

**PSYCHOEDUCATIONAL PROGRAM TO REDUCE RELAPSE
IN PATIENTS WITH SCHIZOPHRENIA:
EVIDENCE-BASED NURSING**

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Thematic Paper
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ABSTRACT

The purpose of this study was to analyze, and synthesize the best available research evidences related to a psychoeducational program to reduce relapses in patients with schizophrenia. The PICO framework was used as a guideline to identify keywords when searching. The author searched and selected 5 evidences that met the inclusion criteria of the study. The quality of the selected research evidences were appraised in three aspects: validity, reliability, and applicability. These 5 evidences included a meta- analysis, a systematic review, and three randomized controlled trials.

The results of the analysis and synthesize of the 5 evidences indicated that the psychoeducational program can reduce relapses in patients with schizophrenia; in particular, the group format with the participation of family members. There were two types in the group psychoeducational program, the brief group intervention, which contained 10 sessions or less and the standard length group intervention, which contained 11 sessions or more. The content of the psychoeducational program consisted of the structured information, including information about the disease, medications, and the emphasis on family engagement in care. The outcomes of the psychoeducational program were measured using standard scales such as Brief Psychiatric Rating Scale (BPRS). The intervention of this program is relatively simple and can be implemented in the clinical setting in Bangladesh. Moreover, experimental research should be conducted to evaluate the effectiveness of the program in the Bangladesh context, before implementing such a program.

**KEY WORDS: SCHIZOPHRENIA / PSYCHOEDUCATIONAL PROGRAM /
RELAPSE / RE-HOSPITALIZATION / EVIDENCE-BASED
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CHAPTER I

INTRODUCTION

1.1 Background and significance of the clinical problem

1.1.1 Prevalence of schizophrenia and its relapse

Schizophrenia is a powerful disturbing chronic brain disease potentially affecting a patient's ideas, cognitive functions, verbal communication, emotions, collective behaviors, daily activities, and capacities to accurately perceive reality (Varcarolis & Halter, 2010). It is a mental disorder with significant delusions, hallucinations and disorganized judgment, speech and/or behavior, which are the fundamentals of the disorder (Varcarolis & Halter, 2010). The lifetime prevalence of schizophrenia worldwide is 1% with no differences related to race, social status, culture, gender, or environment (Kazadi, Moosa & Jeenah, 2008; San, Bernardoo, Gomez & Pena 2013; Varcarolis & Halter, 2010). Globally, approximately 24 million people are affected by schizophrenia (Briggs, et al., 2008; Naheed, Akter, Tabassum, Mawla & Rahman 2012). The prevalence of schizophrenia in Bangladesh is approximately 1.1% of the adult population (Firoz, 2006, as cited in Mazumder, et al., 2011). In comparison with global statistics, the prevalence of schizophrenia in Bangladesh is considered quite high. Hence, it can be concluded that schizophrenia is a serious mental health problem worldwide as well as in Bangladesh.

Countries in WHO South-East Asia Region are Bangladesh, Bhutan, Democratic People's Republic of Korea, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand, and Timor-Leste. In terms of regional prevalence in South-East Asia, Asia has the largest human population worldwide with the highest increases in economic facilities across the world. Approximately 23% of the world's population lives in the South-East Asian region. The median prevalence of schizophrenia is 4.6/1,000 for point prevalence, 3.3/1,000 for period prevalence, 4.0 for lifetime prevalence and 7.2 for lifetime morbid risk for schizophrenia in the South-East Asia

region (Bhugra, 2005). India has population of approximately one billion people with an estimated four million people with schizophrenia and another 25 million family members who suffer different degrees of impact (World Health Organization [WHO], 2004). In Nepal, the population is approximately 27 million people with 266.396 disabilities and adjusted life annual rates per 100,000 inhabitants. In this country, the costs of schizophrenia patients affect the economic burden (WHO, 2004). Thailand is the world's 51st-largest country and its total population is estimated at 67,222,972 (July 1 2014). The statistical data of mental health hospitals indicate that the number of Thai with schizophrenia have increased every year. Study showed that, in the year of 2004, 2005, and 2006, there were 344,460 patients, 357, 2411 patients, and 393,462 patients, with schizophrenia respectively (Planning Division, Mental Health Department, 2006). In the year of 2004, Mental Health Department estimated that 70% of schizophrenia patients would relapse. The Disability-Adjusted Life Years (DALY) rates of schizophrenia patients in Thailand are 315.533 per 100,000 inhabitants (WHO record, 2004).

Bangladesh is a small and developing country located in the South-East Asian region; however its population is quite large. The country covers an approximate geographical area of 147,570 square kilometers and a total population of 141.8 million people (WHO, 2005). Studies show a total of 1,143,195 schizophrenia patients in Bangladesh, a number with significant impact on the economic burden (Statistics by Country, Bangladesh for Schizophrenia, 2014). The economic status of the majority of the population is very much below standard levels. Most of the people can hardly afford to consume minimum dietary requirements and live from hand to mouth. Most of Bangladeshi citizens are deprived of regularly having two secure meals. According to previous studies, there are different types of psychiatric patients in Bangladesh in which 51.85% have schizophrenia with maximum relapse rates among these patients (Statistics by Country, Bangladesh for Schizophrenia, 2014). Another study conducted in the Outpatient Department of the National Institute of Mental Health (NIMH), Dhaka, Bangladesh revealed 37.4% of patients suffered from schizophrenia and schizophrenia-like mental disorders (Fahmida, Wahab & Rahman, 2009). In Bangladesh, schizophrenia patients account for 265.704 of the Disability Adjusted Life Year's (DALY) rates per 100,000 inhabitants (WHO, 2004). According

to a WHO (2005) report on Bangladesh, the mental health department spent 1.4 million US dollars on mental health. In Bangladesh, the social insurance does not cover the psychiatric disorders and no human rights review body exists to inspect psychiatric health facilities (WHO, 2005).

There is an only one mental health hospital available in Bangladesh for a total allocation of 0.4 beds per 100,000 people and this facility is governmentally integrated with only outpatient facilities for mental health (WHO, 2007). Two primary diagnostic categories of patients are admitted to the mental hospital, namely, 70% of schizophrenia patients and 30% of mood disorder patients. One study found an average of 137 days to be spent by patients in the mental hospital per year. Approximately sixty-three percent of patients spend less than one year, 21% of patients spend 1 to 4 years, 11% of patients spend 5 to 10 years and 5% of patients spend more than 10 years in the mental health hospital which affects the author's health care system. In Bangladesh, 1% to 20% of patients in the mental health hospital receive one or more psychosocial interventions which are insufficient (WHO, 2004 & 2007).

Relapse in patients with schizophrenia is broadly recognized as the reemergence or the worsening of psychotic symptoms (Kazadi et al., 2008). Relapse of patients with schizophrenia can be defined as "the return of a disease after partial recovery". This definition is directly applicable to schizophrenic disorder. Relapse in this condition can be evaluated at the symptomatic, phenomenological and behavioral levels. Relapse impinges on inter-personal, social and occupational spheres of the patient's activity (Lader, 1995, as cited in Almond, Knapp, Francois, Toumi & Brugha, 2004). Constructive criteria which have been used to define relapse, are frustration of positive or negative symptoms, hospital admission in the past six months, more severe case management, and/or a changes in medication. Relapse rates vary from 50% to 92% and these rates are similar in both developed and developing countries (Kazadi et al., 2008). Another study showed that 52% of schizophrenia patients had a relapse within the first year after hospital discharge (Schennach et al., 2012). The effects of schizophrenia relapses are hospitalization, treatment resistance, cognitive impairment due to progressive structural brain damage, personal distress, imprisonment and intervention with treatment efforts (Kazadi et al., 2008). As a result, national economic

burden on health care systems are the impact of increasing relapse rates of schizophrenia day by day. In order to ensure that reduced relapse rates have significant benefits and socio-economic implications (Kazadi et al., 2008), relapse in schizophrenia patients needs to be connected with considerable straight mental health costs with impact extending beyond the cost of hospitalization to other costly outpatient services and medication costs (Ascher-Svanum et al. 2010).

1.1.2 Risk factors associated with relapse in patients with schizophrenia

A number of predicting and correlating factors contribute to increase risk for relapse. A systematic review and a meta-analysis study found non-adherence to medication, constant substance use, number of previous hospitalizations, more severe drug-induced side effects, use of depot-antipsychotic drugs, relatives' criticism and poorer pre-morbid adjustment to significantly increase the risk for relapse in first-episode psychosis (Lincoln, Wilhelm, Nestoriuc, 2007; Malla, et al., 2008; Pekkala & Merindar 2009). A 5-year follow-up was conducted in first-episode psychosis patients whereby the most common risk factor was found to be discontinuation of antipsychotic medication. In the author's clinical setting, it is evident that disengagement from treatment is common, in the early stages of illness. Other studies have recognized of the associated risk factors ranging from improving medication adherence to psychoeducation and relapse prevention programs which have been emphasized as the main components of the administration of the disease with schizophrenia (Emsley, Chilliza, Asmal& Heavy, 2013).

1.1.2.1 Non-adherence to medication: Non adherence is the important factor for relapse in patients with schizophrenia. Relapse with schizophrenia patients may cause discontinuation of antipsychotic drugs and there is a real need for maximum patient medication adherence in clinical practice. If a patient is taking continuous antipsychotic medications then the chance for relapse reduces by approximately 70% (San et al., 2013). In addition, the risks of hospitalization are associated with an increase in the medication gaps (like a period from 1 to 10 days). Non adherence with antipsychotic medication is the most important factor related to relapse affecting schizophrenia (San et al., 2013). The main causes of poor adherence

to treatment in schizophrenia patients are medication side-effects and deficient insight. Therefore, patient's poor insight contributes to 5.2 times by increasing the risk for relapse (Kazadi et al., 2008). If the patients who fail to pay for their treatment have called the treatment a side-effect problem, this interpretation together with multiple treatment regimens are the main causes for poor medication adherence. The most extra-pyramidal side-effect is currently a very significant cause of non-adherence to medication (Kazadi et al., 2008; San et al., 2013; Xing et al., 2011).

1.1.2.2 Substance abuse: Substance abuse is a very important predicting factor associated with relapse and poses greater risk for re-hospitalization. Relapse may worsen symptoms of mental illness, while drug abuse may also lead to temporary symptoms that were previously reduced. It should be emphasized; however, that substance abuse does not clearly result in relapse in schizophrenic patients (Kazadi et al., 2008; San, et al., 2013). Regardless, substance abuse can increase psychosocial problems, infections, sexually dangerous behavior, hostile and disorganized behavior and the presence of other health-related problems such as poverty, malnutrition, poor housing and unemployment (Kazadi et al., 2008).

