

Structural Family Counseling Model of Family Relationship, Knowledge, Understanding and Medication Behavior among Schizophrenic Patients in Thailand

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Abstract

Schizophrenia is a chronic mental disease characterized by abnormalities of thinking, emotions, and recognition. It affects overall behavior and personality, impacting all daily life functions, activities, self-care, social obligations, follow-up treatment, adherence to medication behaviors, relapse, and family relationships. Without suitable family structures and mutual support, patients cannot maintain their former lifestyles. Moreover, social oppression often affects family attitudes and relationships, negatively impacting patient well-being. Surely family relationships have a direct influence on the quality of life of schizophrenic patients.

Structural family counseling helps schizophrenic patients and their families to achieve better family structures and relationships, helping to resolve problems by taking action to: (1) assess family structure and strengthen family relationships; (2) identify problems and jointly set goals and plans; (3) explain the nature of disease disorders and the proper use of medication; (4) support families in resolving patients' improper medication usage behavior; and (5) develop skills and provide solutions to patients' issues. This counseling will help patients' family relationships, mutual care, and support of patients and families for better outcomes. In turn, schizophrenic patients in the community will adhere more effectively to proper medication behavior.

Keywords: *Structural family counseling, family relationships, knowledge of daily practices, schizophrenic patients, medication adherence behaviors*

Introduction, Background, and Significance

Schizophrenia is a chronic, severe, and disabling psychiatric disorder that affects 1 percent of the population worldwide. Schizophrenia is a complex major disease that manifests itself in psychotic behavior (delusions and hallucinations), disorganization, dysfunction in normal affective responses, and altered cognitive functioning (Li et al., 2015). Because of limited treatment options until recently, its prognosis has been worse than that of other mental health disorders, and it is often characterized by social and psychological disabilities (Kızıltoprak, 2006; Öztürk, 2008; Yılmaz and Okanlı, 2015).

Schizophrenia causes substantial damage to patients' employment, business, daily lives, and personalities compared to other physical diseases (Norton et al., 2006). Patients are generally hospitalized for about 3–4 weeks (Udomratana and Vasignanont, 2009). Several years ago, however, the Thai Department of Mental Health issued a policy to discharge schizophrenic patients from hospitals as soon as possible to shorten the length of hospital stays and reduce treatment costs. When discharged patients are returned to community care, they must continue receiving treatment to control their symptoms. However, most discharged schizophrenics do not comply with medication regimens (Sullivan et al., 1995). Statistics show that 26% of schizophrenics stop taking medications in the first year after discharge, and an additional 30% suffer relapses due to medication non-adherence behaviors (Gillmer et al., 2004). This causes severe deterioration in these patients' conditions (O' Donnell et al., 2003). Some common symptoms are delusions, hallucinations, thought disorders, loss of interest in self-care and family situations, and inability to function in their

communities and society. These patients lose touch with reality and cannot contribute to society. Their condition also has a great impact on family caregivers physically, mentally, socially, and economically, and may cause a drastic decline in caregivers' relationships with families and others (Laidlaw et al., 2002).

Healthcare reforms introduced by the Thai government in 2009 (National Health, 2009) emphasize patient and family participation in self-care once they have learned the basic facts about disorders and their treatment, and can make informed decisions about their care. Thus, average hospitalization has been cut down to about 2 weeks (Department of Mental Health, 2009). Efforts are made to reduce patients' hospitalization by promoting self-management and encouraging family participation in care arrangements. Hence, families and relatives play a major role in the treatment and care of patients, along with ensuring their medication adherence behavior (Puengkatesoontorn, 2010; Hou et al., 2008; Khongtor, 2007). Furthermore, families help ensure that schizophrenics comply with ongoing treatment regimens; this results in more efficient and successful adherence to medication guidelines (Vongsurapakit, 2006).

Although one reason for relapse is non-adherence to medication schedules, another equally important reason is family situations. Family arguments, temperaments, criticism, unfriendly or unwelcome gestures, and nagging of patients can make it difficult to maintain their lifestyles; this social pressure can also worsen patients' conditions (Ruengtrakul, 2006). Relapse can lead to family frustration and confusion; poor family relationships can also translate to poor patient living conditions because they are directly correlated (Phoomchan, 2005). When schizophrenics are aware of their illness, this can hurt their emotions, family relationships, careers, and society. Patients are inclined to avoid threatening and painful situations, and eventually will not adhere to medication treatment (Adams and Scott, 2000). Patients' refusal to accept treatment may cause their neurological condition to deteriorate (Marder, 2003), which is also borne out by the study of Ruengtrakul (2011). The findings indicated that during relapses, interpersonal relationships between families and patients often deteriorated, and were characterized by unfriendly gestures, criticism, and bad moods.

