Childen	
0	4 (20)
1	4 (20)
2	12 (60)
Education	
non	2 (10)
Elementary level	8 (40)
Secondary level	4 (20)
High school	2 (10)
Higher education	4 (20)
Occupation	
Unemployed	1 (5)
Day laborer	14 (70)
Merchant	4 (20)
Government empoyer	1 (5)
Family income	
adequate with no owing	5 (25)
adequate with owing	11 (55)
Inadequate with no owing	-
inadequate with owing	4 (20)
Relatiohship with sample	
Parent	12 (60)
Spouse	2 (10)
Son / Daugther	1 (5)
Sibling	5 (25)
Duration of living with samples (year)	
< 1	2 (10)
5 - 10	4 (20)
> 10	14 (70)

From table 3 revealed that most of the them were parent (62%), female (80 %), in the age group of 41-50 years old (30%), Buddhism (95%), couple (55%), 3-5 children (60%), elementary level (40%), employee (70%), adequate income per month with owing (55%), living with samples more than 10 years (70%).

Part 2: The results of hypotheses testing with the description of the dependent variables.

3.1 The comparison of psychotic relapse rate which determined by using the positive symptoms scores (from the Brief Psychotic Rating Scale; BPRS) between control group and experimental group when discharged from hospital and first month after discharged.

Table 4 The comparison of positive symptoms between control group and experimental group when discharged from hospital and first month after discharge.

Case No.	Experimental Group N=20		Control Group N=20	
	Discharge day	1 month after discharge	Discharge day	1 month after discharge
1	9	9	10	10
2	9	9	10	28*
3	10	11	13	21*
4	11	11	9	10
5	9	9	9	10
6	9	9	9	12
7	9	9	10	12
8	12	11	11	11
9	15	15	9	9
10	9	9	10	9
11	9	9	9	9
12	9	9	10	10
13	10	13	11	36*
14	9	9	9	10
15	14	13	9	9
16	11	9	12	14
17	9	9	9	10
18	9	9	10	11
19	9	9	12	29*
20	9	11	9	10
Mean	10	10.1	10	14
SD	1.77	1.774	1.214	7.921

* means the case who was experiencing psychotic relapse at first month after discharge.

From table 4, the comparison of the positive symptoms scores at discharge day and 1 month after discharge between control group and experimental group revealed that there were 4 cases* (20%) in control group were experiencing psychotic relapse by using the relapse criteria of UCLA (2001), while, no one in experimental group was relapse.

2.2 The comparison of BPRS scores at the period of discharged from hospital (base line score) and 1 month after discharge from hospital between control group and experimental group

Table 5 The comparison of BPRS scores between control group and experimental group

BPRS scores	Pre test		Post test		t-value
	Mean	S.D.	Mean	S.D.	
Control group	21.30	3.03	30.45	13.60	.334
Experimental group	20.50	3.00	22.20	3.09	.028

$p < 0.05$

From the table 5 revealed that the means score of BPRS of the control group at the pretest is 22.30 (SD=3.03) and the experimental group 20.50 (SD=3.00) which are not significant difference. It means that the psychotic symptoms of both groups at the time of discharged are in the same remission period which is the physician's criteria of discharge.

The table 5 also revealed that the means score of BPRS of the control group at the posttest is 30.45 (SD=13.60) and the experimental group is 22.20 (SD=3.09) which are statistically difference at the level of 0.05

2.3 The comparison of positive symptoms, negative symptom and affective symptoms between control group and experimental group at the pretest

Table 6 The comparison of positive symptoms, negative symptom and affective symptoms between control group and experimental group at the pretest

BPRS scores	Control Group N=20		Experimental group N=20		t-value
	Mean	S.D.	Mean	S.D.	
Positive symptom	10.00	1.21	10.00	1.77	0.41
Negative symptom	6.20	1.24	5.65	1.18	0.09
Affective symptom	5.15	1.34	4.90	1.80	0.16

$p < 0.05$

The table 6 revealed that the score of positive symptoms, negative symptoms and affective symptoms between control group and experimental group at time of discharged (base line scores) are not significant difference.

3.4 The comparison of positive symptoms, negative symptom and affective symptoms between control group and experimental group at the posttest

Table 7 **Comparison of the BPRS scores of at first month after discharged from hospital between control group and experimental group**

BPRS scores	Control Group		Experimental group		t-value
	Mean	S.D.	Mean	S.D.	
Positive symptom	14.00	7.92	10.10	1.77	0.02*
Negative symptom	9.00	3.68	6.75	1.71	0.03*
Affective symptom	7.95	4.89	5.35	1.60	0.03*

$p < 0.05$

The table 7 revealed that all of the score of positive symptoms, negative symptoms and affective symptoms between control group and experimental group at first month after discharge from hospital are significant difference at .05.

CHAPTER V

DISCUSSION, IMPLICATION AND RECCOMMENDATION

The purpose of this study was to evaluate the effectiveness of a multifactorial intervention on psychotic relapse among persons who are suffering with first episode schizophrenia. Results of these investigations are presented followed by detailed discussion of their implications. Limitations of the study and suggestions for future research are also considered.

1. Demographic characteristic of subjects

The most of subjects both of experimental and control group in this study are young. Agree with the nature of first episode of schizophrenia which typically first occurs in their late adolescent and early adulthood.

2. The effectiveness of a multifactorial intervention program

From the table 5 showed that the subjects in either control or experimental group were “equal” at the beginning. All of subjects were suffering from first episode schizophrenia. The duration of undiagnosed psychosis (DUP) not more than 3 years and the BPRS scores were not more than 30 scores in the begining. In addition, the differences of some demographic data such as age, sex, educational level, severity of psychotic symptoms are not predicting the occurrence of psychotic relapse.

The findings of this study are revealed that there is significantly difference in the psychotic relapse scores between control group and experimental group (Table 3). It can conclude that this intervention effective to prevent psychotic relapse in persons with first episode schizophrenia even in the first month after discharge. Because of this intervention was developing by using the vulnerability – stress model as a

guideline. This model suggested that the basis of relapse prevention program should be the modification of stress and vulnerability factors and emphasize on the protective factors which act as a buffer against the effects of stress and biochemical vulnerabilities or which minimize the severity of symptoms (Hultman, Wieselgren & Ohman, 1997; Meijel et al, 2002). In which this intervention have been conducted to intervene all of major the major predicting factors of psychotic relapse in persons with first episode schizophrenia which composed of medical non-adherence, high express emotion in family and stressful life events. In addition, this model has been promoted the protective factors such as ability to coping with stress.

Moreover, the findings of this study are congruent with Fitzgerald (2001) who proposed that the implementation of a multifactorial approach to relapse prediction appears to have offered substantial benefits. Also Herz, Lamberti & Mintz (2000) proposed that combining maintenance antipsychotic medication therapy with psychosocial approaches has been found to be more effective than pharmacotherapy alone in delaying or preventing psychotic relapse and/or reducing hospital days. And Meijel et al. (2002) suggested that optimal treatment presupposes a strategy based on a combination of antipsychotic medication adherent and psychosocial interventions.

Additionally, this intervention included both persons with first episode schizophrenia and their family in all of session that provide more benefit for them than include either individual or family member. This notion confirmed by Meijel et al. (2003) who suggested that the more successful of relapse prevention program need participant of individuals and family members in educational programs regarding early warning sign detection and medication compliance. In addition, the most of family in experimental group were parents who are willing to take care of their son or daughter. Most of them have lower scores of express emotion in family (from table).

Halford et al., (1999) reported that in patients admitted for the first time to a hospital for a psychotic disorder, positive family interaction was associated with fewer relapses at 6 months.

Furthermore, in the experimental group, there is availability of family members who remind patients to take their medications is widely believed to lower the risk of medication noncompliance. In addition, the family members helping the subjects fill a weekly pill box medication adherence and closely monitored whether they forget to take medication or not by observed the weekly pillbox and providing supervision at medication times. These phenomena were confirmed by several cross-sectional studies have demonstrated lower rates of medication noncompliance among patients with schizophrenia who live with family members or with people who supervise their medications (Meijel et al, 2002; Olfson, 2000). While, the most of samples in control group who are relapse are characterized by noncompliance, denial of illness and need for treatment, staying alone and no contact with their family. As well as the some of family members in this group are ambivalent about antipsychotic medications which increased the risk of medication noncompliance after hospital discharge (Owen, 1996; Razali & Yahya, 1995; Buchanan, 1995)?

Therefore, this intervention success in decrease environmental potentiators and stressors in form of high express emotion in family and promote personal protectors or self efficacy which are compliance with antipsychotic medication, effective coping skill and self efficacy on stress management, problems solving and active monitoring early warning signs and early interventions.

Mueser et al. (2003) studied 5 RCTs of relapse or rehospitalization prevention programs, revealed that all of studies that focus on teaching people how to

recognize environmental triggers and early warning signs of relapse and taking steps to prevent further symptom exacerbations, also teach stress management skills because a person may not be fully aware that a relapse is happening and two of the five included relatives to help in the identification of early warning signs of relapse showed decreases in relapse or rehospitalization.

In addition, according to APA (2000) who expressed the opinion that early recognition and early intervention to prevent psychotic relapses should form part of all treatment programmes. Therefore, this intervention combined the early recognition of warning signs and encourage them to monitoring those signs weekly and giving early intervention when warning signs are detected. The successful of this intervention confirmed by Mueser et al (2003) who proposed that all of the relapse prevention programs which focus on teaching people how to recognize environmental triggers and early warning signs of relapse and taking steps to prevent further symptom exacerbations showed decreases in relapse or rehospitalization.