1.1.2.3 Use of depot-antipsychotics: Studies have shown that using depot-antipsychotic medications for patients can result in more relapses and many days of treatment in both inpatient and outpatient departments. The findings of this study indicate less improvement in Global Assessment Functioning (GAF) scores during 2 years than in other patients, thereby demonstrating that depot users of antipsychotic patients result in more symptoms. Another study showed that patients with schizophrenia who do not use depot antipsychotics have no less function and capacity to communicate with the health care services. Only 1 of 6 adherent depot users are admitted to hospital compared to 5 of 6 non-adherent users of depot-antipsychotics, even if 8 of 12 users of depot-antipsychotics have relapses. Hence, it can be said that the depot-users in general have worse symptoms of illness than other patients. However, depot antipsychotic medication might facilitate patients in not being admitted to hospital. The adherence to oral antipsychotic drugs is a comparison with non-adherence patients and depot users might be problematic and responsible in the risk for relapse (Morken, Widen & Grawe 2008).

1.1.2.4 Relatives' criticism: Relatives' criticism is a highly significant danger factor for relapse in schizophrenia patients. Family members who express high levels of expressed emotion (EE) [meaning criticism, hostility or over involvement] with schizophrenia patients have more frequent relapses than schizophrenia patients with the same problems from families that tend to be less expressive of emotions (Pharaoh, Mari, Rathbone & Wong, 2010). One study found schizophrenic patients to establish a relationship between their relatives' EE and relapse at follow-up in which there was a tendency for patients who interrupted their medication or did not work to relapse more frequently, particularly among the high-EE group (San, et al., 2013). Another study carried out in Sydney, Australia found a significant correlation between returning to a high EE household with re-hospitalization and relapse (San et al., 2013). Hence, the degree of family support is an important factor for reducing relapse.

The above mention discussion it is concluded that, many predicting and co-relating factors are responsible for the risk of relapse in patients with schizophrenia. Relapse in schizophrenia is a common and major problem for any country including Bangladesh. A co-morbid depressed mood, poor adherence due to a lack of patient insight, medication side effects, non-adherence to medication, substance abuse, use of depot-antipsychotics, and relatives' criticism appear to be the risk factors most likely to increase the risk of relapse in schizophrenia patients (Kazadi et al., 2008). Relapse prevention is a great challenge in patients with schizophrenia and their families, and mental health professionals, and is one of the most important goals in the management of schizophrenia (Xiang et al., 2011). The author expected so that, it is the crucially important to determine the socio- demographic and clinical predictors of relapse to identify patients at a higher relapse risk and implement effective measures and maintain appropriate strategies to reduce the rate of relapse (Xiang et al., 2011).

1.1.3 Impacts of relapse in patients with schizophrenia

According to Lipkovich et al. (2007), relapse may have a remarkable impact on the long-term outcomes of patients with schizophrenia and related psychotic disorders. Regular prophylactic antipsychotic treatment can yield approximately 70% reduction

in risk for relapse (San et al., 2013). Relapse may be caused by discontinuing antipsychotic drugs, medical or surgical condition, stressful life events, insufficient knowledge, poor insight, low level of motivation, fear of social stigma, health care provider relationship, inadequate services and poor staff training for patient's family members (Kazadi et al., 2008; San et al., 2013). Schizophrenia affects various aspects, including personal or individual aspects, family or caregiver aspects and society or community aspects.

1.1.3.1 Individual aspects: Schizophrenia affects patient's lives in several ways divided into physical, psychological, economical and spiritual aspects.

Physiological impacts: A case study of physiological defects associated psychotic symptoms in two schizophrenia patients was conducted by Hacioglu, Yildirim, Ugurlu, Erek and Saatcioglu (2011). According to the findings, the patients suffered from cervical hypnosis due to regular neck flexion, peroneal nerve injury and a dropout foot related to an invariable crossing of the legs and inactivity-hypokinesia, a fixed body posture and postural disorders commonly diagnosed as persistent with disorganized and paranoid schizophrenia. Another study stated that 79% of patients with schizophrenia were unemployed and 65% were single due to schizophrenia. In addition, schizophrenia patients could not maintain relationships with family members. Nor could patients with schizophrenia perform everyday tasks at home or any kind of leisure activities (Thornicroft et al., 2003).

A few studies reported weight gain and obesity as a kind of side effect of schizophrenia associated with a high intake of antipsychotic medications. Moreover, weight gain and obesity have also been linked with reduced quality of life and declining general health (Allison, Mackell & McDonnell, 2003; Kolotkin et al., 2008). In the author's experience, patients with schizophrenia might be physically injured due to beatings and restraints by relatives and/or others.

Psychological impact: Patients with schizophrenia may feel psychological distress such as shame. These patients feel that they cannot seek proper medical help because they feel ashamed of themselves. In society, most people view schizophrenia as a shameful disease and suspect they have lost manpower due to suicide (Thornicroft et al., 2003).

Economical impact: Relapse of schizophrenia patients may affect occupational and economic situations. According to the WHO (1998), long-term care, treatment and re-hospitalization can affect social costs. Moreover, schizophrenia relapse has a significant impact on patients with schizophrenic quality of life (Briggs et al., 2008). A study on prevalence with schizophrenia-based estimates of all related costs in England reported that the impacts of schizophrenia are responsible for most of the indirect costs in UK society at approximately £ 4.7 billion. The informal care and private costs bear by family members are estimated at approximately £ 615million (Awad & Voruganti, 2008). In reality, there is no available data about economic impacts in Bangladesh.

Spiritual impact: Schizophrenia patients may fear death, fear of the consequences of 'sins' or religiously 'bad' behavior and/or an inability to focus on 'God' or meditate. Fear of negative impact from others may have tremendous impact on the method of rising and maintaining positive symptoms like delusions in both the healthy population and schizophrenia disorders of the patients (Kinoshita et al., 2011).

1.1.3.2 Family and society or community aspects: The impacts of family show that the relatives or caregivers of relapsed schizophrenia patients need to do household chores and activities because the patients cannot help doing those chores as they should do in their daily lives (Yamboonreung, 1997). During this period, many family members suffer from inadequate rest, headaches, insomnia, loss of appetite, nausea and vomiting, fatigue and fatigue in taking care of patients. In addition, some family members are also faced with a sinful feeling for their relatives who are psychiatric patients (Li & Arthur, 2005). The families need to apply their time and money to taking care of patients because relapse can prolong treatment duration and increase treatment costs, which are much higher with relapsed patients than new patients (Sadock & Sadock, 2000). The relapse of schizophrenia patients is a huge problem, not only for the patients themselves, but for families, society, communities, nursing professionals and the health care system as well as the country. Other problems associated with schizophrenia relapse have adverse effects on patients, families and the national economy. Furthermore, relapse increases the cost of hospital expenditures (Ministry of Health and Family Welfare, 2011).

1.1.3.3 Stigma: Stigma is a dynamic multifaceted social process that has been consistently implicated as a key contributor to poor outcomes for many people who live with stigmatized health conditions, such as mental illness (Livingston & Boyd, 2010). Conceptualized stigma are being comprised of five interacting components- labeling, stereotyping, separation, status loss and discrimination that are produced and perpetuated by power differentials in society (Link & Phelan 2001, as cited in Ostman & Kjellin, 2002).

Psychiatric stigma is pervasive injustice that complicates the course of illness and reduces quality of life for patients with schizophrenia. Stigma is a serious concern for individuals with schizophrenia and their families. Stigma occurs within affected individuals, families, social environment, work and institutional environments and the health care industry. Stigma often come a loss of social support and occupational success, reduced functioning, higher symptom levels and lower quality of life (Livingston & Boyd, 2010: Link & Phelan 2001, as cited in Ostman & Kjellin, 2002).

1.1.4 Clinical management of schizophrenia

According to the National Institute for Health and Care Excellence [NICE], CG178 (2014), the ideal management of schizophrenia is multimodal and includes a combination of psychopharmacological, psychological/or psychosocial, educational and employment-related interventions directed at promoting recovery and reducing relapse by minimizing the impact of the disease on quality of life, social functioning and longevity. The following continuous clinical management helps schizophrenic patients to reduce relapse and live a normal, quality of life.

1.1.4.1 Hospitalization: The hospital is the best place for helping or managing schizophrenic patients. Many severe episodes of schizophrenia require that patients be admitted to hospital for better management. The admission can be either voluntary or involuntary. In the hospital, long-term inpatient stays are now less common due to deinstitutionalization; even though they continue occur (Becker & Kilian, 2006). For patients admitted to hospital, the support services available can include visit centers, visits from members of community mental health teams, supported employment and patient-led support groups. Community treatment orders

should help avoid repeated hospitalization following physician approval; the aforementioned orders also force schizophrenia patients or individuals to receive regular antipsychotic treatment, including long-acting injections of anti-psychotic medication. The appropriate system has been exposed to increase the affected patients' time out of the hospital (McGurk, Mueser, Feldman, Wolfe & Pascaris, 2007).

1.1.4.2 Psychopharmacological management of schizophrenia In this study, typical and atypical antipsychotic medications are described as follows:

1.1.4.2.1 Typical medications: The typical antipsychotic medication is the previous generation of medication. The first generation, which is conventional, is also typically antipsychotic medication (Videbeck, 2011). The conventional antipsychotics, or typical medication, work on the positive signs of schizophrenia but have no effect on the negative signs. The typical medications are dopamine antagonists which have a strong effect by reducing the positive symptoms of schizophrenia patients and are less effective in treating the negative symptoms of the patients (Videbeck, 2011).

The positive symptoms of schizophrenia (hallucination, delusion, disorganized speech and behavior, flat or inappropriate affect and catatonia) are controlled by these drugs (Moller, 2009). At present, some typical antipsychotic medications are available on the market, for example, Haloperidol (Haldol) 2 mg to 20 mg, chlorpromazine (Thorazine) 25 mg to 50 mg, fluphenazine (Prolixin) 2.5 mg to 20 mg, thioridazine (Mellaril) 50 mg to 100 mg, trifluoperazine (Stelazine) 5 mg, Loxapine (Loxitan) 60 mg to 100 mg, Molindone (Moban) 50 mg to 100 mg, Perphenazine (Trilafon) 16 mg to 32 mg, and Thiothixene (Navane) 6 mg to 30 mg (Ahmed et al, 2011; Moller, 2009; Videbeck, 2011).

1.1.4.2.2 Atypical medications: The atypical medications are newer generation. The atypical antipsychotic medications work on both neurotransmitters, including dopamine, and serotonin receptors. The atypical antipsychotic medications not only minimize the positive signs (delusions, hallucinations, disturbed thinking) and other psychotic symptoms of schizophrenia, but also reduce the negative signs (lack of volition and motivation, social withdrawal and anhedonia) (Videbeck, 2011). Dopamine and serotonin receptors are particularly

effective at post synaptic D2 and serotonin (Videbeck, 2011). The atypical medications have the effect of reducing both positive and negative symptoms with fewer side effects than typical drugs (Shives, 2012). According to Geddes, Freemantle, Harrison and Bebbintion, (2000) atypical antipsychotics are more effective and better tolerated for schizophrenia patients. In addition, atypical antipsychotic drugs also pose a significantly low risk for extra pyramidal side-effects. Furthermore, atypical antipsychotic drugs are more expensive than conventional drugs. The atypical drugs on the market are risperidone (Risperdon) 2 mg to 8 mg; Olanzapine (zyprexa) 5 mg to 10 mg (Ahmed et al., 2011); clozapine (clozaril) 25 mg; aripiprazole (abilify) 10 mg to 30 mg; ziprasidone (Geodon) 20 mg to 160 mg and quetiapine (seroquel) 300 mg to 800 mg, Iloperidone (fanapt) and Paliperidone (Invega) 3 mg to 12 mg (Shives, 2012).