Therefore family therapy, which consists of family counseling and psychoeducation, is a highly recommended treatment for schizophrenics (Chuvanichvongs, 2006). Psychoeducation is a program of cognitive, behavioral, educational and supportive intervention within the complex program of treating psychotic patients. It can be targeted to individual patients to improve outcomes, enhance compliance, and increase knowledge, including early relapse recognition, thereby contributing to a better sense of well-being (Prasko et al., 2011). This article mainly emphasizes family counseling; however, psycho-education, which is the fundamental treatment for all classifications of schizophrenics and is already widely practiced, will be discussed as a part of family counseling in the family education area. At present, structural family therapy is a new interventional technique in family counseling to empower schizophrenic patients, and to help them learn about the disorder, develop self-management, and improve medication adherence behavior.

Family counseling in the form of structural family therapy becomes an essential treatment tool for people with schizophrenia and their families. It helps families adjust and restructure their relationships in order to resolve issues which may present obstacles to patients achieving good medication adherence behavior. It can also help build better relationships within the family. Structural family therapy helps bring about proper behavioral adjustment of schizophrenics and family members for better management skills in self-care at home. When a patient understands and makes appropriate adjustments to living with schizophrenia, improved medication adherence behaviors will be achieved. Hence, the objectives of this article are to study people with schizophrenia and family counseling in structural family therapy.

Methodology

This article presents a brief summary of the primary and secondary literature from various sources related to this topic, including Routine to Research, textbooks, educational literature, and journals, all of which are peer-reviewed. The theory of schizophrenic patient therapy, theory of family counseling, and theory of group structural family therapy were published during 2007 – 2013; some old classic works on this subject were also reviewed. Some citations were obtained electronically and directly from original research sources at some universities. Resources were also obtained from Science Direct, Proquest, Medline, Union Catalog (UCTAL), Thai Digital Collection (TDC), Thai Library Integrated System (ThaiLIS), and Thai Journal Online (ThaiJO) using keywords such as structural family counseling; family relationships; knowledge of daily practices; schizophrenic patients; and medication adherence behaviors.

Contents

This article examines linkages between individuals with schizophrenia, structural family counseling, and family relationships; it may also enhance and promote knowledge and understanding of the behavior of family members and patients, including medication adherence behaviors.

The study of Hedge et al. (2007) showed that family counseling was an effective way to develop caregivers' potential when patients were being treated at home, especially when combined with learning about the disorder. Caregivers would also be more competent to observe signs and symptoms when caring for patients; this also enhances good relationships within families. Family counseling, along with improved psycho-education, will encourage patients' to adhere to better medication behaviors (Luebunthawatchai, 2010; Keawsod, 2007). Families of individuals with schizophrenia play the most important role in caring for patients (Addington et al., 2005). A study by Lim and Ahn (2003) revealed that caregivers and family members were extremely important in assisting schizophrenic patients to attain suitable behaviors.

Schizophrenic Patients

Definition

Ruengtrakul (2006) defined Schizophrenia as a psychosis, a mental disorder often characterized by abnormal thinking, cognition, emotion and behavior without any causes from physical illness, mental illness, medication side effects, or continuous substance abuse for over six months.

The International Statistical Classification of Disease and Related Health Problems 10th Revision, or ICD-10, (World Health Organization, 2006) defined schizophrenics as individuals with false beliefs, unclear or confused thinking, inappropriate emotions, and a fair level of perception and intelligence. Significant expressions of mind are thought echoes (thoughts are heard as if spoken out loud); thought insertion or withdrawal (alien thoughts being inserted into the mind), thought broadcasting (thoughts being transmitted from one's mind and broadcast to everyone), delusional perceptions (misinterpret or believe that normal perceptions have special meaning), delusions of control (thoughts or actions are controlled by external agents), influence (authority to control others), passivity (submitting or yielding to the authority of others), and hearing or believing that others are talking about them.