However, some subjects inexperimental group were unable to detect or report own warning signs, for such case, it is critical to enlist the help of family members. These subjects who have frequent contact with the patient, can become the “eyes and ears” of the treatment team in detecting the warning signs. They can also have a protective effect by helping patients manage stressful situations and by supporting adherence to treatment. In addition, careful monitoring by using weekly pillbox can help ensure that subjects take their medication as prescribed and identify early warning signs of psychotic by using checklist weekly, and early to figure out when those signs are occurred are very useful in preventing psychotic relapse,

The strength of this intervention is following;

1. This intervention are availability and flexibility during evenings or and weekends as family convenience.

2. This intervention worked closely with individual and family by aim of intervenes early when warning signs occurred. The sample or their family can be contact researcher anytime that they need help via telephone contact.

3. This intervention success in decrease environmental potentiators and stressors in form of high express emotion in family most of them stay with their family, while some samples in control group who are relapse stay alone or living with their friends.

4. This intervention has been associated with significant cost savings in a variety population.

The limitation of this study are presented as following;

1. There are too many sessions, it cause more burden to family members.
2. Using BPRS score in determined psychotic relapse by difference persons may be easily error because it's the subjective measurement in some parts.
3. The sample size in this study was low (control group = 20 cases and experimental group = 20 cases) due to the limitation of number of cases during the time of collecting data. In addition, the length of stay is short, approximately 3-4 weeks, while, this intervention need at least 2 weeks for stabilization before start the intervention.

Implications and recommendation

The findings of this study have provided significant information for nursing practice, nursing education and nursing research.

For nursing practice

1. This study was a major contribution to knowledge and development of practical intervention that aim to prevent psychotic relapse in person with first episode schizophrenia after discharge from hospital. The results of this intervention have confirmed that the combination of multifactorial intervention have more effective in prevent psychotic relapse in persons with FES than single strategies.

2. The Collaboration and continued contact with individual with FES and their family members after discharge from hospital (at least once a week) are critical to prevent psychotic relapse.

4. Monitoring of early warning signs weekly should be recommended to individual with FES and their caregiver, especially the first year after discharge.

5. This intervention can be adapted easily to existing services in community

mental health programmes to reduce emotional and economic costs of psychotic relapse and readmission to hospital.

For nursing education

1. The findings of the study indicated that the person with FES is the important group that has more different characteristic than the chronic schizophrenic patients, therefore, they need more special intervention in order to prevent psychotic relapse.

2. Training in detection of prodromal symptoms and the process of psychotic relapse for clients and their family is essential for early clinical intervention.

For nursing research

Future studies are recommended as follows:

1. Replication of this study with larger sample size and extend the longer duration of evaluation as 2 – 6 months after discharged from hospital.

2. A multifactorial intervention can be performed in various clinical settings and community setting would be study.

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APPENDIX

Appendix A

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6. Ms. Pavinee Thanabadeethammajaree

   Somdet Chaopraya Institute of Psychiatry

Appendix B

The ICD-10 Classification of Mental and Behavioural Disorders
World Health Organization, Geneva, 1992

F20 Schizophrenia

Diagnostic Guidelines

The normal requirement for a diagnosis of schizophrenia is that a minimum of one very clear symptom (and usually two or more if less clear-cut) belonging to any one of the groups listed as (a) to (d), or symptoms from at least two of the groups referred to as (e) to (h), should have been clearly present for most of the time during a period of 1 month or more. Conditions meeting such symptomatic requirements but of duration less than 1 month (whether treated or not) should be diagnosed in the first instance as acute schizophrenia-like psychotic disorder and are classified as schizophrenia if the sumptoms persist for longer periods.

a. thought echo, thought insertion or withdrawal, and thought broadcasting;
b. delusions of control, influence, or passivity, clearly referred to body or limb movements or specific thoughts, actions, or sensations; delusional perception;
c. hallucinatory voices giving a running commentary on the patient's behaviour, or discussing the patient among themselves, or other types of hallucinatory voices coming from some part of the body;
d. persistent delusions of other kinds that are culturally inappropriate and completely impossible, such as religious or political identity, or superhuman powers and abilities (e.g. being able to control the weather, or being in communication with aliens from another world);

e. persistent hallucinations in any modality, when accompanied either by fleeting or half-formed delusions without clear affective content, or by persistent over-valued ideas, or when occurring every day for weeks or months on end;
f. breaks or interpolations in the train of thought, resulting in incoherence or irrelevant speech, or neologisms;
g. catatonic behaviour, such as excitement, posturing, or waxy flexibility, negativism, mutism, and stupor;
h. "negative" symptoms such as marked apathy, paucity of speech, and blunting or incongruity of emotional responses, usually resulting in social withdrawal and lowering of social performance; it must be clear that these are not due to depression or to neuroleptic medication;
i. a significant and consistent change in the overall quality of some aspects of personal behaviour, manifest as loss of interest, aimlessness, idleness, a self-absorbed attitude, and social withdrawal.

F20.0 Paranoid Schizophrenia

Diagnostic Guidelines

The general criteria for a diagnosis of schizophrenia must be satisfied. In addition, hallucinations and/or delusions must be prominent, and disturbances of affect, volition and speech, and catatonic symptoms must be relatively inconspicuous. The hallucinations will usually be of the kind described in (b) and (c) above. Delusions can be of almost any kind of delusions of control, influence, or passivity, and persecutory beliefs of various kinds are the most characteristic.

F20.1 Hebephrenic Schizophrenia

Diagnostic Guidelines

The general criteria for a diagnosis of schizophrenia must be satisified. Hebephrenia should normally be diagnosed for the first time only in adolescents or young adults. The premorbid personality is characteristically, but not necessarily, rather shy and solitary. For a confident diagnosis of hebephrenia, a period of 2 or 3 months of continuous observation is usually necessary, in order to ensure that the characteristic behaviours described above are sustained.

F20.2 Catatonic Schizophrenia

Diagnostic Guidelines

The general criteria for a diagnosis of schizophrenia must be satisfied. Transitory and isolated catatonic symptoms may occur in the context of any other subtype of schizophrenia, but for a diagnosis of catatonic schizophrenia one or more of the following behaviours should dominate the clinical picture:

a. stupor (marked decrease in reactivity to the environment and in spontaneous movements and activity) or mutism;
b. excitement (apparently purposeless motor activity, not influenced by external stimuli);
c. posturing (voluntary assumption and maintenance of inappropriate or bizarre postures);
d. negativism (an apparently motiveless resistance to all instructions or attempts to be moved, or movement in the opposite direction);
e. rigidity (maintenance of a rigid posture against efforts to be moved);

f. waxy flexibility (maintenance of limbs and body in externally imposed positions); and
g. other symptoms such as command automatism (automatic compliance with instructions), and perseveration of words and phrases.

F20.3 Undifferentiated Schizophrenia

Diagnostic Guidelines

This category should be reserved for disorders that:

a. meet the diagnostic criteria for schizophrenia;
b. do not satisfy the criteria for the paranoid, hebephrenic, or catatonic subtypes;
c. do not satisfy the criteria for residual schizophrenia or post-schizophrenic depression.

F20.4 Post-Schizophrenic Depression

Diagnostic Guidelines

The diagnosis should be made only if:

a. the patient has had a schizophrenic illness meeting the general criteria for schizophrenia within the past 12 months;
b. some schizophrenic symptoms are still present; and
c. the depressive symptoms are prominent and distressing, fulfilling at least the criteria for a depressive episode, and havew been present for at least 2 weeks.

F20.5 Residual Schizophrenia

Diagnostic Guidelines

For a confident diagnosis, the following requirements should be met:

a. prominent "negative" schizophrenic symptoms, i.e. 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;
b. evidence in the past of at least one clear-cut psychotic episode meeting the diagnostic criteria for schizophrenia;
c. a period of at least 1 year during which the intensity and frequency of florid symptoms such as delusions and hallucinations have been minimal or substantially reduced and the "negative" schizophrenic syndrome has been present;
d. absence of dementia or other organic brain disease or disorder, and of chronic depression or institutionalism sufficient to explain the negative impairments.

F20.6 Simple Schizophrenia

Diagnostic Guidelines

Simple schizophrenia is a difficult diagnosis to make with any confidence because it depends on establishing the slowly progressive development of the characteristic "negative" symptoms of residual schizophrenia without any history of hallucinations, delusions, or other manifestations of an earlier psychotic episode, and with significant changes in personal behaviour, manifest as a marked loss of interest, idleness, and social withdrawal.

Appendix C

ใบยินยอมของผู้มีส่วนร่วมในการวิจัย

(Informed Consent Form)

ชื่อโครงการ ผลของการจัดกระทำแบบหลายปัจจัยต่อการกำเริบของอาการทางจิตผู้ที่เป็นโรคจิตเภทครั้งแรก

เลขที่ผู้มีส่วนร่วมในการวิจัย.…….....