1.1.4.3 Psychological therapy used to reduce relapse in patients with schizophrenia

Psychological therapy can help schizophrenia patients that are already stabilized on antipsychotic drug treatment. Psychological therapy can also help these patients deal with everyday life and the challenges of the illness such as difficulty with communication, self-care and work as well as forming and maintaining relationships. By learning and using defense mechanisms to avoid the occurrence of these problems while allowing schizophrenia patients to socialize and attend events as they do their work (NIMH, 2014; Scottish Intercollegiate Guidelines Network [SIGN], 2013). According to the National Clinical Guideline of Schizophrenia Management (2013) and the NIMH, (2014), the following psychological therapies may help reduce relapse in patients with schizophrenia.

1.1.4.3.1 Family therapy: This therapy is very useful for helping reduce relapse in patients with schizophrenia. Schizophrenia patients are discharged from the hospital to the care of their family members (Varcaloris & Halter, 2010). Hence, it family members need to know as much as possible about the nature of schizophrenia. With the help of a therapist, family members must learn about coping strategies and problem-solving skills. In this way, family members can help schizophrenia patients to be certain they are loved with treatment and adhere to medication regimens (NIMH, 2014; A National Clinical Guideline of Schizophrenia, 2013). The study showed that family therapy can improve

the quality of life for schizophrenia patients and reduce relapse rates (Varcalaris & Halter, 2010).

1.1.4.3.2 Cognitive behavioral therapy (CBT):

Cognitive behavioral therapy is an important type of psychological therapy that focuses on schizophrenia patients' thinking and behavior. This therapy helps schizophrenia patients with symptoms that do not go away when they take regular medications (NIMH, 2014). It is the most widely used and effective psychosocial treatment available for psychiatric problems. Over the last twenty years, CBT has become a potentially effective psychosocial treatment in schizophrenia patients at all stages of the illness (Addington & Lecmte, 2012). The aim of CBT is to improve the patient's negative thoughts and beliefs by instruction on the link between perceptions, beliefs and emotional or behavioral reactions by teaching effective coping capacities with distressing symptoms, questioning apparent evidence, supporting abnormal beliefs and encouraging self-monitoring of the patient's thoughts (Addington & Lecmte, 2012). One study found that CBT can be effective for the appearance of early signs of relapse in schizophrenia and can help reduce the harshness of symptoms while reducing the risk of relapse (Gumley et al., 2003; NIMH, 2014).

1.1.4.3.3 Social skills training (SST):

Social skills training is needed because patients with schizophrenia have deficient social skills. This therapy helps schizophrenia patients to communicate and build social relationships. It is used to improve social functioning by working with schizophrenia patients to remediate problems in daily activities, employment, recreation and relationships (Bustillo, Lauriello, Horan & Keith, 2001; Tandon, Nasrallah & Keshavan, 2010).

1.1.4.3.4 Psychoeducational programs

are an intervention for reducing relapse in patients with schizophrenia. Psychoeducation is defined as "a systematic and structured didactic-psychotherapeutic intervention designed to inform patients and their relatives about the disorder and promote coping (Wiedemann et al., 2003 as cited in Lincoln et al., 2007)". Psychoeducational programs for schizophrenia patients are aimed at improving understanding of mental illness, increasing quality of life and reducing relapse rates. However, psychoeducation for families of patients with schizophrenia can reduce the relapse rates of these patients and help both families and patients better cope with the mental

illness (Rummel-Kluge, Pitschel-Walz, Bauml & Kissling, 2006). The assumption of psychoeducational programs that it is speculated that providing psychoeducation for patients may increase the patients' knowledge and understanding about their mental disorder and management therapy. Schizophrenia patients will also have good communication with therapeutic teams in management therapy and medication adherence in addition to having suitable management of the disorder and related problems. As a result, the severity of mental disorder symptoms is reduced and relapse is also prevented (Mueser et al., 2002, as cited in Lincoln et al., 2007). This therapy is also easily applied to the author's clinical setting. Hence, psychoeducational programs play an important role in reducing relapse in patients with schizophrenia.

1.1.5 Service care for schizophrenia patients by phase

The clinical features of schizophrenia patients fluctuate from one to another and the practice for a particular individual may be different from phase to phase. There are four phases of schizophrenia: 1) acute phase; 2) stabilization phase; 3) maintenance phase or recovery phase and 4) relapse phase (Bostrom& Boyd, 2005; Valcarolis& Halter, 2010).

1.1.5.1 Acute phase: In this phase, the patient's knowledge and skills for supporting changes of thought and behavior become disruptive or bizarre (e.g., aggressive acts against self and others). These behaviors may be confusing and frightening to both patients and families (Bostrom& Boyd, 2005). When the symptoms increase, patients with schizophrenia have abnormal self-care ability and less ability to care for basic needs such as cleaning, eating, sleeping, cooking, schooling or working. After the symptoms increase, patients become dependent on their family members and friends. In the acute phase, schizophrenia patients have a high risk for suicide. In this situation, patients should be hospitalized to save themselves and other family members from any serious harm (Bostrom& Boyd, 2005). During this period, patients with schizophrenia may have function deficits. In this situation, the health care provider can provide education for patients with schizophrenia and family members regarding total intervention for coping with symptoms. Treatment depends on symptoms (Bostrom& Boyd, 2005).

1.1.5.2 Stabilization phase: In this phase, acute symptoms are reduced but continue; hence, patients with schizophrenia need continuous medication management. In this period, the patients and family members are prepared for a long-term adjustment in daily activity and socialization to achieve rehabilitation (Bostrom& Boyd, 2005).

1.1.5.3 Maintenance or recovery phase: In this phase, schizophrenics focus on functioning and improving daily routines or quality of life. Medication adherence is required in order to decrease disability and reduce symptoms of illness. Moreover, medication adherence is also required to decrease the severity of the symptoms and diminish the extremes of individual experiences. In addition, chronic illness, stress events and major crises contribute to the exacerbation of symptoms. At the time, family help and participation are important for these patients. After diagnosis, the health care provider can intervene and explain to the family members and patients about expected relapses and how to cope (Bostrom& Boyd, 2005).

1.1.5.4 Relapse phase: During the treatment and recovery phase, patients with schizophrenia might relapse at anytime. The main factor of a relapse is associated with not taking medication and breaking follow-up. Successful treatment might reduce re-hospitalization and offer quality of life for patients. Each relapse needs a longer to recovery time (Van Meijel, Van der Gaag, Kahn & Grypdonck as cited in Bostrom& Boyd, 2005). Moreover, other factors can lead to relapses, including the stressors of inaccessibility to community resources and stigmatization and absence of support from caregivers, friends, family members or health care providers (Bostrom& Boyd, 2005).

1.2 Clinical problem of the study

Patients with schizophrenia relapse can have overwhelming repercussions such as “worsening of symptoms, progressive cognitive deterioration, impaired functioning and reduced quality of life” (Oliveres, Sermon, Hemels& Schreiner, 2013). Relapse is a complex fact and a difficult issue in caring for patients with schizophrenia. There are a number of factors contributing to relapse in patients with

schizophrenia (San et al. 2013). According to Chabungbam, Avasthi & Sharan (2007), relapse in schizophrenia is significantly associated with improper treatment adherence, side effects of medication, unemployment, stressful events and psychological stress. In addition, one study found that 50%-92% of schizophrenia patients get relapse. The treatment costs for relapse patients increase daily with impact as an economic burden (Kazadi et al., 2008).

The author's clinical setting is the National Institute of Mental Health (NIMH) in Bangladesh. Established in 1981, the NIMH is a governmental facility focused on providing free or very low cost treatment and psychiatric care for the people of Bangladesh. The NIMH is an organization that works with mentally ill patients about how patients' specific problems can be eliminated with Bangladesh's incredibly effective products and/or services (NIMH, 2009). At this hospital, 200 psychiatry beds are provided for patients in mental health units. The institution offers tertiary level referral facility mental health services in Bangladesh. Every day, many psychiatric patients come to the hospital's outpatient, emergency and inpatient department for conditions such as schizophrenia, major depressive disorder, mood disorders and anxiety, etc. The total average of approximately 200-300 psychiatric patients are treated in both the emergency and outpatient departments while approximately 50-60 patients are admitted to this hospital every 24 hours, including males, females and children. The Inpatient Department has only nurses to provide antipsychotic medication such as oral or injected medications, while the outpatient department only follows up on discharge medical tickets. There are no available facilities offering group therapy, psychosocial programs, day care hospitals, home visits and facilities in psychiatric hospitals in Bangladesh.

A considerable amount of evidence shows that psychoeducational programs can help reduce relapse in patients with schizophrenia. The aforementioned evidence is composed of meta-analysis; systematic reviews of randomized controlled trials; and randomized controlled trials or other observational cohort studies which are considered as scientific merit and trustworthy for use as guidance in achieving the best practice. In Bangladesh, nurses in the hospital have no evidence based guidelines to direct their practice. Nursing practice is only based on the nurses' experiences with supervision from senior nurses and doctors' prescriptions. Under these circumstances,

the author needs to search for and select the best available evidence to support the best practice on psychoeducational programs to reduce relapse in patients with schizophrenia in the author's own clinical setting. It is expected that this evidences will be able to be modified and implemented in Bangladesh to improve the quality of care among patients suffering with schizophrenia.

1.3 Purpose of the study

To analyze and synthesize the best available research evidence related to psychoeducational programs for reducing relapse in patients with schizophrenia.

1.4 Expected benefits of the study

The author expected that the benefit of this study was to obtain a pool of knowledge about psychoeducational programs for reducing relapse in patients with schizophrenia in terms of program characteristics and content of such program in Bangladesh.

CHAPTER II

METHODOLOGY

Psychoeducation is an intervention that can reduce relapse in patients with schizophrenia and is proposed by the present study based on the best evidence-based practice. The study method was implemented by searching for evidence-based practice. The author set search strategy for searching and selecting samples of evidence-based practice for use in this study. All of the selected samples of evidence-based practice were related to schizophrenia and the effects of psychoeducational programs for relapse reduction. Relevant samples of evidence-based practice were appraised for the qualities of validity, reliability and applicability by considering setting of health care resources, patient's preferences and values. The author extracted data from samples of evidence-based practice and summarized the aforementioned in evidence tables with evaluations according to the author's clinical setting. The author used the search strategies provided below:

2.1 Search Strategy

2.1.1 Search framework

The author searched and selected samples of evidence-based practice for a psychoeducational program to reduce relapse in patients with schizophrenia by using the PICO framework (Melnyk & Fineout-Overholt, 2005) as described below:

P (Population) = patients with schizophrenia

I (Intervention) = psychoeducational program

C (Comparison) = usual care

O (Outcome) = reduced relapse/rehospitalization

2.1.2 Scope of the search: The studies on psychoeducational programs for reducing relapse in patients with schizophrenia were searched within the following scopes:

1) Keywords used in the search according to the PICO framework:

P (Population) = schizophrenia

I (Intervention) = psychoeducational program/psychoeducation intervention

C (Comparison) = none

O (Outcome) = relapse/rehospitalization.