Therefore, schizophrenia is defined as a chronic disease that creates abnormalities of thought, emotion, and perception without any brain disease or – in most cases – physical cause. The disease impacts the behavior and character of a person as a whole, which influences the daily lives of the person, the family, and the community (Thiensen, 2013).

Causes

The causes of schizophrenia can be biological factors, psychological factors, and socio-cultural factors. This study will focus only on psychological and socio-cultural factors, because these two directly address problems in family structural relationships.

- 1) Psychological factors: these indicate relationships between individuals' personality traits and society. Mind theory analysis reveals that psychosis is the result of abnormal function of the ego and stressful mental conditions, which may lead to schizophrenia (Tantipalacheeva, 1996).
- 2) Socio-cultural factors: patients often find themselves in positions with low social status and limited economic means. The social causation hypothesis states that social oppression is a cause of the increasing number of people with schizophrenia. The downward drift hypothesis states that intermittent psychosis prevents patients from maintaining their normal lifestyles, and family relationships may also affect schizophrenic conditions (Tantipalacheeva, 1996). Pumsrisawas (1998) explained that frequent relapses of the disorder were found in family environments with a high level of expressed emotions – for example, criticism, hostility, or excessive efforts to control patient behavior.

A study by Thiensan (2013) entitled "The Effect of Family Counseling and Psycho-education Program on Medication Adherence Behavior of Schizophrenic Patients in the Community" indicated that prior to receiving structural family counseling, overall family relationships, individual roles, and family structure were not suitable. There was not much talking or discussion, with little attention paid and concern for schizophrenic patient care in the community. These are the reasons for poor medication adherence behaviors and issues of subsequent symptom control. However, the program can be used to improve family structure of schizophrenic patients and problem-solving strategies. Good to very good levels of relationships can be achieved. This will expand the knowledge and understanding of self-management for better medication adherence behaviors.

Symptoms

Schizophrenia usually starts in the late teens and it often does not go away completely. Most patients have relapses from time to time. The symptoms of schizophrenia fall into two categories: positive and negative symptoms (Lortrakul & Sukkanich, 2005). The onset phase is typically positive symptoms which may include hallucinations and delusions, as well as thought, speech and movement disorders. The later phase is generally negative symptoms when patients do not respond well to medications. Common negative symptoms include less talking, lack of emotional expression, lack of interest, and isolation. A study by Oehl et al. (2000) found that with regard to attitudes and family relations, people with negative symptoms tried to avoid revelation of their psychoses by not getting proper treatment and not adhering to medications. Negative symptoms appear to contribute more to poor quality of life, ability to function, and the burden on others than do positive symptoms.

During the progress of this disease, there are times when some patients improperly adhere to medications due to their behaviors and family relationships. Their behaviors are clearly altered which may be from delusions, hallucinations or thought disorders. Some confine themselves, giving up good relations within the family and other social activities. They may not fall asleep at night, wander around, shout or yell, laugh, and are sloppy in their dress and hygiene. Some lose self-control and become social withdrawn, nervous, and easily irritated. When they are offended or prohibited from doing something by family members, they become agitated and respond with aggressive mannerisms. These may be the reasons conflict in relationships, misunderstandings in the family, and poor medication adherence behaviors.

Factors known to cause medication non-adherence behaviors in schizophrenics include lack of knowledge and understanding of the disorder and its treatment, side effects from medications, and improper self-administration of medications (Kumer and Sedgwick, 2001b). Families have a duty and

play an important role in helping patients to live meaningful lives during worsening conditions or recovery periods (Loukissa, 2005). Furthermore, patients do not live normal and happy lives when symptoms return or become worse. In cases of worsening symptoms from medication side effects, patients tend to skip taking medications and stop treatment; this may lead to social isolation and affect family relationships (Puengkatesoontorn and Luebunthavatchai, 2011). This demonstrates the significance of medication adherence in preventing a relapse of the disease. Patients who consistently adhere to medication regimens will attain more effective treatment outcomes (Haynes et al., 2005).

Treatment

Since schizophrenia may have many causes, most treatment management is an integration of medical, psychological, and psychosocial inputs. Treatment of schizophrenia is predominantly a combination of antipsychotic medications and various psychosocial therapies to restore meaning to patients' lives. The most effective treatment is antipsychotic therapy, because it controls positive symptoms and alleviates the severity of relapses.