ข้าพเจ้าได้รับทราบจากผู้วิจัย ชื่อ นางสาวเรณุการ์ ทองคำรอด ที่อยู่ 21 หมู่ 4 ตำบลบ้านใหม่ อำเภอปากเกร็ด จังหวัดนนทบุรี 11120 ซึ่งได้ลงนามด้านท้ายของหนังสือนี้ ถึงวัตถุประสงค์ ลักษณะ และแนวทางการศึกษาวิจัย รวมทั้งทราบประโยชน์ที่จะได้รับ และการเสียโอกาสที่จะได้เข้าร่วมกิจกรรมกลุ่มบางกิจกรรมที่ทางสถาบันจิตเวชศาสตร์สมเด็จเจ้าพระยาจัดให้ ข้าพเจ้าได้ซักถาม ทำความเข้าใจเกี่ยวกับการศึกษาดังกล่าวนี้เป็นที่เรียบร้อยแล้ว

ข้าพเจ้ายินดีให้ข้อมูลของข้าพเจ้าแก่ผู้วิจัย เพื่อเป็นประโยชน์ในการศึกษาวิจัยครั้งนี้

สุดท้ายนี้ ข้าพเจ้ายินดีเข้าร่วมโปรแกรมการจัดกระทำแบบหลายปัจจัยต่อการกำเริบของอาการทางจิตผู้ที่เป็นโรคจิตเภทครั้งแรกดังกล่าว ภายใต้เงื่อนไขที่ได้ระบุไว้แล้วในข้างต้น

…….	……
สถานที่/วันที่	ลงนามผู้มีส่วนร่วมในการวิจัย
…….	……
สถานที่/วันที่	(นางสาวเรณุการ์ ทองคำรอด)
	ลงนามผู้วิจัยหลัก
…….……..	…….
สถานที่/วันที่	(……..……..)
	พยาน

ใบยินยอมของญาติผู้เข้าร่วมการวิจัย

(Informed Consent Form)

ชื่อโครงการ ผลของการจัดกระทำแบบหลายปัจจัยต่อการกำเริบของอาการทางจิตในผู้ที่เป็นโรคจิตเภทครั้งแรก

ข้าพเจ้าได้รับทราบจากผู้วิจัย ชื่อ นางสาวเรณุการ์ ทองคำรอด ที่อยู่ 21 หมู่ 4 ตำบลบ้านใหม่ อำเภอปากเกร็ด จังหวัดนนทบุรี 11120 ซึ่งได้ลงนามด้านท้ายของหนังสือนี้ ถึงวัตถุประสงค์ ลักษณะ และแนวทางการศึกษาวิจัย รวมทั้งทราบผลดี ผลข้างเคียง และความเสี่ยงที่อาจจะเกิดขึ้น ข้าพเจ้าได้ซักถาม ทำความเข้าใจเกี่ยวกับการศึกษาดังกล่าวนี้เป็นที่เรียบร้อยแล้ว

ข้าพเจ้ายินดีให้ข้อมูลของข้าพเจ้าแก่ผู้วิจัย เพื่อเป็นประโยชน์ในการศึกษาวิจัยครั้งนี้

สุดท้ายนี้ ข้าพเจ้ายินดีเข้าร่วมโปรแกรมการจัดกระทำแบบหลายปัจจัยต่อการกำเริบของอาการทางจิตในผู้ที่เป็นโรคจิตเภทครั้งแรกดังกล่าว ภายใต้เงื่อนไขที่ได้ระบุไว้แล้วในข้างต้น

……	.....……....
สถานที่/วันที่	ลงนามญาติผู้เข้าร่วมการวิจัย
……	……...
สถานที่/วันที่	(นางสาวเรณุการ์ ทองคำรอด)
	ลงนามผู้วิจัยหลัก
……	……..……..
สถานที่/วันที่	(……..……..)
	พยาน

ข้อมูลสำหรับผู้มีส่วนร่วมในการวิจัย

1. **ชื่อเรื่องการวิจัย** ผลของการจัดกระทำแบบหลายปัจจัยต่อการกำเริบของอาการทางจิตในผู้ที่เป็นโรคจิตเภทครั้งแรก
2. **ชื่อผู้วิจัย** นางสาวเรณุการ์ ทองคำรอด **ตำแหน่ง** นิสิตหลักสูตรพยาบาลศาสตรดุษฎีบัณฑิต คณะพยาบาลศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย
3. **สถานที่ปฏิบัติงาน** สาขาวิชาพยาบาลศาสตร์ มหาวิทยาลัยสุโขทัยธรรมาธิราช
   โทรศัพท์ที่ทำงาน 02- 5032620 **โทรศัพท์เคลื่อนที่** 081-6944050
   E-mail trenukar@hotmail.com
4. ข้อมูลที่เกี่ยวข้องกับการให้ความยินยอมในการวิจัยประกอบด้วยคำอธิบายดังต่อไปนี้
   4.1. งานวิจัยนี้เกี่ยวข้องกับการศึกษาผลของการจัดกระทำแบบหลายปัจจัยต่อการกำเริบของอาการทางจิตในผู้ที่เป็นโรคจิตเภทครั้งแรก
   4.2. วัตถุประสงค์การวิจัยคือเปรียบเทียบผลของผลของการจัดกระทำแบบหลายปัจจัยต่อการกำเริบของอาการทางจิตในผู้เข้าร่วมการวิจัยที่เป็นโรคจิตเภทครั้งแรกระหว่างกลุ่มที่ 1 ซึ่งหมายถึงกลุ่มที่ได้รับการจัดกระทำแบบหลายปัจจัยควบคู่ไปกับการรักษาพยาบาลตามปกติของสถาบันจิตเวชศาสตร์สมเด็จเจ้าพระยา และกลุ่มที่ 2 ซึ่งหมายถึงกลุ่มที่ได้รับเฉพาะการรักษาพยาบาลตามปกติของสถาบันจิตเวชศาสตร์สมเด็จเจ้าพระยา
   4.3. การวิจัยครั้งนี้เป็นการวิจัยเชิงทดลองโดยกลุ่มที่ 1 จะได้รับการจัดกระทำแบบหลายปัจจัย ประกอบด้วยกิจกรรมการให้สุขภาพจิตศึกษาแก่ผู้มีส่วนร่วมในการวิจัยและญาติผู้ดูแลเป็นรายกลุ่ม, การส่งเสริมการรับประทานยาอย่างต่อเนื่อง, การเฝ้าระวังอาการเตือนและการดูแลรักษาในระยะเริ่มแรกเพื่อป้องกันการกำเริบของอาการทางจิต
   4.4. การวิจัยครั้งนี้จะดำเนินการที่หอผู้ป่วยในขณะที่ผู้มีส่วนร่วมในการวิจัยเข้ารับการรักษาใน สถาบันจิตเวชศาสตร์สมเด็จเจ้าพระยา
   4.5. เพื่อประโยชน์สูงสุดของโปรแกรมดังกล่าว จะได้เชิญญาติผู้ดูแลที่มีความผูกพันทางสายเลือดหรือเป็นสามีภรรยากับผู้มีส่วนร่วมในการวิจัย อย่างน้อย 1 คนที่สามารถเข้าร่วมโปรแกรมได้ทุกครั้ง เพื่อประโยชน์ในการดูแลผู้มีส่วนร่วมในการวิจัยเมื่อกลับไปอยู่ที่บ้าน ทั้งนี้จะได้ถามความสมัครใจจากผู้มีส่วนร่วมในการวิจัยก่อน
   4.6. โปรแกรมดังกล่าวประกอบด้วยการทำกิจกรรมการแบบครอบครัวรายกลุ่ม และกิจกรรมรายครอบครัว รวมทั้งหมด 8 ครั้ง โดยกิจกรรมแต่ละครั้งจะใช้เวลาประมาณ 90 นาที และจะเริ่มต้นเมื่อตัวอย่างเข้ารับการรักษาด้วยต้านอาการทางจิตไปแล้วอย่างน้อย 2 สัปดาห์ และมีอาการทางจิตอยู่ในระดับที่สงบ และใช้เวลาในการดำเนินการตลอดโปรแกรมประมาณ 2 สัปดาห์ก่อนที่ผู้มีส่วนร่วมในการวิจัยจะได้รับการ

จำหน่ายออกจากโรงพยาบาล เพื่อให้สอดคล้องกับช่วงเวลาตามนโยบายของสถาบันฯ ที่กำหนดระยะเวลาการรับผู้ป่วยจิตเภทไว้รับการรักษาในโรงพยาบาลประมาณ 4 สัปดาห์ หากตัวอย่างได้รับการจำหน่ายออกจากสถาบันจิตเวชศาสตร์ สมเด็จเจ้าพระยา ก่อนที่โปรแกรมจะสิ้นสุดลง ผู้วิจัยจะได้ดำเนินการนัดหมายกับผู้มีส่วนร่วมในการวิจัยและญาติเพื่อดำเนินกิจกรรมต่อไป ณ สถานที่ที่ตัวอย่างและญาติสะดวก ทั้งนี้ในระหว่างการวิจัย อาจมีความจำเป็นต้องทำการบันทึกเสียง ซึ่งผู้วิจัยจะได้ทำการขออนุญาตผู้มีส่วนร่วมในการวิจัยก่อนทุกครั้ง หากผู้มีส่วนร่วมในการวิจัยปฏิเสธ ผู้วิจัยยินดีปฏิบัติตามโดยเคร่งครัด

4.7. หลังจากเสร็จสิ้นโปรแกรม ผู้วิจัยจะได้มีการติดตามผู้มีส่วนร่วมในการวิจัยกลุ่มที่ 1 ทางโทรศัพท์ สัปดาห์ละ 1 ครั้งเพื่อติดตามประเมินความต่อเนื่องของการรับประทานยา และการเฝ้าระวังอาการเตือนของการกำเริบของอาการทางจิต และจะได้ทำการนัดหมายเพื่อเพื่อประเมินอาการทางจิตเพื่อประเมินการกำเริบของอาการทางจิตภายหลังจำหน่ายออกจากโรงพยาบาลไปแล้ว 1 เดือน โดยเปรียบเทียบกับค่าคะแนนของระดับอาการแสดงทางจิตก่อนการจำหน่ายออกจากโรงพยาบาล ในการนัดหมายเวลาและสถานที่เพื่อดำเนินกิจกรรมต่างๆ ผู้วิจัยจะคำนึงถึงประโยชน์, ความพร้อม และความสะดวกของผู้มีส่วนร่วมในการวิจัยเป็นสำคัญ โดยผู้มีส่วนร่วมในการวิจัยสามารถติดต่อกับผู้วิจัยได้ตลอดเวลาที่เบอร์โทรศัพท์เคลื่อนที่ 081-6944050