The author searched and selected for his samples of evidence-based practice by using a “Boolean operator”. For each PICO element, the author collected synonyms or by linking terms with “OR”, then locating citations relevant to all the PICO elements by linking with “AND”.

2) Databases/sources used for the search

The author used the electronic databases/sources of the Faculty of Nursing, Mahidol University Library system. The author searched for systematic reviews from the Cochrane Database of Systematic Reviews from the www. Cochrane Library. In addition, Journal@ Ovid full text, Cumulative Index of Nursing and Allied Health Literature (CINAHL) plus with full text, PubMed, and ScienceDirect were used to search for single research studies. The author then conducted a manual search by searching from the references of the aforementioned evidences.

3) Type of evidence

The author’s search yielded five samples of evidence-based practice: one meta-analysis, one systematic review of randomized controlled trials (RCTs) and three randomized controlled trials acquired from full-text studies published in English Language from 2000 to 2013.

2.2 Appraisal method and levels of evidence

2.2.1 Selection process

The author searched Mahidol University database for evidence on psychoeducational program to reduce relapse in patients with schizophrenia. After completion the searching of the samples of evidence-based practice, the author obtained different types of samples of evidence-based practice included in the research evidences. The author initially collected 30 samples of evidence-based practice based on psychoeducational programs for reducing relapse in patients with schizophrenia. After primary screening on the titles and abstracts, the author selected 20 samples of evidence-based practice and eliminated 10 samples of evidence-based practice. The 10 samples of evidence-based practice were eliminated because those samples of evidence-based practice did not provide specific measures on psychoeducational programs for reducing relapse in patients with schizophrenia.

Before the secondary screening, the author read each sample of evidence-based practice and chose 10 samples of evidence-based practice. For the third screening, the author read each sample of evidence-based practice in detail and finally selected 5 samples of evidence-based practice that specifically described psychoeducational programs for reducing relapse in patients with schizophrenia. These samples of evidence-based practice included one meta-analysis, one systematic review of randomized controlled trials and three randomized controlled trials.

2.2.2 Evidence appraisal method

The author used the method and criteria as proposed by Melnyk and Fineout-Overholt (2011) to appraise the quality of the evidence in terms of validity, reliability and applicability. The collected samples of evidence-based practice were appraised on the basis of the following three questions:

1) Are the results of the studies valid? (Validity)

The validity of evidence means whether or not the evidence was conducted through scientific method and able to scientifically answer the research questions. It is the findings were proposed to answer the questions and solve the

problems. Some factors included bias and influence on the results. To reduce influencing factors, randomization is an important step for the validity of a study and makes the results more likely to be valid. Validity is significant for research because it helps to measure the types of tests the author uses and ensures that the methods used are not only ethical and cost effective, but also truly measure the ability to meet all of the requirements and solve the clinical problems. The samples of evidence-based practice are developing processes and contain samples of evidence-based practice that are important validity measurement tools (Melnik and Fineout-Overholt, 2011).

2) What are the results of the studies? (Reliability)

Reliability means the findings can be depended on for accuracy, honesty, consistency, achievement and repeatability in order to ensure that anyone can perform the same experiment by using similar equipment and conditions to achieve exactly the same outcome. Testing the validity of the research findings requires examination and evaluation the results of the research. The reliability can be assessed by intervention effect. Reliability consists of internal and external reliability. Internal reliability measures consistency and external reliability to measure the varieties from one use to another such as from the research setting in reference to the settings in other contexts. In samples of evidence-based practice, the reliability is measured by the member of the development body, objectives, development authority, funding agency and the implementation of the samples of evidence-based practice (Melnik and Fineout-Overholt, 2011).

3) Will the results help the author in caring for author's patients? (Applicability)

The eventual goal of any research is to apply the results to the patient individually or in a group. Applicability means the usefulness of the results in a given situation. Validity, reliability and usefulness for clinical decision-making are considered during the application of the results in a clinical setting. In selected samples of evidence-based practice, the applicability is measured by matching with setting conditions, resources availability, abilities of the health care providers, benefits of patients and families, community or society and national support by the authority (Melnik and Fineout-Overholt, 2011).

2.2.3 Appraisal Level of the evidence

In order to assess the level of each sample of evidence-based practice, the author used the level of the rating system for the hierarchy of evidence stated by Melnyk and Fineout-Overholt, (2011). The details levels of the rating system for the hierarchy of evidence are described in table 2.1 below:

Table 2.1: Level of rating system for the hierarchy of evidence (Melnyk and Fineout- Overholt, 2011)

Level of evidence	Source of hierarchy of evidence
Level I	Evidence from a systematic review or a meta-analysis of all studies that are RCT, or evidence from guidelines developed from a systematic review of research evidence from randomized control trials.
Level II	Evidence obtained from at least one RCT/well designed RCTs.
Level III	Evidence obtained from at least one well-designed controlled trials without randomized assignment.
Level IV	Evidence from well-designed case controlled and cohort studies.
Level V	Evidence from a systematic review of descriptive and qualitative study.
Level VI	Evidence from a descriptive or qualitative study.
Level VII	Evidence from the opinions, attitudes of experts on the issues or and/or a report written by expert committee.

2.2.4 Appraisal for the strength of evidence: The level of evidence was appraised by using the hierarchy of evidence rating system of Melnyk & Fineout-Overholt (2011).The results of the search were 5 different types of samples of evidence-based practice which included one meta- analysis, one systematic review of randomized controlled trials and three randomized controlled trials. These samples of evidence-based practice were full-text studies that were published in English from 2000 to 2013.

CHAPTER III

FINDINGS

In this chapter the search results and summary of evidence was described in order to elaborate the intervention regarding to the belongings of psychoeducational program to reduce relapse in patients with schizophrenia. Details described are given below:

3.1 Search results

The author searched from electronic databases, manual searches and reference lists. The 30 evidences which were identified to have a specific focus on psychoeducational programs to reduce relapse in patients with schizophrenia. The evidences that did not meet the inclusion criteria were excluded resulting in the elimination of 25 evidences, thereby total of 5 evidences were met the inclusion criteria and were selected from search reviewed.

The reason of exclusion

Some of the evidences were excluded because the evidences were not specific to psychoeducational program to reduce relapse in patients with schizophrenia. Most of the evidences were provided education to improve knowledge and social functioning. Furthermore, some evidences did not implement activities in hospital settings. Moreover, some evidences were provided for psychoeducation about devotion in patients with schizophrenia at discharge from hospital. Therefore, only 5 evidences were included for the purpose of the study. The details of the findings and levels of strength of those evidences were described in tables 3.1 and 3.2 as follow:

Search process of selected evidences

Table 3.1 Search process of selected evidences

Databases/searching method	No. of evidences	No. of selected evidences
The Cochrane Library	10	1
PubMed	8	3
Journal @ Ovid full text	4	0
CINAHL plus with full text	3	0
ScienceDirect	5	1
Total	30	5

3.1.1 Information and reliable level of the selected author's 5 searches evidences

Table 3.2 Information and reliable level of the selected author's 5 searches evidences

Order	Author, title, and sources of publication & year	Research design	Strength of evidence
1.	Lincoln, T. M., Wilhelm, K., Nestoriuc, Y. (2007). Effectiveness of psychoeducation for relapse, symptoms, knowledge, adherence and functioning in psychotic disorders: A meta- analysis. <i>Schizophrenia Research</i> 96, 232-245.	Meta-analysis	Level- I
2.	Pekkala, E.T., &Merinder, L., B. (2009). Psychoeducation for Schizophrenia (Review). <i>Cochrane Database of Systematic Reviews</i> 1, 1-11. doi: 10. 1002/ 1465 1858 .CD 002831	Systematic review	Level-I
3.	Pitschel-Walz, G., Bauml, J., Bender, W., Engel, R. R., Wagner, M., &Kissling, W. (2006). Psychoeducation and Compliance in the Treatment of Schizophrenia: Results of the Munich Psychosis Information Project Study. <i>Journal of Clinical Psychiatry</i> 67 (3), 443- 452	Randomized controlled trails	Level-II

Table 3.2 Information and reliable level of the selected author’s 5 searches evidences (cont.)

Order	Author, title, and sources of publication & year	Research design	Strength of evidence
4.	Aguglia, E., Pascolo-Fabrizi, E., Bertossi, F., & Bassi, M. (2007). Psychoeducation intervention and prevention of relapse among schizophrenic disorders in the Italian community psychiatric network. <i>Clinical Practice and Epidemiology in Mental Health</i> , 3 (7); doi:10.1186/1745-0179-3-7	Randomized controlled trials	Level-II
5.	Herz, M., Lamberti, J., Mintz, J., Scott, R., Odell, S., McCartan, L., & Nix, G. (2000). A Program for Relapse Prevention in Schizophrenia. <i>Archives of General Psychiatry</i> , 57, 277-283.	Randomized controlled trials	Level-II

3.1.2 Extracted data from 5 searches evidences

Evidence Number 1

Title: Effectiveness of psychoeducation for relapse, symptoms, knowledge, adherence and functioning in psychotic disorders: A meta-analysis

Authors: Lincoln, T. M., Wilhelm, K. & Nestoriuc, Y.,

Publication source & year: Schizophrenia Research 96(2007) 232-245;

Objectives: To evaluate the efficacy of interventions for schizophrenia and other psychotic disorders in which psychoeducation is the primary element, with and without integration of family members, on knowledge about the disorder, adherence, relapse and rehospitalization, symptoms and functioning.

Method: Design: This is a meta- analysis study. This study period was from 1995 to March 2006.

Sample: After searching, they found total number of 2,952 studies. From the searching, the 2,752 studies were excluded. The totals of 18 studies were met inclusion criteria and were included in the meta- analysis study.

Patients characteristics: A total of 1534 patients were investigated (here, mean per study=83.7; SD=60.1) and the mean age of the patients was 30.5 (SD=4.9). The majority were men (59.3%, SD= 11.2). The mean duration of disorder was 75.8 months (SD=43.2). They were diagnosed according to the Diagnostic and Statistical Manual for Mental Disorders and the International Classification of Diseases.

Inclusion criteria: 1) The study was randomized controlled trials 2) The following diagnosis were needed in these studies: schizophrenia, schizoaffective disorder, delusional disorder and schizotypal disorder 3) Comparison group was required 4) The study included a treatment procedure about psychoeducational program.

Exclusion criteria: 1) The studies with active control- groups (e.g., CBT or other forms of psychoeducation) were excluded, 2) The study was using solely internet programs or written materials were excluded.

Setting: The studies were conducted inpatient and outpatient departments in the hospital in Germany, Australia, and Switzerland.

Characteristics of the intervention/program: The characteristics of psychoeducational programs can be summarized as given below:

1) The psychoeducational program provided to the patients only.

2) The psychoeducational programs of five studies to the family members of schizophrenia patients.

3) The psychoeducational programs of six studies provided to both schizophrenia patients and their family members.

4) Most of the studies provided the psychoeducational program in group 12 studies and 2 studies provided psychoeducation in an individual format.