Psychosocial treatment mainly concentrates on psychological functions through discussions with patients, either individually or in groups, together with family members and relatives. This treatment covers psychosocial intervention and environment enhancement, including cognitive remediation. Cognitive remediation is a behavioral treatment that uses practice drills to develop thinking skills, as well as compensatory and adaptive strategies to facilitate improvement in targeted cognitive areas like memory, attention, and problem solving). Psychosocial intervention is usually conducted in combination with anti-psychotic medications, and appears to improve long-term adherence to medications.

As mentioned previously, this study concentrates on structural family counseling and family relationships based on a knowledge and understanding of schizophrenic behavior, which may lead to improved medication adherence behaviors. Counseling therapy mainly emphasizes treatment to alter the behavior of patients and their families. Structural family counseling – together with antipsychotic medication treatment – makes better outcomes possible. This treatment combination offers the best hope of restoring normalcy for patients so that they may lead fulfilling lives in their communities.

Structural Family Counseling and Family Relationships

Family counseling consists of educating family members to understand each other, to recognize and accept problems, and to work together effectively to find the right solutions. The objective of family counseling is to restructure family relationships to meet the needs and desires of the particular family with concise rules and regulations. It provides reasonable flexibility to allow families to adjust to all situations and to solve problems effectively. Furthermore, it employs theory and pertinent counseling techniques to achieve the best possible outcomes for a family to be happy (Luebunthavatchai, 2010). One of the leading theories by Minuchin (1974) suggests that every family has a structure consisting of rules and regulations. Those with clear rules and regulations are better equipped to adapt to all situations. These families are flexible in making changes and adapting to live a normal happy life. However, those without clear rules and regulations – along with those that lack flexibility and cannot adapt to changes – cannot solve problems effectively when confronted with problematic situations.

Family counseling actually began and was brought into practice in 1980 by a conceptual theory, which was the Structural Family Therapy Theory (Trangkasombat, 2001). It described how family theory supported structural family therapy. The originator of this theory, Minuchin (1974), explained further that the emphases of structural family therapy were the following: (1) present and future assessment and remedies that emphasize living in the "here and now"; (2) environmental

factors are more important than genetic factors in perceptions about people in society; (3) the reciprocal nature of systemic causality, which means that anyone's behavior could affect and be affected in his own society; (4) processes of communication or correspondence are considered more important than their content; and (5) families are a social subsystem whose behavior is shaped by social influences, with family members considered as parts or integral members of the whole family.

An example of a family counseling application can be found in the study by Thiensan (2013) entitled "The Effect of Family Counseling and Psycho-education Program on Medication Adherence Behaviors of Schizophrenic Patients in the Community." In this study, the potential causes of poor family relationships were misunderstandings between mothers (principal caregivers) and schizophrenics, unsuitable family structures, poor relationships, living apart, mothers providing insufficient care, side effects from medications, non-adherence to medication regimens that led to psychotic episodes, and patients who were unable to assist with house chores and were being blamed. Therefore, the researcher took the following initiatives: (1) establishing family relationships and assessing family structure; (2) identifying issues and jointly setting goals and plans; (3) educating and better understanding the disorder and benefits of medication; (4) providing on-going family support to avoid non-adherence to medication schedules; and (5) developing skills to cope with patients' problems, to improve family relationships, and to help effectively adhere to medication guidelines.

Surely, structural family counseling and therapy introduced by Minuchin (1974) can help to enhance family relationships and to remedy emotions with various therapy techniques. Family-focused interventions promote better relationships between patients and their families, including better understanding, feelings, and mutual acceptance. Amiable interactions lead to more affectionate feelings and to adherence to medication schedules (Thiensan, 2013). They also bring better quality of life for both patients and families as stated by Tothong (2005). Moreover, Kittithirasak (2004) developed a tool to measure family relationships following Minuchin's concept (1974). The results revealed that family therapy boosts family relationships from a moderate to good level. Better family relational outcomes are achieved when patients and family members are open for discussions to express their feelings, thoughts, ideas, understanding, real needs, and assistance during family therapy sessions.

Benefits of Structural Family Therapy

Family therapy is one of the highly recommended treatments for schizophrenic patients. It consists of family counseling and psycho-education (Chuvanichvongs, 2006). The principal benefits of structural family therapy are: (1) Establishing an understanding of the personal behavior of schizophrenic patients and their families; and (2) Implementing medication adherence behavior.