4.8. ผู้วิจัยคาดว่าโปรแกรมการจัดกระทำแบบหลายปัจจัยดังกล่าวจะเป็นประโยชน์ต่อผู้มีส่วนร่วมในการวิจัยและญาติผู้ดูแลเป็นอย่างมาก ในการเพิ่มพูนความรู้และทักษะต่างๆ ที่จำเป็นต่อการป้องกันการกำเริบของอาการทางจิตในผู้ที่เป็นโรคจิตเภทครั้งแรก ซึ่งจะส่งผลต่อการฟื้นหายอย่างสมบูรณ์, ลดพยาธิสภาพที่สมอง, ป้องกันความเรื้อรังและความรุนแรงของโรค ซึ่งจะส่งผลถึงการพยากรณ์โรคที่ดีโดยไม่ก่อเกิดความเสี่ยงต่อการเกิดอันตรายใดๆ

4.9. หากผู้วิจัยมีข้อมูลเพิ่มเติมทั้งด้านประโยชน์และอันตรายที่เกี่ยวข้องกับการวิจัยครั้งนี้ ผู้วิจัยจะแจ้งให้ผู้มีส่วนร่วมในการวิจัยทราบอย่างรวดเร็ว

4.10. ผู้มีส่วนร่วมในการวิจัยอาจปฏิเสธการเข้าร่วมการวิจัยหรือสามารถถอนตัวออกจากการวิจัยเมื่อใดก็ได้ โดยไม่มีผลกระทบใดๆต่อการรักษาพยาบาลที่พึงได้รับจากสถาบันจิตเวชศาสตร์สมเด็จเจ้าพระยา

4.11. ผู้วิจัยจะได้ทำการเก็บรักษาข้อมูลต่างๆ ไว้เป็นความลับ ผลการวิจัยจะถูกนำเสนอในภาพรวม ชื่อและที่อยู่ของผู้มีส่วนร่วมในการวิจัยจะได้รับการปกปิด การติดตามเยี่ยมบ้านจะหลีกเลี่ยงสัญลักษณ์ของโรงพยาบาลจิตเวช และจะได้ทำการทำลายเทปบันทึกเสียงต่าง ๆ เมื่อการวิจัยสิ้นสุดลง

Appendix D

The example of the manual of a mutifactorial intervention for preventing psychotic relapse in persons with first episode schizophrenia

คู่มือการจัดกระทำแบบหลายปัจจัย

(A multifactorial intervention)

เพื่อป้องกันกากำเริบของอาการทางจิตในผู้ที่เป็นโรคจิตเภทครั้งแรก

(First episode schizophrenia)

สำหรับพยาบาลจิตเวช

โดย

นางสาวเรณุการ์ ทองคำรอด

นิสิตหลักสูตรปริญญาพยาบาลศาสตรดุษฎีบัณฑิต

คณะพยาบาลศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย

ที่ปรึกษาวิทยานิพนธ์

รองศาสตราจารย์ ดร. จินตนา ยูนิพันธุ์

รองศาสตราจารย์ ดร. อรพรรณ ลือบุญธวัชชัย

ปี พ.ศ. 2550

คำนำ

โรคจิตเภทเป็นโรคทางจิตเวชชนิดหนึ่งที่มีความสำคัญเป็นอย่างมากในสังคมไทย เนื่องจากเป็นโรคที่พบได้มากที่สุดในบรรดาผู้ป่วยที่เข้ารับการรักษาในโรงพยาบาลจิตเวช และเป็นโรคเรื้อรังที่รักษาให้หายขาดได้ยาก ถึงแม้ว่าในปัจจุบันวิทยาการทางด้านการรักษาโรคจิตเภทมีความก้าวหน้าไปมาก แต่ผู้ป่วยดังกล่าวมีอัตราการกำเริบของอาการทางจิต (Psychotic relapse) เมื่อได้รับการจำหน่ายให้กลับไปอยู่ที่บ้านสูงกว่าผู้ป่วยด้วยโรคทางจิตเวชอื่นๆ ซึ่งก่อให้เกิดผลกระทบต่างๆ มากมายทั้งต่อตัวผู้ป่วย ครอบครัว ชุมชน และประเทศชาติโดยรวม ดังนั้นการป้องกันการกำเริบของอาการทางจิตในผู้ที่ป่วยเป็นโรคจิตเภทครั้งแรกจึงเป็นบทบาทหน้าที่ที่สำคัญประการหนึ่งของพยาบาลจิตเวช โดยมีเป้าหมายสำคัญเพื่อส่งเสริมให้ผู้ป่วยโรคจิตเภทสามารถดำรงชีวิตอยู่ในสังคมได้อย่างมีคุณภาพชีวิตที่ดี ไม่เป็นภาระแก่ญาติผู้ดูแล และลดค่าใช้จ่ายของครอบครัวและประเทศชาติในการรักษาพยาบาลและการฟื้นฟูสภาพ

ผู้ป่วยโรคจิตเภทครั้งแรก (First episode schizophrenia) เป็นกลุ่มที่มีการตอบสนองที่ดีต่อการรักษาด้วยยาต้านอาการทางจิต และมีอัตราการฟื้นหายสูงเมื่อเทียบกับผู้ป่วยโรคจิตเภทเรื้อรัง อย่างไรก็ตามก็มีความเสี่ยงต่อการกำเริบของอาการทางจิตหลังการจำหน่ายออกจากโรงพยาบาลสูงเช่นกัน โดยเฉพาะอย่างยิ่งในผู้ที่ไม่ได้รับการรักษาอย่างต่อเนื่อง อาศัยอยู่ในครอบครัวที่มีการแสดงออกทางอารมณ์ต่อผู้ป่วยในระดับสูง หรือไม่สามารถเผชิญกับความเครียดที่เกิดจากปัญหาการดำรงชีวิตประจำวันได้อย่างเหมาะสม ความสำเร็จของการป้องกันการกำเริบของอาการทางจิตในผู้ป่วยโรคจิตเภทครั้งแรกจะเกิดขึ้นได้หากผู้ป่วยและญาติมีความรู้ความเข้าที่ถูกต้องเกี่ยวกับโรคจิตเภท, มีการปฏิบัติตัวที่เหมาะสมในการเผชิญกับความเครียด, สามารถแก้ไขปัญหาได้อย่างเป็นระบบ, มีการติดต่อสื่อสารที่มีประสิทธิภาพ, รับประทานยาอย่างต่อเนื่อง,เฝ้าระวังอาการเตือน และมีการวางแผนเพื่อให้การดูแลรักษาในระยะที่ตรวจพบอาการเตือนตั้งแต่ในระยะเริ่มแรก ทั้งนี้ต้องอาศัยความร่วมมือจากญาติผู้ดูแลเป็นสำคัญ ความสำเร็จของการป้องกันการกำเริบของอาการทางจิตในผู้ป่วยโรคจิตเภทครั้งแรก นอกจากจะช่วยป้องกันการกลับเป็นซ้ำในอนาคตแล้ว ยังช่วยส่งเสริมการฟื้นหายอย่างสมบูรณ์ ลดความรุนแรงของโรค และป้องกันการเกิดโรคจิตเภทเรื้อรัง ซึ่งเป็นผลดีต่อการพยากรณ์โรคในระยะยาว

คู่มือการจัดกระทำแบบหลายปัจจัยเพื่อป้องกันการกำเริบของอาการทางจิตฉบับนี้จัดทำขึ้นเพื่อเป็นแนวทางในการปฏิบัติงานของพยาบาลจิตเวชในโรงพยาบาล สำหรับจัดโปรแกรมการให้ความรู้และการฝึกทักษะต่างๆในผู้ป่วยโรคจิตเภทครั้งแรกขณะเข้ารับการรักษาในโรงพยาบาล เพื่อประโยชน์ในการป้องกันการกำเริบของอาการทางจิตเมื่อผู้ป่วยได้รับการจำหน่ายออกจากโรงพยาบาลไปแล้ว

เรณุการ์ ทองคำรอด

ขั้นตอนการจัดกระทำแบบหลายปัจจัยเพื่อป้องกันการกำเริบของอาการทางจิตในผู้ที่เป็นโรคจิตเภทครั้งแรก

การจัดกระทำแบบหลายปัจจัยเพื่อป้องกันการกำเริบของอาการทางจิตในผู้ที่เป็นโรคจิตเภทครั้งแรกฉบับนี้สร้างขึ้นโดยใช้ The vulnerability-stress model เป็นแนวทางในการผสมผสานแนวคิดและวิธีการต่างๆ เพื่อจัดกระทำต่อตัวแปรที่เป็นปัจจัยทำนายที่สำคัญของการกำเริบของอาการทางจิตในผู้ที่เป็นโรคจิตเภทครั้งแรก โดยมีองค์ประกอบ (Structure) ของโปรแกรมที่สำคัญดังนี้