5) The psychoeducational program was conducted in an inpatient setting 2 studies, an outpatient setting 11 studies and in a combination of both 5 studies.

6) Type of program: Individual and group psychoeducational program.

7) Program duration: a) an average duration of patient intervention group was mean² of 27.8 weeks, b) family intervention average 36.8 weeks mean sessions of 11.8, and the duration of disorder was 75.8 months.

8) Length of sessions: Family intervention format had the mean of 11.8 sessions (SD = 14.4).

9) Characteristics of therapists: Psychologists, psychiatrists and psychiatric mental health nurses.

Outcome variables: Relapse and rehospitalization.

Measurement of relapse/rehospitalization: The author categorized the dimension of outcomes data into five groups: 1) Relapse and rehospitalization was the outcomes of 14 studies, 2) Symptoms which were assessed by using the Brief Psychiatric Rating Scale (BPRS), the Scale for Assessment of the Positive Syndromes (SAPS) and the Scale for the Assessment of Negative Syndromes (SANS), 3) Functioning which was assessed in 4 studies by the Global Assessment Scale (GAS) and the Social Functioning Scale, 4) Patients knowledge of disorder which was assessed in 4 studies using the Early Signs Questionnaire, and 5) Treatment devotion which was assessed by dichotomizing the stability of treatment ingestion.

Data analysis: The data of this study was analyzed as follows: 1) Effect size was calculated by using 'Hedges' g , 2) Equivalent effect size was calculated from t and F statistics, 3) Moderating effect which is indicated heterogeneity between significant (Q_b) and non-significant (Q_w), 4) Bias was examined by calculating the fail-safe N criterion insignificant affects (d_{fs}) and critical effect (d_{crit}).

Results: The results of this meta-analysis found that psychoeducational program had an average effect size on relapse and it was no longer significant after 1 year. The psychoeducation providing to the patients and their family members were more effective in reducing symptoms by the end of the program and preventing relapse at 7- 12 month follow-up. In addition, the effects of psychoeducation provided to patients only were not significant.

Evidence Number 2

Title: Psychoeducation for schizophrenia

Authors: Pekkala, E.T., & Merinder, L. B.,

Publication source & year: Cochrane Database of Systematic Reviews, Issue 1, 2009, 1-11. John Wiley and Sons, Ltd;

Objectives: To assess the effects of psychoeducational interventions compared to the standard levels of knowledge provision.

Method: Design: This is a systematic review study. All applicable studies were randomized controlled trials and Quasi- randomized trials.

Search strategy: Electronic searches of CINAHL, The Cochrane Library CENTRAL, The Cochrane Schizophrenia Groups Register, EMBASE, MEDICINE, PsycLit, and Sociofile were used. These were supplemented by cross-reference searching and personal contact with authors of all included studies. Selection process: In this study all applicable studies were randomized controlled trials focusing on psychoeducation for schizophrenia and/or other related serious mental illness connecting individuals or group's process.

Sample: In this study the total 10 RCT studies of mental disorder patients are recruited.

Participant's characteristics: The total numbers of participants were 1125. Their ages ranged were from 15 to 58years. 6 people were under 15 years of age with suffering from severe non affective mental disorder such as schizophrenia and schizophreniform, schizoaffective or schizotypal disorders. The studies included 598 male and 527 female.

Inclusion criteria: All included studies were randomized controlled trials. Study period varied from one month to two years.

Exclusion criteria: In this studies eighteen randomized studies were excluded because, for the exclusion of studies were in some cases that sample were diagnostically diverse and the diagnoses of participants were unclear.

Setting: Outpatients setting in America Hospital Association.

Intervention/program (psychoeducation): Psychoeducation was defined as "the instruction of a patient with psychiatric disorder in subject areas that serve the goals of treatment and therapy". This program was including families, social, biological and pharmacological perspectives. Patients were provided in this program with support, information and management strategies. All studies of group psychoeducation included family members. Only one study was supported a brief

individual intervention (1-10 sessions). No study was supported in the individual standard (11 or more sessions) group. There were six studies using brief group interventions and four studies using standard length group interventions. One study was used both a brief and a standard group intervention.

Type of intervention: Two types of interventions-individual and group intervention.

Length of intervention: Brief group interventions were supported at one year and any kind of psychoeducational intervention significantly reduced relapse or readmission rates at 9 to 18 months.

Session of the intervention: This program of 10 sessions or less were considered as “brief”, and 11 or more were considered as “standard” length intervention per weekly.

Characteristics of therapists: Psychologists,

Outcome variables: 1) Relapse or rehospitalization rates, and 2) Readmission.

Measurement of relapse/rehospitalization: The relapse/rehospitalization was measured by the typical group psychoeducation, by collecting the results from two studies were an important for reduction of relapse without readmission after 9-18 months follow-up. The following scales were used and provided data for this study:

- Brief Psychiatric Rating Scale (BPRS),
- Scale of Camberwell Family Interview (CFI),
- Global Assessment of Function Scale (GAS) and
- Insight Scale (IS).

Data analysis: In this study for binary outcomes an estimation of the relative risk (RR), and its 95% confidence interval (CI) was calculated. To establish heterogeneity, the chi-squared test was used. Skewed data were used for continuous data. A post hoc decision was used to take the GAF scale and its virtually similar earlier version statistics.

Results: The ten studies were incorporated in this review and found that all studies of group education included family members. Compliance with medication was considerably enhanced in a single study using brief group program (at one year) but other studies formed uncertain. Result showed that every category of

psychoeducational program considerably reduced relapse or readmission rates at 9 to 18 months follow up visits.

Evidences Number 3

Title: Psychoeducation and Compliance in the Treatment of Schizophrenia: Results of the Munich Psychosis Information Project Study.

Authors: Pitschel-Walz, G., Bauml, J., Bender, W., Engel, R. R., Wagner, M., & Kissling, W.

Publication source & year: Journal of Clinical Psychiatry 67 (3), March 2006; 443-452;

Objectives: To examine whether psychoeducational groups for patients with schizophrenic disorders and for their families can reduce rehospitalization rates and improve compliance.

Method: Design: This is a randomized controlled trials study. In this study, patients and their relatives were expectant to concentrate psychoeducational programs over a period of 4 to 5 months. Outcomes were compared over 12 month and 24 month follow- up visits. The study was conducted from 1990 to 1994.

Sample: There are 236 in patients who were met DSM- III- R criteria for schizophrenia or schizoaffective disorder and samples were randomly assigned.

Inclusion criteria: Schizophrenia or schizoaffective disorder (DSM-III- R/ICD-9 diagnosis criteria), suggestion for at least 12 month antipsychotic relapse prevention, and their age of 18 to 65 years. Willingness was treated for at least 1 year in the outpatients department of the hospital and engaged with patients' relatives or close friends.

Exclusion criteria: Distance from patients' home to hospital >150 km, no usual contact with relatives (< 30 minute /week), and also take regular substance abuse (6 <months before admission), pregnancy, IQ <80, lack of competence and no remission in the last 2 years.

Setting: This study was conducted inpatients and outpatients department in three German psychiatric hospitals.

Intervention/program (psychoeducation): The psychoeducational program lasted over a period of 4 to 5 months

1) Patients' group: Comprehensive data was given about disorder symptoms, etiology, severe management, relapse avoidance and psychosocial management about schizophrenia. Sufficient coping strategies were discussed and individual emergency plans were drawn up,

2) Relatives' group: The psychoeducational relatives groups were designed for patients' "key relatives". The relatives' groups started meeting soon after randomization, because at this time the relatives need data and help the most and their motivation to participate is highest,

3) Duration of program: Significantly reduce the rehospitalization rate after 12 to 24 months follow up,

4) Length of session: Eight biweekly 90 minute sessions were planned for the relatives,

5) Characteristics of session: The psychoeducational program patients' group consisted of 8 one hour group sessions. Each session 1 to 4 took place per weekly, mostly during the patients' inpatient stay but after fading of the acute symptoms and sessions 5 to 8 took place monthly, and outpatient period of the study,

6) Characteristics of the therapists: psychiatrists and clinical psychologist. They were experienced about psychoeducational program.

Outcomes variables: 1) Rehospitalization rates and 2) Compliance.

Measurement of relapse/rehospitalization: The major outcome criteria were rehospitalization and compliance rates 12 and 24 months after manifestation discharge from the hospital:

1) Rehospitalization: The primary outcome measures were the number of rehospitalization, the number of days in the hospital, Brief Psychiatric Rating Scale (BPRS), and global functioning (Global Assessment Scale) [GAS]. The additional outcome criteria such as gain in knowledge change in illness concept, families expressed feeling condition, satisfaction with treatment and other subjective ratings were analyzed.

2) Compliance: Compliance was assessed by the treating psychiatrists and was scored on an ordinal 4 points compliance scale.

Data analysis: 1) By using rehospitalization outcomes were analyzed the survival model Kaplan-Meier with long-rank statistics. 2) Significance was tested by Fisher exact test.

Results: In this randomized controlled trial study found that it was achievable considerably reduce the rehospitalization rate after 12 and 24 months in patients who joined psychoeducational programs compared with those receiving schedule cares ($p < 0.05$). Patients who joined psychoeducational programs showed better compliance than patients under schedule care. This program has a significant manipulate on patients' compliance and can reduce rehospitalization rates. After 2 years patients in the intervention group still found compensation in regard to psychopathology and social change.

Evidence Number 4

Title: Psychoeducational intervention and prevention of relapse among schizophrenic disorders in the Italian community psychiatric network.

Authors: Aguglia, E., Pascolo-Fabrizi, E., Bertossi, F., & Bassi, M.,

Publication source & year: Clinical Practice and Epidemiology in Mental Health 2007, 3(7);

Objectives: To evaluate the efficiency of the combination of a long term drug therapy and a psychoeducational intervention, on people affected by schizophrenia in reducing relapses in terms of number of hospitalizations and clinical parameters.

Method: Design: It is a randomized controlled trials study and study period from 1990 to 1994.

Samples: The total samples were 236 patients. 150 patients joined in this study. 135 patients finished the study and 15 patients dropped out from the study. 40% of patients were study group and 43% of patients were control group.

Inclusion criteria: Patients' age range wills 18 and 45 years. They were diagnosed with schizophrenia, and criteria of the DSM IV (Diagnostic and Statistical Manual of Mental Disorders, fourth edition) and the ICD 10 (International Classification of Diseases, tenth edition).

Exclusion criteria: Exclusion criteria of this study were acute psychosis, problem of substance abuse, organic factors that affect with the clinical conditions. The patient's current participation in psychoeducational and structural treatments or their participation in the last two years was excluded in this study.

Setting: The study was conducted hospital in Italy.

Intervention/program (psychoeducation): The psychoeducational program should contain the following contents which are given below:

- 1) Introduction about the program
- 2) Description about the schizophrenia
- 3) Description about the causes of disorder
- 4) To teach the patients and their families about the psychopharmacotherapy
- 5) Description about psychosocial treatment strategies
- 6) Preventing relapses for the patients
- 7) The role of the family members in providing care of patients and
- 8) Conclusion about the psychoeducational program

Program duration: From 12 to 24 months follows up.