1. Establishing an understanding of the personal behavior of schizophrenics and their families

Luebunthavatchai (2010) stated that ideally, integration of behavioral therapy process should follow step-by-step recommended guidelines, particularly in specific relationship counseling. This helps solve problems more successfully and effectively with participation from schizophrenic patients, family members, and caregivers. Moreover, family psycho-education is a beneficial therapy in helping schizophrenic patients cope with mental disorders and adhere to proper medication behaviors. This is consistent with the findings of Anderson, Hogarty and Reiss (1986). Psycho-education offers knowledge about mental health in terms of support and educational services to patients and families. The objective is to provide information and resources to strengthen coping skills, eliminate wrong ideas, and establish networks for group support. These are evidence-based guidelines that comprise a well-formulated system. It empowers them to deal with situations in an optimal way based upon the training received from psychiatric nurses and mental health

professionals. The process can be demonstrated by encouraging schizophrenic patients to adhere to medications. De leo et al. (2005) indicated that families who have learned about mental disorders – along with their treatment, care and training – should have a role in helping with medication adherence. This will encourage and build more self-confidence in their ability to care more effectively for the patient. In conjunction with psychotherapeutic treatment, this will enhance knowledge about the disorder, treatment, coping skills, and patients' regaining own capabilities. The psycho-education process, a key factor in cooperation and treatment compliance, can positively affect knowledge, ability, self-confidence in one's own care, and problem solving skills (Department of Mental Health, 2008).

In 2004, Pandaeng devised a psychometric tool for a joint study of structural family therapy and family psycho-education to measure the mental comprehension scale of schizophrenic patients. Results revealed that 19 out of 20 patients scored quite well or > 80% on this comprehension scale. The results imply that interpersonal therapy focuses on the behaviors and interactions of patients with their families used within the context of mental health and psychiatric nursing. These depend on particular family backgrounds, such as society, culture, beliefs, religion, etc. to achieve best possible outcomes from family education.

2. Implementing medication adherence behavior

Structural family counseling, a concept of Minuchin (1974), postulates that every family has an existing structure consisting of rules, regulations, adaptation to situations, and flexibility to changes. Families will lead happy and meaningful lives with an emphasis on autonomy, attachment, and compassion. These objectives are: (1) establishing family structure; (2) strengthening family relationships; (3) supporting emotion; (4) accepting social; and (5) the family is the social system. This psychotherapy is utilized to prevent relapses of schizophrenic patients in community (NHS Center, 2000) due to non-adherence to medications. Hegde et al. (2007) also stated that family counseling enabled schizophrenic patients and families to improve medication adherence behaviors.

Establishing a relationship between patient and caregiver is the key to medication adherence behaviors in schizophrenic patients (Oehl et al., 2000; Kajaraks, 2002). When a psychiatric nurse has a good relation with a schizophrenic and the caregivers, the nurse helps empower, build trust, motivate and encourage self-management. Motivation has power to make things happen (Miller, 1922), and this has been confirmed by the studies of Chamroonsawasdi (1993); Puthkao (1998); Kayama et al. (2001); and Kumar and Segwick (2001). They all concluded that a good relationship between a psychiatric nurse, his/her schizophrenic patients, and patient caregivers helps improve medication adherence behavior.

Farragher (1999) and Kanthasaibour (2001) found that maintaining medication adherence behavior was related to self-management, and following recommendations of mental health providers and psychiatrists. There are 5 elements in medication adherence: (1) take medications continuously; (2) do not stop taking medications by oneself; (3) properly administer medications as prescribed; (4) take medications as scheduled - do not miss taking two consecutive times or twice per week; and (5) take the exact prescribed dosage - do not increase or decrease dosage without a doctor's order.

Hence, structural family counseling reframes the family sub-structure to help it become more suitable, flexible, and resilient to situations. This improves the psychosocial behavior of schizophrenics and their families, and promotes adherence to medication regimens. A nurse has a role to listen attentively and to observe schizophrenic patient behavior. Counseling regarding proper administration of medications and maintaining good relations with patients and families as part of psychotherapy and psychiatric treatment improves medication adherence behaviors in the community (Thiensan, 2013).