1. การให้สุขภาพจิตศึกษาแก่ผู้เข้าร่วมโปรแกรมและญาติผู้ดูแลเป็นรายกลุ่ม (The Multifamily Psychoeducational Group) โดยใช้แนวคิดของ Mcfarland et al. (2003) ซึ่งประกอบด้วยการให้ความรู้ ความเข้าใจเรื่องโรคจิตเภท, การกำเริบของอาการทางจิตและการป้องกัน, การเป็นโรคจิตเภทครั้งแรก และการเผชิญกับความเครียดที่เหมาะสม ร่วมกับการฝึกทักษะต่างๆ ได้แก่การผ่อนคลายความเครียด, การติดต่อสื่อสารที่มีประสิทธิภาพ และการแก้ไขปัญหาอย่างเป็นระบบ โดยมีวัตถุประสงค์เพื่อลดระดับการแสดงออกทางอารมณ์ของญาติผู้ดูแลที่มีต่อผู้เข้าร่วมโปรแกรม, ส่งเสริมพฤติกรรมการเผชิญกับความเครียดที่เหมาะสม, การแก้ไขปัญหาอย่างเป็นระบบ และมีการติดต่อสื่อสารที่มีประสิทธิภาพต่อกัน
2. การส่งเสริมการรับประทานยาอย่างต่อเนื่อง (Compliance Therapy) เป็นการผสมผสานแนวคิดของการให้ความรู้ (Psychoeducation) และแนวคิดของปัญญา-พฤติกรรมนิยม (Cognitive –Behavior Therapy) เพื่อส่งเสริมการรับประทานยาอย่างต่อเนื่อง ด้วยการประเมินการรับรู้ความเจ็บป่วย (insight), ทัศนคติต่อการรักษาด้วยยาต้านอาการทางจิตร่วมกับการให้ความรู้เกี่ยวกับการรักษาด้วยยา, การป้องกันและบรรเทาความไม่สุขสบายที่เกิดจากอาการข้างเคียงของยา และส่งเสริมพฤติกรรมการรับประทานยาอย่างต่อเนื่องโดยใช้กล่องยารายสัปดาห์และรายวัน
3. การเฝ้าระวังอาการเตือนและการดูแลรักษาในระยะเริ่มแรก (Early recognition of warning signs and early intervention) โดยใช้แนวคิดของ Meijel et al. (2004) ด้วยการให้ความรู้ ความเข้าใจเกี่ยวกับอาการสัญญาณเตือนและการดูแลรักษาเบื้องต้น, การระบุอาการเตือน (relapse signature), การจัดทำแผนการดูแลรักษาในระยะเริ่มแรกเมื่อตรวจพบอาการเตือน (relapse drill), การเฝ้าระวังอาการเตือนโดยใช้การ์ดประเมินอาการเตือนสัปดาห์ละ 1 ครั้ง และให้การดูแลรักษาในระยะเริ่มแรกเมื่อตรวจพบอาการเตือน

การจัดกระทำแบบหลายปัจจัยแบ่งออกเป็น 4 ระยะ 7 sessions ซึ่งประกอบด้วย ระยะการให้สุขภาพจิตศึกษาแก่ผู้เข้าร่วมโปรแกรมและญาติผู้ดูแลเป็นรายกลุ่ม (4 sessions), ระยะการส่งเสริมการรับประทานยาอย่างต่อเนื่อง (1 session), ระยะการเฝ้าระวังอาการเตือนและการดูแล

รักษาในระยะเริ่มแรก (1 session), และระยะการกระตุ้นความรู้ ความเข้าใจและทักษะต่างๆก่อนการจำหน่ายออกจากโรงพยาบาล (1 session) โดยมีรายละเอียดดังต่อไปนี้

ระยะที่ 1 การให้สุขภาพจิตศึกษาแก่ผู้เข้าร่วมโปรแกรมและญาติผู้ดูแลเป็นรายกลุ่ม (The multifamily psychoeducational group phase)

หลักการ

การให้ความรู้ ความเข้าใจ และการแลกเปลี่ยนประสบการณ์ ระหว่างผู้วิจัย ผู้เข้าร่วมโปรแกรมและญาติผู้ดูแล มีเป้าหมายเพื่อส่งเสริมให้ผู้เข้าร่วมโครงการและญาติผู้ดูแลได้มีความรู้ความเข้าใจที่ถูกต้องเกี่ยวกับโรคจิตเภท, การเป็นโรคจิตเภทครั้งแรก, การกำเริบของอาการทางจิต และการป้องกัน และการมีทักษะที่จำเป็นต่อการป้องกันการกำเริบของอาการทางจิต ได้แก่การผ่อนคลายความเครียด, การติดต่อสื่อสารที่มีประสิทธิภาพ และการแก้ไขปัญหาอย่างเป็นระบบจะช่วยป้องกันการกำเริบของอาการทางจิตได้

เนื่องจากความรู้ ความเข้าใจที่ถูกต้องจะช่วยให้ญาติมีความเข้าใจผู้ป่วยเพิ่มมากขึ้น ลดการแสดงออกทางอารมณ์ที่ไม่เหมาะสม และสามารถให้การดูแลได้อย่างถูกต้อง ช่วยให้ผู้เข้าร่วมโปรแกรมที่เป็นโรคจิตเภทครั้งแรก มีความตระหนักในความเจ็บป่วยของตน เพื่อประโยชน์ในการให้ความร่วมมือในการรักษาพยาบาล ด้วยการป้องกันการแสดงออกทางอารมณ์ที่ไม่เหมาะสมของครอบครัวที่มีต่อผู้ที่ป่วยเป็นโรคจิตเภทครั้งแรก รวมทั้งช่วยให้มีทักษะที่สำคัญในการป้องกันและแก้ไขปัญหาความเครียดซึ่งทั้งสองข้อเป็นปัจจัยสำคัญของการกำเริบของอาการทางจิตเมื่อกลับไปอยู่ที่บ้าน การให้สุขภาพจิตศึกษาดังกล่าวใช้รูปแบบกระบวนการกลุ่ม (Group process format) กลุ่มละ 6-8 ครอบครัว เป็นกลุ่มปิด รวมทั้งหมด 4 ครั้ง (ครั้งที่ 1-4) ครั้งละ 90 นาที มีรายละเอียดดังนี้

ครั้งที่ 1 การให้ความรู้เรื่องโรคจิตเภท, การเป็นโรคจิตเภทครั้งแรก, การกำเริบของอาการทางจิตและการป้องกัน

กลุ่มเป้าหมาย ผู้เข้าร่วมโปรแกรม*และญาติผู้ดูแล กลุ่มละ 6-8 ครอบครัว

สถานที่ ห้องทำกิจกรรมกลุ่ม สถาบันจิตเวชศาสตร์สมเด็จเจ้าพระยา

ระยะเวลา 90 นาที

วัตถุประสงค์

1. เพื่อให้สมาชิกกลุ่มมีความรู้ ความเข้าใจที่ถูกต้องเกี่ยวกับโรคจิตเภทและลักษณะที่สำคัญของการป่วยเป็นโรคจิตเภทครั้งแรก
2. เพื่อให้สมาชิกกลุ่มได้มีโอกาสแลกเปลี่ยนความคิดเห็นเกี่ยวกับโรคจิตเภทและการป่วยเป็นโรคจิตเภทครั้งแรก

* ผู้เข้าร่วมโปรแกรมในที่นี้หมายถึงผู้ที่ป่วยด้วยโรคจิตเภทเป็นครั้งแรก

กิจกรรม

1. ระยะเปิดกลุ่ม (20 นาที)
   1.2. ผู้นำกลุ่มกล่าวทักทาย และสนทนาในเรื่องทั่วๆไปเพื่อสร้างบรรยากาศที่ผ่อนคลายและลดความวิตกกังวล และเปิดโอกาสให้สมาชิกกลุ่มแนะนำตัว (15 นาที)
   1.3. ผู้นำกลุ่มบอกวัตถุประสงค์ แนวทางการดำเนินกลุ่ม และประโยชน์ที่จะได้รับ (5นาที)
2. ระยะดำเนินกิจกรรม (60 นาที)
   2.2. ประเมินความรู้ ความเข้าใจก่อนการให้ความรู้ โดยใช้แบบทดสอบความรู้ ความเข้าใจเรื่องโรคจิตเภทและการกำเริบของอาการทางจิตสำหรับญาติผู้ดูแล และสำหรับผู้เข้าร่วมโครงการ (10 นาที)
   2.3. ผู้นำกลุ่มกล่าวนำถึงความสำคัญของการมีความรู้ ความเข้าใจที่ถูกต้องเรื่องโรคจิตเภท, ลักษณะสำคัญของการป่วยเป็นโรคจิตเภทครั้งแรก, การกำเริบของอาการทางจิต และการป้องกัน (5 นาที)
   2.4. ผู้นำกลุ่มให้ความรู้และความเข้าใจแบบอภิปรายกลุ่มเรื่องโรคจิตเภท, การป่วยเป็นโรคจิตเภทครั้งแรก, การกำเริบของอาการทางจิต และการป้องกัน (40 นาที) ดังต่อไปนี้
      2.4.1. ผู้นำกลุ่มเปิดโอกาสให้สมาชิกกลุ่มร่วมกันอภิปรายความรู้ ความเข้าใจเบื้องต้นของแต่ละคนเกี่ยวกับโรคจิตเภทและการเป็นโรคจิตเภทครั้งแรก โดยใช้แนวคำถามดังนี้ (15 นาที)
         - ท่านมีความเข้าใจเกี่ยวกับโรคจิตเภทอย่างไรบ้าง ?
         - ท่านคิดว่าอะไรเป็นสาเหตุของการเกิดโรคจิตเภท ?
         - ท่านมีประสบการณ์ในการป่วยด้วยโรคจิตเภทเป็นครั้งแรกอย่างไร?
         - ท่านมีประสบการณ์ในการดูแลญาติที่ป่วยด้วยโรคจิตเภทเป็นครั้งแรกอย่างไรบ้าง ?
      2.4.2. ผู้นำกลุ่มให้ความรู้แก่สมาชิกเรื่องโรคจิตเภทและการเป็นโรคจิตเภทครั้งแรกในประเด็นต่างๆ ดังนี้ : (15 นาที)
         - ความหมาย
         - อุบัติการณ์
         - สาเหตุ
         - อาการและอาการแสดง