Length of sessions: 60-90 minutes per session and total sessions 8

Characteristics of therapists: Psychiatric staff like - psychologists, psychiatrists, psychiatric nurses, and social workers who are working in the psychiatric ward.

Outcome variable: Relapse rates

Measurement of relapse rates: In this study the following scales were used throughout extent of relapse: Brief Psychiatric Rating Scale (BPRS), Scale for Assessment of Positive Symptoms (SAPS), Scale for Assessment of Negative Symptoms (SANS), Simpson and Angus Scale, Rating of Medication Influences (ROMI) and the Lancaster QL (Lancaster Quality of Life Profile).

Data analysis: 1) Significance of the difference was measured by using the Sign Rank Test and 4) Treatments were compared by using an ANOVA Test.

Results: Study results were found that the experimental group showed an important statistical development, ($p < 0.05$) in almost all the scales that have been assessed. (BPRS, SAPS, SANS, Simpson Angus Scale, Lancashire QL Scale). Important that it was reduced of relapse in conditions of numbers of hospitalization, days of hospital stay. This was considerably established in the effect of the in general

development on most medical parameters quality of life and good relation with the staff members in the hospital.

Evidence Number 5

Title: Program for Relapse Prevention in Schizophrenia

Authors: Herz, M. I., Lamberti, J. S., Mintz, J., Scott, R., Odell, S. P., McCartan, L., Nix, G.,

Publication source & year: Archives of General Psychiatry, 57(March 2000), 277-283;

Objectives: To examine whether a program for relapse prevention (PRP) is more effective than treatment as usual (TAU) in reducing relapse and rehospitalization rates among outpatients with schizophrenia.

Method: Design: This is a randomized controlled trials study. Study duration was 18 months.

Samples: Total population was 750000. In this study eighty two outpatients were randomly assigned to receive either PRP or TAU.

Inclusion criteria: 1) patient's age ranges were from 19 to 60 years; 2) a diagnosis criteria of schizophrenia or schizoaffective disorder based on DSM-II-R and 3) increased risk for relapse that means at least 1 hospitalization within the past 3 years and 2 or more lifetime hospital admissions.

Exclusion criteria: 1) exclusion criteria were identified as-evidence of organic mental disorder or mental retardation and 2) severe drug or alcohol dependence that required inpatient treatment and/or detoxification.

Setting: The study was conducted outpatients department, New York.

Intervention/program: In this study, Program for Relapse Prevention (PRP) and Treatment As-Usual (TAU) both parts of the program.

The PRP treatment consisted of 5 components: 1) education for patients and their family members about the development of relapse in schizophrenia, 2) dynamic monitoring for prodromal symptoms by treatment team members, patients, family members, and others in regular contact with the patients, 3) medical involvement, within 24 to 48 hours, when prodromal episodes were detected, with improved occurrence of calamity problem solving, supportive treatment visits, and

improved medication, 4) 1 hour per weekly supportive group therapy emphasizing civilizing coping skills from 30- to 45 minute individual therapy sessions, and 5) 90-minutes multifamily psychoeducation groups that family members were confident to joined bi-weekly sessions for 6 months and monthly consequently.

Treatment as usual (control) consisted of individual therapy and medication management biweekly sessions for 15- 30 minutes. Treatment in both groups was provided by a therapist in association with the team psychiatrist. Cases were reviewed weekly in treatment team meetings. Case management services and meetings with individual families were provided for both groups on an as- desired basis. Consistency of the treatment in both groups was monitored monthly by the program manager.

Type of program: Individual and group.

Program duration: 6 months

Length of session: 90 minutes multifamily biweekly and 15-30 minutes individual biweekly.

Characteristics of therapist: A psychiatrists, a master degree holder nurse clinician, certified social worker and a case manager and they were experienced about the program.

Outcome variables: Relapse and rehospitalization rates.

Measurement of relapse/rehospitalization: The following measurements scales were set up for patients and their family members who established to be joined the interventional program. The measurement scales were - the Global Assessment rating scale (GAS), the Positive and Negative Syndrome Scale (PANSS), and the Early Signs questionnaire. The Early Signs Questionnaire, PANSS, and GAS were administered at baseline, and at 2,6,12, and 18 months, and at each prodromal episode. Criteria for relapse were defined as an enhanced in any PANSS–positive psychotic symptom score to moderately severe or higher (≥ 5) and a GAS score of 30 or less.

Data analysis: 1) Program for Relapse Prevention and Treatment As-Usual groups were tested by using P^2 tests for categorical variables, 2) Equal–variance t tests were used to evaluate differences between groups in PANSS and GAS score at initial episode, 3) Relapse and rehospitalization outcomes were analyzed by using proportional hazards survival regression models (Cox models; SAS PREG; SAS

Institute, Cary, NC), 4) Supplementary survival regression analyses also several descriptive-demographic measures (age, sex, history of substance abuse), and several measures of clinical status at baseline (GAS and 3 summary scales from the PANSS), 5) Assessment of outcome categories was accomplished by using polychotomous logistic regression and 6) The criterion for considering results statistically significant was at $\alpha = 0.05$.

Results: Results showed that monitoring for prodromal symptoms with the use of problem solving therapy and increasing antipsychotic medication doses as indicated when such symptoms were detected were effective in reducing the rates of relapse and rehospitalization in schizophrenic outpatients. After understand the results author showed that outcome rates over 18 months were 17% for relapse (about 7 patients) and 22% for rehospitalization (about 9 patients) in the program for relapse prevention (PRP) group, compared with 34% for relapse (14 patients) and 39% for rehospitalization (16 patients) in the treatment as usual (TAU) group ($p=0.01$ and $p = 0.03$, respectively). Beside these, the PRP team members were much more likely than TAU psychiatrists to identify prodromal episodes before patients were met objective relapse criteria.

Summary of evidences appraisal

Five research evidences, one meta-analysis, one systematic review of randomized controlled trials, and three randomized controlled trials, as aforementioned were critically appraised for their validity, reliability and applicability by using the criteria of Melnyk and Fineout- Overholt (2011) as stated in chapter 2. The author confirmed the accuracy of his appraisal with the major advisor and co-advisor. The result of the appraisal revealed that all evidences were conducted in scientific procedure. The results of each research were relevant with the clinical issues of this study and can be applied in the author's clinical setting of Bangladesh.

Table 3.3 Collective table from 5 selected evidences

Components	Evidence 1	Evidence 2	Evidence 3	Evidence 4	Evidence 5
Author & year	Lincoln et al., 2007	Pekkala & Merinder, 2009	Pitschel-Walz et al., 2006	Aguglia et al., 2007	Merz et al., 2000
Objective	To evaluate the efficacy of interventions for schizophrenia and other psychotic disorders in which psychoeducation is the primary element, with and without integration of family members, on knowledge about the disorder, adherence, relapse and rehospitalization, symptoms and functioning.	To assess the effects of psychoeducational interventions compared to the standard levels of knowledge provision.	To examine whether psychoeducational groups for patients with schizophrenic disorders and for their families can reduce rehospitalization rates and improve compliance.	To assess the effectiveness of the combination of a long term drug therapy and a psychoeducational intervention, on people affected by schizophrenia in reducing relapses in terms of number of hospitalizations and clinical parameters.	To examine whether a program for relapse prevention (PRP) is more effective than treatment as usual (TAU) in reducing relapse and rehospitalization rates among outpatients with schizophrenia.

Table 3.3 Collective table from 5 selected evidences (cont.)

Components	Evidence 1	Evidence 2	Evidence 3	Evidence 4	Evidence 5
Samples	18 RCT studies of mental disorders patients who diagnosed according to DSM-III and ICD-10 and received psychoeducation. 5 studies subjects were only patients, 6 studies subjects were only families and 7 studies subjects were patients and families.	10 RCT of mental disorder patients and their ages ranged were from 15 to 58 years of age with suffering from severe non affective mental disorder such as schizophrenia and schizophreniform, schizoaffective or schizotypal disorders.	There are 236 in patients who were met DSM- III- R criteria for schizophrenia or schizoaffective disorder and samples were randomly assigned and their ages ranged from 18 to 65 years.	The total samples were 236 patients and their ages ranged from 18 to 45 and diagnosed with Schizophrenia met with DSM-IV and ICD 10.	Total population was 750000. In this study eighty two outpatients with DSM-III schizophrenia or schizoaffective disorders were randomly assigned to receive either PRP or TAU and their ages ranged from 19 to 60 years.
Intervention	Psychoeducational program including 2 studies were individual format, 12 studies were group format and 4 studies were not defined.	6 studies were brief group psychoeducation including family members, 4 studies were standard group psychoeducation including family members.	Intervention group received the psychoeducation from therapist and same time control condition received routine care.	The standardized psychoeducational program, managed through an interactive educational method.	Program for Relapse Prevention (PRP) and Treatment As-Usual (TAU) both parts of the program.

Table 3.3 Collective table from 5 selected evidences (cont.)

Components	Evidence1	Evidence 2	Evidence 3	Evidence 4	Evidence5
Outcome variables	Relapse, rehospitalization data was calculated by 14 studies. Symptoms were assessed by using the Brief Psychiatric Rating Scale (BPRS), the Scale for Assessment of the Positive Syndromes (SAPS) and the Scale for the Assessment of Negative Syndromes (SANS) were measured	Relapse or rehospitalization rates, and readmission	Rehospitalization rates, and compliance	Relapse rates	Relapse, or rehospitalization rates
Outcome measurements	Relapse and rehospitalization data was calculated by 14 studies. Symptoms were assessed by using the Brief Psychiatric Rating Scale (BPRS), the Scale for Assessment of the Positive Syndromes (SAPS) and the Scale for the Assessment of Negative Syndromes (SANS) were measured relapse/rehospitalization.	The relapse or rehospitalization was measured by the typical group psychoeducation, by collecting the results from two studies were an important for reduction of relapse without readmission after 9-18 months follow-up.	Rehospitalization measures were the number of rehospitalization, the number of days in the hospital, Brief Psychiatric Rating Scale (BPRS), and global functioning (Global Assessment Scale) [GAS].	Relapse was measured by Brief Psychiatric Rating Scale (BPRS), Scale for Assessment of Positive Symptoms (SAPS), Scale for Assessment of Negative Symptoms (SANS),	The measurement scales were the Global Assessment rating scale (GAS), the Positive And Negative Syndrome Scale (PANSS), and the Early Signs questionnaire, The Early Signs Questionnaire, PANSS, and GAS were administered. Criteria for relapse were defined as an enhanced in any PANSS-positive psychotic symptom score to moderately severe or higher (≥ 5) and a GAS score of 30 or less.

Table 3.3 Collective table from 5 selected evidences (cont.)