A benefit of family psychotherapy is to strengthen closer and better family relations, which are important tools for schizophrenics to handle ever changing conditions in their family and community

environments. A family living together means that members are connected biologically and/or legally. They may be a father (husband), mother (wife), children and relatives. All members are obligated to perform their duties to each other with love, caring, kindness, and goodwill in all economic and social conditions (Kanthasaibour, 2001). It becomes evident that psychiatric treatment and family support promotes good health among schizophrenics, and also improves medication adherence behaviors. A research study by Razali and Yahya (1995) stated that schizophrenic patients living with their families achieved better medication adherence behavioral results than those who do not live with their families or live alone.

Conclusions and Suggestions

Structural family counseling encourages schizophrenic patients and all family members to accommodate each other, to establish suitable relationships, and to develop a clearly articulated model of family function. All members have set goals, flexibility, problem-solving skills, and know how to respond to developing needs and to interact with medication adherence behaviors. The objective of family interventions is not to help any particular individual, but the family as a whole. It positively affects individuals to influence change for the entire family by emphasizing family relationships. It also strengthens mutual understanding, feelings, communications, obligations, self-care, and family relationships.

Professional nurses – especially mental health or psychiatric nurses – are healthcare providers who play an important role in integrating social and cultural concepts to provide effective counseling by structural family therapy. The nurse realizes the significant influence of an individual's culture and society to success. Cultural restraints must be taken into consideration when treating this patient population. The nurse must know, understand, listen, accept, and show interest in caring. This will lead to trust and cooperation. Observation and learning from patients enables nurses to appropriately adapt treatment to bring about successful results.

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References

- Adams, J. and Scott, J. (2000). Predicting medication adherence in severe mental disorders. *Acta Psychiatrica Scandinavica*, 101, 119-124.
- Addington J., McCleery A., and Addington D. (2005). Three-year outcome of family work in an early psychosis program. *Schizophrenia Research*, 79(1), 107-116.
- Chamroonsawasdi, S. (1993). Effect of Relationship Establishing, Health Teaching and Contracting on Compliance of Schizophrenic Patient in Chiangmai Neuro-Psychiatric Hospital. Thesis for the Degree of Master of Nursing Science program in Mental Health and Psychiatric Nursing, Faculty of Nursing, Chiang Mai University.
- Chuvanichvongs, S. (2006). Family and Treatment for Psychiatric Patients. *Journal of Srithunya Hospital*, 3(11).
- De leo, D., Cerin, E., Spathonis, K., and Burgis, S. H. (2005). Lifetime risk of suicide ideation and attempts in an Australian community: Prevalence, suicidal process, and help-seeking behavior. *Journal of Affective Disorders*, 86, 215-224.
- Department of Mental Health. (2009). *Annual Report*. Nonthaburi: Department of Mental Health, Ministry of Public Health, Thailand.
- Farragher, B. (1999). Treatment compliance in the mental health service. *Irish Medical Journal*, 92(6), 1-3.