- การดำเนินโรค
- การรักษา
- การพยากรณ์โรค

2.4.3. ผู้นำกลุ่มเปิดโอกาสให้สมาชิกกลุ่มซักถาม และแลกเปลี่ยนความคิดเห็น (10 นาที)

3. ระยะประเมินผลและสรุป (20 นาที)

3.2. ประเมินความรู้ ความเข้าใจหลังการให้ความรู้ ความเข้าใจ โดยใช้แบบทดสอบความรู้ ความเข้าใจเรื่องโรคจิตเภทและการกำเริบของอาการทางจิตสำหรับญาติผู้ดูแล (10 นาที)

3.3. ผู้นำกลุ่มและสมาชิกกลุ่มร่วมกันสรุปสาระที่ได้จากกิจกรรมการให้ความรู้ ความเข้าใจ และการแลกเปลี่ยนประสบการณ์ และนัดหมายการเข้าร่วมกิจกรรมกลุ่มครั้งต่อไป (10 นาที)

เครื่องมือที่ใช้

1. แบบทดสอบความรู้เรื่องโรคจิตเภท และการกำเริบของอาการทางจิตสำหรับญาติผู้ดูแล
2. แบบทดสอบความรู้เรื่องโรคจิตเภท และการกำเริบของอาการทางจิตสำหรับผู้ที่ป่วยเป็นโรคจิตเภทครั้งแรก

สื่อการสอน

1. แผ่นภาพพลิก
2. คู่มือการป้องกันการกำเริบของอาการทางจิตในผู้ที่เป็นโรคจิตเภทครั้งแรก หน้า 4-10

การประเมินผล

1. สมาชิกกลุ่มมีท่าทีผ่อนคลาย ไม่ตึงเครียด ไม่แสดงความวิตกกังวล
2. สมาชิกกลุ่มเข้าใจวัตถุประสงค์, แนวทางการดำเนินกลุ่มและแสดงความกระตือรือร้นในการเข้าร่วมกิจกรรมกลุ่ม
3. สมาชิกกลุ่มแสดงความสนใจและมีส่วนร่วมในการซักถามและแลกเปลี่ยนความคิดเห็นและประสบการณ์
4. สมาชิกกลุ่มมีคะแนนความรู้ความเข้าใจจากตอบแบบทดสอบเพิ่มขึ้นหลังการได้รับความรู้
5. สมาชิกกลุ่มตอบแบบประเมินความรู้ความเข้าใจหลังการได้รับความรู้ถูกต้องอย่างน้อย 80 %

Appendix E

คู่มือการใช้แบบประเมินอาการทางจิตฉบับย่อ (The Brief Psychiatric Rating Scale, BPRS)

คำชี้แจง แบบประเมินฉบับนี้จัดทำขึ้นประเมินอาการทางจิต 19 อาการ (ข้อ 1-19) ข้อที่มีเครื่องหมาย * (3,4,6,7,13,14,16,17,18 และ 19) เป็นการประเมินโดยการสังเกตขณะการสัมภาษณ์ (1 หมายถึง สังเกตไม่พบอาการแสดงดังกล่าว) ส่วนข้อที่เหลือ (1,2,5,8,9,10,11,12 และ15) ประเมินได้จากคำพูดของผู้ที่ถูกประเมินเกี่ยวกับความรู้สึกนึกคิดส่วนบุคคลที่เกิดขึ้น ในระหว่าง 1 สัปดาห์ที่ผ่านมา (1 หมายถึง ไม่มีอาการแสดงดังกล่าวปรากฏ)

1. ความวิตกกังวลเกี่ยวกับอาการทางกาย (Somatic concern)

หมายถึงการบ่นว่าตนมีอาการทางกายต่างๆ หรือเชื่อว่าตนมีการเจ็บป่วยหรือมีความผิดปกติทางกาย ซึ่งอาจเป็นได้ตั้งแต่มีความรู้สึกอย่างคลุมเครือ ไม่ชัดเจนว่าเจ็บป่วย จนถึงขั้นมีอาการหลงผิดอย่างชัดเจนว่าตนมีโรคทางกายที่ร้ายแรง ซึ่งในความเป็นจริงอาจจะตรวจพบหรือไม่พบความผิดปกติดังกล่าวก็ตาม

แนวการสัมภาษณ์ : ในระหว่าง 1 สัปดาห์ที่ผ่านมา

1.1 สุขภาพร่างกายของคุณเป็นอย่างไรบ้าง? (มีอะไรที่ผิดปกติ? มีความรุนแรงมากน้อยแค่ไหน?)

1.2 คุณรู้สึกวิตกกังวลมากน้อยแค่ไหนกับสุขภาพร่างกายของคุณ (หรือกับอาการที่เกิดขึ้น)?

พื้นฐานที่ใช้ในการให้คะแนน เนื้อหาความคิดที่แสดงออกมาเป็นคำพูด อารมณ์ และพฤติกรรมระหว่างการสัมภาษณ์ หากผู้ถูกประเมินกล่าวว่าตนมีความเจ็บป่วยทางกาย แต่ไม่แสดงความวิตกกังวลกับความเจ็บป่วยดังกล่าว ก็ไม่ถือว่ามีความผิดปกติในข้อนี้

คะแนน	เกณฑ์การตัดสิน
1 = ไม่มีอาการ	ไม่มีอาการตามคำจำกัดความ
2 = มีอาการขั้นต่ำสุด	สงสัยว่าอาจมีความผิดปกติหรืออาจมีอาการบ้างแต่ยังถือว่าอยู่ในเกณฑ์ปกติ
3 = มีอาการเล็กน้อย	กังวลเกี่ยวกับสุขภาพหรือปัญหาทางกายอย่างชัดเจน แสดงออกโดยการถามหรือขอคำยืนยันเพื่อสร้างความมั่นใจเป็นครั้งคราว
4 = มีอาการปานกลาง	บ่นว่าสุขภาพไม่ดี หรือมีความผิดปกติในร่างกาย แต่ไม่ถึงขั้นมีความหลงผิดและสามารถลดความวิตกกังวลที่มีมากเกินไปเมื่ออธิบายและให้ความมั่นใจ
5 = มีอาการค่อนข้างรุนแรง	บ่นว่ามีอาการเจ็บป่วย หรือมีความผิดปกติทางกายในด้านต่างๆ หลายด้าน หรือบ่นอยู่บ่อยๆ หรืออาจมีอาการหลงผิดเกี่ยวกับ

	เรื่องเหล่านี้อย่างชัดเจนหนึ่งหรือสองเรื่อง แต่ไม่หมกมุ่นกับความคิดดังกล่าว
6 = มีอาการรุนแรง	หมกมุ่นกับอาการหลงผิดที่ชัดเจนเรื่องหรือสองเรื่องว่าตนมีโรคหรือมีความผิดปกติทางกาย แต่ยังไม่ถึงกับทุ่มเทจิตใจไปในเรื่องนั้นทั้งหมด และผู้สัมภาษณ์ยังพอจะพยายามดึงความคิดของผู้ถูกประเมินไปในทางอื่นได้บ้าง
7 = มีอาการรุนแรงมาก	มีอาการหลงผิดทางกายหลายอย่างที่ผู้ถูกประเมินพูดถึงบ่อยๆ หรือมีอาการหลงผิดทางกายสองหรือสามอย่างที่ผู้ถูกประเมินคิดว่าเป็นเรื่องร้ายแรงมาก และมีผลครอบงำอารมณ์และความคิดของผู้ถูกประเมินโดยสิ้นเชิง
8 = ไม่สามารถประเมินได้	เนื่องจากมีความผิดปกติรุนแรงของกระบวนการคิด, ไม่ให้ความร่วมมือในการสัมภาษณ์ (หลบเลี่ยงหรือต่อต้าน) หรือไม่ได้ประเมิน

…….

…….

12. อาการประสาทหลอน (Hallucination behavior)

หมายถึง การที่ผู้ถูกประเมินมีการรับรู้ผ่านทางประสาทสัมผัสทั้ง5 ที่ไม่ได้เกิดจากสิ่งเร้าภายนอกที่มีอยู่จริง โดยเน้นเฉพาะความผิดปกติที่เกิดขึ้นในระยะ 1 สัปดาห์ที่ผ่านมา

พื้นฐานที่ใช้ในการให้คะแนน จากคำบอกเล่าและการแสดงออกของผู้ถูกประเมินขณะสัมภาษณ์ และคำรายงานเกี่ยวกับพฤติกรรมของผู้ถูกประเมินจากเจ้าหน้าที่ผู้ดูแลเบื้องต้น หรือครอบครัว

แนวการสัมภาษณ์ : ในระหว่าง 1 สัปดาห์ที่ผ่านมา

12.1 คุณได้ยินเสียงที่เกิดขึ้นจากสิ่งที่ไม่มีตัวตนอยู่จริงๆหรือไม่สามารถอธิบายได้บ้างหรือไม่ ? อย่างไร?

12.2 คุณเคยเห็นภาพของสิ่งใดก็ตามที่คนรอบข้างคุณไม่สามารถมองเห็นได้บ้างหรือไม่ ? อย่างไร?