Components	Evidence1	Evidence 2	Evidence 3	Evidence 4	Evidence 5
Results	<p>Meta-analysis study results showed that the psychoeducation providing to the patients and their family members were more effective in reducing symptoms by the end of the program and preventing relapse at 7- 12 month follow-up.</p>	<p>In this study result showed that every category of psychoeducational program considerably reduced relapse or readmission rates at 9 to 18 months follow up.</p>	<p>Results found that this program has a significant manipulate on patients' compliance and can reduce rehospitalization rates.</p>	<p>Study results showed that it was reduced of relapse in conditions of numbers of hospitalization, days of hospital stay.</p>	<p>Results showed that outcome rates over 18 months were 17% for relapse (about 7 patients) and 22% for rehospitalization (about 9 patients) in the program for relapse prevention (PRP) group, compared with 34% for relapse (14 patients) and 39% for rehospitalization (16 patients) in the treatment as usual (TAU) group (p=0.01 and p = 0.03, respectively).</p>

Psychoeducational program for patients with schizophrenia

Table 3.4 Components of extracted from each evidences

Components	Evidence 1	Evidence 2	Evidence 3	Evidence 4	Evidence 5
Content of psychoeducation			<p>Psychoeducational program contents: 1) Comprehensive informative about symptoms of disorder, etiology, acute treatment, relapse prevention and psychosocial treatment of schizophrenia. 2) Coping strategies 3) Individual crisis plans and 4) Discuss a current problem concerning the illness.</p>	<p>Contents were enclosed: 1) Introduction about the program 2) Description about the schizophrenia 3) Description about the causes of disorder 4) To teach the patients and their families about the psychopharmacotherapy 5 Description about psychosocial treatment strategies,6) Preventing relapses for the patients 7) The role of the family members in providing care of patients and 8) Conclusion about the psychoeducational program.</p>	<p>The PRP treatment consists of 5 components: 1) Education for patients and their family members about the development of relapse in schizophrenia, 2) Dynamic monitoring for prodromal symptoms by treatment team members, patients, family members, and others in regular contact with the patients, 3) Medical involvement, within 24 to 48 hours, when prodromal episodes were detected, with improved occurrence of calamity problem solving, supportive treatment visits, and improved medication,</p>

Table 3.4 Components of extracted from each evidences (cont.)

Components	Evidence 1	Evidence 2	Evidence 3	Evidence 4	Evidence 5
Process			Integrated 8 to 12 patients into a group for intervention.	Psychoeducational program managed through an interactive instructive technique took place in 8 sessions.	4) 1 hour per weekly supportive group therapy emphasizing civilizing coping skills from 30- to 45 minute individual therapy sessions, and 5) 90-minutes multifamily psychoeducation groups that family members were confident to joined bi-weekly sessions for 6 months and monthly consequently.

Table 3.4 Components of extracted from each evidences (cont.)

Components	Evidence 1	Evidence 2	Evidence 3	Evidence 4	Evidence 5
Materials		Videotapes or pamphlets and leaflet.			
Setting	Inpatient and outpatient department in the hospital.	Outpatients setting.	Inpatients and outpatients department in psychiatric hospitals.	In hospital.	Outpatients department.
Type of psychoeducation	2 studies were supported individual psychoeducation, 12 studies were supported group psychoeducation and 4 studies were not defined.	Individual and group intervention.	Group intervention	Both individual and group format.	Individual and group.
Length of duration	Mean duration was 75.8 months.	From 9 to 18 months.	From 12 to 24 months.	From 12 to 24 months.	6 months.

Table 3.4 Components of extracted from each evidences (cont.)

Components	Evidence 1	Evidence 2	Evidence 3	Evidence 4	Evidence 5
Length of session	Mean sessions of this program were 11.8	The program consists as brief (10 or less) sessions and standard (11 or more) sessions per week.	Eight biweekly 90 minute sessions.	60-90 minutes per session and number of 8 sessions.	90 minutes multifamily biweekly and 15-30 minutes individual biweekly 12 sessions for 6 months.
Characteristics of therapists	Psychologists, doctors and nurses.	Psychiatrist.	Psychiatrists and clinical psychologist. They were experienced about psychoeducational program.	Psychologists, psychiatrists, psychiatric nurses, and social workers.	Psychiatrist, master degree holder nurse clinician, certified social worker and case manager and they were experienced.

3.2 Recommendations

Based on the search for evidence-based practice, five research evidences that matched the inclusion criteria were finally selected. The five samples of evidence-based practice included one meta-analysis (Level I), one systematic review (Level I), and three randomized controlled trials studies (Level II). These evidences were published from 2000-2013. The recommendations were derived from analyzing and synthesizing the best research evidence-based practice. The author found that the definition of psychoeducation was defined as a systematic didactic-psychotherapeutic intervention designed to inform patients and their relatives about the disorder and promote coping (Wiedemann et al., 2003 as cited in Lincoln et al., 2007). The purpose of psychoeducation is to increase patients' knowledge and understanding of their illness and treatment. Psychoeducational interventions involve interaction between the information provider and mentally ill person and their families (Pekkala & Merindar). There are two types of psychoeducational program which is capable of effectively reducing relapse in patients with schizophrenia, the brief group intervention and the standard length group intervention (Pekkala & Merindar, 2009: Level I). The following recommendations are as follow:

3.2.1 Brief group psychoeducation intervention

The brief group intervention consisted of 10 sessions or less (Pekkala & Merindar, 2009: Level I).

3.2.1.1 Client Characteristics: Most of the samples of evidence-based practice showed that patients had been diagnosed with schizophrenia, schizoaffective, schizophreniform, schizotypal disorder and delusional disorder. The diagnosis criteria was based on DSM-III or DSM-IV (Diagnostic and Statistical Manual for Mental Disorder) and ICD 10 (International Classification of Diseases) (Aguglia et al., 2007: Level II; Lincoln et al., 2007: Level I; Pekkala & Merindar, 2009: Level I; Pitschel-Walz et al., 2006: Level II). The ages ranged from 15 to 65 years. The participants of the psychoeducational program were male and female patients whose schizophrenia symptoms had subsided. Their symptoms were assessed by using psychotic assessment instruments like Positive and Negative Syndrome Scale (PANSS) and Brief Psychotic Rating Scales (BPRS) (Pitschel-Walz et al., 2006: Level

II). Duration of illness was from 6 months to 24 months (Aguglia et al., 2007: Level II; Pitschel-Walz et al., 2006: Level II; Merz et al., 2000: Level II). Schizophrenia patients who were included to the program were taking usual antipsychotic (typical and atypical) medication therapy (Aguglia et al., 2007: Level II).

The reasons that the clients were excluded from attending the psychoeducational programs were the distance from patients' home to the hospital was more than 150 km, there was no usual contact with their relatives (< 30 minutes/week), and they took regular substance abuse (6 <months before admission), pregnancy, IQ <80, and no remission in the last two years (Pitschel-Walz et al., 2006: Level II). In addition, patients who were in acute psychosis with problems of substance abuse and/or organic factors that affected to the clinical conditions were also excluded from the studies (Aguglia et al., 2007: Level II).

3.2.1.2 Contents of the psychoeducational program

Psychoeducational programs encompassed comprehensive information about the following:

- 1) Symptoms, etiology, acute treatment, relapses prevention and psychosocial treatment of schizophrenia (Pitschel-Walz, et al., 2006: Level II).
- 2) Coping strategies (Pitschel-Walz, et al., 2006: Level II).
- 3) Individual crisis plans and (Pitschel-Walz, et al., 2006: Level II).
- 4) Discussion of a current problem concerning the illness (Pitschel-Walz, et al., 2006: Level II).

In addition, the content of the programs can be delivered within eight sessions in which the following topics are covered (Aguglia et al., 2007: Level II):

Session1. Introduction

Session2. Description of schizophrenia

Session3. Description of the causes of the disorder

Session4. Instruction about psychopharmacotherapy

Session5. Psychosocial treatment strategies

Session6. Preventing relapse

Session7. Family roles in providing care for patients, and

Session8. Conclusion.

3.2.1.3 Duration of the psychoeducational program

According to the review of literature and evidence-based practice, the author found that psychoeducational programs for reducing relapse or rehospitalization rates of schizophrenia patients can be provided to hospitalized patients and patients who attend the follow up at out-patient department. For hospitalized patients, the psychoeducational program can be provided as a brief group intervention. The brief group intervention contains eight weekly sessions for 60-90 minutes each (Aguglia et al., 2007: Level II). In addition, the psychoeducation program can be provided to the hospitalized patients immediately after admission. The patients will then receive four weekly sessions of group psychoeducation. Each session's duration is 60 minutes. The sessions are provided continuously until the patients are discharged to receive care and treatment in the Out-Patient Department (Pitschel- Walz, 2006: Level II). At the Out- Patient Department, the patients will receive the other four sessions of psychoeducational program. These sessions are provided to the patients once a month for 4 months. This group psychoeducation provision can reduce the relapse of schizophrenia as well (Pitschel-Walz, 2006: Level II).

The evidence-based practice studies found that providing the psychoeducational program to both relatives and caregivers and patients can reduce relapse among schizophrenia patients more effectively than providing the psychoeducation program to the patients only (Lincoln et al., 2007: Level I). The psychoeducation program for relatives or caregivers is a brief group intervention. The intervention contains eight sessions that are provided to the relatives separately from the psychoeducation session provided for the patients. The sessions are provided to the relatives or caregivers every other week. Each session takes 90 minutes (Herz et al., 2000:II; Pitschel-Walz et al., 2006: Level II).

3.2.1.4 Psychoeducational Program Therapist

The therapists of this psychoeducational program can be the therapists of a multidisciplinary team such as psychiatrists, psychiatric nurses with a master's degree in psychiatric nursing, clinical psychologists or certified social workers and case managers (Herz et. al., 2000: Level II; Lincoln et al., 2007: Level I).

The therapists must have some experience about the psychoeducational programs and also have been well-trained in the group psychoeducation therapy (Pitschel-Walz et al. 2006: Level II). The therapists have to be trained in applying the tools used to evaluate the psychoeducational program outcomes. These tools include the Positive and Negative Syndrome Scale (PANSS), Global Assessment Scale (GAS), Early Sign Questionnaire (ESQ), Brief Psychotic Rating Scales (BPRS) and Medication Compliance Ratings Scale (Herz et al., 2000: Level II; Pitschel-Walz et al., 2006: Level II).

3.2.1.5 Setting: The setting of a brief group intervention can be conducted in an inpatient ward and the Out Patient Department of a psychiatric hospital (Lincoln, et al., 2007: Level I).

3.2.1.6 Outcome measurement of the psychoeducational program

Relapse can be measured by using the following psychotic tools (Aguglia et al., 2007: Level II; Herz et al., 2000: Level II; Pekkala & Merinder 2009: Level I; Pitschel-Walz et al., 2006: Level II):

1) Positive and Negative Syndrome Scale (PANSS): This PANSS is a tool used to evaluate both positive and negative psychotic syndrome. PANSS may be used by therapists. It contains 30 items: 7 items are questions about positive syndrome, 07 items ask about negative syndrome and 16 items are inquired about general psychopathology. The scores has 7 levels ranked from 1-7 in which a score of 1 = no syndrome and a score of 7 = very severe syndrome. If a patient has a PANSS score ≥ 5 and a Global Assessment Scale (GAS score) ≤ 30 , it means the patient has a prodromal episode to relapse (Herz et al., 2000: Level II).