- Forman, L. (1993). Medication: Reasons and Interventions for Noncompliance. *Journal of Psychosocial Nursing and Mental Health Services*, 31(10), 23-25.
- Gillmer, T.P., Dolder, C.R., Lacro, J.P., Folsom, D.P., Lindamer, L., Garcia, P., and Jeste, D.V. (2004). Adherence to treatment with antipsychotic medication and health care costs among Medicaid beneficiaries with schizophrenia. *The American Journal of Psychiatry*, 161(4), 692-699.
- Haynes, R.B., Yao, X., Degani, A., Kripalani, S., Garg, A.X., and McDonald, H.P. (2005). *Interventions to enhance medication adherence*. *Cochrane Database Syst. Rev.* 2005 Oct 19; (4): CD 000011.
- Hegde S, Rao S L, and Raguram A. (2007). Integrated Psychological Intervention for Schizophrenia. *International Journal of Psychosocial Rehabilitation*, 11(2), 5-18.
- Hou, S. Y., Ke, C. L. K., Su, Y. C., Lung, F. W., and Huang, C. J. (2008). Exploring the burden of the primary family caregivers of schizophrenia patients in Taiwan. *Psychiatry and Clinical Neurosciences*, 62(5), 508-514.
- Kanthasaibour, P. (2001). *An Analysis of Variables Discriminating the Groups of Relapse and Non-Relapse Schizophrenia Patients*. Thesis for the Degree of Master of Nursing Science Program in Mental Health and Psychiatric Nursing, Faculty of Nursing, Chulalongkorn University.
- Kayama, M., Zerwekh J., Thornton K. A., and Murashima, S. (2001). Japanese expert public health nurses empower clients with schizophrenia living in the community. *Journal of Psychosocial Nursing and Mental Health Services*, 39(2), 40-45.
- Keawsod, S. (2007). *The study of family counseling and psychoeducation program on medication adherence behaviors of schizophrenic patients in Ratchaburi Hospital*. Thesis for the Degree of Master of Nursing Science program in Mental Health and Psychiatric Nursing, Faculty of Nursing, Chulalongkorn University.
- Khongtor, O. (2007). *Effects of case management on medication adherence behaviors of schizophrenic patients in community and burden of caregivers*. Thesis for the Degree of Master of Nursing Science Program in Mental Health and Psychiatric Nursing, Faculty of Nursing, Chulalongkorn University.
- Kitaroonchai, W. (2005). Rehospitalization Rates of Schizophrenic Patients Discharged on a Regimen of Atypical Antipsychotics or Conventional Antipsychotics. *Journal of Mental Health of Thailand*, 13(1), 17-27.
- Kittithirasak, P. (2004). *Relationships between selected factors and suicidal ideation of persons with HIV/AIDS*. Thesis for the Degree of PHD of Nursing Science program in Mental Health and Psychiatric Nursing, Faculty of Nursing, Chulalongkorn University.
- Kızıltoprak, S (2006). *Şizofrenik Hasta Ailelerinde Yapılan Ruhsal Eğitim Gruplarını Ailelerin Umutsuzluk Düzeylerine Etkisi [The effect of psychological education of schizophrenic patients' families on the hopelessness level of the family members]*. (Yüksek lisans Tezi) İstanbul: Marmara Üniversitesi.
- Kumer, S. and Sedgwick, P. (2001a). Can the factors influencing medication compliance reported from Western populations be applied to an eastern Indian context? *Journal of Mental Health*, 10(3), 267-277.
- Kumer, S. and Sedgwick, P. (2001b). Non-compliance to psychotropic medication in Eastern India: Clients perceptive. Part II. *Journal of Mental Health*, 10(3), 279-284.
- Laidlaw, T.M., Coverdale, J.H. Falloon, I.R.H. and Kydd, R.R. (2002). Caregivers stress when living together or apart from patients with chronic schizophrenia. *Community Mental Health Journal*, 38(4), 303-310.
- Li, Z., Xiang, Y., Chen, I., Li, Q., Shen, J., Liu, Y., Li, W., Xing, Q., Wang, Q., Wang, L., Feng, G., He, L., Zhao, X., and Shi, Y (2015). Loci with genome-wide associations with schizophrenia in the Han Chinese population. *The British Journal of Psychiatry*, 207 (6), 490-494.
- Lim, Y.M. and Ahn, Y.H. (2003). Burden of family caregiver with schizophrenic patients in Korea. *Applied Nursing Research*, 16(2), 110-117.
- Lortrakul, M. and Sukkanich, P. (2005). *Ramathibodi's Essentials of Psychiatry*, 2nd edition. Bangkok: Beyond, Enterprise.