12.3 มีความผิดปกติเกี่ยวกับการได้กลิ่น การรับรส และการสัมผัสเกิดขึ้นกับคุณบ้างหรือไม่ ? อย่างไร?

12.4 ความผิดปกติเหล่านั้น (เช่น หูแว่ว เห็นภาพหลอน) เกิดขึ้นบ่อยแค่ไหน?

12.5 ความผิดปกติเหล่านั้น ก่อให้เกิดปัญหาอะไรกับคุณบ้าง?

12.6 เสียงที่คุณได้ยิน บอกให้คุณทำสิ่งต่างๆบ้างหรือไม่? อย่างไร?

คะแนน	เกณฑ์การตัดสิน
1 = ไม่มีอาการ	ไม่มีอาการตามคำจำกัดความ
2 = มีอาการขั้นต่ำสุด	สงสัยว่าอาจมีความผิดปกติหรืออาจมีอาการบ้างแต่ยังถือว่าอยู่ในเกณฑ์ปกติ
3 = มีอาการเล็กน้อย	มีอาการประสาทหลอนที่ชัดเจนหนึ่งหรือสองอย่างนานๆ ครั้ง หรือมีการรับรู้ที่ผิดปกติซึ่งคลุมเครือไม่ชัดเจน และไม่ส่งผลให้มีความผิดปกติของความคิดหรือพฤติกรรม ไม่ก่อให้เกิดอันตรายแก่ตนเองและผู้อื่น และเกิดขึ้นไม่บ่อย เช่น เห็นภาพของสิ่งที่มีรูปร่างไม่ชัดเจนเป็นบางครั้ง, หรือได้ยินเสียงคนมาเรียกชื่อตนเป็นต้น
4 = มีอาการปานกลาง	มีอาการประสาทหลอนบ่อยๆ แต่ไม่ต่อเนื่องกันตลอดเวลา และมีผลกระทบต่อความคิดและพฤติกรรมของผู้ป่วยเพียงเล็กน้อย เช่นเห็นภาพหน้าปีศาจบ่อยๆ, หรือได้ยินเสียง 2 เสียงพูดคุยกันเป็นเวลานานๆ
5 = มีอาการค่อนข้างรุนแรง	มีอาการประสาทหลอนบ่อยๆ อาจจะตลอดวัน อาจมีอาการในระบบเกี่ยวกับการรับรู้ด้านต่างๆ มากกว่าหนึ่งด้านและมักทำให้มีความคิดหรือพฤติกรรมผิดปกติ ผู้ป่วยมักจะตีความประสบการณ์ต่างๆ ที่เกิดขึ้นด้วยอาการหลงผิดและแสดงการตอบสนองทางอารมณ์ หรือในบางครั้งอาจพูดโต้ตอบ หรือเป็นสาเหตุทำให้เกิดความทุกข์ทรมานทางด้านจิตใจ)
6 = มีอาการรุนแรง	มีอาการประสาทหลอนต่อเนื่องกันเกือบตลอดเวลา ทำให้มีความผิดปกติทางความคิดและพฤติกรรมค่อยข้างมาก ผู้ป่วยจะคิดว่าอาการประสาทหลอนนี้เป็นสิ่งที่เกิดขึ้นจริงๆ ทำให้การทำหน้าที่ต่างๆของผู้ป่วยถูกรบกวนจากการตอบสนองทางอารมณ์ และคำพูดกับอาการที่เกิดขึ้นอยู่บ่อยๆ เช่น ไม่ค่อยมีสมาธิ จนส่งผลเสียต่อการทำงาน
7 = มีอาการรุนแรงมาก	ผู้ป่วยจะหมกมุ่นกับอาการประสาทหลอนอยู่เกือบตลอดเวลา จนมีผลครอบงำความคิดและพฤติกรรมทั้งหมดของผู้ป่วย ผู้ป่วยจะตีความหมายของอาการประสาทหลอนด้วยอาการหลงผิดต่างๆ และจะพูดและแสดงพฤติกรรมต่างๆ โต้ตอบกับอาการประสาทหลอนรวมทั้งการปฏิบัติตามคำสั่งจากอาการประสาทหลอนด้วย เช่น พยายามฆ่าตัวตายเพราะเป็นคำสั่งจากเสียงที่ได้ยิน
8 = ไม่สามารถประเมินได้	เนื่องจากมีความผิดปกติรุนแรงของกระบวนการคิด, ไม่ให้ความร่วมมือในการสัมภาษณ์ (หลบเลี่ยงหรือต่อต้าน) หรือไม่ได้ประเมิน

Appendix F

คู่มือการป้องกันการกำเริบของอาการทางจิตในผู้ที่ป่วยเป็นโรคจิตเภทครั้งแรก

Appendix G

แบบประเมินความรู้โรคจิตเภท และการกำเริบของอาการทางจิต
สำหรับผู้ที่ป่วยเป็นโรคจิตเภทครั้งแรก

คำชี้แจง โปรดทำเครื่องหมาย ✓ในช่องด้านขวามือที่ตรงกับความเข้าใจของท่าน

รายการ	ใช่	ไม่ใช่
1. โรคจิตเภทเป็นการเจ็บป่วยทางจิตชนิดหนึ่งที่ทำให้บุคคลไม่สามารถแยกแยะสิ่งที่เป็นความจริงกับสิ่งที่ไม่เป็นความจริงได้		
2. โรคจิตเภทพบได้ในบุคคลทั่วไป ไม่จำกัดเพศ วัย ฐานะ ระดับการศึกษาและอาชีพ		
3. โรคจิตเภทเกิดจากความไม่สมดุลของสารสื่อประสาทในสมอง โดยมีความเครียดเป็นตัวกระตุ้นทำให้เกิดอาการแสดงทางจิต		
12. หากรับประทานยาต้านอาการทางจิตแล้วมีอาการง่วงนอนมากจนไม่สามารถทำงานได้ ควรลดปริมาณยาลง		
13. หากมีปัญหาที่ทำให้ไม่สบายใจควรคิดหาวิธีแก้ไขด้วยตนเอง ไม่ควรไปเล่าให้คนอื่นฟัง		
14. การกำเริบของอาการทางจิตมักเกิดขึ้นทันทีทันใดโดยไม่มีอาการเตือนล่วงหน้าใดๆ		
15. หากพบว่าตนเองเริ่มมีอาการผิดปกติ เช่นนอนไม่หลับ หงุดหงิดง่าย กลัวคนมาทำร้าย หรือเริ่มมีความคิดแปลกๆ ควรบอกให้คนใกล้ชิดทราบ หรือรีบมาพบแพทย์		

Appendix H

แบบประเมินความรู้เรื่องโรคจิตเภทและการกำเริบของอาการทางจิต

สำหรับญาติ

คำชี้แจง โปรดทำเครื่องหมาย ✓ในช่องด้านขวามือที่ตรงกับความเข้าใจของท่าน

ข้อความ	ใช่	ไม่ใช่
1. โรคจิตเภทเป็นโรคที่ทำให้เกิดความผิดปกติของความคิดและการรับรู้ที่ทำให้บุคคลไม่สามารถแยกแยะสิ่งที่เป็นความจริงกับสิ่งที่ไม่เป็นความจริงได้ และแสดงออกมาเป็นความผิดปกติของอารมณ์ และพฤติกรรม		
2. โรคจิตเภทพบได้ในบุคคลทั่วไป ไม่จำกัดเพศ วัย ฐานะ ระดับการศึกษาและอาชีพ		
3. โรคจิตเภทเกิดจากความไม่สมดุลของสารสื่อประสาทในสมองและมีความเครียดเป็นตัวกระตุ้นให้เกิดอาการแสดงทางจิตที่รุนแรง		
18. การพูดคุยกับผู้ป่วยควรใช้น้ำเสียงเข้มงวด เสียงดังฟังชัด เพื่อให้ผู้ป่วยเชื่อฟัง		
19. การกำเริบของอาการทางจิตมักเกิดขึ้นในทันทีทันใดโดยไม่มีอาการเตือนล่วงหน้าใดๆ		
20. หากพบว่าผู้ป่วยเริ่มมีอาการนอนไม่หลับ พูดคนเดียว มีท่าทีไม่ไว้ใจผู้อื่น ญาติควรสังเกตอาการอย่างใกล้ชิด และรีบพามาพบแพทย์หากมีอาการรุนแรงมากขึ้น		

Appendix I

แบบสอบถามการแสดงออกทางอารมณ์ของญาติที่มีต่อผู้ป่วยจิตเภท

<u>คำชี้แจง</u> แบบสอบถามนี้ใช้วัดการแสดงออกทางอารมณ์ ความรู้สึกและพฤติกรรมการแสดงออกระหว่างท่านและผู้ป่วยในความดูแลของท่าน โดยทำเครื่องหมาย √ ลงในช่องคำตอบที่**<u>ตรงกับความรู้สึกของท่านมากที่สุด</u>** เกณฑ์ในการตอบคำถามมีดังนี้

เห็นด้วยอย่างยิ่ง	หมายถึง	เห็นด้วยกับข้อความที่ระบุมากที่สุด
เห็นด้วย	หมายถึง	เห็นด้วยกับข้อความที่ระบุมาก
ไม่เห็นด้วย	หมายถึง	ไม่ค่อยเห็นด้วยกับข้อความที่ระบุ
ไม่เห็นด้วยอย่างยิ่ง	หมายถึง	ไม่เห็นด้วยกับข้อความที่ระบุเลย