2) Brief Psychiatric Rating Scale (BPRS): BPRS is a tool for accessing the severity of psychotic symptoms and depression. It is a rating scale containing 18 items: 6 items assess depression and 12 items assess schizophrenic symptoms. The scoring is ranked from 0-6 points in which 0 = no symptoms and 6 = severe symptoms. The patient may be scored from 18 to 126 points where a high score indicates having severe psychotic symptoms and no study means which score signifies the patient's relapse (Aguglia et al., 2007: Level II; Lincoln et al., 2007: Level I; Pekkala & Merider, 2009: Level I; Pischel- Walz et al., 2006: Level II).

3) Scale for Assessment of Positive Symptom (SAPS): This SAPS is a tool for assessing the positive psychotic symptoms of schizophrenia patients (Aguglia et al., 2007: Level II; Lincoln et al., 2007: Level I).

4) Scale for Assessment of Negative Symptom (SANS): This SANS is a tool for assessing the negative symptoms of schizophrenia patients (Aguglia et al., 2007: Level II; Lincoln et al., 2007: Level I).

5) Global Assessment Scale (GAS): GAS is also a tool that is used to assess the patient's performance in terms of general social function. Its rating scale is ranked from 0-100 in which a higher score means better social function and performance. In this situation, if the patient's Global Assessment Scale is ≤ 30 with a PANSS of ≥ 5 , the patient is in the prodromal phase to relapse (Herz et al., 2000: Level II; Lincoln et al., 2007: Level I; Pekkala & Merinder, 2009: Level I).

3.2.1.7 Monitoring outcome

The outcomes were monitored at two weeks after the completion of the brief group intervention. They can also be monitored again at six months after the brief group intervention has ended.

3.2.2 Standard length group intervention

The standard length group psychoeducational intervention contains 11 sessions. The standard length group psychoeducation intervention study results showed a significant reduction of relapse without readmission after 9- 18 months (Pekkala & Merinder, 2009: Level I). Only one systematic review study supported the standard length group psychoeducation intervention. There was no available detailed data about standard length group psychoeducation interventions in the systematic reviews.

3.2.3 Program for Relapse Prevention (PRP)

Furthermore, psychoeducation can combine with the Program for Relapse Prevention (PRP) which is effective in directing prodromal symptoms of relapse early in an episode. Crisis intervention includes increased antipsychotic medication use during the prodromal phase with reduced relapse and rehospitalization rates (Herz et al., 2000: Level II).

3.2.3.1 Client characteristics: The characteristics of the clients were suitable for the programs are as follows:

- 1) ages ranging from 19 to 60 years;
- 2) a diagnosis of schizophrenia or schizoaffective disorder based on an interview using the Structured Clinical Interview for DSM-III-R; and
- 3) increased risk for relapse defined as having at least one hospitalization within the past three years and two or more lifetime hospital admissions (Herz et al., 2000: Level II).

The clients who are not suitable for joining the program have the following characteristics:

- 1) organic mental disorder or mental retardation and
- 2) severe drug or alcohol dependence requiring inpatient treatment and/or detoxification (Herz et al., 2000: Level II).

3.2.3.2 Treatment components of PRP: The PRP treatment consists of the following five components:

- 1) education for patients and their family members about the development of relapse in schizophrenia;
- 2) dynamic monitoring for prodromal symptoms by treatment team members, patients, family members and others in regular contact with the patients;
- 3) medical involvement within 24 to 48 hours when prodromal episodes are detected with improved occurrence of calamity problem-solving, supportive treatment visits and improved medication;
- 4) 1 hour per weekly supportive group therapy emphasizing civilizing coping skills from 30- to 45-minute individual therapy sessions and
- 5) 90-minute multifamily psychoeducation groups in which family members were confident to join bi-weekly sessions for six months with monthly sessions afterward (Herz et al., 2000: Level I).

Summary: The five selected samples of evidence-based practice included one meta-analysis, one systematic review of randomized controlled trials and three randomized controlled trials studies. Schizophrenia is a life-long mental disorder

affecting patients, family members or caregivers, communities and nations. Psychoeducation is defined as systematic educational - psychotherapeutic involvement designed to inform patients and their family members or relatives about the disorders and providing various skills which are important for day-to-day living. Therefore, psychoeducational programs not only provide knowledge and skills, but also encourage patients and their families' self-awareness involving the importance of taking responsibility for self-management with the use of such method to empower patients and their family members. It is important to note that both patients and their families should actively participate in psychoeducational program leading to optimal outcomes. Consequently they will become experts on their own illness, be capable of making decision on their treatment, and can take responsibility for changing their own behaviors, which can support recovery and prevention a relapse and rehospitalization (Pitschel-Walz et al. 2006: Level II). Finally, it can be concluded that from these five samples of evidence-based practice and is explicit that psychoeducational programs is an effective in reducing relapse in patients with schizophrenia. According to the evidence-based practice and literature review found that the eight brief group psychoeducation intervention sessions were an effective program for reducing relapse with schizophrenia patients and their family members. In the Bangladeshi context, psycheducational programs lasting over a period of 6 months can be easily applied to clinical settings.

CHAPTER IV

CONCLUSION AND SUGGESTIONS

4.1 Conclusion

Schizophrenia is a chronic brain disorder that is among the world's most frequently encountered causes of long-term disability. The lifetime prevalence of schizophrenia worldwide is 1% (Kazadi et al., 2008; San et al., 2013; Valcarolis & Halter, 2010). In Bangladesh, the prevalence of schizophrenia is approximately 1.1% of the adult population (Firoz et al., 2006, as cited by Mazumder et al., 2011). In comparison with global statistics, the prevalence of schizophrenia in Bangladesh is high. Patients with schizophrenia always suffer with relapse at rates varying from 50% to 92% with similar findings in both developed and developing countries (Kazadi et al. 2008). Relapse may result in re-hospitalization, cognitive destruction, deterioration of the illness, progressive structural brain damage, personal suffering, imprisonment and intrusion with therapy efforts and stigma. Moreover, relapse increases the economic burden on the health care system due to associated morbidity and hospital readmissions. There is evidence to support that relapse in patients with schizophrenia can be reduced by using both psychopharmacological and psychosocial treatment.

According to the literature review, the author found that psychoeducational program is the most effective psychosocial intervention for reducing relapse in patients with schizophrenia. However, in the author's clinical setting, there is no clinical practice guideline of psycho-education programs available. People with schizophrenia always lose treatment follow-up and do not continue to take medications due to side effects that make them different from normal people. Accordingly, the author aimed to analyze, and synthesize the best available research evidence related to psychoeducational program for reducing relapse in patients with schizophrenia.

The author searched available and current samples of evidence-based practice and used the Faculty of Nursing, Mahidol University Library database to search for systematic reviews from the Cochrane Database of Systematic Reviews from the www. Cochrane Library. In addition, Journal@ Ovid full text, Cumulative Index of Nursing and Allied Health Literature (CINAHL) full text, PubMed and ScienceDirect were used to search for single research studies. The PICO framework was used to guide the searching terms. The key words used were “schizophrenia”, “psychoeducational program”, “psychoeducational intervention”, “relapse”, and “rehospitalization”. The author used a system for searching called the Boolean Operator. For each PICO element, the author collected synonyms by connecting terms with “OR”, then located citations relevant to all of the PICO elements by linking with “AND”.

After completing the search, the author found 30 relevant samples of evidence-based practice and after reading the whole full text of the samples of evidence-based practice were retrieved. Finally the author selected 5 samples of evidence-based practice that were relevant to the purpose of the study while the other 25 samples of evidence-based practice were excluded. Those samples of evidence-based practice comprised a meta-analysis of RCTs, a systematic review and three RCTs. The samples of evidence-based practice were appraised for their reliability, validity, and applicability.

The following conclusions can be drawn from the samples of evidence-based practice:

- 1) Group psychoeducation can reduce relapse and rehospitalization better than individual psychoeducation.
- 2) Psychoeducational programs can be classified into two types: brief group psychoeducation interventions and standard length group psychoeducation interventions. The brief intervention contains 10 or less sessions and the standard length intervention contains 11 or more sessions
- 3) Psychoeducational programs that include families are more successful in handling symptoms by the end of treatment and reducing relapse at 7-12-month follow-up.

4) The content of psychoeducational programs should consist of structured information including the following:(a) an introduction for building a therapeutic relationship and informing about the program; (b) the information of the disorder related to schizophrenia; (c) causes of the disorder; (d) psychopharmacotherapy; (e) psychosocial therapies; (f) preventing relapses about the disorder; (g) The roles of the family members of the patients and (h) the conclusions about the psychoeducational program.

5) The outcomes of psychoeducational programs should be measured by the Brief Psychiatric Rating Scale (BPRS), the Scale for Assessment of Positive Symptoms (SAPS), the Scale for Assessment of Negative Symptoms (SANS), Simpson, the Angus Scale and the number of hospitalizations, and the length of hospital stays.

In conclusion, psychoeducational programs are an intervention that should be used to reduce relapse in patients with schizophrenia. The intervention of these programs is relatively simple and can be implemented in the clinical setting in Bangladesh.

4.2 Suggestions

Based upon the analyzing and synthesizing the empirical evidence is suggested that psychoeducational programs should be implemented in the clinical settings of Bangladesh to reduce relapse in patients with schizophrenia. The implication of psychoeducational programs are as follow:

4.2.1 Implications for clinical practice

According to the samples of evidence-based practice, group psychoeducational programs can reduce relapse and/or rehospitalization in patients with schizophrenia. In addition, psychoeducational programs can reduce the length of hospitalization and number of hospitalizations. Some suggestions are given below for applying the recommendations from the findings with the schizophrenia patients at the

National Institute of Mental Health and/or mental health hospitals in Bangladesh who have similar characteristics as the patients and mental care team at the aforementioned:

1) The psychoeducational program should be developed as a clinical practice nursing guideline in order to be applied suitably in the mental hospitals or institutions.

2) The manual of psychoeducational program therapists or mental health hospitals should be developed. This manual is useful for training and implementing psychoeducational program in terms of reliability.

3) In the hospitals, the therapists' team should motivate the relatives and caregivers of schizophrenia patients to participate in group psychoeducational programs because providing psychoeducational programs for the patient's relatives and caregivers is more effective in reducing the relapse than providing psychoeducational programs for patients only.

4) The mental hospitals should have a general assessment instrument by assessing the prodromal symptoms and warning signs of schizophrenia patients and for the patient's family in order to ensure that the family has an instrument for evaluating the patients and can bring the patients to get treatment before they develop severe symptoms. In this situation, patients' rehospitalizations are reduced.

5) Mental hospitals should manage for schizophrenia patients to receive a group psychoeducational program because group psychoeducational programs yield greater benefits for reducing relapse than individual psychoeducational programs in terms of outcome and cost effectiveness.

4.2.2 Implications for research

1) A pilot study should be conducted before implementing the psychoeducational program in order to study about the effectiveness of such program.

2) The effectiveness of the psychoeducation training program providing to the psychiatric nurses should be studied in terms of gaining knowledge, attitudes, and confidence to implementing.

3) The effects of psychoeducational programs to reduce relapse in patients with schizophrenia should be studied within Bangladesh context.

4) Other outcomes of providing psychoeducational program to patients with schizophrenia and their families such as compliance, knowledge, behavior, should be further studied within Bangladesh context.

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