- Loukissa, D.A. (1995). Family burden in chronic mental illness of mental health professionals. *Journal of Nervous and Mental Disease*, 21(2), 248-255.
- Luebunthawatchai, O. (2010). *Counseling for Health* (2nd ed). Bangkok: Printing Office of Chulalongkorn University.
- Marder, S. R. (2003). Overview of partial compliance. *The Journal of Clinical Psychiatry*, 64(suppl 6) 3-9.
- Miller, J. F. (1992). *Coping with chronic illness: overcoming powerlessness* (2nd edition). Philadelphia: F. A. Davis.
- Minuchin, S. (1974). *Families and Family Therapy*. Cambridge : Harvard University Press.
- National Health Commission Office of Thailand (2009). *Statute on the National Health System of 2009*. Nonthaburi.
- National Health Service (NHS) Centre for Reviews and Dissemination (2000). Psychosocial interventions for schizophrenia. *Effective Health Care* 2000, 6(3), 1-8, York: University of York.
- Norton, N., Williams, H.Y., and Owen, M.J. (2006). An update on the genetics of schizophrenia. *Current Opinion in Psychiatry*, 19(2), 158-164.
- O'Donnell, C., Donohoe, G., Sharkey, L., Owens, N., Migone, M., Harries, R., Kinsella, A., Larkin, C., and O'Callaghan, E. (2003). Compliance therapy: a randomised controlled trial in schizophrenia. *British Medical Journal*, 327(13), 834-838.
- Oehl, M., Hummer, M. and Fleischhacker, W. W. (2000). Compliance with anti-psychotic treatment. *Acta Psychiatrica Scandinavica*. 4th edition. St Louis, Mosby.
- Öztürk, O. (2008). *Ruh Sağlığı ve Bozuklukları I* (11.Baskı ed.). Tuna Matbaacılık: Ankara.
- Pandaeng, P. (2004). *The effect of patient and caregiver empowerment on medication adherence behaviors of schizophrenic patients*. Thesis for the Degree of Master of Nursing Science program in Mental Health and Psychiatric Nursing, Faculty of Nursing, Chulalongkorn University.
- Phoomchan, N. (2005). The Study of Schizophrenic Patients and Their Relatives' Quality of Life; A Case Study of Day Hospital's Patients. Somdet Chaopraya Institute of Psychiatry. *Journal of Mental Health of Thailand*.
- Prasko, J., Vrbova, K., Latalova, K., and Mainerova, B. (2011). Psychoeducation for psychotic patients. *Biomedical Papers of the Medical Faculty of the University Palacký, Olomouc, Czechoslovakia*, 155(4), 385-395.
- Puengkatesoontorn, N. and Lueboonthavatchai, O. (2011). The effect of family interventions program on burden among family caregivers of schizophrenic patients in community. *The Journal of Psychiatric Nursing and Mental Health*, 25(2), 51-63.
- Pumsrisawas, A. (1998). *Mental Health and Psychiatric Nursing; clinical practice guidelines*. Bangkok: V.J. Printing.
- Putkhao, S. (1998). *Factors Affecting Medication Complication in Schizophrenic Patients*. Thesis for the Degree of Master of Nursing Science program in Mental Health and Psychiatric Nursing, Faculty of Nursing, Chiang Mai University.
- Razali, M.S. and Yahya, H. (1995). Compliance with treatment in schizophrenia: a drug intervention Program in a developing country. *Acta Psychiatrica Scandinavia*, 91, 331-335.
- Ruengtrakul, S. (2006). *Textbook of Psychiatry* (7th edition). Bangkok: Ruenkaew Karnpim.
- Ruengtrakul, S. (2011). *Textbook of Neuropsychiatry*. Bangkok: Ruenkaew Karnpim.
- Sullivan, G., Wells, K.B., Morgenstern, H. and Leake, B. (1995). Identifying modifiable risk factors for rehospitalization: a case-control study of seriously mentally ill persons in Mississippi. *The American Journal of Psychiatry*, 152(12), 1749 – 1756.
- Tantipalacheeva, K. (1993). *Textbook of Psychiatry of the Psychiatrist Association of Thailand*. Bangkok: Thammasat Printing Office.
- Thiansan, T. (2013). *The effect of family counseling and psychoeducation program on medication adherence behaviors of schizophrenic patients in the community*. Thesis for the Degree of

- Master of Nursing Science Program in Mental Health and Psychiatric Nursing, Faculty of Nursing, Chulalongkorn University.
- Tothong, S. (2005). *The effect of family counseling program on quality of life of schizophrenic patients in community*. Thesis for the Degree of Master of Nursing Science program in Mental Health and Psychiatric Nursing, Faculty of Nursing, Chulalongkorn University.
- Trangkasombat, U. (2001). *Psycho therapy and family counseling*. Bangkok: Research and Developing Family centre.
- Udomratana, P. & Vasiyanont, S. (2009). *Textbook of schizophrenia*. Songkhla Province, Thailand; Chanmuang Printing.
- Vongsurapakit, V. (2006). *Case management for schizophrenic patients for restraint: a case study*. Department of Social Science, Srimahapho Hospital, Department of Mental Health, Ministry of Public Health, Thailand.
- World Health Organization (2006). *International Statistical Classification of Diseases and Related Health Problems (10th Revision)*; Geneva.
- Yilmaz, E and Okanlı, A. (2015). The effect of internalized stigma on the adherence to treatment in patients with schizophrenia. *Official Journal of the International Society of Psychiatric-Mental Health Nurses (ISPN), Archives of Psychiatric Nursing*, 29 (5), 297-301.