ข้อความ	เห็นด้วยอย่างยิ่ง	เห็นด้วย	ไม่เห็นด้วย	ไม่เห็นด้วยอย่างยิ่ง
1. ฉันไม่ชอบพฤติกรรมหลายๆอย่างของเขา				
2. ฉันรู้สึกอายกับพฤติกรรมของเขา				
3. ฉันรู้สึกทุกข์ใจกับพฤติกรรมของเขา				
18. ฉันต้องบังคับให้เขาทำในสิ่งที่ควรทำ				
19. ฉันต้องโกหกเขาเป็นบางครั้งเพื่อควบคุมพฤติกรรมของเขา				
20. ฉันควบคุมอารมณ์ได้ยากเมื่อเขาทำให้ฉันโกรธ				

Appendix J

แบบประเมินทัศนคติต่อการรับประทานยาต้านอาการทางจิต

คำชี้แจง ข้อความด้านล่างนี้เกี่ยวข้องกับการรับประทานยาต้านอาการทางจิตของท่าน กรุณาทำเครื่องหมาย ✓ ในช่องที่ตรงกับความรู้สึกนึกคิดของท่านมากที่สุด

ข้อที่	ข้อความ	ไม่เห็นด้วยอย่างยิ่ง	ไม่เห็นด้วย	ไม่แน่ใจ	เห็นด้วย	เห็นด้วยอย่างยิ่ง
1	การรับประทานยาต้านอาการทางจิตทำให้ฉันรู้สึกดีขึ้น					
2	การรับประทานยาต้านอาการทางจิตช่วยป้องกันมิให้ฉันต้องกลับไปรักษาที่โรงพยาบาลอีก					
3	อาการข้างเคียงของยาต้านอาการทางจิตทำให้ฉันไม่สุขสบาย					
8	ฉันมีอาการเจ็บป่วยทางจิตที่สามารถบรรเทาลงได้ด้วยการรับประทานยาต้านอาการทางจิต					

Appendix K

แบบประเมินความเครียด

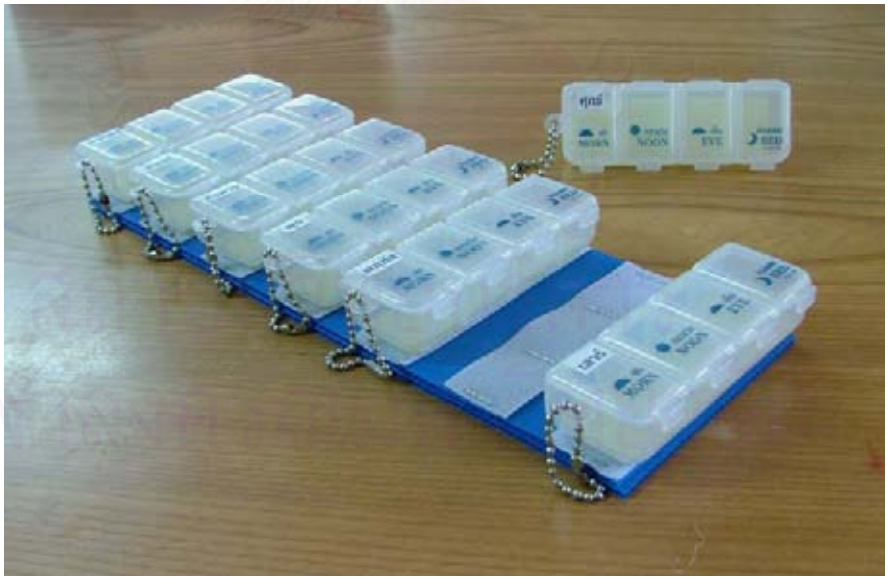
คำชี้แจง แบบสอบถามนี้มีวัตถุประสงค์เพื่อประเมินระดับความเครียดของท่าน โดยทำเครื่องหมาย ✓ ลงในช่องคำตอบที่ตรงกับความรู้สึกนึกคิดของท่านมากที่สุด เกณฑ์ในการตอบคำถามมีดังนี้

ไม่เคยเลย หมายถึง ไม่เคยมีความรู้สึกนึกคิดหรือมีอาการดังกล่าวเลย
เป็นบางครั้ง หมายถึง มีความรู้สึกนึกคิดหรือมีอาการดังกล่าวเป็นบางครั้ง
เป็นบ่อยๆ หมายถึง มีความรู้สึกนึกคิดหรือมีอาการดังกล่าวบ่อยๆ
เป็นประจำ หมายถึง มีความรู้สึกนึกคิดหรือมีอาการดังกล่าวเป็นประจำ

ข้อที่	ข้อความ	ไม่เคยเลย	เป็นบางครั้ง	เป็นบ่อยๆ	เป็นประจำ
1.	นอนไม่หลับเพราะคิดมาก หรือกังวลใจ				
2.	รู้สึกหงุดหงิด รำคาญใจ				
3.	ทำอะไรไม่ได้เลย เพราะประสาทตึงเครียด				
18.	ตื่นเต้นง่ายกับเหตุการณ์ที่ไม่คุ้นเคย				
19.	มึนงงหรือเวียนศีรษะ				
20.	ความสุขทางเพศลดลง				

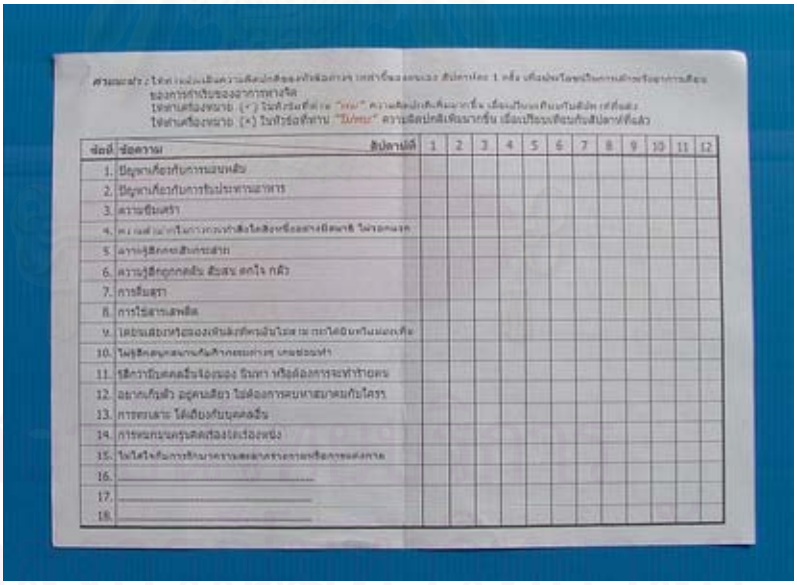
Appendix L

Weekly and daily pillbox



Appendix M

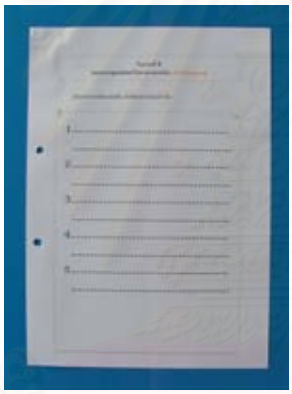
แบบเฝ้าระวังอาการเตือนของการกำเริบของอาการทางจิต ในผู้ที่เป็นโรคจิตเภทครั้งแรก (แบบพกพา)



Appendix N

5 Worksheets




Appendix O

The results of the monitoring experimental instrument

Table 8 The comparison of the schizophrenia and psychotic relapse test, the Stress -20, and the BEMIB between pretest and posttest of samples in experimental group.

Measurement	Pretest		Posttest		t - value
	mean	S.D.	mean	S.D.	
The schizophrenia and psychotic relapse test	9.60	3.33	14.40	2.09	0.00 *
The Stress -20	20.65	9.57	29.05	5.19	0.00 *
The BEMIB	29.05	5.186	31.60	3.97	0.08 *

* $p < 0.05$

Table 9 The comparison of the schizophrenia and psychotic relapse test, the Thai Express Emotion Scale, the Stress -20 between pretest and posttest of family in experimental group.

Measurement	Pretest		Posttest		t - value
	mean	S.D.	mean	S.D.	
Quiz test (for testing knowledge)	14.40	2.563	17.85	2.03	0.00 *
Thai Express Emotion Scale	42.30	8.27	36.55	7.05	0.00 *
Stress -20	17.05	6.510	13.40	6.07	0.00 *

* $p < 0.05$

Table 10 The comparison of Criticism, Hostility, and Emotional over involvement between pretest and posttest of family in experimental group.

Express Emotion in family	Pretest		Posttest		t - value
	mean	S.D.	mean	S.D.	
Criticism	16.50	3.93	14.70	3.45	0.00 *
Hostility	12.65	3.85	10.55	2.43	0.00 *
Emotional over involvement	12.90	3.560	11.30	2.73	0.00 *

* $p < .005$

BIOGRAPHY

I am Ms. Renukar Thongkhamrod. I was born on November, 23, 1972 at Nonthaburi Province, Thailand. I finished my bachelor degrees of nursing science at the Kuakaroon Nursing Collage, Bamgkok, in 1994. During 1994-1996, I had worked as graduated nurse at Pediatric Surgery Unit, Vajira Hospital, Bangkok.

During 1996-1999, I had studied in master degree of nursing science in the field of mental hea;th and psychiatric nursing at the faculty of nursing, Chiangmai University. During 1999- 2002, I worked as a instructor in the school of nursing, Sukhothai Thammathirat Open University, Nonthaburi Province. I was responsible for teaching the mental health and psychiatric nursing.

In the mid of year 2002, I started to perform PhD study in nursing science at the faculty of nursing, Chulalongkorn University. After graduation, I have returned to be an instructor at school of nursing, Sukhothai Thammathirat Open University again.